**Reference Type:**  Journal Article

**Record Number:** 1267

**Author:** K. F. Abraham

**Year:** 1978

**Title:** Adoption of Spectacled Eider Ducklings by Arctic Loons

**Journal:** Condor

**Volume:** 80

**Issue:** 3

**Pages:** 339-340

**Short Title:** Adoption of Spectacled Eider Ducklings by Arctic Loons

**Accession Number:** BCI:BCI197916057845

**Keywords:** Spectacled Eider; Somateria fischeri; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI197916057845

**Reference Type:**  Journal Article

**Record Number:** 177

**Author:** K. F. Abraham and C. D. Ankney

**Year:** 1986

**Title:** Summer Birds of East Bay Southampton Island Northwest Territories Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 100

**Issue:** 2

**Pages:** 180-185

**Short Title:** Summer Birds of East Bay Southampton Island Northwest Territories Canada

**Accession Number:** BCI:BCI198783022538

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Forty-one species of birds were observed in the summers of 1979 and 1980 along the south shore of East Bay, Southampton Island. The first certain evidence was obtained of Red Knot (Calidris canutus) and Sanderling (Calidris alba) nesting on Southampton Island. The abundance of several species, particularly Common Eider (Somateria molissima) and Whimbrel (Numenius phaeopus), differed from the other Southampton Island locations where birds have been studied. No species new to the island were recorded.

**URL:** <Go to ISI>://BCI198783022538

**Reference Type:**  Journal Article

**Record Number:** 994

**Author:** P. Academy Of Natural Sciences Of

**Year:** 1997

**Title:** White-winged scoter: Melanitta fusca

**Journal:** Birds of North America

**Volume:** 0

**Issue:** 274

**Pages:** 1-27

**Short Title:** White-winged scoter: Melanitta fusca

**Accession Number:** BCI:BCI199799591751

**Keywords:** White-winged Scoter; Melanitta fusca; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI199799591751

**Reference Type:**  Journal Article

**Record Number:** 1073

**Author:** P. Academy Of Natural Sciences Of

**Year:** 1998

**Title:** Surf Scoter: Melanitta perspicillata

**Journal:** Birds of North America

**Volume:** 0

**Issue:** 363

**Pages:** 1-28

**Short Title:** Surf Scoter: Melanitta perspicillata

**Accession Number:** BCI:BCI199800475468

**Keywords:** Surf Scoter; Melanitta perspicillata; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199800475468

**Reference Type:**  Journal Article

**Record Number:** 327

**Author:** P. A. Adams, G. J. Robertson and I. L. Jones

**Year:** 2000

**Title:** Time-activity budgets of Harlequin Ducks molting in the Gannet Islands, Labrador

**Journal:** Condor

**Volume:** 102

**Issue:** 3

**Pages:** 703-708

**Date:** August, 2000

**Short Title:** Time-activity budgets of Harlequin Ducks molting in the Gannet Islands, Labrador

**Accession Number:** BCI:BCI200000448257

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Molt; Nonbreeding Seasons;

**Abstract:** We studied the time-activity budgets of Harlequin Ducks (Histrionicus histrionicus) molting at the Gannet Islands, Labrador in the summer of 1998. For the entire population, a large proportion of time was spent hauled out of the water (61.4%), and resting (53.5%). Only a small proportion of time was spent foraging (11.6%). Male Harlequin Ducks undergoing the pre-basic molt were hauled out of the water significantly more (92.2%) than males in basic plumage (8.1%). Males undergoing the pre-basic body feather molt foraged significantly less (1.7%) than males in basic plumage (17.7%). Harlequin Ducks do not appear to increase their food intake to meet the nutritional requirements of molt. Instead they may try to reduce thermoregulatory and maintenance costs by engaging in activities that do not consume much energy, and by staying out of cold water while their plumage is not intact. Furthermore, they may deliberately lose body mass while molting to regain the ability to fly at an earlier stage of wing molt.

**URL:** <Go to ISI>://BCI200000448257

**Reference Type:**  Journal Article

**Record Number:** 1140

**Author:** A. Ader and J. Kespaik

**Year:** 1996

**Title:** Seasonal migration dynamics of the long-tailed duck (Clangula hyemalis), the common scoter (Melanitta nigra), and the velvet scoter (Melanitta fusca) in Estonia

**Journal:** Gibier Faune Sauvage

**Volume:** 13

**Issue:** 3

**Pages:** 1297-1385

**Date:** Sept., 1996

**Short Title:** Seasonal migration dynamics of the long-tailed duck (Clangula hyemalis), the common scoter (Melanitta nigra), and the velvet scoter (Melanitta fusca) in Estonia

**Accession Number:** BCI:BCI199800282767

**Keywords:** Long-tailed Duck; Clangula hyemalis; Migration; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199800282767

**Reference Type:**  Journal Article

**Record Number:** 558

**Author:** A. D. Afton and R. D. Sayler

**Year:** 1982

**Title:** Social Courtship and Pair Bonding of Common Goldeneyes Bucephala-Clangula Wintering in Minnesota USA

**Journal:** Canadian Field-Naturalist

**Volume:** 96

**Issue:** 3

**Pages:** 295-300

**Short Title:** Social Courtship and Pair Bonding of Common Goldeneyes Bucephala-Clangula Wintering in Minnesota USA

**Accession Number:** BCI:BCI198375070621

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Nonbreeding Seasons;

**Abstract:** Courtship behavior and displayes of common goldeneyes (B. clangula) wintering on the Mississippi River in Minneapolis, Minnesota were studied. Age, pair status and spatial position in the display group affected relative frequencies of certain displays performed by males. Display flights were not observed before late Jan. and did not become frequent until late Feb. This aerial display apparently functions to encourage the female to follow the displaying male away from the display group. Wintering goldeneyes began courtship and pairing in Dec., long before possible reproduction. Some adult males were unwilling or unable to complete courtship sequences to the point of copulation even when approached by a soliciting female and undisturbed by other males. Early pairbond formation entails costs and benefits which vary for the sexes, and in some instances females may be ready to pair before males, a situation indicative of sexual conflict in maximizing their reproductive interests.

**URL:** <Go to ISI>://BCI198375070621

**Reference Type:**  Journal Article

**Record Number:** 127

**Author:** B. A. Agler, S. J. Kendall, D. B. Irons and S. P. Klosiewski

**Year:** 1999

**Title:** Declines in marine bird populations in Prince William Sound, Alaska coincident with a climatic regime shift

**Journal:** Waterbirds

**Volume:** 22

**Issue:** 1

**Pages:** 98-103

**Short Title:** Declines in marine bird populations in Prince William Sound, Alaska coincident with a climatic regime shift

**Accession Number:** BCI:BCI199900463790

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** Analyses of marine bird surveys conducted in Prince William Sound, Alaska in July 1972 were compared to surveys in July 1989, 1990, 1991, and 1993 and indicated that populations of several taxa of marine birds that prey on fish have declined in Prince William Sound, but most taxa that feed on other prey species, such as benthic invertebrates, have not declined. Red-throated Loon (Gavia stellata), Pacific Loon (G. pacifica), cormorant (Phalacrocorax spp.), Surf Scoter (Melanitta perspicillata), Bonaparte's Gull (Larus philadelphia), terns (Sterna spp.), Pigeon Guillemot (Cepphus columba), Brachyramphus murrelets (Brachyramphus marmoratus and B. brevirostris), Parakeet Auklet (Cyclorrhynchus psittacula), Tufted Puffin (Fratercula cirrhata), and Horned Puffin (Fratercula corniculata) populations declined by >50%. Most of these are piscivores, feeding on schooling fish. Some non-piscivorous taxa, such as Harlequin Ducks (Histrionicus histrionicus), goldeneyes (Bucephala clangula and islandica), and Black Oyster-catchers (Haematopus bachmani), have increased in Prince William Sound between 1972 and 1989-1993, although a portion of the population was killed by the T/V Exxon Valdez oil spill. Declines in piscivorous bird populations also have been documented in the Gulf of Alaska, the Bering Sea, and along the California coast in the past two decades and have been coincidental to changes in forage fish species in the North Pacific Ocean. Many of the declines appear to be related to changes in forage fish abundance that occurred during a climatic regime shift in the north Pacific Ocean, although some taxa were also affected by the Exxon Valdez oil spill.

**URL:** <Go to ISI>://BCI199900463790

**Reference Type:**  Journal Article

**Record Number:** 466

**Author:** M. Ahlund

**Year:** 2005

**Title:** Behavioural tactics at nest visits differ between parasites and hosts in a brood-parasitic duck

**Journal:** Animal Behaviour

**Volume:** 70

**Issue:** Part 2

**Pages:** 433-440

**Date:** Aug 2005

**Short Title:** Behavioural tactics at nest visits differ between parasites and hosts in a brood-parasitic duck

**Accession Number:** BCI:BCI200510264316

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Whether conspecific brood parasitism is adaptive is a matter of debate. It may just be accidental when suitable nest sites are scarce. I tested this and other hypotheses, using video recordings and quantitative behavioural observations at nestboxes of individually marked common goldeneyes, Bucephala clangula. In 11 of 13 parasitized nests filmed, parasite behaviour differed markedly from that of hosts during most of the egg-laying sequence. Hosts typically started and laid the most eggs in the nest, covered the clutch when leaving it, and deposited down. Parasites covered the eggs poorly and did not deposit down. Hosts spent increasing time on the nest over the laying sequence, whereas parasites did not. Parasites tended to lay eggs later than hosts in the morning, possibly in response to nest guarding by hosts. When in the nest, hosts usually prevented females from entering, but parasites rarely did so. Of 84 parasitic eggs, 85% were laid by 'true parasites, and 15% by females that behaved like hosts but were eventually displaced by another female. Most (73%) of the 'truly' parasitic eggs were from females that were marked as adults previously, and 27% from new recruits. Parasitism in this goldeneye population is thus usually an alternative behavioural tactic, distinctly different from the behaviour of hosts, and not simply a side-effect of competition between females over the same nest.

**URL:** <Go to ISI>://BCI200510264316

**Reference Type:**  Journal Article

**Record Number:** 1316

**Author:** J. A. Akearok, C. E. Hebert, B. M. Braune and M. L. Mallory

**Year:** 2010

**Title:** Inter- and intraclutch variation in egg mercury levels in marine bird species from the Canadian Arctic

**Journal:** Science of the Total Environment

**Volume:** 408

**Issue:** 4

**Pages:** 836-840

**Date:** Jan 15 2010

**Short Title:** Inter- and intraclutch variation in egg mercury levels in marine bird species from the Canadian Arctic

**Accession Number:** BCI:BCI201000124135

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season; Long-tailed Duck; Clangula hyemalis;

**Abstract:** Mercury (Hg) is a toxic metal that has been of increasing concern in the Canadian Arctic. We measured total Hg in eggs of three marine birds (Arctic terns Sterna paradisaea, common eiders Somateria mollissima borealis, long-tailed ducks Clangula hyemalis) that breed in the Canadian Arctic, to compare Hg laying order effects from the same clutch and to examine Hg among species. Early-laid eggs of all three species had 24-48% higher Hg concentrations than late laid eggs. Arctic terns had approximately twice the concentration of Hg in their eggs as the two duck species, and Hg in eider eggs from the High Arctic was higher than Hg in eggs from the Low Arctic. Higher Hg in tern eggs was consistent with this species occupying a higher trophic position in marine food webs, as indicated by stable nitrogen isotope (delta N-15) values. The egg-laying sequence may need to be considered for Hg biomonitoring studies where small samples sizes are planned, and early eggs may be preferable for such studies since early eggs may be more representative of potential maximum levels of Hg in the marine food webs. Crown Copyright (C) 2009 Published by Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI201000124135

**Reference Type:**  Journal Article

**Record Number:** 1680

**Author:** P. H. Albers and R. C. Szaro

**Year:** 1978

**Title:** Effects of No-2 Fuel Oil on Common Eider Eggs

**Journal:** Marine Pollution Bulletin

**Volume:** 9

**Issue:** 5

**Pages:** 138-139

**Short Title:** Effects of No-2 Fuel Oil on Common Eider Eggs

**Accession Number:** BCI:BCI197967012678

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Productivity; Breeding Season;

**Abstract:** An oil spill near a breeding colony could result in the transfer of oil from the plumage and feet of incubating birds to their eggs. Microliter amounts of No. 2 fuel oil were applied externally to common eider [Somateria mollissima] eggs in an island breeding colony in Maine [USA]. Clutches of eggs treated with 20 .mu.l of fuel oil had significantly greater embryonic mortality than the control clutches when they were examined 7 days after treatment. The results are similar to those of an earlier study of artificially incubated common eider eggs and indicate that nest site conditions do not affect embryotoxicity of No. 2 fuel oil.

**URL:** <Go to ISI>://BCI197967012678

**Reference Type:**  Journal Article

**Record Number:** 126

**Author:** T. Alerstam and G. A. Gudmundsson

**Year:** 1999

**Title:** Migration patterns of tundra birds: Tracking radar observations along the Northeast Passage

**Journal:** Arctic

**Volume:** 52

**Issue:** 4

**Pages:** 346-371

**Date:** Dec., 1999

**Short Title:** Migration patterns of tundra birds: Tracking radar observations along the Northeast Passage

**Accession Number:** BCI:BCI200000087569

**Keywords:** Sea Ducks - General; Migration; Nonbreeding Seasons;

**Abstract:** Bird migration was recorded by tracking radar and visual observations at 15 study sites, situated between 50degreeE and 170degreeE along the Northeast Passage, during a ship-based expedition in July and August 1994. A total of 1087 radar tracks (average duration 220 s) of bird flocks on postbreeding migration were recorded. Migration was dominated by waders and to a certain degree also skuas (especially pomarine skua Stercorarius pomarinus). Terns, gulls, ducks, and geese were also among the migrants tracked by radar. The radar data revealed a major migratory divide at about 100degreeE (Taymyr Peninsula), with mainly eastbound migration to the east of this divide, and mainly westbound migration to the west of it. The main stream of eastbound migration was directed toward the sector 90-120degree and that of westbound migration toward the sector 240-270degree; these directions are broadly in parallel with the coasts of the Arctic Ocean east and west of the Taymyr Peninsula, respectively. There was also important ENE migration, which provided strong indications of long-distance flights along orthodrome-like routes directly between Siberia and North America, across vast expanses of the Arctic Ocean pack ice. Analysis of flight directions in relation to wind indicated complete compensation for wind drift. Mean flight altitude was 1.3 km, and the birds regularly travelled at high altitudes above 3 km (9% of the tracks) up to a maximum height of 4.8 km. They preferred to migrate on occasions and at altitudes with following winds; such conditions provided an average gain in speed of 4.6 m/s. There were also recurrent cases of birds migrating in tailwinds of gale force, between 18 and 24 m/s. The birds' airspeed varied between 8 and 22 m/s, with a mean of 14 m/s. Airspeed was significantly correlated with altitude, wind, and vertical speed and seemed to be intermediate between the speeds for minimum power and maximum range predicted by aerodynamic theory.

**URL:** <Go to ISI>://BCI200000087569

**Reference Type:**  Journal Article

**Record Number:** 41

**Author:** T. Alerstam, M. Rosen, J. Backman, P. G. P. Ericson and O. Hellgren

**Year:** 2007

**Title:** Flight speeds among bird species: Allometric and phylogenetic effects

**Journal:** PLoS Biology

**Volume:** 5

**Issue:** 8

**Pages:** 1656-1662

**Date:** Aug 2007

**Short Title:** Flight speeds among bird species: Allometric and phylogenetic effects

**Accession Number:** BCI:BCI200700611545

**Keywords:** Sea Ducks - General; Behavior; Physiology;

**Abstract:** Flight speed is expected to increase with mass and wing loading among flying animals and aircraft for fundamental aerodynamic reasons. Assuming geometrical and dynamical similarity, cruising flight speed is predicted to vary as (body mass)(1/6) and (wing loading)(1/2) among bird species. To test these scaling rules and the general importance of mass and wing loading for bird flight speeds, we used tracking radar to measure flapping flight speeds of individuals or flocks of migrating birds visually identified to species as well as their altitude and winds at the altitudes where the birds were flying. Equivalent airspeeds (airspeeds corrected to sea level air density, U-e) of 138 species, ranging 0.01-10 kg in mass, were analysed in relation to biometry and phylogeny. Scaling exponents in relation to mass and wing loading were significantly smaller than predicted (about 0.12 and 0.32, respectively, with similar results for analyses based on species and independent phylogenetic contrasts). These low scaling exponents may be the result of evolutionary restrictions on bird flight-speed range, counteracting too slow flight speeds among species with low wing loading and too fast speeds among species with high wing loading. This compression of speed range is partly attained through geometric differences, with aspect ratio showing a positive relationship with body mass and wing loading, but additional factors are required to fully explain the small scaling exponent of U-e in relation to wing loading. Furthermore, mass and wing loading accounted for only a limited proportion of the variation in U-e. Phylogeny was a powerful factor, in combination with wing loading, to account for the variation in U-e. These results demonstrate that functional flight adaptations and constraints associated with different evolutionary lineages have an important influence on cruising flapping flight speed that goes beyond the general aerodynamic scaling effects of mass and wing loading.

**URL:** <Go to ISI>://BCI200700611545

**Reference Type:**  Journal Article

**Record Number:** 2256

**Author:** R. T. Alisauskas and D. K. Kellett

**Year:** 2014

**Title:** Age-specific in situ recruitment of female King Eiders estimated with mark-recapture

**Journal:** Auk

**Volume:** 131

**Issue:** 2

**Pages:** 129-140

**Date:** Apr

**Short Title:** Age-specific in situ recruitment of female King Eiders estimated with mark-recapture

**ISSN:** 0004-8038

**DOI:** 10.1642/auk-13-214.1

**Accession Number:** WOS:000336477300002

**Keywords:** King Eider; Somateria spectabilis; Breeding season; Population dynamics

**Abstract:** In addition to estimating survival probability of adult birds, estimating recruitment of new individuals into avian breeding populations is fundamental to understanding rates of population change. Notions about mean recruitment age can lead to erroneous conclusions about population projections if the probability of capture is ignored. We calculated the mean recruitment age of King Eiders (Somateria spectabilis) using two methods: (1) a naive estimate based strictly on observed age at first recapture of marked ducklings as nesting females; and (2) reversed capture histories, which incorporate probability of capture into estimates. From 1996 to 2009, we marked 2,390 King Eider ducklings, 53 of which were recaptured from 2007 to 2010 as females nesting at Karrak Lake, Nunavut, in Canada's Central Arctic region. The naive approach estimated mean (+/- 95% CL) recruitment age as 4.58 +/- 0.42 yr, whereas reversed capture histories estimated mean recruitment age as 4.08 +/- 0.34 yr. We illustrate the influence of recruitment age (range: 3-9 yr) on the predicted annual rate of population change. We fit numerous ecological covariates to test for cohort effects, phenology of vernal thaw, absolute and relative nesting phenology of mothers, maternal body size, density dependence, and relative clutch size on age-specific recruitment probability. There was good support for a negative effect of relative initiation date of nests that produced ducklings, and equivocal support for an additive negative influence of vernal thaw at the age that ducklings were recruited as breeders. We discuss the implications of variation in female recruitment age for King Eider population biology and fitness. More broadly, we reiterate previous advice (e.g., Pradel et al. 1997, Schwarz and Arnason 2000), against calculation of mean recruitment age from age at first capture, regardless of study species, particularly when detection probability of recruits is low.

**Notes:** Alisauskas, Ray T. Kellett, Dana K.

**URL:** <Go to ISI>://WOS:000336477300002

**Reference Type:**  Journal Article

**Record Number:** 983

**Author:** R. T. Alisauskas, J. J. Traylor, C. J. Swoboda and F. P. Kehoe

**Year:** 2004

**Title:** Components of population growth rate for White-winged Scoters in Saskatchewan,Canada

**Journal:** Animal Biodiversity and Conservation

**Volume:** 27

**Issue:** 1

**Pages:** 451-460

**Short Title:** Components of population growth rate for White-winged Scoters in Saskatchewan,Canada

**Accession Number:** BCI:BCI200510245588

**Keywords:** White-winged Scoter; Melanitta fusca; Population Model; Survival; Dispersal; Population Dynamics; Breeding Season;

**Abstract:** Components of population growth rate for White-winged Scoters in Saskatchewan, Canada.- Breeding range and abundance of White-winged Scoters (Melanitta fusca deglandi) have declined in northwestern North America. Hypotheses proposed to account for this trend are that survival and/or recruitment of females had declined. Thus, we used a reverse-time capture-recapture approach to directly estimate survival, seniority and capture probabilities for females of breeding age at Redberry Lake, Saskatchewan, Canada for 1975-1980 and 2000-2003. We also estimated population size of breeding females for 1975-1985 and 2000-2003 using capture-recapture data. Initially, this local population was in serious decline [95% CL (lambda(-<^>)(75-80)) = 0.89 +/- 0.09], but has since stabilized and may be slowly increasing [95% CL (lambda(-<^>)(00-03)) = 1.07 +/- 0.11]. This reversal in trajectory apparently resulted from increased recruitment rather than increased apparent survival. Importantly, recent recruitment of adult females appeared to be driven solely by immigration of adult females with no detectable in situ recruitment, suggesting a hypothesis that the local population is being rescued by females produced elsewhere.

**URL:** <Go to ISI>://BCI200510245588

**Reference Type:**  Book

**Record Number:** 2358

**Author:** R. T. a. J.-M. D. Alisauskas

**Year:** 2015

**Title:** Breeding Costs, Nutrient Reserves, and Cross-Seasonal Effects: Dealing with Deficits in Sea Ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 125-168

**Short Title:** Breeding Costs, Nutrient Reserves, and Cross-Seasonal Effects: Dealing with Deficits in Sea Ducks

**Keywords:** Breeding season; Energetics and Nutrition

**Abstract:** We reviewed reproductive life histories and associated nutritional requirements of egg production and incubation for 18 species and subspecies of sea ducks that breed in North America. We also refer to life histories of some European subspecies. We found that basic information for several species remains unavailable for egg composition, egg-laying rates, follicular growth rates and estimates of incubation constancy. Relationships among various life-history traits associated with egg production and incubation by sea ducks revealed that phylogeny and body mass both affect daily and total energetic costs. For example, regression of some life-history traits associated with egg production that were related to body mass across all species or subspecies under consideration showed different patterns when compared between Somatereae (eiders) and Mergeae (non-eiders). Also missing for most species were estimates of the proportion of egg nutrients supplied by endogenous stores. Inferences about nutrient supply to eggs were highly variable, regardless of whether estimation relied on analysis of stable isotopes or the regression of cumulative nutrient production on somatic nutrient reserves. The proportion of egg nutrient supplied by endogenous reserves showed no clear pattern, judging from the lack of relationship to other life history traits. There is a general lack of understanding of whether endogenous nutrient reserves used in reproduction are acquired by sea ducks from wintering habitat, distant staging or those areas proximal to nesting sites. The geographic sourcing of nutrients used in sea duck reproduction should receive additional study because such areas may influence population-level recruitment. Reported incubation constancy in sea ducks ranged from 81% to 99%, and reflected the range of strategies to source nutrients for reproduction. Based on differences in body mass before and after incubation, we estimated that between 8% and 94% of energy requirements during incubation by different species or subspecies were met with endogenous reserves. The gradient in reliance on endogenous nutrients during incubation across species was a strong function of body mass (r2 = 0.84). We also discuss the potential interplay of contaminants, nutrition and reproduction, and suggest that determination of nutrient reserve thresholds for breeding are an important research goal.

**Reference Type:**  Journal Article

**Record Number:** 1177

**Author:** R. Alison

**Year:** 1975

**Title:** Capturing and Marking Oldsquaws

**Journal:** Bird-Banding

**Volume:** 46

**Issue:** 3

**Pages:** 248-250

**Short Title:** Capturing and Marking Oldsquaws

**Accession Number:** BCI:BCI197612000680

**Keywords:** Long-tailed Duck; Clangula hyemalis; Techniques;

**URL:** <Go to ISI>://BCI197612000680

**Reference Type:**  Journal Article

**Record Number:** 1175

**Author:** R. M. Alison

**Year:** 1976

**Title:** Oldsquaw Brood Behavior

**Journal:** Bird-Banding

**Volume:** 47

**Issue:** 3

**Pages:** 210-213

**Short Title:** Oldsquaw Brood Behavior

**Accession Number:** BCI:BCI197713005849

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI197713005849

**Reference Type:**  Journal Article

**Record Number:** 1171

**Author:** R. M. Alison

**Year:** 1977

**Title:** Homing of Subadult Oldsquaws

**Journal:** Auk

**Volume:** 94

**Issue:** 2

**Pages:** 383-384

**Short Title:** Homing of Subadult Oldsquaws

**Accession Number:** BCI:BCI197713069913

**Keywords:** Long-tailed Duck; Clangula hyemalis; Dispersal;

**URL:** <Go to ISI>://BCI197713069913

**Reference Type:**  Journal Article

**Record Number:** 1490

**Author:** K. Allard and H. G. Gilchrist

**Year:** 2002

**Title:** Kleptoparasitism of Herring Gulls taking eider eggs by Canada Geese

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 2

**Pages:** 235-238

**Date:** June, 2002

**Short Title:** Kleptoparasitism of Herring Gulls taking eider eggs by Canada Geese

**Accession Number:** BCI:BCI200200445713

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** Nesting in association with species that aggressively attack predators may reduce nest predation in some birds. For example, nesting ducks sometimes benefit from aggressive defence by nesting Canada Geese (Branta canadensis). Although Common Eiders (Somateria mollissima) commonly nest with gulls (Larus spp.), the costs and benefits for eiders of this association remain uncertain. Over two years, 32 instances of kleptoparasitism of Herring Gulls (Larus argentatus) by Canada Geese were recorded in arctic Canada. The Canada Geese nested amongst Common Eiders and interrupted Herring Gulls while taking eider eggs. The geese displaced Herring Gulls from approximately ten percent of all eider eggs taken from nests, and ate egg contents themselves. Kleptoparasitism may provide Canada Geese with an important exogenous food resource, but the small overall number of eggs stolen from gulls (less than five percent of all eider eggs laid) limits the potential consequences of additive compensatory predation pressure by gulls within the eider colony.

**URL:** <Go to ISI>://BCI200200445713

**Reference Type:**  Journal Article

**Record Number:** 2138

**Author:** A. B. Allison, J. R. Ballard, R. B. Tesh, J. D. Brown, M. G. Ruder, M. K. Keel, B. A. Munk, R. M. Mickley, S. E. J. Gibbs, A. da Rosa, J. C. Ellis, H. S. Ip, V. I. Shearn-Bochsler, M. B. Rogers, E. Ghedin, E. C. Holmes, C. R. Parrish and C. Dwyer

**Year:** 2015

**Title:** Cyclic Avian Mass Mortality in the Northeastern United States Is Associated with a Novel Orthomyxovirus

**Journal:** Journal of Virology

**Volume:** 89

**Issue:** 2

**Pages:** 1389-1403

**Date:** Jan

**Short Title:** Cyclic Avian Mass Mortality in the Northeastern United States Is Associated with a Novel Orthomyxovirus

**ISSN:** 0022-538X

**DOI:** 10.1128/jvi.02019-14

**Accession Number:** WOS:000347178900043

**Keywords:** Common Eider; Somateria mollissima; Disease

**Abstract:** Since 1998, cyclic mortality events in common eiders (Somateria mollissima), numbering in the hundreds to thousands of dead birds, have been documented along the coast of Cape Cod, MA, USA. Although longitudinal disease investigations have uncovered potential contributing factors responsible for these outbreaks, detecting a primary etiological agent has proven enigmatic. Here, we identify a novel orthomyxovirus, tentatively named Wellfleet Bay virus (WFBV), as a potential causative agent of these outbreaks. Genomic analysis of WFBV revealed that it is most closely related to members of the Quaranjavirus genus within the family Orthomyxoviridae. Similar to other members of the genus, WFBV contains an alphabaculovirus gp64-like glycoprotein that was demonstrated to have fusion activity; this also tentatively suggests that ticks (and/or insects) may vector the virus in nature. However, in addition to the six RNA segments encoding the prototypical structural proteins identified in other quaranjaviruses, a previously unknown RNA segment (segment 7) encoding a novel protein designated VP7 was discovered in WFBV. Although WFBV shows low to moderate levels of sequence similarity to Quaranfil virus and Johnston Atoll virus, the original members of the Quaranjavirus genus, additional antigenic and genetic analyses demonstrated that it is closely related to the recently identified Cygnet River virus (CyRV) from South Australia, suggesting that WFBV and CyRV may be geographic variants of the same virus. Although the identification of WFBV in part may resolve the enigma of these mass mortality events, the details of the ecology and epidemiology of the virus remain to be determined. IMPORTANCE The emergence or reemergence of viral pathogens resulting in large-scale outbreaks of disease in humans and/or animals is one of the most important challenges facing biomedicine. For example, understanding how orthomyxoviruses such as novel influenza A virus reassortants and/or mutants emerge to cause epidemic or pandemic disease is at the forefront of current global health concerns. Here, we describe the emergence of a novel orthomyxovirus, Wellfleet Bay virus (WFBV), which has been associated with cyclic large-scale bird die-offs in the northeastern United States. This initial characterization study provides a foundation for further research into the evolution, epidemiology, and ecology of newly emerging orthomyxoviruses, such as WFBV, and their potential impacts on animal and/or human health.

**Notes:** Allison, Andrew B. Ballard, Jennifer R. Tesh, Robert B. Brown, Justin D. Ruder, Mark G. Keel, M. Kevin Munk, Brandon A. Mickley, Randall M. Gibbs, Samantha E. J. da Rosa, Amelia P. A. Travassos Ellis, Julie C. Ip, Hon S. Shearn-Bochsler, Valerie I. Rogers, Matthew B. Ghedin, Elodie Holmes, Edward C. Parrish, Colin R. Dwyer, Chris

**URL:** <Go to ISI>://WOS:000347178900043

**Reference Type:**  Journal Article

**Record Number:** 794

**Author:** B. W. Anderson and M. G. Reeder

**Year:** 1977

**Title:** Food Habits of the Common Merganser in Winter

**Journal:** Bulletin of the Oklahoma Ornithological Society

**Volume:** 10

**Issue:** 1

**Pages:** 3-6

**Short Title:** Food Habits of the Common Merganser in Winter

**Accession Number:** BCI:BCI197713061117

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197713061117

**Reference Type:**  Journal Article

**Record Number:** 797

**Author:** B. W. Anderson, M. G. Reeder and R. L. Timken

**Year:** 1974

**Title:** Notes on the Feeding Behavior of the Common Merganser Mergus-Merganser

**Journal:** Condor

**Volume:** 76

**Issue:** 4

**Pages:** 472-476

**Short Title:** Notes on the Feeding Behavior of the Common Merganser Mergus-Merganser

**Accession Number:** BCI:BCI197559041787

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**URL:** <Go to ISI>://BCI197559041787

**Reference Type:**  Journal Article

**Record Number:** 804

**Author:** B. W. Anderson and R. L. Timken

**Year:** 1971

**Title:** Age and Sex Characteristics of Common Mergansers

**Journal:** Journal of Wildlife Management

**Volume:** 35

**Issue:** 2

**Pages:** 388-393

**Short Title:** Age and Sex Characteristics of Common Mergansers

**Accession Number:** BCI:BCI197152118293

**Keywords:** Common merganser; Mergus merganser;

**URL:** <Go to ISI>://BCI197152118293

**Reference Type:**  Journal Article

**Record Number:** 799

**Author:** B. W. Anderson and R. L. Timken

**Year:** 1972

**Title:** Sex and Age Ratios and Weights of Common Mergansers

**Journal:** Journal of Wildlife Management

**Volume:** 36

**Issue:** 4

**Pages:** 1127-1133

**Short Title:** Sex and Age Ratios and Weights of Common Mergansers

**Accession Number:** BCI:BCI197355054235

**Keywords:** Common merganser; Mergus merganser; Energetics and Nutrition; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI197355054235

**Reference Type:**  Journal Article

**Record Number:** 2337

**Author:** E. M. Anderson, Rian D. Dickson, Erika K. Lok, Eric C. Palm, Jean-Pierre L. Savard, Daniel Bordage and Austin Reed

**Year:** 2015

**Title:** Surf Scoter (Melanitta perspicillata)

**Journal:** The Birds of North America

**Short Title:** Surf Scoter (Melanitta perspicillata)

**Keywords:** Surf Scoter; Melanitta perspicillata

**Reference Type:**  Journal Article

**Record Number:** 1803

**Author:** E. M. Anderson, D. Esler, W. S. Boyd, J. R. Evenson, D. R. Nysewander, D. H. Ward, R. D. Dickson, B. D. Uher-Koch, C. S. VanStratt and J. W. Hupp

**Year:** 2012

**Title:** Predation rates, timing, and predator composition for Scoters (Melanitta spp.) in marine habitats

**Journal:** Canadian Journal of Zoology-Revue Canadienne De Zoologie

**Volume:** 90

**Issue:** 1

**Pages:** 42-50

**Date:** Jan

**Short Title:** Predation rates, timing, and predator composition for Scoters (Melanitta spp.) in marine habitats

**ISSN:** 0008-4301

**DOI:** 10.1139/z11-110

**Accession Number:** WOS:000299443200005

**Keywords:** Surf Scoter; white-winged Scoter; Melanitta fusca; melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 3

Anderson, Eric M. Esler, Daniel Boyd, W. Sean Evenson, Joseph R. Nysewander, David R. Ward, David H. Dickson, Rian D. Uher-Koch, Brian D. VanStratt, Corey S. Hupp, Jerry W.

4

**URL:** <Go to ISI>://WOS:000299443200005

**Reference Type:**  Journal Article

**Record Number:** 1048

**Author:** E. M. Anderson and J. R. Lovvorn

**Year:** 2008

**Title:** Gray whales may increase feeding opportunities for avian benthivores

**Journal:** Marine Ecology Progress Series

**Volume:** 360

**Pages:** 291-296

**Short Title:** Gray whales may increase feeding opportunities for avian benthivores

**Accession Number:** BCI:BCI200800528149

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Feeding by gray whales Eschrichtius robustus along the eastern Pacific coast between the Bering Sea and Baja, Mexico, appears to be increasing. Gray whale feeding can disturb large fractions of intertidal and shallow subtidal sediments, altering the distributions of benthic invertebrates for many months. Increased gray whale feeding may be modifying foraging profitability for other bottom-feeding vertebrates along the coast, but such effects have not been documented. This paper is the first report of a feeding association between a cetacean and bottom-feeding birds, namely a migrating gray whale and diving sea ducks. Local counts and condition of surf scoters Melanitta perspicillata in Puget Sound, Washington, suggest that gray whale feeding can provide important foraging opportunities for scoters during spring, when other foods may have declined and requirements to prepare for migration and reproduction are high. Complementary data are needed to evaluate the importance to scoters of this seasonal interaction with gray whales. However, given the large and protracted impacts of gray whales on benthic communities, our observations suggest that whale feeding may have increasing influence on the foraging patterns and trophic relations of a range of bottom-feeding vertebrates.

**URL:** <Go to ISI>://BCI200800528149

**Reference Type:**  Journal Article

**Record Number:** 1033

**Author:** E. M. Anderson and J. R. Lovvorn

**Year:** 2011

**Title:** Contrasts in Energy Status and Marine Foraging Strategies of White-Winged Scoters (Melanitta Fusca) and Surf Scoters (M. Perspicillata)

**Journal:** Auk

**Volume:** 128

**Issue:** 2

**Pages:** 248-257

**Date:** Apr 2011

**Short Title:** Contrasts in Energy Status and Marine Foraging Strategies of White-Winged Scoters (Melanitta Fusca) and Surf Scoters (M. Perspicillata)

**Accession Number:** BCI:BCI201100375379

**Keywords:** Surf Scoter; Melanitta perspicillata; Abundance, Distribution, and Trends; Behavior; Energetics and Nutrition; Dispersal; Nonbreeding Seasons; Habitat; White-winged Scoter; Melanitta fusca; Trophic Interactions;

**Abstract:** White-winged Scoters (Melanitta fusca) and Surf Scoters (M. perspicillata) are often assumed to rely on similar marine resources. To evaluate the accuracy of this assumption, we contrast seasonal distributions, foraging effort, and indicators of energy status (body mass and composition, plasma metabolites) in three major foraging sites in Puget Sound, Washington, for these rapidly declining sea duck congeners. For Surf Scoters, distributions and energy status indicated that a mussel-dominated site was relatively important in early winter, but that importance shifted during late winter and spring to seagrass sites that provided either herring spawn or epifaunal invertebrates. As winter progressed, movements among foraging sites and increased foraging effort by Surf Scoters were accompanied by greater variability in their energy status compared with White-winged Scoters; body mass declined over winter by > 9% in about one-third of past studies for Surf Scoters, well above the range of losses observed in White-winged Scoters. For White-winged Scoters, lower variability in energy status, foraging effort, and distributions throughout winter suggests that they are better able to regulate energy balance regardless of changing foraging conditions. Greater resistance to seasonal environmental changes in White-winged Scoters may be related to their > 50% larger body size, which confers lower mass-specific energy costs and access to a wider size range of bivalve prey. Perhaps because of their greater sensitivity to winter foraging conditions, Surf Scoters appear to rely on a broader range of foraging sites than White-winged Scoters. Received 11 April 2010, accepted 9 January 2011.

**URL:** <Go to ISI>://BCI201100375379

**Reference Type:**  Journal Article

**Record Number:** 1805

**Author:** E. M. Anderson and J. R. Lovvorn

**Year:** 2012

**Title:** Seasonal dynamics of prey size mediate complementary functions of mussel beds and seagrass habitats for an avian predator

**Journal:** Marine Ecology Progress Series

**Volume:** 467

**Pages:** 219-232

**Short Title:** Seasonal dynamics of prey size mediate complementary functions of mussel beds and seagrass habitats for an avian predator

**ISSN:** 0171-8630

**DOI:** 10.3354/meps09943

**Accession Number:** WOS:000310270500017

**Keywords:** Surf Scoter; Melanitta perspicillata; Nonbreeding Seasons; Trophic Interactions;

**Notes:** Times Cited: 0

Anderson, Eric M. Lovvorn, James R.

0

**URL:** <Go to ISI>://WOS:000310270500017

**Reference Type:**  Journal Article

**Record Number:** 1042

**Author:** E. M. Anderson, J. R. Lovvorn, D. Esler, W. S. Boyd and K. C. Stick

**Year:** 2009

**Title:** Using predator distributions, diet, and condition to evaluate seasonal foraging sites: sea ducks and herring spawn

**Journal:** Marine Ecology Progress Series

**Volume:** 386

**Pages:** 287-302

**Short Title:** Using predator distributions, diet, and condition to evaluate seasonal foraging sites: sea ducks and herring spawn

**Accession Number:** BCI:BCI200900535886

**Keywords:** Surf Scoter; Melanitta perspicillata; White-winged Scoter; Melanitta fusca; Trophic Interactions; Habitat; Energetics and Nutrition; Nonbreeding Seasons; SDJV funded

**Abstract:** Identifying important foraging sites for highly mobile marine predators has relied mainly on relating their distributions to broadly defined habitat data. However, understanding functional dependencies on foraging sites also requires knowledge of the relative contributions of foods to predator condition. We coupled predator distributions with measures of their diet and condition to assess the importance of Pacific herring Clupea pallasii spawning events to 2 closely related and declining sea duck species. In Puget Sound, Washington, the numerical response of scoters to spawn increased with increasing biomass of spawning herring; this response was 4-fold greater for surf scoters Melanitta perspicillata than for white-winged scoters M fusca after accounting for local differences in their abundances. In the Strait of Georgia, British Columbia, diets estimated from fatty acids and stable isotopes indicated that both scoter species gained mass by consuming spawn during late March to early April. At a site without spawn during this period, only male white-winged scoters gained mass. In contrast, body mass of male surf scoters declined appreciably before spawn became available in one study year, suggesting greater dependence on spawn for restoring depleted reserves. From winter to spring, surf scoters attained greatest body mass during late April to mid-May while migrating through southeast Alaska; during this period, plasma triglycerides suggested that fattening was not related solely to spawn consumption, yet surf scoters aggregated to consume spawn whenever it was available. Although it is not clear whether herring are essential to their population processes, surf scoters and a range of other predators for which spawning areas are clearly preferred foraging sites would likely benefit from efforts that preserve declining herring stocks.

**URL:** <Go to ISI>://BCI200900535886

**Reference Type:**  Journal Article

**Record Number:** 1049

**Author:** E. M. Anderson, J. R. Lovvorn and M. T. Wilson

**Year:** 2008

**Title:** Reevaluating marine diets of Surf and White-winged Scoters: Interspecific differences and the importance of soft-bodied prey

**Journal:** Condor

**Volume:** 110

**Issue:** 2

**Pages:** 285-295

**Date:** May 2008

**Short Title:** Reevaluating marine diets of Surf and White-winged Scoters: Interspecific differences and the importance of soft-bodied prey

**Accession Number:** BCI:BCI200800685943

**Keywords:** Surf Scoter; Melanitta perspicillata; White-winged Scoter; Melanitta fusca; Trophic Interactions; Techniques; Nonbreeding Seasons; SDJV funded

**Abstract:** Past studies of the marine diets of Surf Scoters (Melanitta perspicillata) and White-winged Scoters (M. fusca) have reported that they eat mostly bivalves, but deviations from well-established methods by most studies suggest that the importance of soft-bodied prey has been underestimated for both species. Methods needed to reduce bias in diet estimates include collecting birds that are feeding, immediately preserving gut contents, excluding gizzard contents, averaging food-item percentages across birds versus pooling gut contents for all birds, and using energy or ash-free dry mass versus wet mass values of foods. For Surf Scoters collected in northern Puget Sound, Washington during 2005-2006, adherence to the latter three methods alone resulted in the assessed bivalve component of diet declining by over half and a near doubling of soft-bodied prey (i.e., crustaceans, polychaetes). Diets of Surf Scoters differed among three heavily used bays with distinct benthic habitats, yet 67%-86% of the ash-free dry mass of esophagus contents from each bay was nonbivalve prey. A synthesis of previous and new diet data revealed differences between scoter species: relative to White-winged Scoters, Surf Scoters consume smaller bivalves, a smaller and more variable percentage of mollusk prey (including bivalves and gastropods), and a declining percentage of bivalves as winter progresses. Past diet studies for scoters may provide misleading guidelines to conservation efforts by implying that only standing stocks of bivalves require consideration when prioritizing critical foraging sites.

**URL:** <Go to ISI>://BCI200800685943

**Reference Type:**  Journal Article

**Record Number:** 76

**Author:** G. Anderson

**Year:** 2005

**Title:** Wind, fire and water - Renewable energy and birds

**Journal:** British Birds

**Volume:** 98

**Issue:** 7

**Pages:** 365-367

**Date:** Jul 2005

**Short Title:** Wind, fire and water - Renewable energy and birds

**Accession Number:** BCI:BCI200510247245

**Keywords:** Sea Ducks - General; Conservation;

**URL:** <Go to ISI>://BCI200510247245

**Reference Type:**  Journal Article

**Record Number:** 1765

**Author:** V. R. Anderson and R. T. Alisauskas

**Year:** 2001

**Title:** Egg size, body size, locomotion, and feeding performance in captive King Eider ducklings

**Journal:** Condor

**Volume:** 103

**Issue:** 1

**Pages:** 195-199

**Date:** February, 2001

**Short Title:** Egg size, body size, locomotion, and feeding performance in captive King Eider ducklings

**Accession Number:** BCI:BCI200100142330

**Keywords:** King Eider; Somateria spectabilis; Physiology; Energetics and Nutrition; Behavior; Breeding Season;

**Abstract:** We studied the effect of egg volume and body size on swimming speed, endurance, and feeding rate in captive King Eider (Somateria spectabilis) ducklings in the Canadian arctic. Sprint speed, endurance, and feeding rate were positively related to egg size and body size. Large ducklings from large eggs performed better than small ducklings from small eggs. Ducklings that are more capable swimmers and have higher feeding rates may grow more quickly and be more effective at predator evasion. Thus, ducklings from large eggs may have a survival advantage over those from small eggs under conditions where predation and nutrition may constrain survival.

**URL:** <Go to ISI>://BCI200100142330

**Reference Type:**  Journal Article

**Record Number:** 1760

**Author:** V. R. Anderson and R. T. Alisauskas

**Year:** 2002

**Title:** Composition and growth of King Eider ducklings in relation to egg size

**Journal:** Auk

**Volume:** 119

**Issue:** 1

**Pages:** 62-70

**Date:** January, 2002

**Short Title:** Composition and growth of King Eider ducklings in relation to egg size

**Accession Number:** BCI:BCI200200236857

**Keywords:** King Eider; Somateria spectabilis; Energetics and Nutrition; Physiology; Productivity; Breeding Season;

**Abstract:** In several bird species, offspring from larger eggs survive better than birds from smaller eggs, but mechanisms responsible for that pattern have not been clearly identified. Studies of waterfowl have found relationships between egg size, body composition of hatchlings, and duckling growth. Therefore, body composition and growth rate of newly hatched King Eider (Somateria spectabilis) ducklings were measured to assess if traits consistent with higher probability of survival early in duckling varied in relation to egg size. Forty-one King Eider eggs were collected in June and July 1998 from two lakes in the central Canadian Arctic, and artificially incubated, of which 34 hatched. Body composition of 15 hatchlings (<1 day old) was determined, and 19 ducklings were raised in captivity to measure growth rate. Larger eggs produced larger ducklings with absolutely more lipid and protein reserve; absolutely larger breast and leg muscles; higher functional maturity for whole body, leg, and breast muscles; and higher tarsal growth rates than ducklings from small eggs. Such patterns of hatchling composition and growth in relation to increasing egg size may improve likelihood of early survival by improving thermogenesis, reducing time spent as optimal prey size for avian predators, and as shown elsewhere, by enhancing motor performance of ducklings through improvements in foraging efficiency and predator evasion.

**URL:** <Go to ISI>://BCI200200236857

**Reference Type:**  Journal Article

**Record Number:** 490

**Author:** M. Andersson and M. Ahlund

**Year:** 2000

**Title:** Host-parasite relatedness shown by protein fingerprinting in a brood parasitic bird

**Journal:** Proceedings of the National Academy of Sciences of the United States of America

**Volume:** 97

**Issue:** 24

**Pages:** 13188-13193

**Date:** November 21, 2000

**Short Title:** Host-parasite relatedness shown by protein fingerprinting in a brood parasitic bird

**Accession Number:** BCI:BCI200100040674

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Brood parasitism as an alternative female breeding tactic is particularly common in ducks, where hosts often receive eggs laid by parasitic females of the same species and raise their offspring. Herein, we test several aspects of a kin selection explanation for this phenomenon in goldeneye ducks (Bucephala clangula) by using techniques of egg albumen sampling and statistical band-sharing analysis based on resampling. We find that host and primary parasite are indeed often related, with mean r = 0.13, about as high as between first cousins. Relatedness to the host is higher in nests where a parasite lays several eggs than in those where she lays only one. Returning young females parasitize their birth nestmates (social mothers or sisters, which are usually also their genetic mothers and sisters) more often than expected by chance. Such adult relatives are also observed together in the field more often than expected and for longer periods than other females. Relatedness and kin discrimination, which can be achieved by recognition of birth nestmates, therefore play a role in these tactics and probably influence their success.

**URL:** <Go to ISI>://BCI200100040674

**Reference Type:**  Journal Article

**Record Number:** 486

**Author:** M. Andersson and M. Ahlund

**Year:** 2001

**Title:** Protein fingerprinting: A new technique reveals extensive conspecific brood parasitism

**Journal:** Ecology (Washington D C)

**Volume:** 82

**Issue:** 5

**Pages:** 1433-1442

**Date:** May, 2001

**Short Title:** Protein fingerprinting: A new technique reveals extensive conspecific brood parasitism

**Accession Number:** BCI:BCI200100301090

**Keywords:** Common Goldeneye; Bucephala clangula; Techniques; Breeding Season;

**Abstract:** Conspecific brood parasitism occurs in many birds and some insects, fishes, and amphibians. Here, we develop and test a novel molecular technique for ecological analysis, protein fingerprinting (PF), based on isoelectric focusing electrophoresis (IEF) in immobilized pH gradients. It is applied here to albumen from birds' eggs and permits accurate identification of eggs laid by different females. This technique greatly clarifies female alternative reproductive tactics and laying patterns in brood-parasitic Common Goldeneye ducks Bucephala clangula. A small, nondestructive sample of albumen is taken through a hole drilled through the eggshell, which is then sealed with superglue, preserving egg hatchability. IEF yields a rich pattern of albumen bands with extensive variation among females. Observation and video recording of egg-laying by 21 color-marked females showed that they had unique band patterns, which were fully repeatable within and between years. Brood parasitism occurred in two-thirds (13 of 19) of the video-recorded nests of color-ringed females, with up to five parasitic females per nest. Of 234 eggs, 36% were laid by females other than the incubating host. These results suggest that intraspecific brood parasitism is more common and important than suggested by earlier studies using traditional methods. Protein fingerprinting yields individual resolution similar to that of a DNA multilocus fingerprinting probe, and has several advantages. The albumen band pattern represents only the laying female, not her mate(s), making it easy to determine the maternity of eggs, and to identify a parasite that spreads her eggs among a number of nests. Albumen can be sampled as soon as the egg is laid, before predation or other losses occur, maximizing sample size and minimizing bias. Protein fingerprinting is relatively inexpensive and easy. It is also useful for several purposes other than maternity determination, such as relatedness estimation for categories of individuals.

**URL:** <Go to ISI>://BCI200100301090

**Reference Type:**  Journal Article

**Record Number:** 1409

**Author:** M. Andersson and P. Waldeck

**Year:** 2006

**Title:** Reproductive tactics under severe egg predation: an eider's dilemma

**Journal:** Oecologia (Berlin)

**Volume:** 148

**Issue:** 2

**Pages:** 350-355

**Date:** Jun 2006

**Short Title:** Reproductive tactics under severe egg predation: an eider's dilemma

**Accession Number:** BCI:BCI200600492640

**Keywords:** Common Eider; Somateria mollissima; Behavior; Productivity; Breeding Season;

**Abstract:** Parental defence against predators may increase offspring survival but entail other costs. Egg predation is frequent early in the laying sequence of the common eider, which differs in this and in several other ways from most other waterfowl. We test the hypothesis that permanent presence at the nest from the second or third egg is an adaptation for reducing egg predation in eiders. Two other alternative hypotheses for lower predation at later nest stages are early predation loss of the most vulnerable nests and seasonal decrease in predation risk. Analyses of predation rates at the one-egg and later stages refute these two alternatives. Early nest attendance by eider females is estimated to increase clutch survival by about 20% in four-egg and 35% in five-egg clutches, albeit probably at a cost of smaller clutch size.

**URL:** <Go to ISI>://BCI200600492640

**Reference Type:**  Journal Article

**Record Number:** 1382

**Author:** M. Andersson and P. Waldeck

**Year:** 2007

**Title:** Host-parasite kinship in a female-philopatric bird population: evidence from relatedness trend analysis

**Journal:** Molecular Ecology

**Volume:** 16

**Issue:** 13

**Pages:** 2797-2806

**Date:** Jul 2007

**Short Title:** Host-parasite kinship in a female-philopatric bird population: evidence from relatedness trend analysis

**Accession Number:** BCI:BCI200700471553

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP), an alternative reproductive tactic where some females lay eggs in the nests of other females of the same species, occurs in many animals with egg care. It is particularly common in waterfowl, for reasons that are debated. Many waterfowl females nest near their birthplace, making it likely that some local females are relatives. We analyse brood parasitism in a Hudson Bay population of common eiders, testing predictions from two alternative hypotheses on the role of relatedness in CBP. Some models predict host-parasite relatedness, others predict that parasites avoid close relatives as hosts. To distinguish between the alternatives, we use a novel approach, where the relatedness of host-parasite pairs is tested against the spatial population trend in pairwise relatedness. We estimate parasitism, nest take-over and relatedness with protein fingerprinting and bandsharing analysis of egg albumen, nondestructively sampled from each new egg in the nest throughout the laying period. The results refute the hypothesis that parasites avoid laying eggs in the nests of related hosts, and corroborate the alternative of host-parasite relatedness. With an estimated r of 0.12-0.14, females laying eggs in the same nest are on average closer kin than nesting neighbour females. Absence of a population trend in female pairwise relatedness vs. distance implies that host-parasite relatedness is not only an effect of strong natal philopatry: some additional form of kin bias is also involved.

**URL:** <Go to ISI>://BCI200700471553

**Reference Type:**  Journal Article

**Record Number:** 2139

**Author:** M. Andersson, P. Waldeck, S. A. Hanssen and B. Moe

**Year:** 2015

**Title:** Female sociality and kin discrimination in brood parasitism: unrelated females fight over egg laying

**Journal:** Behavioral Ecology

**Volume:** 26

**Issue:** 3

**Pages:** 755-762

**Date:** May-Jun

**Short Title:** Female sociality and kin discrimination in brood parasitism: unrelated females fight over egg laying

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/arv007

**Accession Number:** WOS:000356585100016

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** In conspecific brood parasitism, some females ("parasites") lay eggs in nests of other females of the same species ("hosts"). This reproductive tactic is particularly common in waterfowl, in which studies suggest that parasites are often related to the host. Here, we test the hypothesis that hosts may discriminate and reject unrelated parasites. Based on observations and >4100 h of digital video film, we analyze behavioral interactions at 65 nests of High Arctic common eiders during the laying sequence. We also estimate parasitism and host-parasite relatedness by albumen fingerprinting of 975 eggs from 232 nests. Among the video-filmed nests in which interactions were recorded during the egg-laying period, 11 had eggs from 2 females. At 8 of these 11 nests, there was overt female aggression and significantly lower host-parasite relatedness (mean coefficient of relationship r = -0.40) than in the nests with tolerant or no interactions (r = 0.91). The results demonstrate active female kin discrimination in common eiders, used against nonrelatives that try to lay eggs in the nest. Other females trying to access the nest were often prevented from doing so: in 65% of 34 such attempts, the sitting female rejected the intruder. Brood "parasitism" in eiders and other waterfowl is complex, ranging from violent female conflict and parasitic exploitation of the host's parental care to nest takeover and potential kin selection favoring acceptance of related parasites. These and other aspects of female sociality in eiders are discussed; in some respects, they may resemble certain long-lived matriarchal mammals.

**Notes:** Andersson, Malte Waldeck, Peter Hanssen, Sveinn A. Moe, Borge

**URL:** <Go to ISI>://WOS:000356585100016

**Reference Type:**  Journal Article

**Record Number:** 1506

**Author:** T. B. Ardamatskaya

**Year:** 2001

**Title:** The expansion of the Common Eider Somateria mollissima at Ukrainian coast of the Black Sea

**Journal:** Acta Ornithologica (Warsaw)

**Volume:** 36

**Issue:** 1

**Pages:** 53-54

**Date:** Summer, 2001

**Short Title:** The expansion of the Common Eider Somateria mollissima at Ukrainian coast of the Black Sea

**Accession Number:** BCI:BCI200100436548

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons; Breeding Season; Dispersal;

**Abstract:** In 1950s the Common Eider was a very rare species in the Black Sea region, migrating there only irregularly. A decade later, 9-14 males wintered in Black Sea bays. A few pairs attempted to breed there but their nests were flooded by storms. The first records (2 pairs) of successful breeding come from 1975. By the mid-1990s, the total number of breeding pairs had reached almost 1000.

**URL:** <Go to ISI>://BCI200100436548

**Reference Type:**  Journal Article

**Record Number:** 1807

**Author:** T. W. Arnold, D. Shizuka, B. E. Lyon, J. T. Pelayo, K. R. Mehl, J. J. Traylor, W. L. Reed and C. L. Amundson

**Year:** 2011

**Title:** Use of Nape Tags for Marking Offspring of Precocial Waterbirds

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 3

**Pages:** 312-318

**Date:** Sep

**Short Title:** Use of Nape Tags for Marking Offspring of Precocial Waterbirds

**ISSN:** 1524-4695

**Accession Number:** WOS:000294592900006

**Keywords:** Sea Ducks; Techniques; Breeding Season

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**URL:** <Go to ISI>://WOS:000294592900006

**Reference Type:**  Journal Article

**Record Number:** 1692

**Author:** R. E. Ashcroft

**Year:** 1976

**Title:** A Function of the Pair Bond in the Common Eider

**Journal:** Wildfowl

**Volume:** 27

**Pages:** 101-106

**Short Title:** A Function of the Pair Bond in the Common Eider

**Accession Number:** BCI:BCI197713042309

**Keywords:** Common Eider; Somateria mollissima; Behavior;

**URL:** <Go to ISI>://BCI197713042309

**Reference Type:**  Journal Article

**Record Number:** 859

**Author:** S. J. Aspinall and R. H. Dennis

**Year:** 1988

**Title:** Goosanders and Red-Breasted Mergansers in the Moray Firth North Sea

**Journal:** Scottish Birds

**Volume:** 15

**Issue:** 2

**Pages:** 65-70

**Short Title:** Goosanders and Red-Breasted Mergansers in the Moray Firth North Sea

**Accession Number:** BCI:BCI198936089629

**Keywords:** Red-breasted merganser; Mergus serrator; Common merganser; Mergus merganser;

**URL:** <Go to ISI>://BCI198936089629

**Reference Type:**  Journal Article

**Record Number:** 588

**Author:** T. Augspurger, J. R. Fischer, N. J. Thomas, L. Sileo, R. E. Brannian, K. J. G. Miller and T. E. Rocke

**Year:** 2003

**Title:** Vacuolar myelinopathy in waterfowl from a North Carolina impoundment

**Journal:** Journal of Wildlife Diseases

**Volume:** 39

**Issue:** 2

**Pages:** 412-417

**Date:** April 2003

**Short Title:** Vacuolar myelinopathy in waterfowl from a North Carolina impoundment

**Accession Number:** BCI:BCI200300474555

**Keywords:** Bufflehead; Bucephala albeola; Disease; Nonbreeding Seasons;

**Abstract:** Vacuolar myelinopathy was confirmed by light and electron microscopic examination of mallards (Anas platyrhynchos), ring-necked ducks (Aythya collaris), and buffleheads (Bucephala albeola) collected during an epizootic at Lake Surf in central North Carolina (USA) between November 1998 and February 1999. Clinical signs of affected birds were consistent with central nervous system impairment of motor function (incoordination, abnormal movement and posture, weakness, paralysis). This is the first report of this disease in wild waterfowl (Anseriformes).

**URL:** <Go to ISI>://BCI200300474555

**Reference Type:**  Journal Article

**Record Number:** 993

**Author:** C. Aulert and B. Sylvand

**Year:** 1997

**Title:** Common scoters (Melanitta nigra) and velvet scoters (Melanitta fusca) wintering of the coasts of Calvados: Relation between diet and sea macrozoobenthic populations on the littoral

**Journal:** Ecologie (Brunoy)

**Volume:** 28

**Issue:** 2

**Pages:** 107-117

**Short Title:** Common scoters (Melanitta nigra) and velvet scoters (Melanitta fusca) wintering of the coasts of Calvados: Relation between diet and sea macrozoobenthic populations on the littoral

**Accession Number:** BCI:BCI199799704611

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Every year, Common Scoters (Melanitta nigra) and Velver Scoters (Melanitta fusca) come in their thousands to overwinter along the Calvados coast, between the Orne bay and the Seine estuary. The birds' wintering quarters remain constant year after year, and the use of space is always the same. Since 1992, the diet of these diving ducks has been examined in the course of population studies. An inventory of benthic fauna was undertaken at the same time. We found that the Scoters fed mainly on bivalve mollusks (Common Scoters) or on gastropod mollusks (Velvet Scoters). The location of wintering flocks could reflect certain benthic species distributions.

**URL:** <Go to ISI>://BCI199799704611

**Reference Type:**  Journal Article

**Record Number:** 1572

**Author:** U. Baer and F. Jochums

**Year:** 1995

**Title:** Common Eider Somateria mollissima summering and moulting in Bavaria with remarks about Zebra Mussel Dreissena polymorpha

**Journal:** Ornithologischer Anzeiger

**Volume:** 34

**Issue:** 2-3

**Pages:** 159-162

**Short Title:** Common Eider Somateria mollissima summering and moulting in Bavaria with remarks about Zebra Mussel Dreissena polymorpha

**Accession Number:** BCI:BCI199699003291

**Keywords:** Common Eider; Somateria mollissima; Habitat; Abundance, Distribution, and Trends; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Between June 1994 and June 1995 eight adult males of Common Eider were recorded on the Starnberger See, Bavaria; their moult stages were observed. In this period they fed on Zebra Mussels Dreissena polymorpha, which increased enormously in the sixties. The increase of several species of aquatic birds in winter, including Common Eider, coincides with the immigration of Dreissena polymorpha from rivers of the Black and Caspian Sea.

**URL:** <Go to ISI>://BCI199699003291

**Reference Type:**  Journal Article

**Record Number:** 699

**Author:** A. C. Bagg and S. A. Eliot

**Year:** 1933

**Title:** Courtship of the hooded merganser (Lophodytes cucul-latus)

**Journal:** Auk

**Volume:** 50

**Issue:** (4)

**Pages:** 430-431

**Short Title:** Courtship of the hooded merganser (Lophodytes cucul-latus)

**Accession Number:** BCI:BCI19340800021419

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior;

**URL:** <Go to ISI>://BCI19340800021419

**Reference Type:**  Journal Article

**Record Number:** 203

**Author:** E. P. Bailey

**Year:** 1977

**Title:** Distribution and Abundance of Marine Birds and Mammals Along the South Side of the Kenai Peninsula Alaska

**Journal:** Murrelet

**Volume:** 58

**Issue:** 3

**Pages:** 58-72

**Short Title:** Distribution and Abundance of Marine Birds and Mammals Along the South Side of the Kenai Peninsula Alaska

**Accession Number:** BCI:BCI197815051374

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI197815051374

**Reference Type:**  Journal Article

**Record Number:** 471

**Author:** S. M. Baillie, C. D. Wilkerson and T. L. Newbury

**Year:** 2004

**Title:** "Ashkui" vernal ice-cover phenomena and their ecological role in southern Labrador

**Journal:** Canadian Field-Naturalist

**Volume:** 118

**Issue:** 2

**Pages:** 267-269

**Date:** Apr-Jun04

**Short Title:** "Ashkui" vernal ice-cover phenomena and their ecological role in southern Labrador

**Accession Number:** BCI:BCI200510109577

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** This is the first documented incident of River Otter (Lutra canadensis) feeding on Common Goldeneye (Bucephala clangula) in a little studied region, southern Labrador. Our observations were made during spring staging when waterfowl aggregate at open water sites in frozen lakes and rivers, locally known as ashkui. We suggest that otters and raptors opportunistically forage on staging waterfowl at ashkui.

**URL:** <Go to ISI>://BCI200510109577

**Reference Type:**  Journal Article

**Record Number:** 683

**Author:** G. A. Bain and W. Threlfall

**Year:** 1977

**Title:** Helminth Parasites of Hooded Mergansers Lophodytes-Cucullatus from Ontario Canada

**Journal:** Proceedings of the Helminthological Society of Washington

**Volume:** 44

**Issue:** 2

**Pages:** 219-221

**Short Title:** Helminth Parasites of Hooded Mergansers Lophodytes-Cucullatus from Ontario Canada

**Accession Number:** BCI:BCI197713100116

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Parasites;

**URL:** <Go to ISI>://BCI197713100116

**Reference Type:**  Journal Article

**Record Number:** 108

**Author:** L. V. Balian, M. G. Ghasabian, M. S. Adamian and D. Klem

**Year:** 2002

**Title:** Changes in the waterbird community of the Lake Sevan-Lake Gilli area, Republic of Armenia: A case for restoration

**Journal:** Biological Conservation

**Volume:** 106

**Issue:** 2

**Pages:** 157-163

**Date:** August, 2002

**Short Title:** Changes in the waterbird community of the Lake Sevan-Lake Gilli area, Republic of Armenia: A case for restoration

**Accession Number:** BCI:BCI200200403098

**Keywords:** Sea Ducks - General; Red-breasted merganser; Conservation;

**Abstract:** Waterbird species richness (Gaviiformes, Podicipediformes, Pelecaniformes, Ciconiiformes, Phoenicopteriformes, Falconiformes, Anseriformes, Gruiformes, Charadriiformes, Passeriformes) has been significantly affected by a 19.5 m lowering of the water level in Lake Sevan (1933-2000), and the complete draining of nearby Lake Gilli (1960-2000) in the Republic of Armenia. Twenty-three former breeders are currently nonbreeders in the area. Four former breeders (black stork Ciconia nigra, glossy ibis Plegadis falcinellus, white-winged scoter Melanitta fusca, little crake Porzana parva) have been extirpated from the area. Four former non-breeders (cattle egret Bubulcus ibis, red-breasted goose Branta ruficollis, sociable lapwing Chettusia gregaria, lesser black-backed gull Larus fuscus) have been absent from the area for at least 20 years. The red-breasted merganser Mergus serrator is the only former nonbreeder discovered breeding in the Lake Sevan basin. We recommend that management plans of the 1960s and 1970s be used to further develop and enact new efforts to increase the water level of Lake Sevan by at least 6 m, and that Lake Gilli and its surrounding wetlands be restored as a means of increasing waterbird species richness overall, and protecting regional populations of globally threatened or near-threatened species (Dalmatian pelican Pelecanus crispus, red-breasted goose Branta ruficollis, ferruginous pochard Aythya nyroca, white-headed duck Oxyura leucocephala, corn crake Crex crex, great snipe Gallinago media, black-winged pratincole Glareola nordmanni, white-tailed eagle Haliaeetus albicilla).

**URL:** <Go to ISI>://BCI200200403098

**Reference Type:**  Journal Article

**Record Number:** 892

**Author:** A. N. Banks, W. G. Sanderson, B. Hughes, P. A. Cranswick, L. E. Smith, S. Whitehead, A. J. Musgrove, B. Haveock and N. P. Fairney

**Year:** 2008

**Title:** The Sea empress oil spill (Wales, UK): Effects on common scoter Melanitta nigra in Carmarthen Bay and status ten years later

**Journal:** Marine Pollution Bulletin

**Volume:** 56

**Issue:** 5

**Pages:** 895-902

**Date:** May 2008

**Short Title:** The Sea empress oil spill (Wales, UK): Effects on common scoter Melanitta nigra in Carmarthen Bay and status ten years later

**Accession Number:** BCI:BCI200800405156

**Keywords:** Black Scoter; Melanitta nigra; Contaminants; Nonbreeding Seasons;

**Abstract:** Carmarthen Bay, UK, regularly supports internationally important numbers (> 16,000) of non-breeding Common Scoters Melanitta nigra. The spill of 72,000 tonnes of crude oil from the Sea Empress in 1996 affected birds both through direct mortality and likely pollution of key food resources. Numbers were greatly reduced following the spill, whilst changes in the distribution of birds within Carmarthen Bay suggested that potentially sub-optimal foraging zones were used. However, ten years after the incident, numbers of Common Scoter were no different to those recorded immediately before the spill. Compared to some other spills, rapid revival is evident. Numbers increased to pre-spill levels within three winters and distributional changes suggested a concurrent return to previously contaminated feeding areas, implying that the ecosystem had regenerated sufficiently to support its top predator. The importance of prolonged, standardised monitoring of bird numbers and distribution as indicators of ecological recovery from environmental damage is emphasised. (c) 2008 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200800405156

**Reference Type:**  Journal Article

**Record Number:** 1552

**Author:** H. J. M. Baptist, R. H. Witte, P. Duiven and P. A. Wolf

**Year:** 1997

**Title:** Numbers of Eiderr Somateria mollissima in The Netherlands in winter, 1993-97

**Journal:** Limosa

**Volume:** 70

**Issue:** 3

**Pages:** 113-118

**Short Title:** Numbers of Eiderr Somateria mollissima in The Netherlands in winter, 1993-97

**Accession Number:** BCI:BCI199800118951

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Aerial midwinter seaduck-surveys in Dutch inshore waters were conducted annually in 1993-97. In this paper, results of counts of Eider are presented and compared with those of previous aerial surveys of the Wadden Sea and the North Sea coast including the 'Voordeita'. Numbers of Eider in The Netherlands in 1993-97 varied from 120 000 to 170 000, with peak numbers during the cold winter of 1995/96. Before 1990, numbers fluctuated between 110 000 and 145 000. Nearly all of these occurred in the Wadden Sea. Coastal waters elsewhere had 3500 Eiders at most. In the early 1990s, Eiders in the Wadden Sea faced a food shortage caused by a reduced Cockle Cerastoderma edule and Mussel Mytilus edulis spatfall, combined with intensive shellfish-fisheries. Considerable mortality of Eiders and a shift in distribution from the Wadden Sea to the Dutch North Sea coastal zone was recorded. In January 1993, less than half of the wintering population stayed at the Wadden Sea. Considerable numbers of Cut trough shell Spisula subtruncata occurred in the coastal zone. As a result, the number of Common Scoters Melanitta nigra increased from a few thousand to over 100 000. The presence of this alternative food supply appears to have been essential for the survival of Eiders. When the food situation in the Wadden Sea recovered, the proportion of the Dutch population wintering there increased to 90% (January 1996). During the cold winter of 1995/96, Eider numbers in Dutch coastal waters were larger than ever before. The Wadden Sea as well as coastal waters north of it were extensively covered with ice. Eiders then concentrated in small patches of open water or were either resting on the ice. Apparently, most birds tried to survive locally, instead of moving south as did Common Scoters. In April 1996, large numbers of starved Eiders were found. In the second cold winter in succession (1996/97), almost 20% of the wintering population was found more southerly.

**URL:** <Go to ISI>://BCI199800118951

**Reference Type:**  Journal Article

**Record Number:** 889

**Author:** M. J. Baptist and M. F. Leopold

**Year:** 2009

**Title:** The effects of shoreface nourishments on Spisula and scoters in The Netherlands

**Journal:** Marine Environmental Research

**Volume:** 68

**Issue:** 1

**Pages:** 1-11

**Date:** Jul 2009

**Short Title:** The effects of shoreface nourishments on Spisula and scoters in The Netherlands

**Accession Number:** BCI:BCI200900449397

**Keywords:** Black Scoter; Melanitta nigra; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The coast of The Netherlands is protected by nourishing sand. Generally, two different techniques are used, beach nourishment and shoreface nourishment. The latter technique supplies sand at a water depth of about 5-8 m in the surf zone, and has been used on a regular basis since 1997 with increasing volumes since 2001. Observations on the bivalve mollusc Spisula subtruncata that was abundant before 1997 and a key food species for wintering seaduck show a decline since 2001. This coincided with a decrease in the abundance of the Common Scoter Melanitta nigra, the most numerous wintering seaduck off the Dutch coast. These observations raised concern about shoreface nourishments. This study analyses the timing and locations of shoreface nourishments in combination with S. subtruncata abundance and spatial distribution. Against the expectation, no causal relationship was found between the decline of S. subtruncata and shoreface nourishments. Other causes, such as climate change, fisheries, unsuccessful settlement or predation of spatfall are more likely behind the decline of Spisula along the Dutch coast. (C) 2009 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200900449397

**Reference Type:**  Journal Article

**Record Number:** 1066

**Author:** L. Barjaktarovic, J. E. Elliott and A. M. Scheuhammer

**Year:** 2002

**Title:** Metal and metallothionein concentrations in scoter (Melanitta spp.) from the Pacific Northwest of Canada, 1989-1994

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 43

**Issue:** 4

**Pages:** 486-491

**Date:** November, 2002

**Short Title:** Metal and metallothionein concentrations in scoter (Melanitta spp.) from the Pacific Northwest of Canada, 1989-1994

**Accession Number:** BCI:BCI200200592630

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Eighty-six surf (Melanitta perspicillata) and nine white winged (M. fusca) scoters were collected from 1989-1994 at 11 locations in British Columbia and the Yukon. Their kidney and liver tissues were analyzed for cadmium (Cd), copper (Cu), zinc (Zn), and metallothionein (MT) concentrations. Individual kidney Cd values ranged from 2.4 mug/g dry weight (DW) in birds from northern Vancouver Island to 390.2 mug/g (DW) in birds from the Queen Charlotte Islands, which is in the range of values potentially associated with kidney damage. Birds from the Queen Charlotte Islands also had high kidney Zn concentrations, which were significantly higher than values in birds from Naniamo and Westham Island on the south coast of BC. Cd values were significantly (p<0.001) correlated with both Zn and MT concentrations in kidney tissue (r=0.66 and 0.62, respectively). Male surf scoters had significantly higher kidney Cd and Zn levels than females, with mean Cd values of 47.3 and 19.7 mug/g DW (p<0.002) for males and females, respectively. Mean Zn values were 120.8 and 108.0 mug/g DW (p<0.05) for males and females, respectively. However, no sex differences were observed for either Cu or MT concentrations in kidney tissue. Individual MT values ranged from 2.7 to 416.8 mug/g wet weight (WW). Individual kidney Cu values ranged from 15.1 to 48.4 mug/g DW for both sexes. Kidney and liver Cd concentrations were significantly correlated (r=0.90, p<0.05) with kidney levels almost always higher than liver values. Although Cd accumulation by the Skidegate scoters was high, comparable tissue Cd values have been documented in other seabirds collected from the same general area, indicating elevated Cd concentrations in marine food chains around the Queen Charlotte Islands (Haida Gwaii) region of the Pacific coast.

**URL:** <Go to ISI>://BCI200200592630

**Reference Type:**  Journal Article

**Record Number:** 176

**Author:** G. G. Barnes and V. G. Thomas

**Year:** 1987

**Title:** Digestive Organ Morphology Diet and Guild Structure of North American Anatidae

**Journal:** Canadian Journal of Zoology

**Volume:** 65

**Issue:** 7

**Pages:** 1812-1817

**Short Title:** Digestive Organ Morphology Diet and Guild Structure of North American Anatidae

**Accession Number:** BCI:BCI198885025196

**Keywords:** Sea Ducks - General; Physiology;

**Abstract:** Discriminant function, cluster, and covariate analyses of gizzard, small intestine, and ceca weights were used to quantify the structure of feeding guilds and the effects of diet on gut morphology for 18 species of North American anatids. Guild structure based on gut measurements closely approximated that identified by generalized feeding habits. Herbivorous species such as Brant (Branta bernicla), Gadwall (Anas strepera), Redheads (Aythya americana), Canada Geese (Branta canadensis), and Mallards (Anas platyrhynchos) consistently had heavier gizzards and ceca than carnivorous species such as Common Goldeneye (Bucephala clangula), Bufflehead (Bucephala albeola), Oldsquaw (Clangula hyemalis), and Common Mergansers (Mergus merganser). Omnivorous species such as Lesser Scaup (Aythya affinis), Greater Scaup (Aythya marila), and American Black Ducks (Anas rubripes) were characterized by heavy gizzards, intermediate ceca, and heavy intestines. The results provide further evidence that intestine size is primarily influenced by overall diet diversity and suggest that gut size may be used to indicate general food habits. The ability of waterfowl to adjust gut sizes and accommodate dietary changes is restricted to ranges dictated by the most frequently eaten foods. Thus, predictions of general food habits can be made without knowledge of the foods being consumed at a particular time and location. [Other species discussed are Somateria mollissima, Lophodytes cucullatus, Anas crecca, Anas discors, Aythya collaris, and Aythya valisineria].

**URL:** <Go to ISI>://BCI198885025196

**Reference Type:**  Journal Article

**Record Number:** 1489

**Author:** R. T. Barrett, T. Anker-Nilssen, G. W. Gabrielsen and G. Chapdelaine

**Year:** 2002

**Title:** Food consumption by seabirds in Norwegian waters

**Journal:** ICES Journal of Marine Science

**Volume:** 59

**Issue:** 1

**Pages:** 43-57

**Date:** February, 2002

**Short Title:** Food consumption by seabirds in Norwegian waters

**Accession Number:** BCI:BCI200200148696

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** A model is presented of the annual consumption of prey by seabirds living in the Norwegian and Barents seas (ICES Areas I, IIa, and IIb) based on the numbers of birds present at any one time, their energy expenditure (and hence their food demand), and the composition of their diet. About 20 million seabirds living in the Barents Sea annually consume approximately 1.16 X 106 t, with Brunnich's guillemots (Uria lomvia) taking around 550 000 t (or 47% of the total). Of the total harvest in the Barents Sea, fatty fish constitutes 45% and invertebrates 46%. Annual consumption in the Norwegian Sea is estimated to be 681 000 t by 11 million seabirds of which Atlantic puffins (Fratercula arctica) are the major consumers (240 000 t, 36%), followed by northern fulmars (Fulmarus glacialis) (200 000 t, 29%). 50% of the harvest in the Norwegian Sea is of lean fish, and 40% invertebrates. Although these consumption rates are probably in the right order of magnitude, errors still arise from uncertainties concerning bird diets and numbers in the region at any one time (especially of birds which breed elsewhere and visit the sea in question outside the breeding season). While the percentages of invertebrates consumed in the two seas are similar, those taken in the Norwegian Sea consist mainly of benthic organisms eaten by common eiders (Somateria mollissima) while those eaten in the Barents Sea are mainly pelagic crustaceans taken by Brunnich's guillemots and northern fulmars. Compared to other predators such as cod (Gadus morhua), whales, seals, and humans, seabirds account for a minor part (8-15%) of the total harvest and even less (5-11%) of the fish harvest of top predators in the Barents Sea.

**URL:** <Go to ISI>://BCI200200148696

**Reference Type:**  Journal Article

**Record Number:** 1236

**Author:** J. Bart and S. L. Earnst

**Year:** 2005

**Title:** Breeding ecology of Spectacled Eiders Somateria fischeri in Northern Alaska

**Journal:** Wildfowl

**Volume:** 55

**Pages:** 83-98

**Short Title:** Breeding ecology of Spectacled Eiders Somateria fischeri in Northern Alaska

**Accession Number:** BCI:BCI200600253853

**Keywords:** Spectacled Eider; Somateria fischeri; Abundance, Distribution, and Trends; Habitat; Behavior; Productivity; Conservation; Breeding Season;

**Abstract:** Spectacled Eiders Somateria fischeri were studied on the Colville River delta during 1994-1999, prior to oil field development, to document aspects of breeding biology that are poorly known, especially for northern-nesting populations. Both sexes arrived June 6-12; many males remained for only about 10 days. Density on the 178-km(2) study area was 0.48 birds/km(2), comparable to densities reported from extensive surveys in western Alaska and Russia. Wetlands with numerous islands and peninsulas were utilised prior to incubation, a little-studied period. Females spent considerably more time feeding than males (56% vs. 18%). Males travelled, rested and were alert more than females, and actively defended females from intruding males. Whole nest survival was 31% and varied substantially between years, as has been demonstrated in other studies. Brood size showed no detectable decline from hatch about July 10 to mid-August, suggesting Low mortality during this period, a sharp contrast with results from a study in a lead-contaminated area of western Alaska in which duckling survival to 30 days post-hatch was 34%. The Likelihood of adverse impacts on this threatened species, from oil-related or other activities, can be reduced by industry avoiding areas, throughout the summer, with numerous islands, peninsulas and deep water.

**URL:** <Go to ISI>://BCI200600253853

**Reference Type:**  Journal Article

**Record Number:** 796

**Author:** U. Bauer and H. Zintl

**Year:** 1974

**Title:** Distribution and Breeding Biology of the Goosander Mergus-Merganser in Bavaria West Germany

**Journal:** Anzeiger der Ornithologischen Gesellschaft in Bayern

**Volume:** 13

**Issue:** 1

**Pages:** 71-86

**Short Title:** Distribution and Breeding Biology of the Goosander Mergus-Merganser in Bavaria West Germany

**Accession Number:** BCI:BCI197661018393

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI197661018393

**Reference Type:**  Journal Article

**Record Number:** 756

**Author:** U. Bauer and H. Zintl

**Year:** 1995

**Title:** Breeding biology and development of breeding population of the goosander Mergus merganser in Bavaria since 1970

**Journal:** Ornithologischer Anzeiger

**Volume:** 34

**Issue:** 1

**Pages:** 1-38

**Short Title:** Breeding biology and development of breeding population of the goosander Mergus merganser in Bavaria since 1970

**Accession Number:** BCI:BCI199698787884

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** 1. Since the year of 1970 remnant populations of the Goosander in the Bavarian Alps started to expand and the prealpine rivers down to the Danube were resettled with the exception of the river Inn. 2. The local population on the river Isar south of Munich, which has been studied more in detail, produced surplus since the middle of the seventies which contributed to the expansion of the breeding area. 3. The Bavarian Goosander population increased since 1973 exponentially with an annual rate of increase of about 0.08 and a doubling time of about 9 years. Presently there are 250 to 290 breeding pairs in Bavaria. In some parts of the area the local populations reached saturation and the limits of carrying capacity, e.g. on the river Isar south of Munich and on the river Lech. 4. Breeding density reached 3.4 pairs per 10 kms river, where some nest boxes have been provided, along the lower reaches and without nest boxes 9.4 breeding pairs per 10 kms on the upper reaches. The grand average was 4 to 5 breeding pairs per 10 kms river for Isar and Lech. 5. The provision of nest boxes served as an important starting condition for the establishment of a breeding stock, but further action is not needed except under such starting conditions. 6. The Bavarian Goosander population at present may not be endangered any longer. But listing in the German Red Data Book for Birds is still justified. 7. We conclude that the pre-alpine breeding population of the Goosander may not be viewed as a glacial relict occurrence but more likely breeding started from overwintering in that area in the 19th century. 8. On the lower reaches of the rivers near the Danube lowlands egg-laying predominantly starts in the first third of March, but in the upper reaches in the alpine area it is delayed until the middle of April or even to the turn of this month, a timing schedule which gives some advantages with respect to the survival of the ducklings. 9. Data on breeding place competitors, egg sizes, clutch size, hatching dates and fledgling success as well as home ranges of females with young and factors of mortality are given. 10. Breeding success between 1970 and 1992 was 2.8 fledglings per breeding pair on the average for the course of the river Isar and somewhat lower, 2.3 fledglings/pair/year for the river Lech between 1986 and 1990. 11. The complete Bavarian goosander population is no longer wintering on Swiss lakes probably. Some move to other places. If all Bavarian male Goosanders fly to the Lake of Constance in order to moult or if some are migrating also to the main moulting grounds in Northern Norway is still unknown. Quite recently some moulting males have been observed also on their breeding grounds in the river Isar and Lech, where eclipse males can be observed after late September. Some winter and spring males are in their first year according to their plumage. 12. With respect to the decrease of fish stocks in the rivers the Goosanders surely are of minor importance and they may cause some losses only under exceptionally adverse conditions.

**URL:** <Go to ISI>://BCI199698787884

**Reference Type:**  Journal Article

**Record Number:** 936

**Author:** R. D. Bayer

**Year:** 1980

**Title:** Birds Feeding on Herring Eggs at the Yaquina Estuary Oregon USA

**Journal:** Condor

**Volume:** 82

**Issue:** 2

**Pages:** 193-198

**Short Title:** Birds Feeding on Herring Eggs at the Yaquina Estuary Oregon USA

**Accession Number:** BCI:BCI198171001678

**Keywords:** Surf Scoter; Melanitta perspicillata; White-winged Scoter; Melanitta fusca; Bufflehead; Bucephala albeola; Black Scoter; Melanitta nigra; Trophic Interactions; Migration; Nonbreeding Seasons;

**Abstract:** Bird species (17) [Branta bernicla, Anser albifrons, Anas americana, Aythya americana, A. valisineria, A. marila, A. affinis, Bucephala albeola, Melanitta nigra, M. deglandi, M. perspicillata, Fulica americana, Larus glaucescens, L. occidentalis, L. delawarensis, L. canus and L. philadelphia] were observed feeding on herring eggs throughout high and low tides at high rocky intertidal and low intertidal area in an Oregon estuary. At low tide gulls fed directly on eggs, but at high tide they pirated eggs from diving birds or picked up eggs drifting in water. Brant, wigeon and coots picked up eggs while walking, or tipping up or through piracy; in deeper water coots dove for eggs. Diving ducks obtained eggs by diving, by piracy or by picking up eggs while swimming. Less than 25% of the gulls, coots or buffleheads but as many as 45% of the scaups and 83% of the scoters observed in the lower estuary were in groups feeding on herring eggs. The species composition and abundance of birds varied within the estuary and probably reflected the onset of spring migration, immigration of birds into the estuary to feed on eggs, the presence of birds near a site of egg deposition and the domination of herring egg deposits by gulls in the uper intertidal zone.

**URL:** <Go to ISI>://BCI198171001678

**Reference Type:**  Journal Article

**Record Number:** 696

**Author:** E. B. Beard

**Year:** 1951

**Title:** The trachea of the hooded merganser

**Journal:** Wilson Bull

**Volume:** 63

**Issue:** (4)

**Pages:** 296-301

**Short Title:** The trachea of the hooded merganser

**Accession Number:** BCI:BCI19542800017432

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology;

**Abstract:** The tracheae of male and female Lophodytes cucullatus are descr., including measurements , and are compared with those of Mergus merganser americanus, M. serrator, and Mergellus albellus. || ABSTRACT AUTHORS: H. Young

**URL:** <Go to ISI>://BCI19542800017432

**Reference Type:**  Journal Article

**Record Number:** 691

**Author:** E. B. Beard

**Year:** 1964

**Title:** Duck brood behavior at the Seney National Wildlife Refuge

**Journal:** J Wildl Mgmt

**Volume:** 28

**Issue:** (3)

**Pages:** 492-521

**Short Title:** Duck brood behavior at the Seney National Wildlife Refuge

**Accession Number:** BCI:BCI19644500094375

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**Abstract:** Daily observations of duck broods living undisturbed in their natural environment and unaware of an observer's presence were made during the summer of 1950 and 1951 at a 20-acre marsh in the Seney National Wildlife Refuge on the Upper Peninsula of Michigan. Observations were made of duck broods of the following species: blue-winged teal (Anas discors), black duck (Anas rubripes), wood duck (Aix sponsa), mallard (Anas platyrhynchos), hooded merganser (Lophodytes cucullatus), ring-necked duck (Aythya collaris), and American widgeon (Mareca americana). The latter two species were the most numerous, with the others represented by one or two broods only. Favorable loafing spots were so much in demand that competition existed among broods for their use. Although these spots were defended by the hen occupying them, she and her ducklings were sometimes driven off by other brood hens. No instance was ever observed of a widgeon hen driving a ring-necked duck family off a mound, but several instances of the reverse were seen. The female and her brood usually left the loafing mound together after completing their period of sleep, although sometimes the hen left while the ducklings were still asleep, to return either before they had awakened or after they had gone. Similarly, hens often left their broods while they were feeding, to return after an absence of 15-75 minutes. While thus temporarily abandoned, the young usually continued their leisurely foraging through the marsh. The duck broods exercised a considerable degree of mobility in their movements into and out of the study area; the overall length of time individual duck broods used the marsh varied widely. Methods of escape used by duck broods when frightened varied among the different species observed. With the exception of the widgeon, most brood hens usually tolerated the close approach of other adult ducks, provided they made no threatening move toward the young. The widgeons were conspicuous for their belligerence toward all ducklings that attempted to join their broods. In contrast was the behavior of the ring-necked duck and wood duck, which either tolerated or adopted young of other species into their broods. Loafing sites were extremely important in the daily activities of duck broods: it is quite probable that the number of such loafing spots in a marsh, suitable in all other respects for brood rearing, has a limiting influence on both the number of broods using the marsh and on the length of time they remain in it. Although no duck nests were found in the area immediately surrounding the study marsh, many of the broods first appeared there as downy young, indicating that rearing habitat need not necessarily include nesting sites. When existing rearing marshes become overcrowded, confusion prevails among broods, resulting in lowered duckling survival. Under such conditions, establishment of additional small rearing marshes is recommended. For the study area, the maximum concentration of broods occurred July 18, 1950, when 15 broods, representing 0.75 brood/acre, were tallied; and 9 widgeon broods was the highest number of broods of a single species seen there during 1 day. There appeared to be no conflict between the ducks and the deer (Odocoileus virginianus), beaver (Castor canadensis), and muskrats (Ondatra zibethicus) which also inhabited the marsh. The mink (Mustela vison), however, was shown to be a potentially important predator. ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19644500094375

**Reference Type:**  Journal Article

**Record Number:** 543

**Author:** L. A. Beattie and T. D. Nudds

**Year:** 1989

**Title:** Differential Habitat Occupancy by Goldeneye Ducklings Bucephala-Clangula and Fish Predator Avoidance or Competition

**Journal:** Canadian Journal of Zoology

**Volume:** 67

**Issue:** 2

**Pages:** 475-482

**Short Title:** Differential Habitat Occupancy by Goldeneye Ducklings Bucephala-Clangula and Fish Predator Avoidance or Competition

**Accession Number:** BCI:BCI198988002459

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Trophic Interactions; Breeding Season;

**Abstract:** Two hypotheses have been proposed to account for disjunct habitat occupancy between breeding Common Goldeneye (Bucephala clangula) ducks and fish: competition and predator avoidance. Both experimental and correlational evidence suggest that competition for food explains why goldeneyes and their broods tend to use habitats in which numbers of fish are low. However, rejection of the predator avoidance hypothesis has been based on correlational evidence only. In experiments, we tested the hypothesis that avoidance of predatory fish affects habitat use by goldeneyes by examining the responses of goldeneyes ducklings (hatched in captivity from eggs collected in the wild) to the presence of predatory and nonpredatory fish models in an aquatic arena. Although response behaviours generally decreased with age, this was not result of habituation to the testing procedure; responses of the oldest ducklings (9 weeks old) were not different from those of ducklings of similar age how not been previously exposed to the models. When the presence of the models affected duckling behaviour, group cohesion increased and diving activity decreased, but the intensity of the responses did not differ toward models of predatory and nonpredatory fish. Furthermore, measurements of duckling movements did not indicate that ducklings were actively avoiding the models. Our experimental evidence indicates that avoidance of predatory fish does not appear to be an important determinant of habitat use by goldeneye ducklings.

**URL:** <Go to ISI>://BCI198988002459

**Reference Type:**  Journal Article

**Record Number:** 1079

**Author:** G. Beauchamp

**Year:** 1993

**Title:** Diving behavior in surf scoters and Barrow's goldeneyes

**Journal:** Auk

**Volume:** 109

**Issue:** 4

**Pages:** 819-827

**Date:** 1992 (1993)

**Short Title:** Diving behavior in surf scoters and Barrow's goldeneyes

**Accession Number:** BCI:BCI199396015043

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Surf Scoter; Melanitta perspicillata; Behavior; Nonbreeding Seasons;

**Abstract:** I investigated diving behavior in foraging flocks of wintering Surf Scoters (Melanitta perspicillata) and Barrow's Goldeneyes (Bucephala islandica). Individuals in flocks of scoters and goldeneyes tended to dive and surface in a highly synchronous fashion. Diving-party size explained a large amount of variation in observed levels of diving synchrony. Synchrony increased with flock size as individuals in large groups followed one another more quickly during foraging dives than birds in smaller parties. Synchrony may be advantageous in large groups to maintain cohesion during foraging trips. Scoters and goldeneyes appeared not to adjust diving behavior in the presence of kleptoparasitic Glaucous-winged Gulls (Larus glaucescens). The length of the pause between consecutive dives was positively correlated with the duration of the preceding dive in the two species. Based on these relationships, the deviation from the estimated surface time was obtained for each series of dives. In both species, pause duration in sequences of many dives tended to oscillate around predicted values. This supports the idea that divers foraging on sessile prey complete more of the recovery after each dive than birds foraging on mobile prey who occasionally delay repayment of the physiological debt.

**URL:** <Go to ISI>://BCI199396015043

**Reference Type:**  Journal Article

**Record Number:** 1525

**Author:** G. Beauchamp

**Year:** 2000

**Title:** Parental behaviour and brood integrity in amalgamated broods of the Common Eider

**Journal:** Wildfowl

**Volume:** 51

**Pages:** 169-179

**Short Title:** Parental behaviour and brood integrity in amalgamated broods of the Common Eider

**Accession Number:** BCI:BCI200100150321

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Post-hatch brood amalgamation was examined in the Common Eider (Somateria mollissima) along the shorelines of the St. Lawrence estuary, Quebec, Canada. Broods typically contained a large number of ducklings and several females in attendance. The amount of time allocated to foraging, vigilance, and other activities by brooding females failed to vary as a function of the number of ducklings. In addition, abandoned ducklings were readily adopted by brooding females suggesting that parental care is not constrained by the presence of additional ducklings. Parental behaviour also varied little in response to the presence of additional females. Preening on shore, however, increased in frequency with the number of females perhaps because broods aggregated more often in safer sites. Losses of ducklings occurred in several broods in one of three ways: (1) when ducklings straggled behind during foraging activities, (2) when broods aggregated temporarily and more rarely (3) when females voluntarily abandoned ducklings. Such losses suggest that integrity may be difficult to maintain in amalgamated broods. The extent to which lost ducklings are predisposed to be abandoned as a result of sickness or severe malnutrition, for instance, remains to be investigated.

**URL:** <Go to ISI>://BCI200100150321

**Reference Type:**  Journal Article

**Record Number:** 1598

**Author:** G. Beauchamp, M. Guillemette and R. Ydenberg

**Year:** 1992

**Title:** Prey selection while diving by common eiders, Somateria mollissima

**Journal:** Animal Behaviour

**Volume:** 44

**Issue:** 3

**Pages:** 417-426

**Short Title:** Prey selection while diving by common eiders, Somateria mollissima

**Accession Number:** BCI:BCI199395034702

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** Common eiders, Somateria mollissima, wintering in the Gulf of St. Lawrence, Canada, dive for prey over a variety of substrate types. In one, the Agarum zone, eiders choose at different stages during a dive whether to reject ubiquitous urchins, Stronglylocentrotus droebachiensis, of low energetic value in favour of continued search for rare crabs, Hyas araneus, of higher energy content. A dynamic programming model is developed to predict dive duration as a function of prey choice. Observations on diving behaviour by eiders are compared with predictions of the model. The model predicts that dives terminated with the capture of a crab should be shorter in duration than those terminated with the capture of an urchin. Fruitless dives, which occur when urchins are rejected, should be the longest in duration. The fit beween dive duration predicted by the model and that observed in the field is reasonable in shallow foraging zones. However, the model overestimates the amount of time spent underwater in deeper waters. It is shown that variability in crab total energy content, one factor that could potentially reduce the duration of deep dives, has no influence on dive duration. Deep dives may be shorter than predicted for a number of reasons. For instance, diving may be more energetically costly than currently estimated, or travel speed may increase with depth. More work is needed to evaluate the relevance of these possibilities in eiders.

**URL:** <Go to ISI>://BCI199395034702

**Reference Type:**  Journal Article

**Record Number:** 820

**Author:** A. P. Beckerman and O. L. Petchey

**Year:** 2009

**Title:** Infectious food webs

**Journal:** Journal of Animal Ecology

**Volume:** 78

**Issue:** 3

**Pages:** 493-496

**Date:** May 2009

**Short Title:** Infectious food webs

**Accession Number:** BCI:BCI200900280834

**Keywords:** Red-breasted merganser; Mergus serrator;

**URL:** <Go to ISI>://BCI200900280834

**Reference Type:**  Book Section

**Record Number:** 1646

**Author:** J. Bedard, J. Gauthier and J. Munro

**Year:** 1987

**Title:** The Distribution of Common Eiders During the Brood-Rearing Period in the St. Lawrence Estuary Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 12-19

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** The Distribution of Common Eiders During the Brood-Rearing Period in the St. Lawrence Estuary Canada

**Accession Number:** BCI:BCI198834004274

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI198834004274

**Reference Type:**  Journal Article

**Record Number:** 1685

**Author:** J. Bedard and J. Munro

**Year:** 1977

**Title:** Brood and Creche Stability in the Common Eider of the St-Lawrence Estuary Canada

**Journal:** Behaviour

**Volume:** 60

**Issue:** 3-4

**Pages:** 221-236

**Short Title:** Brood and Creche Stability in the Common Eider of the St-Lawrence Estuary Canada

**Accession Number:** BCI:BCI197764024446

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The nature and duration of the parental bond in the common eider (Somateria mollissima) of the St. Lawrence estuary [Canada] was studied using 1400 individually tagged females. Several degrees of broodiness were recognized in birds tending broods and/or creches. Four behavioral categories (B-, A-, V- and N) based on this variability were substituted in lieu of the vague term aunts used in previous literature. Eiders of the St. Lawrence estuary did develop a stable and exclusive parental-type bond with all the ducklings they accompanied. Even groups (creches) of 15-35 ducklings led by one, or sometimes 2 B-status females did function as family groups (one B-female and 3-5 ducklings) and displayed great cohesiveness after the ducklings reached a certain age (about 1 wk). The minimum duration of the parental-type bond was estimated at 40 days. Some European workers have suggested that creching is of greater survival value for adult females than for ducklings, allowing females exhausted by incubation to move rapidly to better feeding grounds. Consequently, the link between any female and a creche was seen as transitory. These views are rejected on the basis of evidence collected in the present work.

**URL:** <Go to ISI>://BCI197764024446

**Reference Type:**  Journal Article

**Record Number:** 1672

**Author:** J. Bedard, J. C. Therriault and J. Berube

**Year:** 1980

**Title:** Assessment of the Importance of Nutrient Re Cycling by Sea Birds in the St-Lawrence Estuary Canada

**Journal:** Canadian Journal of Fisheries and Aquatic Sciences

**Volume:** 37

**Issue:** 4

**Pages:** 583-588

**Short Title:** Assessment of the Importance of Nutrient Re Cycling by Sea Birds in the St-Lawrence Estuary Canada

**Accession Number:** BCI:BCI198070049683

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition;

**Abstract:** Feeding and excretion rates of the herring, great black-backed and ring-billed gulls (Larus argentatus, L. marinus and L. delawarensis), and of the common eider (Somateria mollissima) were measrued in captive individuals and the concentration of soluble nutrients in their excreta was established. The bird population in a 30.6 km2 coastal study area varied between 2500 and 12,500 individuals between early May and mid-Nov. These birds excreted a seasonal total of 5.8, 4.2 and 48.1 kg-atom of soluble silicate, phosphate and nitrogeneous compounds, respectively. Such quantities, when introduced in the nutrient budget of the coastal area studied, are negligible, considering the levels of nutrients generally recorded in these waters and the relative importance of alternate sources such as land drainage and vertical mixing. The seabirds can hardly be viewed, except perhaps under the most special circumstances, as important agents in the dynamic nutrient regeneration processes of marine coastal waters of the St. Lawrence Estuary.

**URL:** <Go to ISI>://BCI198070049683

**Reference Type:**  Journal Article

**Record Number:** 2265

**Author:** J. Bellebaum, J. Kube, A. Schulz, H. Skov and H. Wendeln

**Year:** 2014

**Title:** Decline of Long-tailed Duck Clangula hyemalis numbers in the Pomeranian Bay revealed by two different survey methods

**Journal:** Ornis Fennica

**Volume:** 91

**Issue:** 3

**Pages:** 129-137

**Short Title:** Decline of Long-tailed Duck Clangula hyemalis numbers in the Pomeranian Bay revealed by two different survey methods

**ISSN:** 0030-5685

**Accession Number:** WOS:000344436900001

**Keywords:** Long-tailed Duck; Clangula hyemalis; Nonbreeding season; Techniques; Abundance, Distribution, & Trends

**Abstract:** Abundance of Long-tailed Ducks Clangula hyemalis wintering in the Pomeranian Bay was monitored between 1988 and 2014, using both ship-based and aerial surveys and correcting for distance dependent detection. Aerial surveys were conducted using an improved transect division and a double observer design to estimate detection probability near the transect line. As the latter probability was considerably below 1, we applied an additional correction factor for observer efficiency. After correcting for observer efficiency in aerial surveys, the two methodological approaches yielded similar densities, though an apparent underestimation in aerial surveys warrants further cross-validation. Density estimates from both platforms were merged for further analysis. After reaching peak levels in 1992 and 1993, Long-tailed Duck winter densities in the Pomeranian Bay declined by 82% until 2010. This decline was part of an overall decline in numbers throughout the Baltic Sea. An apparent increase since 2010, which was likely due to local ice-induced movements, indicates that habitats in the study area may still support high densities today.

**Notes:** Bellebaum, Jochen Kube, Jan Schulz, Axel Skov, Henrik Wendeln, Helmut

**URL:** <Go to ISI>://WOS:000344436900001

**Reference Type:**  Journal Article

**Record Number:** 1696

**Author:** L. O. Belopol'Skii, G. P. Goryainova and T. V. Tarnovskaya

**Year:** 1974

**Title:** Sex Ratio in the Common Eider

**Journal:** Ekologiya (Moscow)

**Volume:** 5

**Issue:** 2

**Pages:** 110-111

**Short Title:** Sex Ratio in the Common Eider

**Accession Number:** BCI:BCI197559018692

**Keywords:** Common Eider; Somateria mollissima; Population Dynamics;

**URL:** <Go to ISI>://BCI197559018692

**Reference Type:**  Journal Article

**Record Number:** 668

**Author:** B. E. Bendell and D. K. McNicol

**Year:** 1995

**Title:** The diet of insectivorous ducklings and the acidification of small Ontario lakes

**Journal:** Canadian Journal of Zoology

**Volume:** 73

**Issue:** 11

**Pages:** 2044-2051

**Short Title:** The diet of insectivorous ducklings and the acidification of small Ontario lakes

**Accession Number:** BCI:BCI199698677051

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Trophic Interactions; Contaminants; Breeding Season;

**Abstract:** We examined the diet of insectivorous ducklings of four species of waterfowl, Common Goldeneye (Bucephala clangula), Ring-necked Duck (Aythya collaris), Hooded Merganser (Lophodytes cucullatus), and American Black Duck (Anas rubripes), collected from small lakes covering a range of acidity in northeastern Ontario. The numbers of Odonata larvae, aquatic Hemiptera, aquatic Coleoptera, and Trichoptera larvae eaten by the ducklings were estimated from combined esophageal and gizzard contents and analysed with respect to differences in take acidity and fish presence. Ducklings of all species, especially Common Goldeneye and Hooded Merganser, ate significantly more nektonic prey, especially Notonectidae (Hemiptera) and Dytiscidae (Coleoptera), from lakes without fish than from lakes with fish. Ducklings of species other than American Black Duck ate more Anisoptera larvae on acidic lakes. American Black Duck ducklings ate more teneral Odonata on acidic lakes. There was a tendency for more Trichoptera larvae to be eaten on non-acidic takes than on acidic lakes. All four species adjusted, to some extent, for the absence of acid-sensitive prey in acidified lakes by feeding on prey that are most abundant under acidic, fishless conditions. Differences in diet among species were related to differences in diving and foraging behaviour, and to hatch date.

**URL:** <Go to ISI>://BCI199698677051

**Reference Type:**  Journal Article

**Record Number:** 1032

**Author:** L. I. Bendell

**Year:** 2011

**Title:** Sea ducks and aquaculture: the cadmium connection

**Journal:** Ecotoxicology

**Volume:** 20

**Issue:** 2

**Pages:** 474-478

**Date:** Mar 2011

**Short Title:** Sea ducks and aquaculture: the cadmium connection

**Accession Number:** BCI:BCI201100120269

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Elevated concentrations of cadmium have been reported in the kidneys of sea ducks that forage along the Pacific Northwest, and cadmium has been postulated as a possible cause of population declines. The blue mussel (Mytilus spp.) which occurs in dense numbers on aquaculture structures and are a primary prey item for sea ducks also contain elevated cadmium concentrations. To determine if foraging on mussels associated with aquaculture structures could pose a toxicological risk to sea ducks, amounts of cadmium ingested per body weight per day by a representative sea duck species, the surf scoter (Melanitta perspicillata), were estimated and compared to the reported avian cadmium NOAEL (no observable adverse effect level) and LOAEL (lowest observable adverse effect level). Results indicate that in some locations within the Pacific Northwest, sea ducks could be exposed to toxicologically significant levels of cadmium associated with mussels foraged from aquaculture structures. This raises the possibility that such exposure could be contributing to observed population declines in these species.

**URL:** <Go to ISI>://BCI201100120269

**Reference Type:**  Journal Article

**Record Number:** 944

**Author:** S.-A. Bengtson

**Year:** 1966

**Title:** Observations on the sexual behavior of the common scoter (Melanitta nigra) on the breeding grounds, with special reference to courting parties Engl. summ.

**Journal:** Var Fagelvarld

**Volume:** 25

**Issue:** (3)

**Pages:** 202-226

**Short Title:** Observations on the sexual behavior of the common scoter (Melanitta nigra) on the breeding grounds, with special reference to courting parties Engl. summ.

**Accession Number:** BCI:BCI19674800083991

**Keywords:** Black Scoter; Melanitta nigra; Behavior; Breeding Season;

**Abstract:** Courtship display comprises 3 different tendencies: aggression, escape and sexual. These components may all be present at 1 time, or only 2 of them, and their relative strength may change in different actions. ABSTRACT AUTHORS: From auth. summ

**URL:** <Go to ISI>://BCI19674800083991

**Reference Type:**  Journal Article

**Record Number:** 359

**Author:** S. A. Bengtson

**Year:** 1972

**Title:** Breeding Ecology of the Harlequin Duck Histrionicus-Histrionicus in Iceland

**Journal:** Ornis Scandinavica

**Volume:** 3

**Issue:** 1

**Pages:** 1-19

**Short Title:** Breeding Ecology of the Harlequin Duck Histrionicus-Histrionicus in Iceland

**Accession Number:** BCI:BCI197355001515

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season;

**URL:** <Go to ISI>://BCI197355001515

**Reference Type:**  Journal Article

**Record Number:** 360

**Author:** S. A. Bengtson and S. Ulfstrand

**Year:** 1971

**Title:** Food Resources and Breeding Frequency of the Harlequin Duck Histrionicus-Histrionicus in Iceland

**Journal:** Oikos

**Volume:** 22

**Issue:** 2

**Pages:** 235-239

**Short Title:** Food Resources and Breeding Frequency of the Harlequin Duck Histrionicus-Histrionicus in Iceland

**Accession Number:** BCI:BCI197253001440

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI197253001440

**Reference Type:**  Journal Article

**Record Number:** 386

**Author:** D. C. Bennett, D. A. Gray, P. J. Sharp and M. R. Hughes

**Year:** 2005

**Title:** Redistribution of extracellular water and sodium may contribute to saline tolerance in wild ducks

**Journal:** Physiological and Biochemical Zoology

**Volume:** 78

**Issue:** 3

**Pages:** 447-455

**Date:** May-Jun05

**Short Title:** Redistribution of extracellular water and sodium may contribute to saline tolerance in wild ducks

**Accession Number:** BCI:BCI200510105372

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Physiology;

**Abstract:** The compartmentalization of body fluids was measured in three species of ducks that differ in saline tolerance. Half of the birds of each species drank freshwater, while the other half drank saline ( 300 mM NaCl). Among ducks that drank freshwater, total body water (TBW) was similar among all species, but Barrow's goldeneyes (Bucephala islandica), the most marine species, had larger extracellular fluid volume (ECFV) than freshwater mallards (Anas platyrhynchos) or estuarine canvas-backs (Aythya valisineria). When acclimated to saline, only goldeneyes shifted extracellular water and Na+ into the intracellular compartment. ECFV was correlated with plasma aldosterone concentration in goldeneyes, but not in canvasbacks ( aldosterone was not measured in mallards). Data summarized from the literature showed that TBW does not differ among terrestrial, freshwater, or marine species, but marine species have a larger part of their TBW in the extracellular compartment. Saline induced movement of extracellular water and Na+ into the cells only in goldeneyes. ECFV and redistribution of extracellular water and Na+ into the cells may be important components in saline tolerance of marine birds.

**URL:** <Go to ISI>://BCI200510105372

**Reference Type:**  Journal Article

**Record Number:** 388

**Author:** D. C. Bennett and M. R. Hughes

**Year:** 2003

**Title:** Comparison of renal and salt gland function in three species of wild ducks

**Journal:** Journal of Experimental Biology

**Volume:** 206

**Issue:** 18

**Pages:** 3273-3284

**Date:** September 2003

**Short Title:** Comparison of renal and salt gland function in three species of wild ducks

**Accession Number:** BCI:BCI200300509000

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Physiology;

**Abstract:** Three processes central to osmoregulation of marine birds were compared in three species of ducks that differ in habitat affinity, diet and saline tolerance. These processes are filtration of Na+ and water from the plasma by the kidneys, their reabsorption along the renal tubules, and secretion by the salt glands. Barrow's goldeneyes Bucephala islandica, the most marine species, have the highest rates for all three processes and only this species can secrete all the infused salt via the salt glands. Rates of all three processes are lower in mallards Anas platyrhynchos, the most freshwater species. Following saline acclimation, mallards could excrete all the infused Na+ by a combined Na+ excretion of the kidneys and salt glands. Canvasbacks Aythya valisineria, despite being more saline tolerant than mallards, are unable to excrete all the infused Na+. They produce a large volume of urine (like mallards) that has a low (Na+) (like goldeneyes). Salt gland secretion Na+ concentration did not differ among the three species, but only goldeneyes secrete at a rate sufficient to eliminate all infused Na+ via the salt glands. Differences in saline tolerance of these ducks species cannot be fully explained by differences in their filtration, reabsorption and secretion of Na+ and water, suggesting that the intestinal tract plays an important role.

**URL:** <Go to ISI>://BCI200300509000

**Reference Type:**  Journal Article

**Record Number:** 833

**Author:** J. Bennett and W. S. Smithson

**Year:** 2001

**Title:** Feeding associations between Snowy Egrets and Red-breasted Mergansers

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 1

**Pages:** 125-128

**Date:** April, 2001

**Short Title:** Feeding associations between Snowy Egrets and Red-breasted Mergansers

**Accession Number:** BCI:BCI200100279496

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** During the winter months Snowy Egrets (Egretta thula) often form feeding associations with Red-breasted Mergansers (Mergus serrator) at Bolsa Chica Ecological Reserve, Orange County, California. We quantified and compared foraging success of egrets feeding in associations with success of egrets feeding independently. During winter 1996-1997, egrets feeding with mergansers increased their rate of prey acquisition by increasing both their striking rate (strikes/min) and their striking efficiency (captures/strike). In contrast, during winter 1997-98 we found no differences in the rate of prey acquisition between egrets feeding independently and those feeding in association with mergansers. Although we did not quantify the size of prey taken, egrets feeding in associations in 1997-1998 may have captured larger prey than those that were feeding alone. Egrets may benefit from feeding in associations with mergansers by increasing their prey capture rate and/or by capturing larger prey.

**URL:** <Go to ISI>://BCI200100279496

**Reference Type:**  Report

**Record Number:** 2373

**Author:** A. R. Benoit

**Year:** 2007

**Title:** Aboriginal harvest of waterfowl in the Maritimes

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 488

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Aboriginal harvest of waterfowl in the Maritimes

**Keywords:** Common Eider; King Eider; Black Scoter; White-winged Scoter; Surf Scoter; Barrow’s Goldeneye; Common Goldeneye; Long-tailed Duck; Common Merganser; Red-breasted Merganser; Hooded Merganser; Somateria mollissima; Somateria spectabilis; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Bucephala clangula; Clangula hyemalis; Mergus merganser; Mergus serrator; Lophodytes cucullatus; Conservation

**Abstract:** In preparation for establishing a co-management regime for waterfowl in the Maritimes

region, I undertook a number of collaborative projects with Mi’kmaq, Maliseets, and

Passamaquoddy in Nova Scotia, New Brunswick, and Prince Edward Island to assess

their current harvest levels of waterfowl. This technical report provides data on the

harvesting areas and timing of harvest, estimates numbers of Aboriginal hunters and

lists numbers and species of waterfowl killed between 1993 and 2004. Given the

interest and concerns of Mi’kmaq, Maliseet and Passamaquoddy peoples for wildlife,

and given the low level of Aboriginal harvest of waterfowl shown by this report’s findings,

the federal government will need to consider ways to build the management capacity of

Mi’kmaq, Maliseet and Passamaquoddy and help them re-invigorate their traditional

waterfowl harvest practices among their community members. These should serve to

help build the capacity of Mi’kmaq, Maliseet and Passamaquoddy to negotiate a better

co-management regime for waterfowl in the Maritimes region.

**Reference Type:**  Report

**Record Number:** 2379

**Author:** R. Benoit, M. Robert, C. Marcotte, G. Fitzgérald and J.-P. L. Savard

**Year:** 2001

**Title:** Étude des déplacements du Garrot d’islande dans l’est du Canada à l’aide de la télémétrie satellitaire

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 360

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Étude des déplacements du Garrot d’islande dans l’est du Canada à l’aide de la télémétrie satellitaire

**Keywords:** SDJV funded

**Reference Type:**  Journal Article

**Record Number:** 1812

**Author:** R. L. Bentzen and A. N. Powell

**Year:** 2012

**Title:** Population Dynamics of King Eiders Breeding in Northern Alaska

**Journal:** Journal of Wildlife Management

**Volume:** 76

**Issue:** 5

**Pages:** 1011-1020

**Date:** Jul

**Short Title:** Population Dynamics of King Eiders Breeding in Northern Alaska

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.335

**Accession Number:** WOS:000305577000016

**Keywords:** king eider; somateria spectabilis; Population Dynamics; Breeding Season; SDJV funded

**Abstract:** The North American population of king eiders (Somateria spectabilis) has declined by more than 50% since the late 1970s for unknown reasons. King eiders spend most of their lives in remote areas, forcing managers to make regulatory and conservation decisions based on very little information. We incorporated available published estimates of vital rates with new estimates to build a female, stage-based matrix population model for king eiders and examine the processes underlying population dynamics of king eiders breeding at 2 sites, Teshekpuk and Kuparuk, on the coastal plain of northern Alaska and wintering around the Bering Sea (2001–2010). We predicted a decreasing population (λ = 0.981, 95% CI: 0.978–0.985), and that population growth was most sensitive to changes in adult female survival (sensitivity = 0.92). Low duckling survival may be a bottleneck to productivity (variation in ducking survival accounted for 66% of retrospective variation in λ). Adult survival was high (0.94) and invariant (equation image = 0.0002, 95% CI: 0.0000–0.0007); however, catastrophic events could have a major impact and we need to consider how to mitigate and manage threats to adult survival. A hypothetical oil spill affecting breeding females in a primary spring staging area resulted in a severe population decline; although, transient population dynamics were relatively stable. However, if no catastrophic events occur, the more variable reproductive parameters (duckling and nest survival) may be more responsive to management actions.

**Notes:** Times Cited: 3

Bentzen, Rebecca L. Powell, Abby N.

3

**URL:** <Go to ISI>://WOS:000305577000016

**Reference Type:**  Journal Article

**Record Number:** 2257

**Author:** R. L. Bentzen and A. N. Powell

**Year:** 2015

**Title:** Dispersal, movements and site fidelity of post-fledging King Eiders Somateria spectabilis and their attendant females

**Journal:** Ibis

**Volume:** 157

**Issue:** 1

**Pages:** 133-146

**Date:** Jan

**Short Title:** Dispersal, movements and site fidelity of post-fledging King Eiders Somateria spectabilis and their attendant females

**ISSN:** 0019-1019

**DOI:** 10.1111/ibi.12217

**Accession Number:** WOS:000346347700012

**Keywords:** King Eider; Somateria spectabilis; Breeding Season; Nonbreeding season; Molt; Migration; Dispersal; Behavior

**Abstract:** Post-fledging dispersal and site fidelity are poorly understood, particularly for sea ducks that spend the majority of their annual cycle at sea. This is the first description of movements and their timing for first-year (juvenile) and second-year (subadult) King Eiders Somateria spectabilis in relation to their attendant females. We fitted satellite transmitters that operated for 2years to 63 hatch-year birds and 17 attendant females at breeding areas in northern Alaska in 2006-2009. Our goals were to describe the spatio-temporal distribution of pre-breeding individuals and adult females that had been successful breeders. We also examined fidelity to wing moulting and wintering areas as well as natal philopatry. Juveniles did not appear to follow attendant adults, although they did winter in the same three general wintering areas, suggesting that genetic inheritance and social factors may have roles in the initial migration from the breeding area. Additionally, juveniles were more variable in the timing and duration of migration, moved longer distances during the winter, and were less faithful to moulting and wintering areas than adults, indicating that individual exploration and acquired navigational memory played a role in subsequent migrations. Most (75%) subadult females returned to natal areas, probably prospecting for future nesting sites, whereas subadult males were widely dispersed at sea. Timing and duration of moult migration and wing moult of adult females that were presumed to be successful breeders differed from those of unsuccessful breeders due to the extended time that the former spent on the breeding grounds. Temporal and spatial segregation of post-fledging King Eiders from adults has direct management implications in terms of resource development and population dynamics.

**Notes:** Bentzen, Rebecca L. Powell, Abby N.

**URL:** <Go to ISI>://WOS:000346347700012

**Reference Type:**  Journal Article

**Record Number:** 1724

**Author:** R. L. Bentzen, A. N. Powell, L. M. Phillips and R. S. Suydam

**Year:** 2010

**Title:** Incubation behavior of king eiders on the coastal plain of northern Alaska

**Journal:** Polar Biology

**Volume:** 33

**Issue:** 8

**Pages:** 1075-1082

**Date:** Aug 2010

**Short Title:** Incubation behavior of king eiders on the coastal plain of northern Alaska

**Accession Number:** BCI:BCI201000472683

**Keywords:** King Eider; Somateria spectabilis; Behavior; Energetics and Nutrition; Breeding Season; SDJV funded

**Abstract:** Incubating birds balance their energetic demands during incubation with the needs of the developing embryos. Incubation behavior is correlated with body size; larger birds can accumulate more endogenous reserves and maintain higher incubation constancy. King eiders (Somateria spectabilis) contend with variable and cold spring weather, little nesting cover, and low food availability, and thus are likely to rely heavily on endogenous reserves to maintain high incubation constancy. We examined the patterns of nest attendance of king eiders at Teshekpuk and Kuparuk, Alaska (2002-2005) in relation to clutch size, daily temperature, and endogenous reserves to explore factors controlling incubation behavior. Females at Kuparuk had higher constancy (98.5 +/- A 0.2%, n = 30) than at Teshekpuk (96.9 +/- A 0.8%, n = 26), largely due to length of recesses. Mean recess length ranged from 21.5 to 23.7 min at Kuparuk, and from 28.5 to 51.2 min at Teshekpuk. Mean body mass on arrival at breeding grounds (range; Teshekpuk 1,541-1,805, Kuparuk 1,616-1,760), and at the end of incubation (Teshekpuk 1,113-1,174, Kuparuk 1,173-1,183), did not vary between sites or among years (F < 1.1, P > 0.3). Daily constancy increased 1% with every 5A degrees C increase in minimum daily temperature (beta (min) = 0.005, 95% CI 0.002, 0.009). Higher constancy combined with similar mass loss at Kuparuk implies that females there met foraging requirements with shorter recesses. Additionally, females took more recesses at low temperatures, suggesting increased maintenance needs which were potentially ameliorated by feeding during these recesses, indicating that metabolic costs and local foraging conditions drove incubation behavior.

**URL:** <Go to ISI>://BCI201000472683

**Reference Type:**  Journal Article

**Record Number:** 1736

**Author:** R. L. Bentzen, A. N. Powell and R. S. Suydam

**Year:** 2008

**Title:** Factors Influencing Nesting Success of King Eiders on Northern Alaska's Coastal Plain

**Journal:** Journal of Wildlife Management

**Volume:** 72

**Issue:** 8

**Pages:** 1781-1789

**Date:** Nov 2008

**Short Title:** Factors Influencing Nesting Success of King Eiders on Northern Alaska's Coastal Plain

**Accession Number:** BCI:BCI200900019971

**Keywords:** King Eider; Somateria spectabilis; Productivity; Breeding Season; SDJV funded

**Abstract:** King eider (Somateria spectabilis) populations have declined markedly in recent decades for unknown reasons. Nest survival is one component of recruitment, and a female's chance of reproductive success increases with her ability to choose an appropriate nesting strategy. We estimated variation in daily nest survival of king eiders at 2 sites, Teshekpuk and Kuparuk, Alaska, USA, 2002-2005. We evaluated both a priori and exploratory competing models of nest survival that considered importance of nest concealment, seclusion, and incubation constancy as strategies to avoid 2 primary egg predators, avian (Larus spp., Stercorarius spp., and Corvus corax) and fox (Alopex lagopus). We used generalized nonlinear techniques to examine factors affecting nest survival rates and information-theoretic approaches to select among competing models. Estimated nest survival, accounting for a nest visitation effect, varied considerably across sites and years (0.21-0.57); however, given our small sample size, much of this variation may be attributable to sampling variation (sigma(2)(process) = 0.007, 95% CI: 0.003-0.070). Nest survival was higher at Kuparuk than Teshekpuk in all years; however, due to the correlative nature of our data, we cannot determine the underlying causes with any certainty. We found mixed support for the concealed breeding strategy; females derived no benefit from nesting in areas with more willow (Salix spp.; measure of concealment) except that the observer effect diminished as willow cover increased. We suggest these patterns are due to conflicting predation pressures. Nest survival was not higher on islands (measure of seclusion) or with increased incubation constancy but was higher post-fox removal, indicating that predator control on breeding grounds could be a viable management option. Nest survival was negatively affected by our nest visitations, most likely by exposing the nest to avian scavengers. We recommend precautions be taken to limit the effects of nest visits in future studies and to consider them as a possible negative bias in estimated nest survival. Future models of the impacts of development within the breeding grounds of king eider should consider the influence of humans in the vicinity of nests. (JOURNAL OF WILDLIFE MANAGEMENT 72(8): 1781-1789; 2008)

**URL:** <Go to ISI>://BCI200900019971

**Reference Type:**  Journal Article

**Record Number:** 1731

**Author:** R. L. Bentzen, A. N. Powell and R. S. Suydam

**Year:** 2009

**Title:** Strategies for Nest-Site Selection by King Eiders

**Journal:** Journal of Wildlife Management

**Volume:** 73

**Issue:** 6

**Pages:** 932-938

**Date:** Aug 2009

**Short Title:** Strategies for Nest-Site Selection by King Eiders

**Accession Number:** BCI:BCI200900518046

**Keywords:** King Eider; Somateria spectabilis; Habitat; Breeding Season; SDJV funded

**Abstract:** Nest site selection is a critical component of reproduction and has presumably evolved in relation to predation, local resources, and microclimate. We investigated nest-site choice by king eiders (Somateria spectabilis) on the coastal plain of northern Alaska, USA, 2003-2005. We hypothesized that nest-site selection is driven by predator avoidance and that a variety of strategies including concealment, seclusion, and conspecific or inter-specific nest defense might lead to improved nesting success. We systematically searched wetland basins for king eider nests and measured habitat and social variables at nests (n = 212) and random locations (n = 493). King eiders made use of both secluded and concealed breeding strategies; logistic regression models revealed that females selected nests close to water, on islands, and in areas with high willow (Salix spp.) cover but did not select sites near conspecific or glaucous gull (Larus hyperboreus) nests. The most effective nest-placement strategy may vary depending on density and types of nest predators; seclusion is likely a mammalian-predator avoidance tactic whereas concealment may provide protection from avian predators. We recommend that managers in northern Alaska attempt to maintain wetland basins with islands and complex shorelines to provide potential nest sites in the vicinity of water. (JOURNAL OF WILDLIFE MANAGEMENT 73(6): 932-938; 2009)

**URL:** <Go to ISI>://BCI200900518046

**Reference Type:**  Journal Article

**Record Number:** 1735

**Author:** R. L. Bentzen, A. N. Powell, T. D. Williams and A. S. Kitaysky

**Year:** 2008

**Title:** Characterizing the nutritional strategy of incubating king eiders Somateria spectabilis in northern Alaska

**Journal:** Journal of Avian Biology

**Volume:** 39

**Issue:** 6

**Pages:** 683-690

**Date:** Nov 2008

**Short Title:** Characterizing the nutritional strategy of incubating king eiders Somateria spectabilis in northern Alaska

**Accession Number:** BCI:BCI200900031893

**Keywords:** King Eider; Somateria spectabilis; Energetics and Nutrition; Physiology; Breeding Season; SDJV funded

**Abstract:** We measured plasma concentrations of variables associated with lipid metabolism (free fatty acids, glycerol, triglyceride, and beta-hydroxybutyrate), protein metabolism (uric acid), and baseline corticosterone to characterize the nutritional state of incubating king eiders Somateria spectabilis and relate this to incubation constancy at two sites, Kuparuk and Teshekpuk, in northern Alaska. King eiders at both sites appeared to employ a partial-income incubation strategy, relying on both endogenous and exogenous energy resources. Females maintained high invariant levels of free fatty acids, beta-hydroxybutyrate, and glycerol throughout incubation, indicating that fat reserves were a major energy source, and not completely depleted during incubation. Similarly, uric acid did not increase, suggesting effective protein sparing or protein ingestion and adequate lipid reserves throughout incubation. Baseline corticosterone and triglyceride levels increased during incubation, indicative of an increase in foraging during late stages of incubation. Incubating females at Kuparuk had higher triglyceride concentrations but also had higher beta-hydroxybutyrate concentrations than females at Teshekpuk. This dichotomy may reflect a short-term signal of feeding overlaying the longer-term signal of reliance on endogenous lipid reserves due to higher food intake yet higher metabolic costs at Kuparuk because of its colder environment. Incubation constancy was not correlated with plasma concentrations of lipid or protein metabolites.

**URL:** <Go to ISI>://BCI200900031893

**Reference Type:**  Journal Article

**Record Number:** 607

**Author:** J. F. Bergan and L. M. Smith

**Year:** 1989

**Title:** Differential Habitat Use by Diving Ducks Wintering in South Carolina USA

**Journal:** Journal of Wildlife Management

**Volume:** 53

**Issue:** 4

**Pages:** 1117-1126

**Short Title:** Differential Habitat Use by Diving Ducks Wintering in South Carolina USA

**Accession Number:** BCI:BCI199089036225

**Keywords:** Bufflehead; Bucephala albeola; Habitat; Nonbreeding Seasons;

**Abstract:** We studied habitat use of buffleheads (Bucephala albeola), lesser scaup (Aythya affinis), ring-necked ducks (A. collaris), and ruddy ducks (Oxyura jamaicensis) during 2 winters (1984-85 and 1985-86) on a reservoir in South Carolina. Locations of individuals (2,228 buffleheads, 8,927 lesser scaup, 6,065 ring-necked ducks, and 3,831 ruddy ducks) were plotted in 4 habitats: emergent vegetation, floating-leaved vegetation, submergent vegetation, and open water. Ring-necked ducks and buffleheads used the more shallow habitats (emergent and floating-leaved vegetation), and lesser scaup and ruddy ducks preferred submergent vegetation and open water sites. Within species, females generally used shallow and vegetated sites as winter progressed. Intraspecific differences in habitat use may result from sex-specific dietary needs, microclimate preferences, or thermodynamic implications of body size. Aggressive behavior was uncommon and apparently was not responsible for habitat segregation that we observed.

**URL:** <Go to ISI>://BCI199089036225

**Reference Type:**  Journal Article

**Record Number:** 606

**Author:** J. F. Bergan, L. M. Smith and J. J. Mayer

**Year:** 1989

**Title:** Time-Activity Budgets of Diving Docks Wintering in South Carolina USA

**Journal:** Journal of Wildlife Management

**Volume:** 53

**Issue:** 3

**Pages:** 769-776

**Short Title:** Time-Activity Budgets of Diving Docks Wintering in South Carolina USA

**Accession Number:** BCI:BCI198988081122

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Nonbreeding Seasons;

**Abstract:** We determined nocturnal and diurnal time-activity budgets from focal individual sampling for buffleheads (Bucephala albeola), lesser scaup (Aythya affinis), ring-necked ducks (A. collaris), and ruddy ducks (Oxyura jamaicensis) wintering on a reservoir in South Carolina. Foraging and sleeping dominated the time-activity budgets whereas time spent in aggression and courtship was low. Buffleheads spent more time foraging (69%) than other species (41, 43, and 33% for lesser scaup, ring-necked ducks, and ruddy ducks, respectively) during the diurnal period. Female lesser scaup and ring-necked ducks foraged more (44 and 48%, respectively) than males (39 and 40%, respectively) (P < 0.05). Time spent feeding increased throughout the winter among buffleheads, lesser scaup, and ring-necked ducks (P < 0.05). Buffleheads fed most early in the morning and ruddy ducks spent more time feeding late in the day (P < 0.05). Ruddy ducks also fed more at night (42%) than during diurnal hours (31%), in contrast to other species in the study. The other 3 species also fed at night, but were not as active as ruddy ducks. This study illustrates the need to collect diel behavior data to document activity.

**URL:** <Go to ISI>://BCI198988081122

**Reference Type:**  Journal Article

**Record Number:** 875

**Author:** G. Bergman

**Year:** 1965

**Title:** Gulls: Their competition, food needs, and relations to other coastal birds? Ger. summ.J

**Journal:** Zool Revy

**Volume:** 27

**Issue:** (3)

**Pages:** 58-77

**Short Title:** Gulls: Their competition, food needs, and relations to other coastal birds? Ger. summ.J

**Accession Number:** BCI:BCI19674800032037

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Breeding Season;

**Abstract:** In 19B4 the city of Helsinki started incinerating or burying all garbage, thus closing that source of food of gulls. The herring gull (Larus arzentatus) was forced to turn partly to ducklings and the young of smaller gull species. Size of brood of herring gull pairs was slightly reduced. The great increase in herring-gull population off the south Finnish coast since 1935 has forced the lesser black-backed gull (L. fuscus) to nest in less suitable sites; e.g., where some of the fuscus young are killed by ants or humans. Although sections of the coast further west from Helsinki do not provide such a stable and abundant food supply, gull colonies there are growing and new colonies are being formed. The more established colonies nearer Helsinki have not given much in the last 5 years, and the new settlers in them have mostly been older gulls, which nest earlier (mid-April). Gull young hatched after June 10 have a higher mortality than those hatched in May; cannibalism may play a part, but no direct evidence was found in this survey. At given stages, late-hatched fledglings are probably lighter than early-hatched ones, but we do not have enough data to support this statement. Herring gulls in smaller colonies fare better. Herring and greater black-backed gulls (L. argentatus and L. marinus) eat the young (weighing less than 0.3 kg) of the red-breasted merganser (Mergus serrator) and the eider duck (Somateria mollissima) (weighing less than 0.5 kg). Tern young are eaten till araonst fledged (0.12 kg). 15% of the food of black-backed gull is composed of merganser young and accounts for 3/4 of the consumption in spite of the greater numbers of herring gulls, which only get about 0.5% of their food this way. Intestinal infections seem also to contribute to recent high mortality of eider young. In spite of heavy losses, the total south Finnish eider population is rising, due to gains in areas with few gulls. || ABSTRACT AUTHORS: P. Hopper

**URL:** <Go to ISI>://BCI19674800032037

**Reference Type:**  Journal Article

**Record Number:** 1178

**Author:** G. Bergman

**Year:** 1974

**Title:** The Spring Migration of the Long-Tailed Duck and the Common Scoter in Western Finland

**Journal:** Ornis Fennica

**Volume:** 51

**Issue:** 3-4

**Pages:** 129-145

**Short Title:** The Spring Migration of the Long-Tailed Duck and the Common Scoter in Western Finland

**Accession Number:** BCI:BCI197560035961

**Keywords:** Black Scoter; Melanitta nigra; Long-tailed Duck; Clangula hyemalis; Migration; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197560035961

**Reference Type:**  Journal Article

**Record Number:** 1620

**Author:** R. Bergstrom

**Year:** 1990

**Title:** Variations in the Occurrence of the Common Eider Along the Norwegian Skagerrak Coast from May 1988 to June 1989

**Journal:** Fauna och Flora Naturhistoriska Riksmuseet

**Volume:** 85

**Issue:** 3-4

**Pages:** 180-185

**Short Title:** Variations in the Occurrence of the Common Eider Along the Norwegian Skagerrak Coast from May 1988 to June 1989

**Accession Number:** BCI:BCI199140011399

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI199140011399

**Reference Type:**  Journal Article

**Record Number:** 1591

**Author:** J. J. Beukema

**Year:** 1993

**Title:** Increased mortality in alternative bivalve prey during a period when the tidal flats of the Dutch Wadden Sea were devoid of mussels

**Journal:** Netherlands Journal of Sea Research

**Volume:** 31

**Issue:** 4

**Pages:** 395-406

**Short Title:** Increased mortality in alternative bivalve prey during a period when the tidal flats of the Dutch Wadden Sea were devoid of mussels

**Accession Number:** BCI:BCI199497170215

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** In the course of 1990, stocks of mussels (Mytilus edulis) declined to unprecedentedly low levels in the Dutch Wadden Sea. Hardly a wild mussel bed was left on the tidal flats as a consequence of three years (1988, 1989, and 1990) with failing recruitment and intensive fishing for seed mussels. During these three years, recruitment of cockles (Cerastoderma edule) also failed, whereas fishing was continued. Bird species taking these bivalves as staple food, the oystercatcher (Haematopus ostralegus) and the eider (Somateria mollissima), experienced food shortage. Significant numbers of eiders left the Dutch Wadden Sea area or died, whereas oystercatchers remained abundant throughout the winter in most of the Dutch Wadden Sea. Alternative prey species of oystercatchers experienced unusually high mortality rates in the appropriate size classes. This was so in all other common species of bivalves, viz. first-year and older cockles, adult Macoma balthica, and juvenile Mya arenaria. This led to minimal stocks of food for oystercatchers in the late winter of 1991. In March 1991, cockles were depleted and the combined stocks of Mya and Macoma would soon have run out of food supply to the overwintering oystercatcher population. Apparently, oystercatchers are able to reduce the stocks of their various bivalve prey species to very low levels.

**URL:** <Go to ISI>://BCI199497170215

**Reference Type:**  Journal Article

**Record Number:** 125

**Author:** J. J. Beukema and G. C. Cadee

**Year:** 1999

**Title:** An estimate of the sustainable rate of shell extraction from the Dutch Wadden Sea

**Journal:** Journal of Applied Ecology

**Volume:** 36

**Issue:** 1

**Pages:** 49-58

**Date:** Feb., 1999

**Short Title:** An estimate of the sustainable rate of shell extraction from the Dutch Wadden Sea

**Accession Number:** BCI:BCI199900245835

**Keywords:** Sea Ducks - General; Trophic Interactions; Conservation; Nonbreeding Seasons;

**Abstract:** 1. Shell production by cockles Cerastoderma edule was studied to examine whether or not the present licensed rate of shell extraction in the Dutch Wadden Sea exceeds the current rate of shell addition to the exploitable stocks. 2. Long-term data on numbers of cockles and weights of their shells were used to estimate their annual production on Balgzand, a 50-km2 tidal flat area in the western-most part of the Wadden Sea. During the 1969-97 period, it amounted to an average of 125 g m-2, including 107 g m-2 of shells large enough to be exploitable for shell-lime fishery. 3. The very irregular annual recruitment of cockles was the main cause of the wide 95% confidence limits (74 and 140 g m-2 year-1) of this 28-year estimate. Moreover, high mortality rates in severe winters substantially reduced production per recruit in some year classes. 4. About one-third of the estimated production does not reach exploitable stocks, because it is fragmented by birds (particularly eider ducks), permanently buried in the sediment, or removed by the fishery for live cockles. 5. During the last few decades, the estimated mean amount added annually to the exploitable stocks was 88 million kg or 132 000 m3 of large cockle shells. This amount compares favourably with the current annual level of removal of 134 000 m3 of shells, three-quarters of which are cockles. 6. Even at temporarily lower production rates, the exploitation of shell stocks at its present rate is not expected to lead to a rapid exhaustion of the existing stocks in the tidal inlets of the Dutch Wadden Sea, as these stocks will be in the order of a few million m3.

**URL:** <Go to ISI>://BCI199900245835

**Reference Type:**  Journal Article

**Record Number:** 133

**Author:** J. J. Beukema, G. C. Cadee and R. Dekker

**Year:** 1998

**Title:** How two large-scale "experiments" illustrate the importance of enrichment and fishery for the functioning of the Wadden Sea ecosystem

**Journal:** Senckenbergiana Maritima

**Volume:** 29

**Issue:** 1-6

**Pages:** 37-44

**Short Title:** How two large-scale "experiments" illustrate the importance of enrichment and fishery for the functioning of the Wadden Sea ecosystem

**Accession Number:** BCI:BCI199900228617

**Keywords:** Sea Ducks - General; Trophic Interactions;

**Abstract:** In the recent past, two far-reaching changes have taken place in the Dutch part of the Wadden Sea: (1) a drastic increase in the late 1970s of the annual rates of primary production and of chlorophyll concentrations (restricted to the western part of the Dutch Wadden Sea and probably induced by eutrophicated fresh water sluiced from Lake IJssel), and (2) a sudden removal in 1990 of nearly all mussel and cockle beds by commercial fishery all over the Dutch part of the Wadden Sea. These two large-scale events can be regarded as large-scale "experiments", manipulating an almost natural ecosystem over a vast geographic area. The consequences could be followed by regularly executed monitoring programmes of the phytoplankton in Marsdiep (the main tidal inlet of the western part of the Wadden Sea) and the benthic macrofauna on Balgzand (a nearby 50 km2 tidal-flat area). As a response to the substantial and rather sudden increase in their food supply around 1978, the total benthic biomass roughly doubled, though with a time lag of about two years. This doubling of zoobenthic stocks was restricted to the part of the Wadden Sea that is directly affected by water from Lake IJssel. It was further restricted to areas with relatively high zoobenthic biomass (with high food demand relative to food supply) and moderate environmental conditions (no exposure to short immersion periods or strong currents). The response to the sudden removal in 1990 of nearly all beds of the two major bivalve species was even more dramatic: concentrations of phytoplankton were unusually high in the 1990/91 winter and phytoplankton blooming started unusually early in late-winter, causing high weights and early and rapid growth in the bivalves that had remained. Mortality rates in some benthos species were extraordinarily high during the 1990-1991 winter, probably as a consequence of birds switching from the unprecedentedly scarce mussels and cockles to other prey species. Oystercatchers and eider ducks suffered abnormally high mortality and a high proportion of these birds left the Dutch Wadden Sea earlier than in other years. From both "experiments" we conclude that the Wadden Sea is a food-limited ecosystem, both in the first and in the second link of the main food chain. Only in restricted areas with extreme environmental conditions is the fauna so scarce that competition for food cannot play a significant role. In such areas, other (stressing) factors apparently inhibit the abundance of the benthic fauna and enrichment of food supply is not effective (food, therefore, not being the limiting factor there). Unrestricted fishery appears to be a greater threat to the normal functioning of the ecosystem of the Dutch Wadden Sea than mild eutrophication.

**URL:** <Go to ISI>://BCI199900228617

**Reference Type:**  Journal Article

**Record Number:** 29

**Author:** W. N. Beyer, M. C. Perry and P. C. Osenton

**Year:** 2008

**Title:** Sediment ingestion rates in waterfowl (Anatide) and their use in environmental risk assessment

**Journal:** Integrated Environmental Assessment and Management

**Volume:** 4

**Issue:** 2

**Pages:** 246-251

**Date:** Apr 2008

**Short Title:** Sediment ingestion rates in waterfowl (Anatide) and their use in environmental risk assessment

**Accession Number:** BCI:BCI200800378936

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** When waterfowl (Anatidae) ingest sediment as they feed, they are exposed to the environmental contaminants in those sediments. The rate of ingestion may be key to assessing environmental risk. Rates of sediment ingestion were estimated as from <2% to 22% in 16 species of waterfowl collected in the northeastern United States. The piscivorous red-breasted merganser (Mergus serrator) ingested sediment at the lowest rate and the benthos-feeding canvasback (Aythya valisineria) at the highest rate. Sediment ingestion rates were related to diet and to the sediments where waterfowl fed. Waterfowl ingested the least sediment from hard-bottomed habitats with fast-moving water and ingested the most sediment from soft-bottomed areas with slow-moving water. Understanding the greater hazards from contaminants associated with low-flow habitats may help in prioritizing sites to be remediated. The tundra swan (Cygnus columbianus), which ingests sediment at an estimated 8.4% of its diet, dry weight, is suggested as a potential generic model for use in environmental risk assessments designed to protect waterfowl.

**URL:** <Go to ISI>://BCI200800378936

**Reference Type:**  Journal Article

**Record Number:** 75

**Author:** J. Birchall, T. C. O'Connell, T. H. E. Heaton and R. E. M. Hedges

**Year:** 2005

**Title:** Hydrogen isotope ratios in animal body protein reflect trophic level

**Journal:** Journal of Animal Ecology

**Volume:** 74

**Issue:** 5

**Pages:** 877-881

**Date:** Sep 2005

**Short Title:** Hydrogen isotope ratios in animal body protein reflect trophic level

**Accession Number:** BCI:BCI200510303006

**Keywords:** Sea Ducks - General; Common merganser; Trophic Interactions;

**Abstract:** 1. Carbon and nitrogen isotope ratios in consumer tissues are known to correlate with diet isotope composition, and nitrogen isotope ratios are observed to increase with increasing trophic level.2. We analysed nitrogen and hydrogen isotope ratios of collagen from 19 species of British fish, birds and mammals to investigate how delta D also correlated with trophic level and with feeding environment (terrestrial or aquatic).3. A strong relationship between trophic level and delta D was discovered for both terrestrial and aquatic consumers.4. The correlation between trophic level and delta N-15 was apparent for terrestrial consumers, but less so for aquatic consumers.5. No differentiation was found between delta D of aquatic and terrestrial consumers at the same trophic level.6. This observation should provide an additional tool in the study of current and ancient animal and human food web ecology.

**URL:** <Go to ISI>://BCI200510303006

**Reference Type:**  Journal Article

**Record Number:** 1695

**Author:** C. A. Bishop and W. Threlfall

**Year:** 1974

**Title:** Helminth Parasites of the Common Eider Duck Somateria-Mollissima in Newfoundland and Labrador Canada

**Journal:** Proceedings of the Helminthological Society of Washington

**Volume:** 41

**Issue:** 1

**Pages:** 25-35

**Short Title:** Helminth Parasites of the Common Eider Duck Somateria-Mollissima in Newfoundland and Labrador Canada

**Accession Number:** BCI:BCI197458056571

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**URL:** <Go to ISI>://BCI197458056571

**Reference Type:**  Journal Article

**Record Number:** 1068

**Author:** M. A. Bishop and S. P. Green

**Year:** 2001

**Title:** Predation on Pacific herring (Clupea pallasi) spawn by birds in Prince William Sound, Alaska

**Journal:** Fisheries Oceanography

**Volume:** 10

**Issue:** Supplement 1

**Pages:** 149-158

**Short Title:** Predation on Pacific herring (Clupea pallasi) spawn by birds in Prince William Sound, Alaska

**Accession Number:** BCI:BCI200200193329

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We examined bird diets in areas with Pacific herring (Clupea pallasi) spawn at northern Montague Island in Prince William Sound, Alaska. Diets of the five most abundant bird species consisted primarily of herring spawn. Using a bioenergetics model, we estimated that in spring 1994 the five-bird species ate 857.1 metric tons (mt), representing 31% of the estimated spawn deposition. The two most numerous consumers, glaucous-winged gull (Larus glaucescens) and mew gull (Larus canus) consumed 26% and 3%, respectively, of the estimated spawn deposition. Surf scoters (Melanitta perspicillata), surfbirds (Aphriza virgata), and black turnstone (Arenaria melanocephala) together consumed 2% of the spawn deposition. In years with low spawn biomass, such as 1994, the number of herring larvae produced could be significantly affected by normal rates of avian predation. The high consumption by gulls, shorebirds, and surf scorers underscores the importance of herring spawn in the annual cycle of these species and requires further investigation.

**URL:** <Go to ISI>://BCI200200193329

**Reference Type:**  Journal Article

**Record Number:** 733

**Author:** C. L. Blankespoor, R. L. Reimink and H. D. Blankespoor

**Year:** 2001

**Title:** Efficacy of praziquantel in treating natural schistosome infections in common mergansers

**Journal:** Journal of Parasitology

**Volume:** 87

**Issue:** 2

**Pages:** 424-426

**Date:** April, 2001

**Short Title:** Efficacy of praziquantel in treating natural schistosome infections in common mergansers

**Accession Number:** BCI:BCI200100227043

**Keywords:** Common merganser; Mergus merganser; Parasites; Techniques; Breeding Season;

**Abstract:** Fifty-one common mergansers were captured on Douglas Lake (Cheboygan County, Michigan) and their avian schistosome loads were determined by fecal examination. Each bird was given a single dose of 0, 40, or 200 mg/kg of body weight of praziquantel and released. All birds were recaptured within 10 days of drug administration to determine posttreatment schistosome loads. Only the highest dose of praziquantel was found to significantly reduce avian schistosome loads. The potential use of praziquantel in swimmer's itch control programs is discussed.

**URL:** <Go to ISI>://BCI200100227043

**Reference Type:**  Journal Article

**Record Number:** 74

**Author:** J. Blew, K. Guenther and P. Suedbeck

**Year:** 2005

**Title:** Trends of migratory waterbirds in the German Wadden Sea from 1987/1988 to 2001/2002

**Journal:** Vogelwelt

**Volume:** 126

**Issue:** 2

**Pages:** 99-125

**Short Title:** Trends of migratory waterbirds in the German Wadden Sea from 1987/1988 to 2001/2002

**Accession Number:** BCI:BCI200600028114

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends;

**Abstract:** The German Wadden Sea at the North Sea coast of Lower-Saxony and Schleswig-Holstein is a staging area for more than 4 Million migratory waterbirds of the East-Atlantic Flyway; many of those breed in the Arctic and / or overwinter as far South as tropical Africa. Since 1980 most German Wadden Sea sites have been counted at least two times per year during internationally synchronous counts (January and in another month of the year), many of them monthly and - since 1987 - many others in selected spring-tide Counting areas every 14-15 days throughout the year. For the first time the migratory bird counts of the German Wadden Sea have been compiled into one database to calculate numbers and trends of 34 species. Among the 34 species considered here for the period 1987-2002, four show a positive trend, 14 show a negative trend, and of 16 species numbers fluctuate too much to calculate a statistically significant trend. Three of the increasing species (Great Cormorant, Spoonbill, Barnacle Goose) show general population increases and/or benefit from improved food availability or habitat changes in the Wadden Sea. For the SheldUck, measures to protect the moulting individuals off the coast of southern Schleswig-Holstein might have contributed to their slight increase. Three (Brent Goose, Wigeon, Mallard) of the 14 decreasing species seem to show general population decreases, due to factors like breedina failure in the Arctic or increased mortality due to cold spells in some winters in the Wadden Sea. Four species (Common Eider, Oystercatcher, Red Knot, Herring Gull) are to varying degrees dependent on bivalves; here, factors like climate change, lack of cold winters and mussel fishery may either solely or in combination cause the decreasing trends. Seven wader species (Avocet, Golden and Grey Plover, Red Knot, Dunlin, Bar-tailed Godwit, Redshank), however, are birds which breed in the arctic, migrate south to tropical Africa and occur in the Wadden Sea in hi-h numbers - thus are largely dependent on the Wadden Sea as their indispensable food source for fast replenishing during their migration. For these species the causes are yet unknown, but may relate to negative effects of food availability/benthos organisms in the Wadden Sea. The monitoring program proved to be successful to describe numbers and trends of waterbirds in the Wadden Sea, using an agreed method to count, compile and analyse the data. This way it fulfills the obligations of international directives and provides the basis to further analyse the causes of population trends and to formulate and implement adequate

**URL:** <Go to ISI>://BCI200600028114

**Reference Type:**  Journal Article

**Record Number:** 1813

**Author:** M. E. Blicher, L. M. Rasmussen, M. K. Sejr, F. R. Merkel and S. Rysgaard

**Year:** 2011

**Title:** Abundance and energy requirements of eiders (Somateria spp.) suggest high predation pressure on macrobenthic fauna in a key wintering habitat in SW Greenland

**Journal:** Polar Biology

**Volume:** 34

**Issue:** 8

**Pages:** 1105-1116

**Date:** Aug

**Short Title:** Abundance and energy requirements of eiders (Somateria spp.) suggest high predation pressure on macrobenthic fauna in a key wintering habitat in SW Greenland

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-011-0968-3

**Accession Number:** WOS:000292887600001

**Keywords:** Common eider; King Eider; somateria mollissima; somateria spectabilis; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 1

Blicher, Martin Emil Rasmussen, Lars Maltha Sejr, Mikael Kristian Merkel, Flemming Ravn Rysgaard, Soren

Sejr, Mikael /J-5459-2013; Merkel, Flemming/J-7409-2013

1

**URL:** <Go to ISI>://WOS:000292887600001

**Reference Type:**  Journal Article

**Record Number:** 1353

**Author:** B. M. Blinn, A. W. Diamond and D. J. Hamilton

**Year:** 2008

**Title:** Factors Affecting Selection of Brood-rearing Habitat by Common Eiders (Somateria mollissima) in the Bay of Fundy, New Brunswick, Canada

**Journal:** Waterbirds

**Volume:** 31

**Issue:** 4

**Pages:** 520-529

**Date:** Dec 2008

**Short Title:** Factors Affecting Selection of Brood-rearing Habitat by Common Eiders (Somateria mollissima) in the Bay of Fundy, New Brunswick, Canada

**Accession Number:** BCI:BCI200900175820

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** This study quantifies the relative importance of factors affecting selection of brood-rearing areas by Common Eiders (Somateria mollissima) according to duckling age. A total of 1,431 h of observation was conducted from June-August On the New Brunswick mainland in 2000 and on Grand Manan Island in 2001. The number of breeding pairs of Great Black-backed Gulls (Larus matinus) on colonies near study sites appeared to be a better predictor of duckling abundance in sites than the number of Common Eider nests on those colonies. Neither degree of exposure of site nor availability of rockweed (Ascophyllum nodosum) explained variations in duckling abundance. However, sites with a gradual slope, which offer increased surface-feeding area, supported 43-85% more ducklings than sites with a steep slope. Rockweed-harvested sites with a steep slope supported the least number of ducklings on Grand Manan Island, and duckling numbers on the mainland decreased faster in harvested than in control sites. Predation was unimportant, with only nine successful predator attacks on ducklings occurring. Of those, Bald Eagles (Haliaeetus leucocephalus) were responsible for six duckling losses. However, Common Eiders may have avoided Herring Gulls (L. argentatus) in duckling-feeding sites, possibly to avoid klepto-parasitism on eiders by gulls. Human disturbance was also a minor factor. Received 17 September 2007, accepted 3 July 2008.

**URL:** <Go to ISI>://BCI200900175820

**Reference Type:**  Journal Article

**Record Number:** 1791

**Author:** S. Blomqvist and M. Elander

**Year:** 1988

**Title:** King Eider Somateria-Spectabilis Nesting in Association with Long-Tailed Skua Stercorarius-Longicaudus

**Journal:** Arctic

**Volume:** 41

**Issue:** 2

**Pages:** 138-142

**Short Title:** King Eider Somateria-Spectabilis Nesting in Association with Long-Tailed Skua Stercorarius-Longicaudus

**Accession Number:** BCI:BCI198886090044

**Keywords:** King Eider; Somateria spectabilis; Breeding Season;

**Abstract:** In High Arctic Northeast Greenland King Eiders (Somateria spectabilis) were found nesting in association with solitarily breeding Long-tailed Skuas (Stercorarius longicaudus). The association is demonstrated using spatial statistics analyses and timing of clutch initiations. Long-tailed Skuas' nests were evenly spaced in the 6.1 km2 census area, whereas nine out of ten King Eiders nests were located close to five different nests of Long-tailed Skua. It is suggested that the association may be a state of commensalism.

**URL:** <Go to ISI>://BCI198886090044

**Reference Type:**  Journal Article

**Record Number:** 1814

**Author:** P. M. Bloom, R. G. Clark, D. W. Howerter and L. M. Armstrong

**Year:** 2013

**Title:** Multi-scale habitat selection affects offspring survival in a precocial species

**Journal:** Oecologia

**Volume:** 173

**Issue:** 4

**Pages:** 1249-1259

**Date:** Dec

**Short Title:** Multi-scale habitat selection affects offspring survival in a precocial species

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-013-2698-4

**Accession Number:** WOS:000328210000009

**Keywords:** white-winged Scoter; Melanitta fusca; habitat; productivity; Breeding Season; Survival

**Notes:** Times Cited: 0

Bloom, P. M. Clark, R. G. Howerter, D. W. Armstrong, L. M.

0

**URL:** <Go to ISI>://WOS:000328210000009

**Reference Type:**  Journal Article

**Record Number:** 653

**Author:** P. Blums, C. W. Shaiffer and L. H. Fredrickson

**Year:** 2000

**Title:** Automatic multi-capture nest box trap for cavity-nesting ducks

**Journal:** Wildlife Society Bulletin

**Volume:** 28

**Issue:** 3

**Pages:** 592-596

**Date:** Fall, 2000

**Short Title:** Automatic multi-capture nest box trap for cavity-nesting ducks

**Accession Number:** BCI:BCI200000535257

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Techniques; Breeding Season;

**Abstract:** Understanding behavioral and population dynamics of local populations requires information on nonbreeding females as well as alternative breeding strategies such as brood parasitism. To address these issues we developed a new automatic multi-capture nest box trap and captured 165 female hooded mergansers (Lophodytes cucullatus) and wood ducks (Aix sponsa) during 199 trap days in one nesting season at a Missouri study site. The average success for a single trap was 0.8 female/trap/day (x=0.2-1.6 females in different time periods and locations). As many as 21 female wood ducks and 12 hooded mergansers were trapped at one site. Multiple captures (2-6 females/check) were often recorded. The most important components of the trap are the swinging false floor, entrance baffle, and counterbalance. The false floor swings downward as soon as a bird settles on it, and returns to the horizontal position after the bird drops into the collection box. Multi-capture nest box traps have several advantages, including automatic operation, ease of setting and operation, minimal need to be checked (only once a day), minimum disturbance to the breeding population, and, most importantly, ability to capture more than one bird daily. These traps can be easily modified (scaled down) to capture smaller cavity-nesting birds.

**URL:** <Go to ISI>://BCI200000535257

**Reference Type:**  Journal Article

**Record Number:** 514

**Author:** L. J. Blus, C. J. Henny, D. J. Hoffman and R. A. Grove

**Year:** 1995

**Title:** Accumulation in and effects of lead and cadmium on waterfowl and passerines in northern Idaho

**Journal:** Environmental Pollution

**Volume:** 89

**Issue:** 3

**Pages:** 311-318

**Short Title:** Accumulation in and effects of lead and cadmium on waterfowl and passerines in northern Idaho

**Accession Number:** BCI:BCI199598385529

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Breeding Season;

**Abstract:** Waterfowl and passerines in northern Idaho in 1987 had high levels of lead in their blood and tissues that originated primarily from mining and smelting activities. Four Canada geese (Branta canadensis) and one common goldeneye (Bucephala clangula) found dead contained 8 to 38 mu-g/g (wet mass) of lead in their livers. These levels exceed the lower lethal limit of 5 mu-g/g in experimental birds. Two of the Canada geese (one each from the contaminated and reference areas) died with ingested lead shotgun pellets (shot) in their gizzards, whereas the other three birds from the contaminated area contained no ingested shot and evidently died from ingesting environmental lead in sediment or biota. Lead burdens in most American robins (Turdus migratorius) and mallards (Anas platyrhynchos) were high, whereas those in tree swallows (Tachycineta bicolor) were slightly elevated. Lead accumulated to potentially hazardous levels in blood and tissues of some nestling robins (maxima of 0.87 mu-g/g in blood and 5.6 mu-g/g in liver) and mallards (maxima of 10.2 mu-g/g in blood and 2.8 mu-g/g in liver). In mallards, lead levels and associated physiological characteristics of blood were significantly different in juveniles (HY) versus adults (AHY). Activity of delta-aminolevulinic acid dehydratase (ALAD) was about 87 to 95% lower than values for control birds in experimental studies. Activity of ALAD was significantly inversely correlated with blood lead levels. Cadmium was detected in kidneys of most birds, but even the maximum concentration of 7.5 mu-g/g in an AHY mallard was below known harmful levels.

**URL:** <Go to ISI>://BCI199598385529

**Reference Type:**  Journal Article

**Record Number:** 2140

**Author:** B. Bodenstein, K. Beckmen, G. Sheffield, K. Kuletz, C. Van Hemert, B. Berlowski and V. Shearn-Bochsler

**Year:** 2015

**Title:** Avian Cholera Causes Marine Bird Mortality in the Bering Sea of Alaska

**Journal:** Journal of Wildlife Diseases

**Volume:** 51

**Issue:** 4

**Pages:** 934-937

**Date:** Oct

**Short Title:** Avian Cholera Causes Marine Bird Mortality in the Bering Sea of Alaska

**ISSN:** 0090-3558

**DOI:** 10.7589/2014-12-273

**Accession Number:** WOS:000362441100021

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Disease

**Abstract:** The first known avian cholera outbreak among wild birds in Alaska occurred during November 2013. Liver, intestinal, and splenic necrosis consistent with avian cholera was noted, and Pasteurella multocida serotype 1 was isolated from liver and lung or spleen in Crested Auklets (Aethia cristatella), Thick-billed Murres (Uria lomvia), Common Eider (Somateria mollissima), Northern Fulmars (Fulmarus glacialis), and gulls (Larus spp.).

**Notes:** Bodenstein, Barbara Beckmen, Kimberlee Sheffield, Gay Kuletz, Kathy Van Hemert, Caroline Berlowski, Brenda Shearn-Bochsler, Valerie

**URL:** <Go to ISI>://WOS:000362441100021

**Reference Type:**  Journal Article

**Record Number:** 344

**Author:** P. D. Boehm, P. J. Mankiewicz, R. Hartung, J. M. Neff, D. S. Page, E. S. Gilfillan, J. E. O'Reilly and K. R. Parker

**Year:** 1996

**Title:** Characterization of mussel beds with residual oil and the risk to foraging wildlife 4 years after the Exxon valdez oil spill

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 15

**Issue:** 8

**Pages:** 1289-1303

**Short Title:** Characterization of mussel beds with residual oil and the risk to foraging wildlife 4 years after the Exxon valdez oil spill

**Accession Number:** BCI:BCI199699207757

**Keywords:** Sea Ducks - General; Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**Abstract:** The grounding of the Exxon Valdez on March 24, 1989, released about 41 million L of crude oil into the waters of Prince William Sound, Alaska, USA, and oiled about 16% of the Prince William Sound shoreline to various degrees. Although winter storms, cleanups, and natural biodegradation have removed the majority of the oil on the shorelines, some residual oil still remains trapped in sediments immediately below mussel beds. This oil was protected from wave action by the dense covering of mussels. Field surveys found that mussels in such beds constituted less than 3% of the mussels available for foraging in two areas that had been extensively oiled in 1989. Levels of polycyclic aromatic hydrocarbons (PAHs) in these mussels were also measured. Mean PAH concentrations in mussel tissues ranged between 20 and 4,000 ng/g dry weight and in sediments between 20 and 26,000 ng/g dry weight. Assuming that the species considered most at risk (i.e., harlequin ducks, black oystercatchers, and sea otters) consumed the mussel proportion of their diets exclusively from such beds (at either the median or 95th percentile of mussel tissue PAH concentration), the estimated PAH dosage they would receive was one to three orders of magnitude below doses known to cause sublethal effects in surrogate species. Considering the low frequency of mussel beds with residual oil, the patchy distribution of remaining weathered oil residues, and the relatively low PAH concentrations in the mussels, the risk of quantifiable injury at the level of an individual bird or otter, or at the population level, is minimal. Furthermore, based on a review of the mussel PAH data in Prince William Sound, the risk to wildlife has been minimal since 1990, 1 year after the spill.

**URL:** <Go to ISI>://BCI199699207757

**Reference Type:**  Journal Article

**Record Number:** 298

**Author:** D. Boertmann

**Year:** 2003

**Title:** Distribution and conservation of the Harlequin Duck, Histrionicus histrionicus, in Greenland

**Journal:** Canadian Field-Naturalist

**Volume:** 117

**Issue:** 2

**Pages:** 249-256

**Date:** April 2003

**Short Title:** Distribution and conservation of the Harlequin Duck, Histrionicus histrionicus, in Greenland

**Accession Number:** BCI:BCI200400267415

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The breeding range of the Harlequin Duck (Histrionicus histrionicus) in Greenland includes West Greenland to as far north as 72degree 30degree N and a few sites in East Greenland. The breeding population is guessed at a few thousand pairs. During winter Harlequin Ducks occur along the West Greenland coast between Maniitsoq and Nanortalik. The size of the winter population is unknown. As Canadian males, which have moulted in Southwest Greenland, also winter there, perhaps accompanied by females and juveniles, the numbers may be considerable. The peak period for clutch initiation seems to be mid- to late June. There is no immediate conservation concern for the small breeding population of Harlequin Ducks in Greenland. However, there is a risk from marine oil spills along coasts where congregations of non-breeding Harlequin Ducks from both Greenland and eastern Canada occur.

**URL:** <Go to ISI>://BCI200400267415

**Reference Type:**  Journal Article

**Record Number:** 269

**Author:** D. Boertmann

**Year:** 2008

**Title:** Harlequin Ducks in Greenland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 4-7

**Short Title:** Harlequin Ducks in Greenland

**Accession Number:** BCI:BCI200900160408

**Keywords:** Harlequin duck; Histrionicus histrionicus; Nonbreeding Seasons; Breeding Season; Abundance, Distribution, and Trends;

**Abstract:** Information on breeding and wintering Harlequin Ducks (Histrionicus histrionicus) in Greenland is very limited, and no firm estimates of breeding and wintering numbers are available. However, it is assumed that only a few thousand pairs breed in Greenland. Numbers of molting males are estimated at 5,000 to 10,000 birds. They comprise both Greenland and eastern Canadian breeders: their proportions are unknown, but the latter may verb, well constitute a significant part. If true, Greenland has a significant responsibility for the well being of the eastern Canadian breeding Population. Presently there are no immediate threats to the Harlequin Duck population in Greenland. Hunting (illegal) has only negligible effects and habitat destruction is extremely limited. However, oil spills from transport of oil and increased offshore oil exploration constitute a potentially serious threat to molting and wintering birds from the breeding populations in Greenland and in eastern Canada.

**URL:** <Go to ISI>://BCI200900160408

**Reference Type:**  Journal Article

**Record Number:** 88

**Author:** D. Boertmann, P. Lyngs, F. R. Merkel and A. Mosbech

**Year:** 2004

**Title:** The significance of Southwest Greenland as winter quarters for seabirds

**Journal:** Bird Conservation International

**Volume:** 14

**Issue:** 2

**Pages:** 87-112

**Date:** June 2004

**Short Title:** The significance of Southwest Greenland as winter quarters for seabirds

**Accession Number:** BCI:BCI200400368074

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The coastal and offshore waters of Southwest Greenland are internationally important winter quarters for seabirds. We crudely estimate a minimum Of 3.5 million seabirds using the region in winter, mainly from Arctic Canada, Greenland and Svalbard, with smaller numbers also from Alaska, Iceland, mainland Norway and Russia. The most numerous species are Common Eider Somateria mollissima, King Eider S. spectabilis, Brunnich's Guillemot Uria lomvia and Little Auk Alle alle. The most immediate threat to the seabirds in Southwest Greenland is hunting, and current levels of usage of the Greenland breeding populations of Brunnich's Guillemot and Common Eider are considered unsustainable. Conservation measures are required for these populations.

**URL:** <Go to ISI>://BCI200400368074

**Reference Type:**  Journal Article

**Record Number:** 307

**Author:** D. Boertmann and A. Mosbech

**Year:** 2002

**Title:** Molting Harlequin Ducks in Greenland

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 3

**Pages:** 326-332

**Date:** September, 2002

**Short Title:** Molting Harlequin Ducks in Greenland

**Accession Number:** BCI:BCI200200566831

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** An aerial survey of post-breeding molting Harlequin Ducks (Histrionicus histrionicus) was carried out in late July 1999 along the southern half of the West Greenland coast. About 3,500 birds were located, which at this time of the year almost exclusively are males. Based on this observation a total of 5,000-10,000 Harlequin Duck males were estimated to molt in West Greenland. About 98% of the surveyed birds were found in the southern half of the study area. This distribution pattern may be linked to the presence of Atlantic Canadian males, which probably account for an appreciable proportion of the molting males in Greenland.

**URL:** <Go to ISI>://BCI200200566831

**Reference Type:**  Journal Article

**Record Number:** 64

**Author:** D. Boertmann, A. Mosbech and F. R. Merkel

**Year:** 2006

**Title:** The importance of Southwest Greenland for wintering seabirds

**Journal:** British Birds

**Volume:** 99

**Issue:** 6

**Pages:** 282-298

**Date:** Jun 2006

**Short Title:** The importance of Southwest Greenland for wintering seabirds

**Accession Number:** BCI:BCI200600498816

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** The coastal and offshore waters of Southwest Greenland are internationally important winter quarters for seabirds. Estimates of the total number of wintering seabirds are in the region of 3.5-5.5 million individuals (not including an unknown but probably extremely large number of Little Auks Alle alle). These seabirds originate mainly from Arctic Canada, Greenland and Svalbard, but also, to a lesser extent, from Alaska, Iceland, mainland Norway and Russia. The most numerous species are Common Eider Somateria mollissima, King Eider S. spectabilis, Brunnich's Guillemot Uria Iomvia and Little Auk. Some key areas have been designated as Important Bird Areas (IBAs) by BirdLife International, and recent data indicate that more areas qualify as IBAs. The most immediate threat to the seabirds in Southwest Greenland is hunting, and current harvest levels of the Greenland breeding populations of Brunnich's Guillemot and Common Eider are considered unsustainable. Bird hunting is prohibited in spring and summer; however, there are no sanctuary areas in Southwest Greenland, and a degree of spatial regulation of winter hunting is urgently required.

**URL:** <Go to ISI>://BCI200600498816

**Reference Type:**  Journal Article

**Record Number:** 209

**Author:** J. A. Bogan and W. R. P. Bourne

**Year:** 1973

**Title:** Mercury in Sea Birds

**Journal:** Marine Pollution Bulletin

**Volume:** 4

**Issue:** 5

**Pages:** 77-79

**Short Title:** Mercury in Sea Birds

**Accession Number:** BCI:BCI197309090906

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI197309090906

**Reference Type:**  Journal Article

**Record Number:** 1571

**Author:** L. Bokenes and J. B. Mercer

**Year:** 1995

**Title:** Salt gland function in the common eider duck (Somateria mollissima)

**Journal:** Journal of Comparative Physiology B Biochemical Systemic and Environmental Physiology

**Volume:** 165

**Issue:** 4

**Pages:** 255-267

**Short Title:** Salt gland function in the common eider duck (Somateria mollissima)

**Accession Number:** BCI:BCI199598501236

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**Abstract:** The function of the supra-orbital salt gland was studied in the common elder duck (Somateria mollissima). The maximum salt-secreting capacity was determined in (1) wild ducks which had been living in a marine environment, (2) ducks reared in captivity on fresh water, and (3) ducks from group 2 adapted to salt water. The maximum secreting capacity was found by infusing a solution of NaCl (1000 mosmol cntdot kg-1) at increasing rates, from 0.691 to 1.671 mosmol cntdot min-1. Freshwater-adapted ducks secreted at a maximum rate of 0.785 mosmol cntdot min-1 (1500 mosmol cntdot kg-1). Adapted to salt water they increased their capacity, and the best duck secreted at a rate of 1215 mosmol cntdot min-1 (1600 mosmol cntdot kg-1). The best wild duck secreted at a rate of 1516 mosmol cntdot min-1. Ducks in group 3 were used to examine the response to a hyperosmotic or an isoosmotic infusion. The amount of salt (NaCl) given per unit time was the same. Given a hyperosmotic solution their salt glands secreted at a high rate: 30 min after the infusion had stopped the ducks had excreted 94% of the sodium infused, 92.9% via the salt gland. Given an isoosmotic solution they secreted at a rate about half the infusion rate: 30 min after cessation of infusion they had excreted 73% of the sodium, 42.9% via the salt gland and the rest by the kidneys.

**URL:** <Go to ISI>://BCI199598501236

**Reference Type:**  Journal Article

**Record Number:** 1465

**Author:** F. Bolduc and M. Guillemette

**Year:** 2003

**Title:** Human disturbance and nesting success of Common Eiders: Interaction between visitors and gulls

**Journal:** Biological Conservation

**Volume:** 110

**Issue:** 1

**Pages:** 77-83

**Date:** March 2003

**Short Title:** Human disturbance and nesting success of Common Eiders: Interaction between visitors and gulls

**Accession Number:** BCI:BCI200300146169

**Keywords:** Common Eider; Somateria mollissima; Productivity; Conservation; Breeding Season;

**Abstract:** Common Eider colonies often are subjected to human visitors, such as down collectors, recreationists and researchers. However, the effects of frequency and timing of disturbance, and the abundance of nearby avian predators on eider nesting success have been studied only partly. We used three experimental treatments and six eider colonies over 3 years (1993-1995) to test the effects of these factors on eider nesting success, while controlling results for associated gull nest density. Treatments consisted of (1) high frequency visits (once every 3 days) starting early in the incubation period (HFE), (2) low frequency visits (once every 15 days) starting early in the incubation period (LFE), and (3) high frequency visits starting late in the incubation period (HFL). Analysis of covariance indicated that both disturbance treatments and associated gull nest density had a significant effect on eider nesting success probability. Nesting success probabilities were similar for eiders under HFE and LFE treatments (means=0.317+-1.66 (SE) and 0.434+-0.172 respectively), indicating that changes in frequency of visits had little impact on nesting success. In contrast, timing of visits had a major influence on nesting success, as the HFL treatment resulted in a significant higher nesting success probability (mean=0.981+-0.191) than the HFE treatment. Most nest failures occurred after the first visit in all treatments, although the impact of the first visit was lowest in the HFL treatment. Researchers and wildlife managers should visit eider colonies as late as possible, and avoid visiting colonies associated with high densities of eider egg predators.

**URL:** <Go to ISI>://BCI200300146169

**Reference Type:**  Journal Article

**Record Number:** 1466

**Author:** F. Bolduc and M. Guillemette

**Year:** 2003

**Title:** Incubation constancy and mass loss in the Common Eider Somateria mollissima

**Journal:** Ibis

**Volume:** 145

**Issue:** 2

**Pages:** 329-332

**Date:** April 2003

**Short Title:** Incubation constancy and mass loss in the Common Eider Somateria mollissima

**Accession Number:** BCI:BCI200300238525

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI200300238525

**Reference Type:**  Journal Article

**Record Number:** 1429

**Author:** F. Bolduc, M. Guillemette and R. D. Titman

**Year:** 2005

**Title:** Nesting success of common eiders Somateria mollissima as influenced by nest-site and female characteristics in the Gulf of the St. Lawrence

**Journal:** Wildlife Biology

**Volume:** 11

**Issue:** 4

**Pages:** 273-279

**Date:** Dec 2005

**Short Title:** Nesting success of common eiders Somateria mollissima as influenced by nest-site and female characteristics in the Gulf of the St. Lawrence

**Accession Number:** BCI:BCI200600179077

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** In the common eider Somateria mollissima as well as in many other bird species, nesting success has been associated with female reproductive characteristics and predator accessibility to the nest site. In this study, we tested the following predictions on nesting common eiders: 1) female and nest-site characteristics are correlated within a colony, where those with the highest ranked reproductive traits nest where the environment provides best protection, 2) females nesting on forested islands generally exhibit better reproductive traits than females nesting on open islets (hereafter habitats) because the former provide the best nest protection, and consequently, 3) colonies located on forested islands have higher nesting success than those on open islets. During the summers of 1995 and 1996, we recorded nesting success at 270 eider nests on two forested islands and four open islets. Simultaneously, we measured several variables describing nest (nest concealment, vegetation height, distance to shore and density of associated nesting gulls) and female (laying date and clutch size) characteristics. Using factor analysis to relate nest-site and female characteristics, we found a correlation between factor scores within four of the six colonies monitored. This correlation indicated that females with largest clutch size and early laying were associated with nest sites of low concealment that were close to shore. However, female score did not differ with habitat. Nesting success did not differ between habitats when controlled for female and nest scores, but was related to female score, and marginally to nest-site score. Because nesting success was principally related to female characteristics rather than to nest site characteristics, we suggest that eiders rely on nest attendance rather than on nest concealment to protect their nests. Nesting close to shore may shorten incubation recesses and improve hatchling survival when leaving the nest.

**URL:** <Go to ISI>://BCI200600179077

**Reference Type:**  Journal Article

**Record Number:** 456

**Author:** F. Bolduc, S. Lapointe and B. Gagnon

**Year:** 2008

**Title:** Common Goldeneye breeding in the eastern Canadian boreal forest: Factors affecting productivity estimates

**Journal:** Waterbirds

**Volume:** 31

**Issue:** 1

**Pages:** 42-51

**Date:** Mar 2008

**Short Title:** Common Goldeneye breeding in the eastern Canadian boreal forest: Factors affecting productivity estimates

**Accession Number:** BCI:BCI200800376374

**Keywords:** Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Productivity; Breeding Season;

**Abstract:** We conducted multiple Common Goldeneye (Bucephala clangula) aerial surveys between I May and 31 July 2004 and 2005 on the Peribonka River, where a new hydroelectric reservoir will be created in 2007. We also conducted single pair and brood surveys on randomly chosen 5 x 5-km plots on the River drainage basin. Objectives were to assess the validity of the impact assessment surveys of 2002, examine the variation in pair and brood numbers, and determine recruitment and habitat characteristics related to productivity. During both years, the number of indicated breeding pairs (IBPs) declined steadily through May, whereas the social index (paired males/lone males) remained stable, declining only when few IBPs were located. However, backdated number of paired and lone males from observed broods suggested that the number of pairs remained maximal and constant during a three-week period centered on the fourth week of May in 2004 and the second week of May in 2005. IBP density (IBPs/10 km of shoreline) was 1.40 on the River and 0.64 in its drainage basin on average in 2005 (no surveys in 2004). When compared to results of the Black Duck Joint Venture (BDJV) surveys, IBP density was higher on the River by 0.69 IBPs in 2002, whereas densities in the two areas differed only by 0.07-0.29 in 2004 and 2005. No difference in brood density was perceived among survey sections and years. Recruitment rate was 0.15 in 2002, but increased to 0.57-0.67 in 2005 and 2004. Variables related to wetland area and distance to wetlands explained most variability in IBP and brood locations. We believe that timing of surveys and weather were the primary factors that affected difference in productivity estimates between 2002 and the 2004-2005 period.

**URL:** <Go to ISI>://BCI200800376374

**Reference Type:**  Journal Article

**Record Number:** 623

**Author:** E. G. Bolen and B. R. Chapman

**Year:** 1981

**Title:** Estimating Winter Sex Ratios for Buffleheads Bucephala-Albeola

**Journal:** Southwestern Naturalist

**Volume:** 26

**Issue:** 1

**Pages:** 49-52

**Short Title:** Estimating Winter Sex Ratios for Buffleheads Bucephala-Albeola

**Accession Number:** BCI:BCI198172030032

**Keywords:** Bufflehead; Bucephala albeola; Techniques; Nonbreeding Seasons;

**Abstract:** A method to better estimate the winter sex ratios of buffleheads (B. albeola) is proposed that accounts for the similar plumages of juvenile birds in the population. The field sex ratios for buffleheads wintering on the Laguna Madre [southern coast of Texas, USA] averaged 54.6% males but was 69.5% males when corrected.

**URL:** <Go to ISI>://BCI198172030032

**Reference Type:**  Journal Article

**Record Number:** 508

**Author:** T. K. Bollinger and I. K. Barker

**Year:** 1996

**Title:** Runting of ducklings associated with Cochlosoma anatis infection

**Journal:** Avian Diseases

**Volume:** 40

**Issue:** 1

**Pages:** 181-185

**Short Title:** Runting of ducklings associated with Cochlosoma anatis infection

**Accession Number:** BCI:BCI199698795908

**Keywords:** Common Goldeneye; Bucephala clangula; Disease; Breeding Season;

**Abstract:** Ducklings, especially common goldeneye (Bucephala clangula), experiencing poor weight gain and delayed development were reported from a waterfowl park during June and July of 1990. Runting was first noticed between days 5 and 10 post-hatch in the "brooder" building, and although ducklings appeared active and were feeding, they developed at a slower rate than other members of their clutch. Many ultimately died of emaciation and gram-negative bacterial septicemia. Necropsies of affected ducklings revealed large numbers of the intestinal flagellate Cochlosoma anatis, in both the small and the large intestine; however, autolysis impaired histological interpretation in many cases. Inoculation of 1-day-old Muscovy ducklings with feces containing large numbers of C. anatis resulted in poor weight gain and delayed tail-feather development compared with uninoculated control ducklings. Weight gain improved after treatment with metronidazole. Cochlosoma anatis is associated with the runting syndrome observed in ducklings at the waterfowl park.

**URL:** <Go to ISI>://BCI199698795908

**Reference Type:**  Journal Article

**Record Number:** 1339

**Author:** A. L. Bond and A. W. Diamond

**Year:** 2009

**Title:** Mercury concentrations in seabird tissues from Machias Seal Island, New Brunswick, Canada

**Journal:** Science of the Total Environment

**Volume:** 407

**Issue:** 14

**Pages:** 4340-4347

**Date:** Jul 1 2009

**Short Title:** Mercury concentrations in seabird tissues from Machias Seal Island, New Brunswick, Canada

**Accession Number:** BCI:BCI200900427294

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Mercury is a pervasive environmental contaminant, the anthropogenic portion of which is increasing globally, and in northeastern North America in particular. Seabirds frequently are used as indicators of the marine environment, including mercury contamination. We analysed paired samples for total mercury (Hg) concentrations in feathers and blood from adult and chick, albumen, and lipid-free yolk of seven seabirds breeding on Machias Seal Island, New Brunswick, Canada - Arctic Tern (Sterna paradisaea), Atlantic Puffin (Fratercula arctica), Common Eider (Somateria mollissima), Common Murre (Uria aalge), Common Tern (Sterna hirundo), Leach's Storm-petrel (Oceanodroma leucorhoa). and Razorbill (Alca torda). We also used stable-isotope ratios of carbon (delta C-13), and nitrogen (delta N-15) to evaluate the relationship between carbon source and trophic position and mercury. We found high Hg concentrations across tissue types in Leach's Storm-petrels. and Razorbills, with lower concentrations in other species. the lowest being in Common Eiders. Storm-petrels prey on mesopelagic fish that accumulate mercury, and Razorbills feed on larger, older fish that bioaccumulate heavy metals. Biomagnification of Hg, or the increase in Hg concentration with trophic position as measured by delta N-15, was significant and greater in albumen than other tissues, whereas in other tissues, delta N-15 explained little of the overall variation in Hg concentration. Hg concentrations in egg components are higher on Machias Seal island than other sites globally and in the Gulf of Maine region, but only for some species. Further detailed investigations are required to determine the cause of this trend. (C) 2009 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200900427294

**Reference Type:**  Journal Article

**Record Number:** 974

**Author:** A. L. Bond, P. W. Hicklin and M. Evans

**Year:** 2007

**Title:** Daytime spring migrations of Scoters (Melanitta spp.) in the Bay of Fundy

**Journal:** Waterbirds

**Volume:** 30

**Issue:** 4

**Pages:** 566-572

**Date:** Dec 2007

**Short Title:** Daytime spring migrations of Scoters (Melanitta spp.) in the Bay of Fundy

**Accession Number:** BCI:BCI200800170208

**Keywords:** Surf Scoter; Melanitta perspicillata; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Migration; Nonbreeding Seasons;

**Abstract:** Each spring, Black Scorers (Melanitta nigra), Surf Scoters; (M. perspicillata) and White-winged Scoters (M. fusca), pass through the Bay of Fundy in daytime on their northward migration to the sub-arctic breeding grounds. Their migrations along the Fundy coast were monitored from the Point Lepreau Bird Observatory at Point Lepreau, New Brunswick, from 1996 to 2004. Black Scoters migrated first (peak migration day: 13-17 April), followed by Surfs (23-25 April) and White-wings (22-28 April) which migrated together, although White-wings persisted over a longer period. Based on their rates of passage, we estimated the relative proportions of the wintering eastern North American populations of scoters, assumed to be of breeding age, which migrated by Point Lepreau each spring. We determined that 6-18% and 28-37% of the North American breeding populations of Surf Scoters and Black Scoters, respectively, utilized this northward migration route annually. The low numbers of White-wings (0.4-0.6%) suggested that larger numbers of this species employed a different migration route in spring or migrated at night. This observatory offers an exceptional facility for monitoring this group of sea ducks, over time.

**URL:** <Go to ISI>://BCI200800170208

**Reference Type:**  Journal Article

**Record Number:** 268

**Author:** J. Bond and D. Esler

**Year:** 2008

**Title:** Bill entanglement in subcutaneously-anchored radio transmitters on Harlequin Ducks

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 3

**Pages:** 599-602

**Date:** Sep 2008

**Short Title:** Bill entanglement in subcutaneously-anchored radio transmitters on Harlequin Ducks

**Accession Number:** BCI:BCI200800586675

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques;

**Abstract:** We report two incidences of Harlequin Ducks (Histrionicus histrionicus) entangling their bills in subcutaneously-attached anchor transmitters. We suggest caution should be exercised when using these transmitters.

**URL:** <Go to ISI>://BCI200800586675

**Reference Type:**  Journal Article

**Record Number:** 286

**Author:** J. C. Bond and D. Esler

**Year:** 2006

**Title:** Nutrient acquisition by female Harlequin Ducks prior to spring migration and reproduction: evidence for body mass optimization

**Journal:** Canadian Journal of Zoology

**Volume:** 84

**Issue:** 9

**Pages:** 1223-1229

**Date:** Sep 2006

**Short Title:** Nutrient acquisition by female Harlequin Ducks prior to spring migration and reproduction: evidence for body mass optimization

**Accession Number:** BCI:BCI200700025182

**Keywords:** Harlequin duck; Histrionicus histrionicus; Energetics and Nutrition; Trophic Interactions; Nonbreeding Seasons; Breeding Season;

**Abstract:** We analysed variation in body mass of adult female Harlequin Ducks (Histrionicus histrionicus (L., 1758)) on coastal wintering sites in southern British Columbia, Canada, to investigate nutrient acquisition prior to migration and reproduction. On average, female mass increased by 7% from late winter to premigration; however, the chronology of mass gain varied depending on prey type. Females feeding on superabundant roe from spawning Pacific herring (Clupea pallasii Valenciennes, 1847) became considerably heavier than they had been before the herring spawning period (March) and appeared to be heavier than females eating marine invertebrates such as crabs, limpets, and snails during the herring spawning period. By mid-April, prior to migration, females at all sites had similar body masses, with birds at sites without spawn gaining mass and those at sites with spawn maintaining their earlier mass gain. Stable isotope analyses confirmed that birds at these different sites consumed very different diets. These results suggest that female Harlequin Ducks target an optimal premigratory body mass, regardless of whether they have access to a superabundant food source; this body mass is presumably shaped by the costs and benefits of nutrient storage for migration and reproduction.

**URL:** <Go to ISI>://BCI200700025182

**Reference Type:**  Journal Article

**Record Number:** 278

**Author:** J. C. Bond, D. Esler and K. A. Hobson

**Year:** 2007

**Title:** Isotopic evidence for sources of nutrients allocated to clutch formation by harlequin ducks

**Journal:** Condor

**Volume:** 109

**Issue:** 3

**Pages:** 698-704

**Date:** Aug 2007

**Short Title:** Isotopic evidence for sources of nutrients allocated to clutch formation by harlequin ducks

**Accession Number:** BCI:BCI200700515043

**Keywords:** Harlequin duck; Histrionicus histrionicus; Energetics and Nutrition; Breeding Season;

**Abstract:** Waterfowl employ a broad array of strategies for acquiring the energy and nutrients needed for egg formation, ranging from storage of endogenous reserves prior to arrival on breeding areas to complete reliance on exogenous food sources available at breeding sites. We used stable isotope analyses (delta C-13 and delta N-15) to quantify the relative nutrient inputs to Harlequin Duck (Histrionicus histrionicus) eggs and, therefore, to identify the strategy of nutrient acquisition and allocation used by females to meet the demands of egg production. Marine-derived endogenous nutrients are isotopically more enriched than freshwater dietary nutrients for Harlequin Ducks that migrate between marine wintering grounds and terrestrial breeding grounds. There was little evidence that endogenous reserves stored on marine wintering areas were allocated to clutch formation. Therefore, Harlequin Ducks relied on food available in streams on breeding grounds for egg formation, and reserves stored on marine areas were likely used during other energetically and nutritionally demanding periods.

**URL:** <Go to ISI>://BCI200700515043

**Reference Type:**  Journal Article

**Record Number:** 267

**Author:** J. C. Bond, D. Esler and T. D. Williams

**Year:** 2008

**Title:** Breeding propensity of female harlequin ducks

**Journal:** Journal of Wildlife Management

**Volume:** 72

**Issue:** 6

**Pages:** 1388-1393

**Date:** Aug 2008

**Short Title:** Breeding propensity of female harlequin ducks

**Accession Number:** BCI:BCI200800581327

**Keywords:** Harlequin duck; Histrionicus histrionicus; Productivity; Physiology; Techniques; Breeding Season;

**Abstract:** Breeding propensity, the proportion of sexually mature females that initiate egg production, can be an important demographic trait when considering reproductive performance and, subsequently, population dynamics in birds. We measured egg production using yolk precursor (vitellogenin andvery-low-density lipoprotein) analyses and we measured nesting using radiotelemetry to quantify breeding propensity of adult female harlequin ducks (Histrionicus histrionicus) in British Columbia, Canada, in 2003 and 2004. Using both methods combined, and accounting for error rates of each, we estimated that breeding propensity of adult females that migrated to breeding streams was 92%. These data suggest that, despite speculation that harlequin ducks have low breeding propensity, almost all adult females on our study site were not constrained in their ability to produce eggs and that influences on reproductive performance at later stages likely have much stronger effects on population dynamics.

**URL:** <Go to ISI>://BCI200800581327

**Reference Type:**  Journal Article

**Record Number:** 238

**Author:** J. C. Bond, S. A. Iverson, N. B. Maccallum, C. M. Smith, H. J. Bruner and D. Esler

**Year:** 2009

**Title:** Variation in Breeding Season Survival of Female Harlequin Ducks

**Journal:** Journal of Wildlife Management

**Volume:** 73

**Issue:** 6

**Pages:** 965-972

**Date:** Aug 2009

**Short Title:** Variation in Breeding Season Survival of Female Harlequin Ducks

**Accession Number:** BCI:BCI200900518050

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Breeding Season;

**Abstract:** Quantifying sources of variation in demographic rates can provide insight into processes underlying population dynamics and subsequently direct wildlife conservation. In the context of avian life history, understanding patterns of variation in survival rates of breeding females is particularly relevant because this cohort often has a disproportionately large effect on population dynamics. We estimated survival probability for 144 adult female harlequin ducks (Histrionicus histrionicus) that we marked with radiotransmitters and tracked at 4 breeding areas in western North America. Model selection results indicated both regional and temporal variation in survival rates, with most mortality attributed to predation. Cumulative survival probability (+/-SE) during the 100-day study period was lower at 2 sites in the Rocky Mountains of Alberta, Canada (AB1 and AB2: 0.75 +/- 0.11) than in the Coast Mountains of British Columbia, Canada (BC: 0.88 +/- 0.08) or the Cascade Mountains of Oregon, USA (OR: 0.89 +/- 0.08). Survival also was lower during incubation than nest-initiation or brood-rearing stages at all 4 study areas. In comparison to other annual cycle stages and locations, harlequin duck mortality rates were highest on the breeding grounds, suggesting that management actions designed to reduce mortality during breeding would achieve meaningful population-level benefits. (JOURNAL OF WILDLIFE MANAGEMENT 73(6): 965-972; 2009)

**URL:** <Go to ISI>://BCI200900518050

**Reference Type:**  Journal Article

**Record Number:** 595

**Author:** R. Boonstra, J. M. Eadie, C. J. Krebs and S. Boutin

**Year:** 1995

**Title:** Limitations of far infrared thermal imaging in locating birds

**Journal:** Journal of Field Ornithology

**Volume:** 66

**Issue:** 2

**Pages:** 192-198

**Short Title:** Limitations of far infrared thermal imaging in locating birds

**Accession Number:** BCI:BCI199598278881

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Techniques; Breeding Season;

**Abstract:** The utility of far infrared (FIR) thermal imaging devices to detect and census birds in the field was examined. A Thermovision 210 was used to survey individuals and/or nests of Great-horned Owls (Bubo virginianus), Pileated Woodpeckers (Dryocopus pileatus), Northern Flickers (Colaptes auratus), Barrow's Goldeneyes (Bucephala islandica), Buffleheads (Bucephala albeola), Mallards (Anas platyrhynchos), Green-winged Teal (Anas crecca), Lapland Longspurs (Calcarius lapponicus) and Pectoral Sandpipers (Erolia melanotos). Thermal imaging was successful in determining activity at nests of all four cavity-nesting species and in finding nests of Arctic tundra birds if their approximate location was known. FIR thermal imaging was not useful, however, in detecting the active, open nests of Mallards or Green-winged Teal, nor was it useful in locating resting waterfowl or Great-horned Owls. It was successful at locating Arctic tundra birds. These differences are largely attributable to variation among species in the insulative property of nests or feathers. It is concluded that FIR imaging will be of limited utility in censusing most avian populations, although it may provide a useful, abeit expensive tool, to assess nest occupancy of cavity- or burrow-nesting birds, or to determine the activity of birds in open habitats.

**URL:** <Go to ISI>://BCI199598278881

**Reference Type:**  Journal Article

**Record Number:** 1547

**Author:** D. Bordage, N. Plante, A. Bourget and S. Paradis

**Year:** 1998

**Title:** Use of ratio estimators to estimate the size of common eider populations in winter

**Journal:** Journal of Wildlife Management

**Volume:** 62

**Issue:** 1

**Pages:** 185-192

**Date:** Jan., 1998

**Short Title:** Use of ratio estimators to estimate the size of common eider populations in winter

**Accession Number:** BCI:BCI199800133273

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Techniques; Nonbreeding Seasons;

**Abstract:** Surveys of common eiders (Somateria mollissima) are often conducted in winter because eiders tend to congregate in small discrete areas during this period. Evaluations of population size are usually based on visual estimates, the reliability of which is difficult to assess. In winter 1989, we tested a method of surveying eiders in the Mingan Archipelago and Anticosti Island region in Quebec. The survey consisted of 2 consecutive overflights of the study area at high and low altitude where photographs were taken and visual estimates were recorded. We estimated the size of the population using a 3-step process. First, we estimated the number of adult males using a ratio estimator that combined high-altitude photo counts and visual estimates; the former was considered an accurate count. The ratio of females and immatures to adult males was then estimated from photos taken from low altitude. Subsequently, a capture-recapture model was used to estimate the number of eiders in small flocks. The proposed method produced estimates with an acceptable level of precision: 77,627 eiders (CV = 13%) on 2 February and 92,247 eiders (CV = 21%) on 28 February. This precision suggests that the method can be useful in monitoring common eider populations in winter, thus facilitating the management of this species. The proposed methodology is unusual in field biology because sampling cannot be controlled; thus, the estimation is relying on a model instead of a predefined sampling design.

**URL:** <Go to ISI>://BCI199800133273

**Reference Type:**  Journal Article

**Record Number:** 916

**Author:** D. Bordage and J.-P. L. Savard

**Year:** 1995

**Title:** Black scoter (Melanitta nigra)

**Journal:** Birds of North America

**Volume:** 0

**Issue:** 177

**Pages:** 1-20

**Short Title:** Black scoter (Melanitta nigra)

**Accession Number:** BCI:BCI199698691969

**Keywords:** Black Scoter; Melanitta nigra; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI199698691969

**Reference Type:**  Journal Article

**Record Number:** 2338

**Author:** D. a. J.-P. L. S. Bordage

**Year:** 2011

**Title:** Black Scoter (Melanitta americana)

**Journal:** The Birds of North America

**Short Title:** Black Scoter (Melanitta americana)

**Keywords:** Black Scoter; Melanitta americana

**Reference Type:**  Journal Article

**Record Number:** 1428

**Author:** F. H. M. Borgsteede

**Year:** 2005

**Title:** The gizzard worm, Amidostomum acutum (Lundahl, 1848) Seurat, 1918 in common eiders, (Somateria mollissima L.) in the Netherlands

**Journal:** Helminthologia (Bratislava)

**Volume:** 42

**Issue:** 4

**Pages:** 215-218

**Date:** Dec 2005

**Short Title:** The gizzard worm, Amidostomum acutum (Lundahl, 1848) Seurat, 1918 in common eiders, (Somateria mollissima L.) in the Netherlands

**Accession Number:** BCI:BCI200600165477

**Keywords:** Common Eider; Somateria mollissima; Parasites; Nonbreeding Seasons;

**Abstract:** A study was made on the prevalence of Amidostomum acutum in the gizzard of the common eider (Somateria mollissima L.) in the Netherlands. The investigated birds were found dead along the Dutch coast in the winter of 2001/2002. From the dead birds collected at two localities, the North Sea coast near the Hondsbossche Zeewering and the Wadden Sea coast of the isle Texel, 50 ciders were selected. These 50 birds consisted of ten adult males, ten adult females, 15 juvenile males and 15 juvenile females. All birds were infected with A. acutum. The number of worms varied from four to 826. There were no significant differences in worm numbers in birds from both localities. Adult birds had significantly more worms (av. 150) than juveniles (48). Adult males had significantly more worms (av. 202) than adult females (98). These differences were found in both localities. The possible role of A. acutum in the mass mortality among the ciders is discussed.

**URL:** <Go to ISI>://BCI200600165477

**Reference Type:**  Journal Article

**Record Number:** 1427

**Author:** F. H. M. Borgsteede, A. Okulewicz, P. E. F. Zoun and J. Okulewicz

**Year:** 2005

**Title:** The gastrointestinal helminth fauna of the eider duck (Somateria mollissima L.) in the Netherlands

**Journal:** Helminthologia (Bratislava)

**Volume:** 42

**Issue:** 2

**Pages:** 83-87

**Date:** Jun 2005

**Short Title:** The gastrointestinal helminth fauna of the eider duck (Somateria mollissima L.) in the Netherlands

**Accession Number:** BCI:BCI200510221649

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** The gastrointestinal helminth fauna of 25 eider ducks (Somateria mollissima L.) in the Netherlands has been described and number of worms counted or estimated. For the most common species maximum worm numbers are given. Five nematode species were found: Amidostomum acutum (max. intensity 1500). Paractiaria formosensis. Streptocara crassicauda, Tetrameres fissispina and Capillaria nyrocinarum (max. intensity 1700). Trematodes were represcrited by 12 species: Cotylurus cormutus, Catatropis verrucosa, Notocotylus attenuatus, Cryptocotyle concavum (max. intensity > 10.000), Psilotrema simillimum (max. intensity > 10.000), Himasthla militaris, Gymnophallus somateriae, G. rostratus, Lacunovermis. macomae, Maritrema gratiosum, Microphallus longicaecum and M. somateriae. The total number of gymnophallid and microphallid digeneans exceded 100.000 in some birds. Other digeneans, not identified at the species level, belonged to the genera Diplostomum, Paramonomum and Levinseniella. Cyclophyllid cestodes (mainly Hymenolepididae) were present in high numbers (max. intensity > 4000), but mostly in the immature stage. One Ligula intestinalis could be identified. Acanthocephalan infections with high numbers (max. intensity 4000) of Profilicollis botulus were very common.

**URL:** <Go to ISI>://BCI200510221649

**Reference Type:**  Journal Article

**Record Number:** 1537

**Author:** G. E. Bottitta

**Year:** 1999

**Title:** Energy constraints on incubating common eiders in the Canadian Arctic (East Bay, Southampton Island, Nunavut)

**Journal:** Arctic

**Volume:** 52

**Issue:** 4

**Pages:** 425-437

**Date:** Dec., 1999

**Short Title:** Energy constraints on incubating common eiders in the Canadian Arctic (East Bay, Southampton Island, Nunavut)

**Accession Number:** BCI:BCI200000093598

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**URL:** <Go to ISI>://BCI200000093598

**Reference Type:**  Journal Article

**Record Number:** 1488

**Author:** G. E. Bottitta, H. G. Gilchrist, A. Kift and M. G. Meredith

**Year:** 2002

**Title:** A pressure-sensitive wireless device for continuously monitoring avian nest attendance

**Journal:** Wildlife Society Bulletin

**Volume:** 30

**Issue:** 4

**Pages:** 1033-1038

**Date:** Winter 2002

**Short Title:** A pressure-sensitive wireless device for continuously monitoring avian nest attendance

**Accession Number:** BCI:BCI200300186957

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** Studies of avian incubation patterns may be affected by a researcher's need to visit and disrupt incubating birds. To overcome this problem, we developed a Remote Incubation Monitoring System (RIMS) by modifying an existing home-security system. Camouflaged, pressure-sensitive switches placed in nests of the common eider (Somateria mollissima) transmitted data wirelessly to receivers so that nests did not have to be revisited to retrieve data. Data from receivers were then sent through a cable to a control panel located outside the nesting colony (approximately 2,000 nesting females) to be downloaded. RIMS devices in active nests instantaneously detected the movement of 38 females on or off nests in 1999. We compared data generated from RIMS devices (time of day, number and length of recess) to data from behavioral observations of a sample of females and found the results highly correlated (r=0.99, n=29, P<0.001). The system was not affected by severe weather and provided instantaneous and continuous monitoring of nest-attendance patterns without disturbing incubating females. Behavioral research requiring multiple nest visits by observers could benefit from using RIMS devices for monitoring incubation, particularly among colonial species sensitive to disturbance.

**URL:** <Go to ISI>://BCI200300186957

**Reference Type:**  Journal Article

**Record Number:** 1464

**Author:** G. E. Bottitta, E. Nol and H. G. Gilchrist

**Year:** 2003

**Title:** Effects of experimental manipulation of incubation length on behavior and body mass of Common Eiders in the Canadian arctic

**Journal:** Waterbirds

**Volume:** 26

**Issue:** 1

**Pages:** 100-107

**Date:** March 2003

**Short Title:** Effects of experimental manipulation of incubation length on behavior and body mass of Common Eiders in the Canadian arctic

**Accession Number:** BCI:BCI200300205483

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Productivity; Breeding Season; Survival;

**Abstract:** In 1998 and 1999, the costs of experimentally extending incubation among female Common Eiders (Somateria mollissima) were examined in relation to changes in female body mass. Clutches were switched between nests to extend incubation by an average of five days to compare with control clutches. In the four days prior to hatch, females with manipulated clutches incubated less per day, and lost more body mass than control females. The probability of nest failure was similar for control and manipulated females. Manipulated females who lost their clutches to predation or abandonment appeared to have greater body mass than those who hatched their eggs successfully. Manipulated females who were unsuccessful also took more frequent incubation recesses than those who hatched eggs successfully. The probability of return to the colony in the following year did not differ significantly between control (66%) and manipulated females (57%). These results suggest that some female Common Eiders breeding in the arctic can physically increase their incubation effort and decrease their body condition at the end of the breeding season with no major consequences to long-term survival.

**URL:** <Go to ISI>://BCI200300205483

**Reference Type:**  Journal Article

**Record Number:** 2011

**Author:** F. Botto, O. O. Iribarne, M. M. Martinez, K. Delhey and M. Carrete

**Year:** 1998

**Title:** The effect of migratory shorebirds on the benthic species of three southwestern Atlantic Argentinean estuaries

**Journal:** Estuaries

**Volume:** 21

**Issue:** 4B

**Pages:** 700-709

**Date:** Dec

**Short Title:** The effect of migratory shorebirds on the benthic species of three southwestern Atlantic Argentinean estuaries

**DOI:** 10.2307/1353274

**Notes:** Botto, F Iribarne, OO Martinez, MM Delhey, K Carrete, M

**Reference Type:**  Journal Article

**Record Number:** 1815

**Author:** M. R. Boudreau and D. J. Hamilton

**Year:** 2012

**Title:** Seasonal variation in effects of multiple predators on an intertidal mussel bed: implications for interpretation of manipulative experiments

**Journal:** Marine Ecology Progress Series

**Volume:** 465

**Pages:** 137-153

**Short Title:** Seasonal variation in effects of multiple predators on an intertidal mussel bed: implications for interpretation of manipulative experiments

**ISSN:** 0171-8630

**DOI:** 10.3354/meps09897

**Accession Number:** WOS:000309366300012

**Keywords:** Common eider; somateria mollissima; Trophic Interactions; Breeding Season; Nonbreeding Seasons

**Notes:** Times Cited: 0

Boudreau, Melanie R. Hamilton, Diana J.

0

**URL:** <Go to ISI>://WOS:000309366300012

**Reference Type:**  Journal Article

**Record Number:** 1015

**Author:** C. E. Bourgeois and W. Threlfall

**Year:** 1982

**Title:** Metazoan Parasites of 3 Species of Scoter Anatidae

**Journal:** Canadian Journal of Zoology

**Volume:** 60

**Issue:** 10

**Pages:** 2253-2257

**Short Title:** Metazoan Parasites of 3 Species of Scoter Anatidae

**Accession Number:** BCI:BCI198375082369

**Keywords:** Surf Scoter; Melanitta perspicillata; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Parasites;

**Abstract:** Examined for metazoan parasites in 1973-1978 were 175 (94 surf, 36 white-winged and 45 black) scoters [Melanitta perspicillata, M. fusca and M. nigra, respectively] obtained from 4 localities (New Brunswick, British Columbia, Labrador and Norway, Canada); 91% (159 birds: 86 surf, 33 white-winged and 40 black scoters) were infected. Approximately 45 spp. of parasites [tremates, nematodes and acanthocephalans; cestodes excluded] were found (36 from the surf, 25 from the white-winged, and 27 from the black), including 39 which were new host records. Quantitative data, including prevalence and intensity of infection, are given for each helminth and host. Comparisons between different ages and sexes are made, and between different host species. Topics such as location within host are discussed for individual species of parasites. Comments are made on the geographical distribution of the parasites found and their life cycles, where known (7 cycle through the marine ecosystem, 7 through freshwater, 4 through either system and one through a dipteran).

**URL:** <Go to ISI>://BCI198375082369

**Reference Type:**  Journal Article

**Record Number:** 1405

**Author:** S. Bourgeon, F. Criscuolo, F. Bertile, T. Raclot, G. W. Gabrielsen and S. Massemin

**Year:** 2006

**Title:** Effects of clutch sizes and incubation stage on nest desertion in the female Common Eider Somateria mollissima nesting in the high Arctic

**Journal:** Polar Biology

**Volume:** 29

**Issue:** 5

**Pages:** 358-363

**Date:** Apr 2006

**Short Title:** Effects of clutch sizes and incubation stage on nest desertion in the female Common Eider Somateria mollissima nesting in the high Arctic

**Accession Number:** BCI:BCI200600334248

**Keywords:** Common Eider; Somateria mollissima; Behavior; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI200600334248

**Reference Type:**  Journal Article

**Record Number:** 1426

**Author:** S. Bourgeon, F. Criscuolo, Y. Le Maho and T. Raclot

**Year:** 2005

**Title:** Immunocompetence of female common eiders incubating in the high arctic in relation to clutch size

**Journal:** Alauda

**Volume:** 73

**Issue:** 3

**Pages:** 286

**Short Title:** Immunocompetence of female common eiders incubating in the high arctic in relation to clutch size

**Accession Number:** BCI:BCI200600043230

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**URL:** <Go to ISI>://BCI200600043230

**Reference Type:**  Journal Article

**Record Number:** 1407

**Author:** S. Bourgeon, F. Cruscuolo, Y. Le Maho and T. Raclot

**Year:** 2006

**Title:** Phytohemagglutinin response and immunoglobulin index decrease during incubation fasting in female common eiders

**Journal:** Physiological and Biochemical Zoology

**Volume:** 79

**Issue:** 4

**Pages:** 793-800

**Date:** Jul-Aug 2006

**Short Title:** Phytohemagglutinin response and immunoglobulin index decrease during incubation fasting in female common eiders

**Accession Number:** BCI:BCI200600445167

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** To maximize their fitness, long-lived species face trade-offs between survival and reproduction. The cost of reproduction, which is defined as the negative effect of current parental investment on chances of adult survival and future reproduction, may affect immune function, possibly through hormonal changes. In this study, components of acquired immunity and plasma corticosterone levels of female eiders (Somateria mollissima) have been measured throughout the incubation period as a function of clutch size. These precocial birds lay up to six eggs and fast completely during incubation. Birds were sampled early and late in the incubation period, with clutches ranging from one to four eggs. T-cell-mediated immune response and humoral immunity were assessed by phytohemagglutinin (PHA) skin tests (a challenging method) and measurements of serum immunoglobulins (a monitoring method), respectively. During incubation, responses to PHA injection and immunoglobulin index significantly decreased, by about 40% and 25%, respectively. These observed decreases occurred independently of the number of eggs laid by the females. Corticosterone did not vary significantly during incubation, whatever the clutch size. We conclude that female eiders seem to reallocate their resources from immune function to reproductive effort independently of clutch size or corticosterone levels.

**URL:** <Go to ISI>://BCI200600445167

**Reference Type:**  Journal Article

**Record Number:** 1338

**Author:** S. Bourgeon, Y. Le Maho and T. Raclot

**Year:** 2009

**Title:** Proximate and ultimate mechanisms underlying immunosuppression during the incubation fast in female eiders: Roles of triiodothyronine and corticosterone

**Journal:** General and Comparative Endocrinology

**Volume:** 163

**Issue:** 1-2

**Pages:** 77-82

**Date:** Aug-Sep 2009

**Short Title:** Proximate and ultimate mechanisms underlying immunosuppression during the incubation fast in female eiders: Roles of triiodothyronine and corticosterone

**Accession Number:** BCI:BCI200900474330

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Available resources being limited, life-history theory predicts that natural selection favours the evolution of physiological mechanisms that ensure their optimal allocation between competing activities. Accordingly, to maximize their selective value, long-lived species face a trade-off between survival and reproduction. Immunity is hypothesized to share limited resources with other physiological functions and this may partly account for the fitness costs of reproduction. However, both ultimate and proximate factors underlying the observed trade-off between reproductive effort and immunocompetence remain poorly documented. Using female common eiders (Somateria mollissima) as a model, it was earlier shown that acquired immunity is negatively affected during the incubation fast, while its activation has a negative impact on females' fitness. The current paper reports data on corticosterone and triiodothyronine manipulations designed to shed more light onto both ultimate and proximate mechanisms involved in the control of immunosuppression in breeding female eiders. It was found that corticosterone is not the main proximate factor responsible for immunosuppression and that the immunosuppressive effects of both hormones may be mediated by their negative effects on body mass. These observations are consistent with the proposed link between the immune system and body fat reserves and, with the resource-limitation hypothesis for stress-induced immunosuppression. However the alternative hypothesis, the immunopathology-avoidance hypothesis cannot be discarded and the two hypotheses are not mutually exclusive in breeding female eiders. (C) 2008 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI200900474330

**Reference Type:**  Journal Article

**Record Number:** 1406

**Author:** S. Bourgeon, J. Martinez, F. Criscuolo, Y. Le Maho and T. Raclot

**Year:** 2006

**Title:** Fasting-induced changes of immunological and stress indicators in breeding female eiders

**Journal:** General and Comparative Endocrinology

**Volume:** 147

**Issue:** 3

**Pages:** 336-342

**Date:** Jul 2006

**Short Title:** Fasting-induced changes of immunological and stress indicators in breeding female eiders

**Accession Number:** BCI:BCI200600355972

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** One adaptive significance of immunosuppression during reproduction can be explained by the immunopathology-avoidance hypothesis. This hypothesis states that since heat shock proteins (HSP) are highly conserved proteins found in both pathogen and host, and are expressed at a higher level during reproduction, the risk of autoinummity is then increased, HSP being the target of the host's immune response. Reduced immunocompetence has been attributed to hormonal regulation, in particular by glucocorticoids. The current study aimed at testing the immunopathology-avoidance hypothesis and the implication of corticosterone in incubating fasting common ciders (Somateria mollissima). To this end, we have measured immunological and stress indicators including immunoglobulin (IgY), HSP70, HSP60, and corticosterone levels in breeding females. A multivariate general linear model analysis showed that female body condition, IgY, HSP70, and HSP60 levels were the main variables explaining the model. Females showed a significant decrease by 15% of their IgY index during incubation. Conversely, HSP70 and HSP60 levels significantly increased by 12 and 10%, respectively throughout incubation. Moreover, there was a positive significant relationship between both HSP whereas HSP60 levels were negatively correlated to IgY index. Plasma corticosterone levels showed a tendency to decrease during incubation. We conclude that these findings are consistent with the immunopathology-avoidance hypothesis in breeding ciders. Nevertheless, the long-term reproductive costs and the underlying mechanisms of such an immunosuppression remain to be determined and will require further experiments. (c) 2006 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI200600355972

**Reference Type:**  Journal Article

**Record Number:** 1408

**Author:** S. Bourgeon and T. Raclot

**Year:** 2006

**Title:** Corticosterone selectively decreases humoral immunity in female eiders during incubation

**Journal:** Journal of Experimental Biology

**Volume:** 209

**Issue:** 24

**Pages:** 4957-4965

**Date:** Dec 15 2006

**Short Title:** Corticosterone selectively decreases humoral immunity in female eiders during incubation

**Accession Number:** BCI:BCI200700088281

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Immunity is hypothesized to share limited resources with other physiological functions and this may partly account for the fitness costs of reproduction. Previous studies have shown that the acquired immunity of female common eider ducks (Somateria mollissima) is suppressed during their incubation, during which they entirely fast. Corticosterone was proposed to be an underlying physiological mechanism for such immunosuppression. Therefore, the current study aimed to assess the effects of exogenous corticosterone on acquired immunity in captive eiders. To this end, females were implanted with corticosterone pellets at different stages of their incubation fast. We measured total immunoglobulin levels, T-cell-mediated immune response, body mass and corticosterone levels in these females and compared them with those of control females prior to and after manipulation (i.e. corticosterone pellet implantation). To mimic corticosterone effects on body mass, we experimentally extended fasting duration in a group of females termed 'late fasters'. Implanted females had corticosterone levels females. Corticosterone levels in 'late fasters' were similar to those in control females but body mass was 8% lower in the former. The decrease in the immunoglobulin levels of corticosterone implanted females was twice as high as in control females, while the T-cell-mediated immune response was not significantly affected by the treatment. We found a decrease in the T-cell-mediated immune response only in 'late fasters' (by 60%), while the immunoglobulin level was not lower in this group than in corticosterone implanted or control females. Our study shows that in incubating eiders, exogenous corticosterone only decreased humoral immunity. We suggest that the immunosuppressive effect of corticosterone could be mediated through its effects on body reserves. Further experiments are required to determine the relationship between body condition and immune system in fasting birds.

**URL:** <Go to ISI>://BCI200700088281

**Reference Type:**  Journal Article

**Record Number:** 1381

**Author:** S. Bourgeon and T. Raclot

**Year:** 2007

**Title:** Triiodothyronine suppresses humoral immunity but not T-cell-mediated immune response in incubating female eiders (Somateria mollissima)

**Journal:** General and Comparative Endocrinology

**Volume:** 151

**Issue:** 2

**Pages:** 188-194

**Date:** Apr 2007

**Short Title:** Triiodothyronine suppresses humoral immunity but not T-cell-mediated immune response in incubating female eiders (Somateria mollissima)

**Accession Number:** BCI:BCI200700312350

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Immunity is believed to share limited resources with other physiological functions and this may partly account for the fitness costs of reproduction. Previous studies have shown that the acquired immunity of female common eiders (Somateria mollissima) is suppressed during the incubation fast. To save energy, triiodothyronine (T-3) is adaptively decreased during fasting in most bird species, despite T-3 levels are maintained throughout incubation in female eiders. However, the relationship between thyroid hormones and the immune system is not fully understood. The current study aimed to determine the endocrine mechanisms that underlie immunosuppression in incubating female eiders. To this end we assessed the effects of exogenous T-3 on both components of the acquired immune system in 42 free-ranging incubating birds. Half of the females were implanted with T-3 pellets, while the other half sham implanted served as control. We measured variations in the immunoglobulin index, the T-cell-mediated immune response, body mass, and plasma parameters in both groups before and after manipulation. T-3 levels in implanted females were four times higher and mass loss was 40% greater than in control females. Implanted females also showed an 18% decrease in the immunoglobulin index, while the T-cell-mediated immune response was not significantly affected by the treatment. Finally, the treatment did not induce any significant changes in corticosterone levels. Our study shows that exogenous T-3 decreased only one component of the acquired immune system. We suggest that the immunosuppressive effect of T-3 could be mediated by its effects on body fat reserves. Further experiments are required to determine: (1) the relationship between adiposity and immune function, (2) the adaptive significance of immunosuppression during incubation in eiders. (c) 2007 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI200700312350

**Reference Type:**  Journal Article

**Record Number:** 1380

**Author:** S. Bourgeon, T. Raclot, Y. Le Maho, D. Ricquier and F. Criscuolo

**Year:** 2007

**Title:** Innate immunity, assessed by plasma NO measurements, is not suppressed during the incubation fast in eiders

**Journal:** Developmental & Comparative Immunology

**Volume:** 31

**Issue:** 7

**Pages:** 720-728

**Short Title:** Innate immunity, assessed by plasma NO measurements, is not suppressed during the incubation fast in eiders

**Accession Number:** BCI:BCI200700385617

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Immunity is hypothesized to share limited resources with other physiological functions and may mediate life history trade-offs, for example between reproduction and survival. However, vertebrate immune defense is a complex system that consists of three components. To date, no study has assessed all of these components for the same animal model and within a given situation. Previous studies have determined that the acquired immunity of common ciders (Somateria mollissima) is suppressed during incubation. The present paper aims to assess the innate immune response in fasting ciders in relation to their initial body condition. Innate immunity was assessed by measuring plasma nitric oxide (NO) levels, prior to and after injection of lipopolysaccharides (LPS), a method which is easily applicable to many wild animals. Body condition index and corticosterone levels were subsequently determined as indicators of body condition and stress level prior to LPS injection. The innate immune response in ciders did not vary significantly throughout the incubation period. The innate immune response of ciders did not vary significantly in relation to their initial body condition but decreased significantly when corticosterone levels increased. However, NO levels after LPS injection were significantly and positively related to initial body condition, while there was a significant negative relationship with plasma corticosterone levels. Our study suggests that female ciders preserve an effective innate immune response during incubation and this response might be partially determined by the initial body condition. (c) 2006 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200700385617

**Reference Type:**  Journal Article

**Record Number:** 1700

**Author:** A. A. Bourget

**Year:** 1973

**Title:** Relation of Eiders and Gulls Nesting in Mixed Colonies in Penobscot Bay Maine

**Journal:** Auk

**Volume:** 90

**Issue:** 4

**Pages:** 809-820

**Short Title:** Relation of Eiders and Gulls Nesting in Mixed Colonies in Penobscot Bay Maine

**Accession Number:** BCI:BCI197457053817

**Keywords:** Common Eider; Somateria mollissima; Breeding Season;

**URL:** <Go to ISI>://BCI197457053817

**Reference Type:**  Journal Article

**Record Number:** 461

**Author:** D. Bourget, J.-P. L. Savard and M. Guillemette

**Year:** 2007

**Title:** Distribution, diet and dive behavior of barrow's and common goldeneyes during spring and autumn in the St. Lawrence estuary

**Journal:** Waterbirds

**Volume:** 30

**Issue:** 2

**Pages:** 230-240

**Date:** Jun 2007

**Short Title:** Distribution, diet and dive behavior of barrow's and common goldeneyes during spring and autumn in the St. Lawrence estuary

**Accession Number:** BCI:BCI200700513473

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Habitat; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** Barrow's (Bucephala islandica) and Common (B. clangula) goldeneyes winter in large numbers in the St. Lawrence estuary and little is known of their distribution and diet. The objective of the study was to characterize how these two similar species, co-existed in the St. Lawrence estuary during the non-breeding season. Their local distribution, diet, and dive efficiency were compared. There was little overlap in habitat use by both goldeneyes. Their distribution was not correlated in the autumn (r = 0.04) but was in the spring (0.68). Autumn and spring distributions were more correlated in Common Goldeneyes (r = 0.82) than in Barrow's Goldeneyes (r = 0.49). Both species moved to the north shore of the estuary during January and February 1999 as south shore intertidal areas froze. Barrow's Goldeneyes foraged in larger flocks than Common Goldeneyes ((x) over bar = 20.3 vs 9.8 birds) and flocks were larger in autumn than spring. Both species fed on amphipods but differed in their use of gastropods (Barrow's Goldeneye) and polychaetes (Common Goldeneye). Dive duration was similar in both species but varied between areas. Pause duration was shorter in Common Goldeneyes than in Barrow's Goldeneyes but was not affected by area. Dive efficiency was higher in Common Goldeneyes than Barrow's Goldeneyes and varied between areas. The predominance of polychaetes in the diet of Common Goldeneyes and of amphipods in the diet of Barrow's Goldeneyes had not been highlighted before. These species provide a good example of niche differentiation between closely related species.

**URL:** <Go to ISI>://BCI200700513473

**Reference Type:**  Journal Article

**Record Number:** 565

**Author:** J. M. Bouvier

**Year:** 1974

**Title:** Breeding Biology of the Hooded Merganser in Southwestern Quebec Canada Including Interactions with Common Goldeneyes and Wood Ducks

**Journal:** Canadian Field-Naturalist

**Volume:** 88

**Issue:** 3

**Pages:** 323-330

**Short Title:** Breeding Biology of the Hooded Merganser in Southwestern Quebec Canada Including Interactions with Common Goldeneyes and Wood Ducks

**Accession Number:** BCI:BCI197559024244

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Common Goldeneye; Bucephala clangula; Breeding Season;

**URL:** <Go to ISI>://BCI197559024244

**Reference Type:**  Journal Article

**Record Number:** 945

**Author:** E. A. Bowers

**Year:** 1965

**Title:** A description of Meiogymnophallus jamesoni sp. nov. (Trematoda: Gymnophallidae) from the intestine of the common scoter, Melanitta nigra L

**Journal:** Ann Mag Natur Hist

**Volume:** 8

**Issue:** (89/90)

**Pages:** 277-283

**Short Title:** A description of Meiogymnophallus jamesoni sp. nov. (Trematoda: Gymnophallidae) from the intestine of the common scoter, Melanitta nigra L

**Accession Number:** BCI:BCI19664700119397

**Keywords:** Black Scoter; Melanitta nigra; Parasites;

**URL:** <Go to ISI>://BCI19664700119397

**Reference Type:**  Book

**Record Number:** 2359

**Author:** T. D. Bowman, E. D. Silverman, S. G. Gilliland, and J. B. Leirness

**Year:** 2015

**Title:** Status and trends of North American sea ducks: Reinforcing the need for better monitoring

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 1-28

**Short Title:** Status and trends of North American sea ducks: Reinforcing the need for better monitoring

**Keywords:** Abundance, Distribution, & Trends

**Abstract:** The value of existing waterfowl survey data for assessing the status and trends of North American sea duck populations is limited due to short time series, insufficient geographic coverage, improper timing, and species identification problems. Despite these shortcomings, contemporary data provide insights into the status of several sea duck populations. In this chapter, we synthesize available information on population status and trends in abundance for sea ducks and recommend efforts that could improve our ability to monitor sea duck populations. The Alaska breeding population of Spectacled Eiders is currently stable (Arctic Coastal Plain) or increasing (Yukon-Kuskokwim Delta) in numbers. Steller’s Eiders (Polysticta stelleri) wintering in Alaska have declined since the early 1990s. Spectacled and Steller’s Eiders remain below historic levels and are listed as threatened in the United States. In western North America, King Eiders (Somateria spectabilis) declined substantially between the mid-1970s and mid-1990s; recent data suggest regional differences, but a stable population overall. There is insufficient information on trend for King Eiders in eastern North America. An assessment of trends for Pacific Common Eiders (S. mollissima v-nigra) is based on limited information, but data suggest that this subspecies declined substantially in northern parts of its range in the 1980s to the early 2000s. Recent regional trend estimates note declines in central arctic Canada and northwestern Alaska, and stable to increasing numbers in other parts of Alaska. Population trends for American Common Eiders (S. dresseri) are variable range-wide, with apparent increases in northern parts of their range and decreases in southern parts. Trends for Hudson Bay (S. m. sedentaria) and Northern subspecies (S. m. borealis) of Common Eiders are uncertain. The population trajectories of the three scoter species (Melanitta spp.) are also not well understood, but available data suggest that, as a group, scoters decreased from the 1980s to the early 2000s, with greater declines noted in the northern boreal forest and northern prairies than in Alaska, and with overall increases since about 2004. Black Scoters on Pacific breeding areas have declined significantly since the mid-1970s, but have increased in number in the last decade. There is no measurable trend for eastern Black Scoters. The limited data for Long-tailed Ducks (Clangula hyemalis) suggest long-term declines in the parts of their range that are surveyed, with more stable numbers in recent years. Buffleheads (Bucephala albeola), goldeneyes (B. clangula and B. islandica) and mergansers (Mergus spp. and Lophodytes cucullatus) have increased, although lack of differentiation among species of both goldeneyes and mergansers prohibits reliable species-specific evaluations. Numbers of Harlequin Ducks (Histrionicus histrionicus) along the Atlantic coast are increasing, while the Pacific trend is unknown. Data suggest that, for the 22 populations of North America sea ducks currently recognized as distinct or allopatric, 11 populations appear to be stable or have increased in abundance over the last 10–20 years, and two populations are apparently declining. Data are insufficient to determine status for the remaining nine populations. Reliable information about population status and trends requires surveys designed with specific consideration of sea duck distribution and phenology. We recommend increasing observer training, incorporating detection adjustments, and using aerial photography to improve the accuracy of species identification and abundance estimation. Management agencies in the United States and Canada must devote greater resources to monitoring sea ducks if they wish to better inform harvest management, focus habitat conservation efforts on areas of greatest importance to sea ducks, and effectively evaluate their management actions.

**Reference Type:**  Journal Article

**Record Number:** 1139

**Author:** H. Boyd

**Year:** 1996

**Title:** Arctic temperatures and the long-tailed ducks shot in eastern North America

**Journal:** Wildlife Biology

**Volume:** 2

**Issue:** 2

**Pages:** 113-117

**Short Title:** Arctic temperatures and the long-tailed ducks shot in eastern North America

**Accession Number:** BCI:BCI199799316215

**Keywords:** Long-tailed Duck; Clangula hyemalis; Productivity; Nonbreeding Seasons;

**Abstract:** The numbers of adult females and first-winter long-tailed ducks Clangula hyemalis shot in eastern North America between 1972 and 1994 have fallen, though the kill of adult males shows no trend. Most of these ducks are likely to have originated in the Arctic Tundra climatic region of Canada. Although summer and autumn temperatures in that region have shown no trends since 1972, their annual variations can account for 19-53% of the variations in the breeding success of eastern-wintering long-tailed ducks, as reflected by the numbers of first-winter birds in the kill.

**URL:** <Go to ISI>://BCI199799316215

**Reference Type:**  Book

**Record Number:** 2360

**Author:** W. S. Boyd, T. D. Bowman, J.-P. L. Savard, and R. D. Dickson

**Year:** 2015

**Title:** Conservation of North American sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 529-559

**Short Title:** Conservation of North American sea ducks

**Keywords:** Conservation

**Abstract:** Several species of North American sea ducks have experienced population declines in the last century and, in most cases, the causes remain unknown. Of primary concern for conservation is the fact that research on the tribe Mergini has lagged far behind other waterfowl groups, leading to a poor understanding of the key factors that may limit sea duck populations. We lack basic information on the demography and ecology of most species, including patterns of distribution and abundance, habitat associations, demographic rates, and population structure. Moreover, sea ducks face a wide range of potential threats, from large-scale environmental drivers such as climate change that may have long-lasting effects on many species to specific resource development projects that may affect some species at local geographic areas over short time periods. Further efforts are required to assess the individual and cumulative impacts of these threats to sea ducks before we can formulate effective conservation strategies.

**Reference Type:**  Journal Article

**Record Number:** 373

**Author:** W. S. Boyd, B. D. Smith, S. A. Iverson, M. R. Evans, J. E. Thompson and S. Schneider

**Year:** 2009

**Title:** Apparent survival, natal philopatry, and recruitment of Barrow's goldeneyes (Bucephala islandica) in the Cariboo-Chilcotin region of British Columbia, Canada

**Journal:** Canadian Journal of Zoology

**Volume:** 87

**Issue:** 4

**Pages:** 337-345

**Date:** Apr 2009

**Short Title:** Apparent survival, natal philopatry, and recruitment of Barrow's goldeneyes (Bucephala islandica) in the Cariboo-Chilcotin region of British Columbia, Canada

**Accession Number:** BCI:BCI200900340188

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Population Dynamics; Survival; Dispersal; Breeding Season;

**Abstract:** We used capture-resight data to evaluate apparent survival, natal philopatry, and recruitment of Barrow's goldeneyes (Bucephala islandica (Gmelin, 1789)) in British Columbia, Canada. Median ages of first pairing and first breeding for females were 2 years and 3 years, respectively. The Cormack-Jolly-Seber model that best fit our data indicated that apparent survival rates (Phi) differed according to sex, year, and age class at marking. Estimates were similar for after-hatch-year (AHY) females (0.62) and AHY males (0.58), which was consistent with predictions. However, contrary to predictions, apparent survival rates of hatch-year (HY) females (0.68) were similar to those of AHY females and significantly higher than those of HY males (0.35). We interpret this difference as being primarily related to higher dispersal probabilities by HY males. Also evident was a negative correlation between apparent survival rate during the 1st year after capture for HY birds and their subsequent apparent survival rates, which suggests that probability of dispersal increased after these birds reached reproductive maturity and began to compete for breeding territories. We interpret this as evidence for density-dependent control of access to limited resources such as nest cavities.

**URL:** <Go to ISI>://BCI200900340188

**Reference Type:**  Journal Article

**Record Number:** 685

**Author:** R. L. Boyer

**Year:** 1975

**Title:** Wildlife Occupying Potential Wood Duck Tree Nest Sites

**Journal:** Wilson Bulletin

**Volume:** 87

**Issue:** 4

**Pages:** 558-559

**Short Title:** Wildlife Occupying Potential Wood Duck Tree Nest Sites

**Accession Number:** BCI:BCI197612046565

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI197612046565

**Reference Type:**  Journal Article

**Record Number:** 266

**Author:** A. W. Boyne

**Year:** 2008

**Title:** Harlequin Ducks in the Canadian Maritime Provinces

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 50-57

**Short Title:** Harlequin Ducks in the Canadian Maritime Provinces

**Accession Number:** BCI:BCI200900160414

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) area relatively rare species in the Canadian Maritime Provinces. Recent confirmed breeding records are restricted to northern New Brunswick. Sightings of small numbers of birds during the molting and staging periods occur in all three provinces. It is estimated that New Brunswick supports as many as 200 wintering Harlequin Ducks, and almost 600 winter off the coast of Nova Scotia, although due to the extent of coast and occasional sightings of Harlequin Ducks from previously unknown locations, it is likely that these are minimum estimates, particularly for Nova Scotia. Few trend data are available in the Maritimes, but available information suggests an increase in the last five years. Hunting, both intentional and unintentional, still occurs; hunter education and enforcement to stop the Lake of this species could be worthwhile. Coastal development, including vacation home building and aquaculture sites, are occurring in places where Harlequin Ducks winter. There is a general need to monitor the impacts of these developments on local Harlequin Duck populations.

**URL:** <Go to ISI>://BCI200900160414

**Reference Type:**  Journal Article

**Record Number:** 1142

**Author:** S. Brager, J. Meissner and M. Thiel

**Year:** 1995

**Title:** Temporal and spatial abundance of wintering common Eider Somateria mollissima, long-tailed duck Clangula hyemalis, and Common Scoter Melanitta nigra in shallow water areas of the southwestern Baltic Sea

**Journal:** Ornis Fennica

**Volume:** 72

**Issue:** 1

**Pages:** 19-28

**Short Title:** Temporal and spatial abundance of wintering common Eider Somateria mollissima, long-tailed duck Clangula hyemalis, and Common Scoter Melanitta nigra in shallow water areas of the southwestern Baltic Sea

**Accession Number:** BCI:BCI199598403205

**Keywords:** Common Eider; Somateria mollissima; Black Scoter; Melanitta nigra; Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** More than 76 000 Common Eiders Somateria mollissima, 5000 Long-tailed Ducks Clangula hyemalis, and 5000 Common Scoters Melanitta nigra usually spend the winter in the Baltic Sea of Schleswig-Holstein, FRG. Between November 1986 and April 1992 thirty-one aerial surveys were conducted to document their temporal and spatial abundance in the shallow water areas ( lt 10 m deep). All three species show strong differences in habitat use of offshore shallow waters and coastal shallow waters. Eiders and Long-tailed Ducks leave the offshore shallow waters in the second half of the winter. In contrast, they utilize coastal shallow waters throughout the winter, but especially as staging sites during spring migration. Common Scoters mostly pass through to spend the winter outside the study area; during spring migration they heavily use the offshore shallow waters. Finally the driving factors for the observed distribution patterns are discussed to describe the function of the Baltic Sea of Schleswig-Holstein for seaducks and its relation to other parts of the annual range of seaducks.

**URL:** <Go to ISI>://BCI199598403205

**Reference Type:**  Journal Article

**Record Number:** 865

**Author:** B. M. Braun, P. A. Heinz and G. H. Heinz

**Year:** 1980

**Title:** Herring Gull Larus-Argentatus Predation on Red-Breasted Merganser Mergus-Serrator Ducklings

**Journal:** Wilson Bulletin

**Volume:** 92

**Issue:** 3

**Pages:** 403

**Short Title:** Herring Gull Larus-Argentatus Predation on Red-Breasted Merganser Mergus-Serrator Ducklings

**Accession Number:** BCI:BCI198120013786

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Breeding Season;

**URL:** <Go to ISI>://BCI198120013786

**Reference Type:**  Journal Article

**Record Number:** 1645

**Author:** B. M. Braune

**Year:** 1987

**Title:** Comparison of Total Mercury Levels in Relation to Diet and Molt for Nine Species of Marine Birds

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 16

**Issue:** 2

**Pages:** 217-224

**Short Title:** Comparison of Total Mercury Levels in Relation to Diet and Molt for Nine Species of Marine Birds

**Accession Number:** BCI:BCI198783092358

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** Total mercury (Hg) concentrations were analyzed for tissues of nine species of marine birds from the Quoddy region, New Brunswick, Canada, including cormorants (Phalacrocorax auritus), eiders (Somateria mollissima), guillemots (Cepphus grylle), phalaropes (Phalaropus lobatus), gulls (Larus argentatus, L. philadelphia), terns (Sterna hirundo, S. 4paradisaea) and kittiwakes (Rissa tridactyla). There was a progressive decrease in Hg concentration from the innermost to the outermost primary feather in Bonaparte's gulls, herring gulls, black-legged kittiwakes and Arctic terns. Primaries of common terns and black guillemots showed no significant trend. Cormorants, guillemots and eiders, which feed on benthic organisms, and common terns, which feed predominantly on fish, had the highest tissue Hg levels, whereaas birds such as kittiwakes and phalaropes, which consume mainly pelagic invertebrates, had the lowest Hg levels.

**URL:** <Go to ISI>://BCI198783092358

**Reference Type:**  Journal Article

**Record Number:** 1118

**Author:** B. M. Braune, K. A. Hobson and B. J. Malone

**Year:** 2005

**Title:** Regional differences in collagen stable isotope and tissue trace element profiles in populations of long-tailed duck breeding in the Canadian Arctic

**Journal:** Science of the Total Environment

**Volume:** 346

**Issue:** 1-3

**Pages:** 156-168

**Date:** Jun 15 2005

**Short Title:** Regional differences in collagen stable isotope and tissue trace element profiles in populations of long-tailed duck breeding in the Canadian Arctic

**Accession Number:** BCI:BCI200510170221

**Keywords:** Long-tailed Duck; Clangula hyemalis; Population Delineation; Contaminants; Breeding Season;

**Abstract:** Adult long-tailed ducks (Clangula hyemalis) were collected from nine locations across their breeding grounds in northern Canada and measurements of stable isotopes of carbon (delta C-13), nitrogen (delta N-15) and sulfur (delta S-34) in bone collagen were used to investigate if relative use of freshwater habitats such as the Great Lakes (with expected depleted stable isotope profiles) compared with coastal marine environments (with expected enriched stable isotope foodweb profiles) could explain tissue trace element profiles. Contrary to expectation, all three stable isotopes did not covary in our sample, suggesting that mechanisms other than simple freshwater vs. marine isotopic gradients were involved among populations. All three stable isotopes varied significantly with collection location and both delta N-15 and delta C-13 values varied significantly between sexes suggesting that males exploit either a different food base or occur in different geographic areas than females for at least part of the year. The delta S-34 data, in particular, suggested that many of the birds breeding in the western Canadian Arctic probably overwinter in the Great Lakes along with many of the birds breeding in Hudson Bay. Males at the majority of collection locations had higher concentrations of hepatic Hg (1.1-8 mu g/g dw), Cu (25-40 mu g/g dw), Se (7.3-27 mu g/g dw) and renal Cd (33-129 mu g/g dw) than females. Concentrations of Hg, Cu and Cd were well below toxicological threshold levels found in the literature. However, hepatic Se concentrations in 64% of the females exceeded 10 mu g/g dw and concentrations in 8% of the birds measured exceeded 33 mu g/g dw suggesting levels of potential concern. Crown Copyright (c) 2004 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200510170221

**Reference Type:**  Journal Article

**Record Number:** 62

**Author:** B. M. Braune and B. J. Malone

**Year:** 2006

**Title:** Mercury and selenium in livers of waterfowl harvested in northern Canada

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 50

**Issue:** 2

**Pages:** 284-289

**Date:** Feb 2006

**Short Title:** Mercury and selenium in livers of waterfowl harvested in northern Canada

**Accession Number:** BCI:BCI200600235925

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Total mercury and selenium were measured in livers of green-winged teal, northern pintails, buffleheads, king eiders, Barrow's and common goldeneyes, surf and white-winged scoters collected from 12 sites across northern Canada between 1988 and 1994. Hepatic mercury concentrations were < 1.0 mg.kg(-1) ww in 80% of the birds analyzed. Mercury levels did not vary much among species, with green-winged teal, northern pintails, and white-winged scoters, in particular, generally having quite low levels (< 0.5 mg.kg(-1) ww). Northern pintails had the lowest Se concentrations (< 2.5 mg.kg(-1) ww) overall whereas the higher Se concentrations (10-20 mg.kg(-1) ww) were found in the king eiders and scoters. Selenium showed a much greater variation in concentrations, particularly in the king eiders and scoters. Hepatic mercury concentrations found in the waterfowl analyzed in this study were an order of magnitude lower than toxicological threshold levels found in the literature. However, hepatic selenium concentrations in 33% of the females exceeded 3.0 mg.kg(-1) ww and some king eiders as well as some surf and white-winged scoters contained hepatic selenium concentrations > 10 mg.kg(-1) stop ww suggesting levels of potential concern.

**URL:** <Go to ISI>://BCI200600235925

**Reference Type:**  Journal Article

**Record Number:** 63

**Author:** B. M. Braune and B. J. Malone

**Year:** 2006

**Title:** Organochlorines and mercury in waterfowl harvested in Canada

**Journal:** Environmental Monitoring and Assessment

**Volume:** 114

**Issue:** 1-3

**Pages:** 331-359

**Date:** Mar 2006

**Short Title:** Organochlorines and mercury in waterfowl harvested in Canada

**Accession Number:** BCI:BCI200600391623

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Samples of breast muscle from 32 species of waterfowl collected from 123 sites across Canada were analyzed for chlorobenzenes (CBz), chlordane-related compounds (CHL), hexachlorocyclohexanes (HCH), DDT, mirex, dieldrin, PCBs and mercury. Sigma DDT, Sigma CBz and Sigma PCB were the compounds most frequently found above trace levels. Sigma HCH and Sigma Mirex were detected the least often. Mercury was detected in all of the mergansers, over 50% of dabbling, bay and sea ducks, and in less than 2% of the geese analysed. The highest levels of contaminants were generally found in birds feeding at higher trophic levels such as sea ducks and mergansers. With the exception of a few samples of mergansers and long-tailed ducks from eastern Canada, which contained Sigma PCB concentrations of 1.0 - 2.4 mg kg(-1), Sigma PCB levels were less than 1 mg kg(-1) wet weight. Only one merganser from eastern Canada had a Sigma DDT concentration (2.6 mg kg(-1) ww) which was greater than 1 mg kg(-1) ww. The highest Sigma CHL (0.10 mg kg(-1) ww) was also found in mergansers from eastern Canada. Levels of total mercury in breast muscle were either low (< 1 mg kg(-1) ww) or below detection limits with the exception of a few samples of mergansers from eastern Canada which contained mercury concentrations of 1.0 - 1.5 mg kg(-1) ww. Health Canada determined that the organochlorine and mercury levels found in samples of breast muscle of ducks and geese analysed in this study did not pose a health hazard to human consumers and therefore these waterfowl were safe to eat.

**URL:** <Go to ISI>://BCI200600391623

**Reference Type:**  Journal Article

**Record Number:** 1546

**Author:** A. Brenninkmeijer, E. W. M. Stienen and P. G. M. Van Tienen

**Year:** 1998

**Title:** Breeding success and breeding association of short-eared owls Asio flammeus on Griend

**Journal:** Limosa

**Volume:** 71

**Issue:** 3

**Pages:** 89-94

**Date:** Nov., 1998

**Short Title:** Breeding success and breeding association of short-eared owls Asio flammeus on Griend

**Accession Number:** BCI:BCI199900040926

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** After a series of years (1992, 1994-96) with one single breeding pair of Short-eared Owls Asio flammeus, in 1997, two pairs nested on the island of Griend in the Dutch Wadden Sea. The early pair fledged two chicks. while the late pair had no fledglings. So, as in other years, early pairs had a higher breeding success than late pairs. Pairs were most successful when the hatching period coincided with the spring migration peak of Dunlins Callidris alpina, which in those cases made up more than 50% of the diet of chicks. On Griend, Eiders Somateria mollissima, Mallards Anas platyrhynchos and Common Shelducks Ttadorna tadonia clearly form breeding associations with Short-eared Owls. The density of duck nests in the direct vicinity of nests of Short-eared Owls was about three times as high as in other parts of the dike with the same breeding habitat.

**URL:** <Go to ISI>://BCI199900040926

**Reference Type:**  Journal Article

**Record Number:** 263

**Author:** S. Brodeur, G. H. Mittelhauser, J.-P. L. Savard, P. W. Thomas, R. D. Titman and D. Comeau

**Year:** 2008

**Title:** Capture Methods for Migrating, Wintering and Molting Sea Ducks

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 133-137

**Short Title:** Capture Methods for Migrating, Wintering and Molting Sea Ducks

**Accession Number:** BCI:BCI200900160425

**Keywords:** Harlequin duck; Histrionicus histrionicus; Sea Ducks; Techniques; Nonbreeding Seasons;

**Abstract:** Sea ducks have been captured with mist nets set across breeding streams and in drive traps at sea during the flightless period, but capture of flying birds on staging and wintering coastal areas presents a challenge. Here, we describe a highly successful technique for capturing Harlequin Ducks (Histrionicus histrionicus) at sea, modified from a mistnet set developed to capture Marbled Murrelets (Brachyramphus marmaratus) at sea. While the original method was passive, decoys were added to attract birds and occasionally birds were driven toward the nets using small boats. The capture technique proved to be safe and effective. Three hundred and seventy-eight birds were captured during 28 d of effort and no birds died in the net,; or during handling. The technique has been further modified to capture molting Harlequin Ducks. The technique and its modified version could be easily used to capture other sea ducks on their staging, wintering and molting areas.

**URL:** <Go to ISI>://BCI200900160425

**Reference Type:**  Journal Article

**Record Number:** 264

**Author:** S. Brodeur, J.-P. L. Savard, M. Robert, A. Bourget, G. Fitzgerald and R. D. Titman

**Year:** 2008

**Title:** Abundance and Movements of Harlequin Ducks Breeding on Rivers of the Gaspe Peninsula, Quebec

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 122-129

**Short Title:** Abundance and Movements of Harlequin Ducks Breeding on Rivers of the Gaspe Peninsula, Quebec

**Accession Number:** BCI:BCI200900160423

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Dispersal; Breeding Season;

**Abstract:** In 1996, a Study to locate and describe breeding Sites, estimate pair densities and document brood movements of Harlequin Ducks (Histrionicus histrionicus) was conducted oil selected rivers of the Gaspe Peninsula, Quebec. Pair densities oil the Port-Daniel, Sainte-Anne and Madeleine River systems were low: 0.32, 0.10 and 0.06 pairs/km, respectively. Six VHF radiotransmitters were implanted in nesting females oil the Port-Daniel and Sainte-Anne Rivers. Two Successful nests were located oil cliff ledges and one unsuccessful nest was located oil the ground oil all island. These nests represented the first recorded for the eastern North American Harlequin Duck population. Of the marked hens, two successfully hatched ducklings. One was followed for a month until the female was killed by a Great Horned Owl (Bubo virginianus). The brood used a six kill stretch Of the Sainte-Anne River during that period. The other brood was tracked for two months and concentrated its activities along a three kill stretch of the Port-Daniel River. The female was located in coastal waters near Newport oil 24 August 1996. Two of the marked females from the Port-Daniel River and one from the Sainte-Anne River migrated to Bonaventure Island, where they likely molted. A female captured oil the Port-Daniel River was killed by a Red-tailed Hawk (Buteo jamaicencis) before its nesting status was confirmed. A female from the Port-Daniel River was located at the Sally islands, Maine, oil 5 December 1996. The study confirmed the importance of the Gaspe Peninsula Rivers for breeding Harlequin Ducks and the use of adjacent coastal molting sites by postbreeding females. It also established a link with the major Maine wintering area.

**URL:** <Go to ISI>://BCI200900160423

**Reference Type:**  Journal Article

**Record Number:** 306

**Author:** S. Brodeur, J.-P. L. Savard, M. Robert, P. Laporte, P. Lamothe, R. D. Titman, S. Marchand, S. Gilliland and G. Fitzgerald

**Year:** 2002

**Title:** Harlequin duck Histrionicus histrionicus population structure in eastern Nearctic

**Journal:** Journal of Avian Biology

**Volume:** 33

**Issue:** 2

**Pages:** 127-137

**Date:** June, 2002

**Short Title:** Harlequin duck Histrionicus histrionicus population structure in eastern Nearctic

**Accession Number:** BCI:BCI200200389811

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** During May 1996 and April 1997, eight harlequin duck males were captured and fitted with satellite transmitters while migrating along the shores of Forillon National Park, Quebec, Canada. Another 17 males were equipped with satellite transmitters in river systems of eastern Hudson Bay, Ungava Bay and northern Labrador in June 1997 and 1998. Our objectives were to determine relationships between breeding, moulting and wintering areas, and to determine whether distinct population segments existed among harlequin ducks in eastern North America. All birds tracked from Forillon migrated to Labrador. Moulting areas were identified for six birds. Forillon males were followed to the eastern North American major wintering site in Maine. Males captured in northern Quebec and Labrador migrated to moult and winter in south-western Greenland. Our data suggest the presence of two demographically distinct population segments in eastern North America, perhaps originating from the Pleistocene glacial refuge in western Greenland and south of the Laurentide ice sheet in eastern Canada or United States.

**URL:** <Go to ISI>://BCI200200389811

**Reference Type:**  Journal Article

**Record Number:** 265

**Author:** S. Brodeur, J.-P. L. Savard, M. Robert, R. D. Titman and G. Fitzgerald

**Year:** 2008

**Title:** Failure Time and Fate of Harlequin Ducks Implanted with Satellite Transmitters

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 183-187

**Short Title:** Failure Time and Fate of Harlequin Ducks Implanted with Satellite Transmitters

**Accession Number:** BCI:BCI200900160431

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques;

**Abstract:** The recent use of abdominally-implanted satellite transmitters to track movements of waterfowl is rapidly filling gaps in our understanding of their population structure and affinities. However, premature loss of transmitter signals is of serious concern. Such loss occurred in 21 our of 25 satellite transmitters implanted in Harlequin Ducks (Histrionicus histrionicus) in 1996-4998. The tracking of eight birds captured while migrating along the shores of Forillon National Park, Gaspe Peninsula, Quebec, and the resightings of some of these birds after transmitter failure is detailed. The birds were followed for three to 373 d (mean = 127 d, SD = 82 d) until transmitter signal was lost, but four birds were resighted 493 to 1,474 d after the surgical procedures. These results indicate that premature failure of the transmitter is a common cause of signal loss, even when the battery voltage is adequate at the time of loss. Harlequin Ducks drakes implanted with satellite radios are able to live long after the transmitter has failed.

**URL:** <Go to ISI>://BCI200900160431

**Reference Type:**  Journal Article

**Record Number:** 1619

**Author:** D. Broman, C. Naf, I. Lundbergh and Y. Zebuhr

**Year:** 1990

**Title:** An in Situ Study on the Distribution Biotransformation and Flux of Polycyclic Aromatic Hydrocarbons Pahs in an Aquatic Food Chain Seston Mytilus-Edulis L. And Somateria-Mollissima L. From the Baltic an Ecotoxicological Perspective

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 9

**Issue:** 4

**Pages:** 429-442

**Short Title:** An in Situ Study on the Distribution Biotransformation and Flux of Polycyclic Aromatic Hydrocarbons Pahs in an Aquatic Food Chain Seston Mytilus-Edulis L. And Somateria-Mollissima L. From the Baltic an Ecotoxicological Perspective

**Accession Number:** BCI:BCI199090023264

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** This in situ study is focusing on the distribution, biotransformation and flux of 19 polycyclic aromatic hydrocarbons (PAH19) in the food chain seston-blue mussel (Mytilus edulis L.)-common eider duck (Somateria mollissima L.) as well as the distribution of the gallbladder, liver, adipose tissue and egg of the duck. All samples were collected within the open northern Baltic proper coastal areas. Analyses were carried out by gas chromatography/mass spectrometry with electron impact (GC-MSEI) and negative ion chemical ionization (GC-MSNICI). With a multivariate statistical method (SIMCA) a significant change in the PAH composition through the food chain was found. This change probably depends on an increasing metabolic activity with increasing trophic level, due to a selective biotransformation capacity for different PAHs. Decreasing PAH concentrations with increasing trophic level were found. The PAH concentrations in the different eider duck organs were: gallbladder > adipose tissue .gtoreq. liver. The theoretical inhalation of air-dispersed PAHs was of no significance compared to the exposure from food. The relatively high theoretical PAH flux through the food chain did not result in increasing concentrations with increasing trophic level, which indicates that PAHs are biotransformed quite fast. However, many intermediate metabolites of PAHs have a mutagenic and carcinogenic potential, which makes it important to observe these compounds when assessing ecotoxicological risks.

**URL:** <Go to ISI>://BCI199090023264

**Reference Type:**  Journal Article

**Record Number:** 727

**Author:** L. Bronne

**Year:** 2004

**Title:** The Goosanderer (Mergus merganser) in Wallonia and Brussels Region: yesterday a scarse winter bird, tomorrow a breeding bird?

**Journal:** Aves

**Volume:** 41

**Issue:** 3-4

**Pages:** 121-134

**Date:** 04

**Short Title:** The Goosanderer (Mergus merganser) in Wallonia and Brussels Region: yesterday a scarse winter bird, tomorrow a breeding bird?

**Accession Number:** BCI:BCI200510076269

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** From the middle of the 20th century -and probably already from the middle of the 19th century-till 1985, Goosanders were present each winter in Wallonia or Brussels Region in very small numbers. Only hard winters sent more birds, mainly on River Meuse.From 1985 onwards the number of wintering Goosanders has considerably increased (see Fig. I and 2). Following the influxes of 1986 and 1987, a wintering habit was born on the takes between the Sambre and the Meuse rivers (Barrages de l'Eau d'Heure, Roly and Virelles). 42% to 60% of Goosanders wintering in Wallonia and Brussels Region stayed in this area in mid January until the next influxes occurred in 1996 and 1997. These influxes sent birds in the areas east of River Meuse and thus created I a new wintering habit on River Ourthe and its tributary River Ambleve. For the first time in Belgium the species became a regular wintering bird in the grayling zone. The areas east of River Meuse (mainly Ourthe and Ambleve rivers) are now the main areas occupied by wintering Goosanders. The little influx of 2003 may also have had an impact as a new area for wintering of Goosanders has been found in the southernmost part of Belgium.The summer observations of Goosanders in Wallonia since 1966 are given (Fig. 4 and 5). They become increasingly frequent and the ratio between males and females appears to be the same as in winter.The breeding range of the Goosander is known to be included between 10 degrees C and 20 degrees C July isotherms. Nevertheless breeding does not occur in parts of the area between these isotherms. This non-breeding area is where Europe is most densely populated (see Fig. 6). We suggest that Goosanders were eliminated by man from this area and give some non-exhaustive clues and proofs that breeding occurred in France in the 16th and 17th centuries. Since Goosander legal!, protection became effective in western European countries, not only wintering populations but also their breeding range are increasing. We cannot exclude that a breeding case would occur soon in Wallonia. Two isolated: breeding cases have already been discovered less than 100 km from the Walloon borders.

**URL:** <Go to ISI>://BCI200510076269

**Reference Type:**  Journal Article

**Record Number:** 719

**Author:** L. Bronne and C. Brunin

**Year:** 2006

**Title:** Emergence and development of a winter roost of Goosanders (Mergus merganser) the case of Coo (Belgian Ardennes)

**Journal:** Aves

**Volume:** 43

**Issue:** 1

**Pages:** 1-18

**Short Title:** Emergence and development of a winter roost of Goosanders (Mergus merganser) the case of Coo (Belgian Ardennes)

**Accession Number:** BCI:BCI200600425775

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The lake of Coo was created in the early 1970s in an abandoned loop of the river Ambleve as part of an hydroelectric plant. Coo is now used as a winter roost by Goosanders. The often poor visibility conditions and the late arrivals of some of the birds allow only 37 out of the 98 evening counts made to be considered as good condition counts. Out of these, 26 counts were carried out during the winters of 2002-03 and 2003-04. We derived two models (one for the brownheads, one for the drakes) from these data, using a regression based on least squares method. We used winter day number (J and J(2)) and a temperature function (f) as variables. A large number of different temperature functions were tested. In order to select the most appropriate one we defined the "extended standard error of estimate", that takes into account not only the differences between the regression curve and the samples used in the regression but also the differences between the curve and the bad condition counts that are above the curve. As a matter of fact, these counts have a constant feature: they are always underestimated, and should then be under the curve.In the past Goosanders were only short-staying and solitary visitors at Coo. From February, 19th, 1996 groups have been regularly seen on the lake. The recorded numbers of brownheads fit very well the model in all subsequent winters (see Fig. 2). For the drakes, the model provides too high numbers in the winters before 2001-2002 and too low numbers after 2003-2004. That model can be corrected by a multiplicative coefficient (Fig. 7) that can be written as a linear function of year. Fig. 3 shows the corrected model along with the counts.We thus propose an explanation for the emergence and development of the roost. The rigorous, month of February in 1996 forced Goosanders to leave their traditional wintering areas located northeast of Coo. Some birds discovered a new set of sites, including Coo, between which they move during the winter according to local weather conditions. We call this set of sites the "complex of Coo". On the next autumn when they had to "decide" for a wintering area, Goosanders preferred this complex over the one they used before February 1996, possibly because of overcrowding of the later. As the water level of the lake of Coo is constantly varying, it never freezes. Thus temperatures cold enough to force Goosanders to leave the lake for southwestem areas are unlikely to ever occur. Therefore Coo appears as the last remaining site at the end of the complex. This explains why the number of Goosanders only rises with lowering temperature. In the first winter, almost only brownheads (full-grown females and first-year males and females) were present. On the next year, the previous winter first-year males came back and could then be identified as drakes. And so on with new first-year birds joining the complex in similar proportion each year. This can explain the linearly increasing number of drakes (see Fig. 4).We feel confident that this scheme of wintering habit development could be exported to other wintering areas. Unfortunately other Goosander counts in Belgium have so far only been carried out during the day. A look at observations made by day on the graphs is enough to convince oneself of the poor significance of these data.

**URL:** <Go to ISI>://BCI200600425775

**Reference Type:**  Journal Article

**Record Number:** 1816

**Author:** R. W. Brook, K. F. Abraham, K. R. Middel and R. K. Ross

**Year:** 2012

**Title:** Abundance and Habitat Selection of Breeding Scoters (Melanitta spp.) in Ontario's Hudson Bay Lowlands

**Journal:** Canadian Field-Naturalist

**Volume:** 126

**Issue:** 1

**Pages:** 20-27

**Date:** Jan-Mar

**Short Title:** Abundance and Habitat Selection of Breeding Scoters (Melanitta spp.) in Ontario's Hudson Bay Lowlands

**ISSN:** 0008-3550

**Accession Number:** WOS:000310094200004

**Keywords:** Surf Scoter; white-winged Scoter; Black Scoter; Melanitta fusca; Melanitta perspicillata; Melanitta nigra; habitat; Abundance, Distribution, and Trends; Breeding Season

**Notes:** Times Cited: 1

Brook, Rodney W. Abraham, Kenneth F. Middel, Kevin R. Ross, R. Kenyon

1

**URL:** <Go to ISI>://WOS:000310094200004

**Reference Type:**  Journal Article

**Record Number:** 1193

**Author:** C. S. Brown, J. Luebbert, D. Mulcahy, J. Schamber and D. H. Rosenberg

**Year:** 2006

**Title:** Blood lead levels of wild Steller's eiders (Polysticta stelleri) and black scoters (Melanitta nigra) in Alaska using a portable blood lead analyzer

**Journal:** Journal of Zoo and Wildlife Medicine

**Volume:** 37

**Issue:** 3

**Pages:** 361-365

**Date:** Sep 2006

**Short Title:** Blood lead levels of wild Steller's eiders (Polysticta stelleri) and black scoters (Melanitta nigra) in Alaska using a portable blood lead analyzer

**Accession Number:** BCI:BCI200600562879

**Keywords:** Black Scoter; Melanitta nigra; Steller's eider; Polysticta stelleri; Contaminants; Techniques;

**Abstract:** Sea duck populations are declining in Alaska. The reasons for the decline are not known; environmental lead exposure is one suspected cause. Thirty wild Steller's eider ducks (Polysticta stelleri) and 40 wild black scoter ducks (Melanitta nigra) were tested for blood lead levels using a portable blood lead analyzer (LeadCare((R)); ESA, Inc., Chelmsford, Massachusetts 01824, USA). Sixty-seven and one-tenth percent of the sea ducks had undetectable blood lead levels, 30.0% had values indicating normal or background lead exposure, and 2.9% had values indicating lead exposure. None of the birds had values indicating lead toxicity, and no birds demonstrated clinical signs of toxicity. Birds in areas with higher human population density had higher blood lead levels than those in less densely populated areas. This is the first time a portable blood lead analyzer has been utilized with sea ducks in a field setting. Because it provides immediate results, it is valuable as a screening tool for investigators carrying out surgical procedures on birds in the field as well as establishing baseline blood lead data on sea ducks. Lead exposure does occur in wild sea ducks, and the study indicates that additional research is needed in order to determine the role environmental lead plays in declining sea duck populations.

**URL:** <Go to ISI>://BCI200600562879

**Reference Type:**  Journal Article

**Record Number:** 681

**Author:** M. K. Brown and G. R. Parsons

**Year:** 1979

**Title:** Waterfowl Production on Beaver Flowages in a Part of Northern New-York USA

**Journal:** New York Fish and Game Journal

**Volume:** 26

**Issue:** 2

**Pages:** 142-153

**Short Title:** Waterfowl Production on Beaver Flowages in a Part of Northern New-York USA

**Accession Number:** BCI:BCI198069070759

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Abundance, Distribution, and Trends; Habitat; Breeding Season;

**Abstract:** Waterfowl were observed on 3 occasions at least a week apart during late May, June and early July in 1973 on selected beaver flowages in 4 ecological sections (Taconic, Central Adirondack, Adirondack Foothills and Mohawk) in Region 5S comprising Fulton, Hamilton, Saratoga, Warren and Washington Counties in New York. The flowages were classified as new active, old active or abandoned. The principal species were wood duck, black duck, hooded merganser and mallard. Frequencies in terms of number per flowage and number per acre for adults, broods and ducklings were derived as indices of waterfowl use and production. New active flowages were used to a greater degree than the other classifications. The contribution of beaver flowages to waterfowl production was greatest in the Taconic section. The use of such flowages may be sufficient in all sections of Region 5S to warrant a management program for beaver that would in turn benefit waterfowl. The relationship of such a program to beaver damage problems is also discussed.

**URL:** <Go to ISI>://BCI198069070759

**Reference Type:**  Journal Article

**Record Number:** 1016

**Author:** P. W. Brown and M. A. Brown

**Year:** 1981

**Title:** Nesting Biology of the White-Winged Scoter Melanitta-Fusca-Deglandi

**Journal:** Journal of Wildlife Management

**Volume:** 45

**Issue:** 1

**Pages:** 38-45

**Short Title:** Nesting Biology of the White-Winged Scoter Melanitta-Fusca-Deglandi

**Accession Number:** BCI:BCI198171079787

**Keywords:** White-winged Scoter; Melanitta fusca; Productivity; Breeding Season;

**Abstract:** Nesting biology and productivity of white-winged scoters (M. fusca deglandi) were studied on islands in Redberry Lake, Saskatchewan, and Jessie Lake, Alberta [Canada], in 1975-1976. Males constituted 60% of the prenesting populations. Nest initiation peaked between June 8 and 21, and most nests were under dense shrubs at least 50 m from the nearest shoreline. The mean laying rate for 8 females was 1 egg every 34.4 h, and mean clutch size (146) was 9.17. The average incubation period for 22 clutches was 27.7 days, and 80% of all clutches hatched between July 17 and 31. Nesting success averaged 72%. Aggregate broods formed in late July and most hens deserted their broods between Aug. 10 and 23. Small, mixed-age broods were common after Aug. 21, and total number of ducklings declined markedly thereafter. Productivity was less than 1.0 ducklings per pair on both lakes in 1976.

**URL:** <Go to ISI>://BCI198171079787

**Reference Type:**  Journal Article

**Record Number:** 1013

**Author:** P. W. Brown and L. H. Fredrickson

**Year:** 1983

**Title:** Growth and moult progression of White-winged Scoter ducklings

**Journal:** Wildfowl

**Volume:** 34

**Pages:** 115-119

**Short Title:** Growth and moult progression of White-winged Scoter ducklings

**Accession Number:** BCI:BCI201000334911

**Keywords:** White-winged Scoter; Melanitta fusca; Physiology; Breeding Season;

**URL:** <Go to ISI>://BCI201000334911

**Reference Type:**  Journal Article

**Record Number:** 1010

**Author:** P. W. Brown and L. H. Fredrickson

**Year:** 1986

**Title:** Food Habits of Breeding White-Winged Scoters

**Journal:** Canadian Journal of Zoology

**Volume:** 64

**Issue:** 8

**Pages:** 1652-1654

**Short Title:** Food Habits of Breeding White-Winged Scoters

**Accession Number:** BCI:BCI198783042134

**Keywords:** White-winged Scoter; Melanitta fusca; Trophic Interactions; Breeding Season;

**Abstract:** Twenty-four adult and 10 duckling white-winged scoters were collected on four lakes in central Saskatchewan during the summers of 1977-1980. Hyalella azteca was the most important scoter food and made up 97% (aggregate percent dry weight) of the diet for 13 breeding females, 84% for 11 breeding males, and 100% for 10 ducklings. Hyalella azteca was consistently the most abundant food organism present in Eckman dredge samples taken at scoter feeding sites. Adults consumed H. azteca that were significantly larger than those consumed by ducklings. Both adults and ducklings fed primarily by diving at sites 1-3 m deep, but adults fed at deeper sites than ducklings. Timing of reproduction in white-winged scoters seems to be closely timed with increases in the biomass of abundance of Hyalella and possibly possibly other invertebrate foods.

**URL:** <Go to ISI>://BCI198783042134

**Reference Type:**  Journal Article

**Record Number:** 1006

**Author:** P. W. Brown and L. H. Fredrickson

**Year:** 1987

**Title:** Time Budget and Incubation Behavior of Breeding White-Winged Scoters

**Journal:** Wilson Bulletin

**Volume:** 99

**Issue:** 1

**Pages:** 50-55

**Short Title:** Time Budget and Incubation Behavior of Breeding White-Winged Scoters

**Accession Number:** BCI:BCI198783106050

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Breeding Season;

**Abstract:** We studied the behaviour and incubation constancy of breeding White-winged Scoters (Melanitta fusca deglandi) at Redberry Lake, Saskatchewan [Canada], during 1977-1980. Females spent 59.6% of the their time feeding during the prelaying period, 61.2% during laying, 60.7% during incubation recesses, and 37% during brood rearing. Prelaying and laying females consistently spent more time feeding than did their mates. Incubation constancy declined from 89.3% of daylight hours during the first third of incubation to 69.3% during the last third. Near the end of incubation, females were off the nest most often between 11:00 and 17:00. White-ringed Scoter females probably relay mainly on resources at the nesting area to meet the needs of reproduction.

**URL:** <Go to ISI>://BCI198783106050

**Reference Type:**  Journal Article

**Record Number:** 1007

**Author:** P. W. Brown and L. H. Fredrickson

**Year:** 1987

**Title:** Body and Organ Weights and Carcass Composition of Breeding Female White-Winged Scoters

**Journal:** Wildfowl

**Volume:** 38

**Pages:** 103-107

**Short Title:** Body and Organ Weights and Carcass Composition of Breeding Female White-Winged Scoters

**Accession Number:** BCI:BCI198834046841

**Keywords:** White-winged Scoter; Melanitta fusca; Energetics and Nutrition; Physiology; Breeding Season;

**URL:** <Go to ISI>://BCI198834046841

**Reference Type:**  Journal Article

**Record Number:** 1003

**Author:** P. W. Brown and L. H. Fredrickson

**Year:** 1989

**Title:** White-Winged Scoter Melanitta-Fusca Populations and Nesting on Redberry Lake Saskatchewan Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 103

**Issue:** 2

**Pages:** 240-247

**Short Title:** White-Winged Scoter Melanitta-Fusca Populations and Nesting on Redberry Lake Saskatchewan Canada

**Accession Number:** BCI:BCI199090085042

**Keywords:** White-winged Scoter; Melanitta fusca; Productivity; Survival; Breeding Season;

**Abstract:** We studied the nesting ecology of White-winged Scoters (Melanitta fusca) on Redberry Lake, Sakatchewan (52.degree. 40'N, 107.degree. 10'W) in the summer of 1977 to 1981. Most scoters arrived in early May about 30 days before the period of peak nest initiation. About 44% of the female scoters observed soon after first arrival were paired, but 96% were paired by 31 May. Peak numbers of pairs varied little among years and ranged from 389 to 423 scoter pairs during the third week of May each year. About 78% of the peak population left the lake by 31 July when broods were common. Nest success averaged 72.3% for all years and the mean date of hatch was 23 July. Nests with complete concealment had higher sucess rates than nests located in sparser cover (P < 0.025). Duckling mortality was higher during the first week after hatch, but numbers continued to decline during early and mid-August. Annual productivity never exceeded 0.5 duckling/breeding pair.

**URL:** <Go to ISI>://BCI199090085042

**Reference Type:**  Journal Article

**Record Number:** 1014

**Author:** P. W. Brown and S. Houston

**Year:** 1982

**Title:** Longevity and Age of Maturity of White-Winged Scoters Melanitta-Fusca-Deglandi

**Journal:** Journal of Field Ornithology

**Volume:** 53

**Issue:** 1

**Pages:** 53-54

**Short Title:** Longevity and Age of Maturity of White-Winged Scoters Melanitta-Fusca-Deglandi

**Accession Number:** BCI:BCI198223053664

**Keywords:** White-winged Scoter; Melanitta fusca; Survival; Breeding Season;

**URL:** <Go to ISI>://BCI198223053664

**Reference Type:**  Journal Article

**Record Number:** 2339

**Author:** P. W. a. L. H. F. Brown

**Year:** 1997

**Title:** White-winged Scoter (Melanitta fusca)

**Journal:** The Birds of North America

**Short Title:** White-winged Scoter (Melanitta fusca)

**Keywords:** White-winged Scoter; Melanitta fusca

**Reference Type:**  Journal Article

**Record Number:** 208

**Author:** R. G. B. Brown, D. I. Gillespie, A. R. Lock, P. A. Pearce and G. H. Watson

**Year:** 1973

**Title:** Bird Mortality from Oil Slicks Off Eastern Canada February to April 1970

**Journal:** Canadian Field-Naturalist

**Volume:** 87

**Issue:** 3

**Pages:** 225-234

**Short Title:** Bird Mortality from Oil Slicks Off Eastern Canada February to April 1970

**Accession Number:** BCI:BCI197457059859

**Keywords:** Sea Ducks - General; Contaminants; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197457059859

**Reference Type:**  Journal Article

**Record Number:** 1618

**Author:** B. Brunstrom, D. Broman and C. Naf

**Year:** 1990

**Title:** Embryotoxicity of Polycyclic Aromatic Hydrocarbons Pahs in Three Domestic Avian Species and of Pahs and Coplanar Polychlorinated Biphenyls Pcbs in the Common Eider

**Journal:** Environmental Pollution

**Volume:** 67

**Issue:** 2

**Pages:** 133-144

**Short Title:** Embryotoxicity of Polycyclic Aromatic Hydrocarbons Pahs in Three Domestic Avian Species and of Pahs and Coplanar Polychlorinated Biphenyls Pcbs in the Common Eider

**Accession Number:** BCI:BCI199191045480

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** The embryotoxicity of an artificial mixture of 19 polycyclic aromatic hydrocarbons (PAHs) was tested by injection into the yolk sacs of eggs of four avian species: chicken Gallus domesticus, turkey Meleagris gallopavo, domestic duck Anas platyrhynchos and common eider Somateria mollisima. A dose of 2.0 mg kg egg-1 of the PAH mixture increased the mortality among the embryos of all four species. In the domestic duck, but not in the three other species, there was a significantly increased embryonic mortality at a dose of 0.2 mg kg-1 of this mixture. All 18 individual compounds in the mixture were tested for embryotoxicity in the chicken. The compound most toxic to chick embryos was benzo [k]fluoranthene. This substance also proved to be highly embroytoxic in the three other species. Previous studies have shown coplanar polychlorinated biphenyls (PCBs) to be much more embryotoxic in the chicken than in other avian species studies. In accordance with this, eider duck embryos proved to be considerably less sensitive to 3,3'4,4'-tetrachlorobiphenyl and 3,3',4,4',5-pentachlorobiphenyl than was previously found for chick embryos. For PAHs, however, chick embryos did not have a higher sensitivity than the other species tested.

**URL:** <Go to ISI>://BCI199191045480

**Reference Type:**  Journal Article

**Record Number:** 2252

**Author:** T. Buchanan, R. W. Brook, M. P. Purvis and J. C. Davies

**Year:** 2015

**Title:** Quantifying Moonlight and Wind Effects on Flighted Waterfowl Capture Success During Night-Lighting

**Journal:** Wildlife Society Bulletin

**Volume:** 39

**Issue:** 1

**Pages:** 169-173

**Date:** Mar

**Short Title:** Quantifying Moonlight and Wind Effects on Flighted Waterfowl Capture Success During Night-Lighting

**ISSN:** 1938-5463

**DOI:** 10.1002/wsb.514

**Accession Number:** WOS:000352095300020

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Techniques

**Abstract:** Night-lighting is a common technique used to capture waterfowl, upland birds, and waterbirds. The method involves using bright artificial light and a steady loud noise to startle and confuse birds, allowing close approach and capture by hand or with a long-handled dip-net. Many researchers using this technique have noticed that moon phase (or relative brightness) and weather conditions can affect capture rates. Using 16 years (1996-2011) of night-lighting capture data collected during the Ontario Waterfowl Airboat Banding Program, Canada, the effects of moon phase and wind speed on capture rates for flighted waterfowl were quantified. Increasing moon brightness had a negative effect on capture rates for all species analyzed (mallard [Anas platyrhynchos], wood duck [Aix sponsa], blue-winged teal [Anas discors], green-winged teal [Anas crecca], ring-necked duck [Aythya collaris], hooded merganser [Lophodytes cucullatus], and American black duck [Anas rubripes]), with an increasing rate of decline in capture rates when the moon was >75% full (i.e., a bright night). Attempting waterfowl capture when the moon was >75% full led to 2-fold cost increase per bird captured over the average cost per bird captured. Increasing wind speed was positively correlated with capture rate for some species, but had no significant effect on capture rate for most species analyzed. Night-lighting capture of flighted waterfowl should be planned primarily during dark to moderately dark nights to maximize capture efficiency and reduce costs. (C) 2014 The Wildlife Society.

**Notes:** Buchanan, Tore Brook, Rodney W. Purvis, Matthew P. Davies, J. Chris

**URL:** <Go to ISI>://WOS:000352095300020

**Reference Type:**  Journal Article

**Record Number:** 141

**Author:** S. T. Buckton and S. J. Ormerod

**Year:** 1997

**Title:** Use of a new standardized habitat survey for assessing the habitat preferences and distribution of upland river birds

**Journal:** Bird Study

**Volume:** 44

**Issue:** 3

**Pages:** 327-337

**Date:** Nov., 1997

**Short Title:** Use of a new standardized habitat survey for assessing the habitat preferences and distribution of upland river birds

**Accession Number:** BCI:BCI199800030741

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Habitat; Breeding Season;

**Abstract:** Assessments of the habitat requirements of river birds are central to understanding their distribution and abundance. Here, we make an initial appraisal of the suitability for this purpose of a new standardized method of river habitat survey (RHS) developed by the Environment Agency (EA). We carried out RHS and recorded the presence of five common birds along 74 upland Welsh streams. RHS provided significant and meaningful correlates with bird distribution: Dippers Cinclus cinclus and Grey Wagtails Motacilla cinerea showed a significant preference for sites with tree-related features, while Common Sandpiper Actitis hypoleucos preferred streams with few trees but with more rough pasture and riparian wetlands. Dippers also showed a significant preference for streams with bridges and walls, often used as nesting or roosting sites. Mallards Anas platyrhynchos and Goosanders Mergus merganser both preferred sites with smoother flows, finer substrates and more emergent vegetation. For all species, multiple discriminant analysis (MDA) on RHS data predicted presence with a success rate of 50-81%. The distribution of Grey Wagtails and Dippers was best predicted by RHS variables from the channel, flow, bank and riparian zone, Common Sandpiper and Goosander distribution was predicted best by channel and flow characters, and that of Mallard by channel features alone. In three species (Dipper, Goosander and Mallard) stream chemistry (pH) improved predictive ability. We conclude that RHS, although designed initially for more general purposes, is a potentially important tool for describing and predicting river bird distribution. Future developments should include assessments of which RHS data best predict bird distribution across a wider array of river types and species. Incorporating other important influences on distribution, such as water chemistry, should both enhance predictive ability and allow further development to the role of river birds as ecological indicators.

**URL:** <Go to ISI>://BCI199800030741

**Reference Type:**  Journal Article

**Record Number:** 1817

**Author:** S. M. Budge, S. W. Wang, T. E. Hollmen and M. J. Wooller

**Year:** 2011

**Title:** Carbon isotopic fractionation in eider adipose tissue varies with fatty acid structure: implications for trophic studies

**Journal:** Journal of Experimental Biology

**Volume:** 214

**Issue:** 22

**Pages:** 3790-3800

**Date:** Nov

**Short Title:** Carbon isotopic fractionation in eider adipose tissue varies with fatty acid structure: implications for trophic studies

**ISSN:** 0022-0949

**DOI:** 10.1242/jeb.057596

**Accession Number:** WOS:000296581500015

**Keywords:** Spectacled Eider; somateria fischeri; Trophic Interactions; Techniques

**Notes:** Times Cited: 3

Budge, Suzanne M. Wang, Shiway W. Hollmen, Tuula E. Wooller, Matthew J.

3

**URL:** <Go to ISI>://WOS:000296581500015

**Reference Type:**  Journal Article

**Record Number:** 1818

**Author:** B. A. D. Bueno, M. R. Nunes and C. Melo

**Year:** 2012

**Title:** Bills Favor Mining and Threaten Conservation of Brazilian Merganser (Mergus octosetaceus) at Serra da Canastra National Park, Minas Gerais, Brazil

**Journal:** Natureza & Conservacao

**Volume:** 10

**Issue:** 1

**Pages:** 64-71

**Date:** Jul

**Short Title:** Bills Favor Mining and Threaten Conservation of Brazilian Merganser (Mergus octosetaceus) at Serra da Canastra National Park, Minas Gerais, Brazil

**ISSN:** 1679-0073

**DOI:** 10.4322/natcon.2012.011

**Accession Number:** WOS:000307628900011

**Keywords:** Brazilian Merganser; Mergus octosetaceus; Conservation

**Notes:** Times Cited: 1

de Andrade Bueno, Bruno Arantes Nunes, Marcela Riccomi Melo, Celine

Melo, Celine/A-8874-2013

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**URL:** <Go to ISI>://WOS:000307628900011

**Reference Type:**  Journal Article

**Record Number:** 1223

**Author:** P. F. Bunyard

**Year:** 1927

**Title:** The nesting of Steller's Eider in Norway

**Journal:** Ibis

**Volume:** 3

**Issue:** (1)

**Pages:** 177-178

**Short Title:** The nesting of Steller's Eider in Norway

**Accession Number:** BCI:BCI19300400006576

**Keywords:** Steller's eider; Polysticta stelleri; Breeding Season;

**Abstract:** Letter regarding a recent record. || ABSTRACT AUTHORS: W. W. Bowen

**URL:** <Go to ISI>://BCI19300400006576

**Reference Type:**  Journal Article

**Record Number:** 824

**Author:** M. T. Bur, M. A. Stapanian, G. Bernhardt and M. W. Turner

**Year:** 2008

**Title:** Fall diets of red-breasted Merganser (Mergus serrator) and walleye (Sander vitreus) in Sandusky Bay and adjacent waters of Western Lake Erie

**Journal:** American Midland Naturalist

**Volume:** 159

**Issue:** 1

**Pages:** 147-161

**Date:** Jan 2008

**Short Title:** Fall diets of red-breasted Merganser (Mergus serrator) and walleye (Sander vitreus) in Sandusky Bay and adjacent waters of Western Lake Erie

**Accession Number:** BCI:BCI200800194321

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Although published studies indicate the contrary, there is concern among many sport anglers that migrating red-breasted mergansers (Mergus serrator) and other waterbirds pose a competitive threat to sport fish species such as walleye (Sander vitreus) in Lake Eric. We quantified the diet of autumn-migrant mergansers and walleye during 1998-2000 in Sandusky Bay and adjacent waters of western Lake Erie. We hypothesized that the diets of both predators would be similar in species composition, but because of different foraging ecologies their diets would differ markedly in size of prey consumed. In addition to predator samples, we used trawl data from the same general area as an index of prey availability. We found that mergansers fed almost exclusively on fish (nine species). Gizzard shad (Dorosoma cepedianum), emerald shiner (Notrapis atherinoides) and round goby (Neogobius melanostomus) were consumed in the greatest numbers, most frequently and comprised the greatest biomass. Walleye fed exclusively on fish: gizzard shad, alewife (Alosa psuedoharengus) and emerald shiner were consumed in the greatest numbers, most frequently and comprised the greatest biomass. Diet overlap between mergansers and walleye was 67% by weight and 66% by species frequency. Mean total lengths of gizzard shad, emerald shiner and round goby found in walleye stomachs exceeded those captured in trawls by 47%, on average. Mean total lengths of gizzard shad, emerald shiner and round goby were greater in walleye stomachs than in merganser stomachs. Mean total lengths of emerald shiner and round goby were less in merganser stomachs than in trawls. Our results suggest that although the diets of walleye and mergansers overlapped considerably, mergansers generally consumed smaller fish than walleye. Given the abundance and diversity of prey species available, and the transient nature of mergansers on Lake Eric during migration, we conclude that competition for food between these species is minimal.

**URL:** <Go to ISI>://BCI200800194321

**Reference Type:**  Journal Article

**Record Number:** 28

**Author:** A. E. Burger and S. A. Shaffer

**Year:** 2008

**Title:** Application of tracking and data-logging technology in research and conservation of seabirds

**Journal:** Auk

**Volume:** 125

**Issue:** 2

**Pages:** 253-264

**Date:** Apr 2008

**Short Title:** Application of tracking and data-logging technology in research and conservation of seabirds

**Accession Number:** BCI:BCI200800567403

**Keywords:** Sea Ducks - General; Techniques;

**URL:** <Go to ISI>://BCI200800567403

**Reference Type:**  Journal Article

**Record Number:** 1379

**Author:** J. Burger and M. Gochfeld

**Year:** 2007

**Title:** Metals and radionuclides in birds and eggs from Amchitka and Kiska Islands in the Bering Sea/Pacific Ocean ecosystem

**Journal:** Environmental Monitoring and Assessment

**Volume:** 127

**Issue:** 1-3

**Pages:** 105-117

**Date:** Apr 2007

**Short Title:** Metals and radionuclides in birds and eggs from Amchitka and Kiska Islands in the Bering Sea/Pacific Ocean ecosystem

**Accession Number:** BCI:BCI200700235108

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Metals and radionuclide levels in marine birds of the Aleutians are of interest because they are part of subsistence diets of the Aleut people, and can also serve as indicators of marine pollution. We examined geographic and species-specific variations in concentrations of radionuclides in birds and their eggs from Amchitka, the site of underground nuclear tests from 1965 to 1971, and Kiska Islands (a reference site) in the Aleutians, and the levels of lead, mercury and cadmium in eggs. In 2004 we collected common eiders (Somateria mollissima), tufted puffins (Fratercula cirrhata), pigeon guillemot (Cepphus columba) and glaucous-winged gulls (Larus glaucescens) from Amchitka and Kiska, and eggs from eiders and gulls from the two island. We also collected one runt bald eagle (Haliaeetus leucocephalus) chick from both Amchitka and Kiska Islands. For most species, the levels of radionuclide isotopes were below the minimum detectable activity levels (MDA). Out of 74 cesium-137 analyses, only one composite (gulls) was above the MDA, and out of 14 composites tested for plutonium (Pu-239, 240), only one exceeded the MDA (a guillemots). Three composites out of 14 tested had detectable uranium-238. In all cases, the levels were low and close to the MDAs, and were below those reported for other seabirds. There were significant interspecific differences in metal levels in eggs: gulls had significantly higher levels of cadmium and mercury than the eiders, and eiders had higher levels of lead than gulls. There were few significant differences as a function of island, but eiders had significantly higher levels of cadmium in eggs from Kiska, and gulls had significantly higher levels of mercury on Kiska. The levels of cadmium and mercury in eggs of eiders and gulls from this study were above the median for cadmium and mercury from studies in the literature. The levels of mercury in eggs are within the range known to affect avian predators, but seabirds seem less vulnerable to mercury than other birds. However, the levels of mercury are within the action levels for humans, suggesting some cause for concern if subsistence Aleuts eat a large quantity of eggs.

**URL:** <Go to ISI>://BCI200700235108

**Reference Type:**  Journal Article

**Record Number:** 1336

**Author:** J. Burger and M. Gochfeld

**Year:** 2009

**Title:** Mercury and Other Metals in Feathers of Common Eider (Somateria mollissima) and Tufted Puffin (Fratercula cirrhata) from the Aleutian Chain of Alaska

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 56

**Issue:** 3

**Pages:** 596-606

**Date:** Apr 2009

**Short Title:** Mercury and Other Metals in Feathers of Common Eider (Somateria mollissima) and Tufted Puffin (Fratercula cirrhata) from the Aleutian Chain of Alaska

**Accession Number:** BCI:BCI200900287618

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** We analyzed arsenic, cadmium, chromium, lead, manganese, mercury, and selenium in the feathers of common eiders (Somateria mollissima) and tufted puffins (Fratercula cirrhata) from Amchitka and Kiska islands (Aleutians). Between species, puffins had 10 times higher chromium (arithmetic mean = 1820 ppb), 7.5 times higher selenium (mean = 6600 ppb), and 3 times higher mercury (mean = 2540 ppb) than eiders. Eiders had significantly higher levels of manganese than puffins. Puffins are higher on the food chain than eiders, which is reflected in their generally higher levels of metals in their feathers. Interisland differences were generally small, and there were few significant differences as a function of the three nuclear test locations on Amchitka. The only sex-related difference was that female puffins had higher mercury than males (arithmetic mean of 3060 ppb vs. 2270 ppb). Mean levels of metals in the feathers of puffins and eiders from the Aleutians were low compared with comparable studies elsewhere, and the relatively low levels of metals do not indicate the potential for adverse behavioral or reproductive effects in the birds themselves, nor pose concern for other consumers, including subsistence hunters.

**URL:** <Go to ISI>://BCI200900287618

**Reference Type:**  Journal Article

**Record Number:** 1337

**Author:** J. Burger and M. Gochfeld

**Year:** 2009

**Title:** Comparison of arsenic, cadmium, chromium, lead, manganese, mercury and selenium in feathers in bald eagle (Haliaeetus leucocephalus), and comparison with common eider (Somateria mollissima), glaucous-winged gull (Larus glaucescens), pigeon guillemot (Cepphus columba), and tufted puffin (Fratercula cirrhata) from the Aleutian Chain of Alaska

**Journal:** Environmental Monitoring and Assessment

**Volume:** 152

**Issue:** 1-4

**Pages:** 357-367

**Date:** May 2009

**Short Title:** Comparison of arsenic, cadmium, chromium, lead, manganese, mercury and selenium in feathers in bald eagle (Haliaeetus leucocephalus), and comparison with common eider (Somateria mollissima), glaucous-winged gull (Larus glaucescens), pigeon guillemot (Cepphus columba), and tufted puffin (Fratercula cirrhata) from the Aleutian Chain of Alaska

**Accession Number:** BCI:BCI200900328276

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** There is an abundance of field data for levels of metals from a range of places, but relatively few from the North Pacific Ocean and Bering Sea. In this paper we examine the levels of arsenic, cadmium, chromium, lead, manganese, mercury and selenium in feathers from common eiders (Somateria mollissima), glaucous-winged gulls (Larus glaucescens), pigeon guillemots (Cepphus columba), tufted puffins (Fratercula cirrhata) and bald eagles (Haliaeetus leucocephalus) from the Aleutian Chain of Alaska. Our primary objective was to test the hypothesis that there are no trophic levels relationships for arsenic, cadmium, chromium, lead, manganese, mercury and selenium among these five species of birds breeding in the marine environment of the Aleutians. There were significant interspecific differences in all metal levels. As predicted bald eagles had the highest levels of arsenic, chromium, lead, and manganese, but puffins had the highest levels of selenium, and pigeon guillemot had higher levels of mercury than eagles (although the differences were not significant). Common eiders, at the lowest trophic level had the lowest levels of some metals (chromium, mercury and selenium). However, eiders had higher levels than all other species (except eagles) for arsenic, cadmium, lead, and manganese. Levels of lead were higher in breast than in wing feathers of bald eagles. Except for lead, there were no significant differences in metal levels in feathers of bald eagles nesting on Adak and Amchitka Island; lead was higher on Adak than Amchitka. Eagle chicks tended to have lower levels of manganese than older eagles.

**URL:** <Go to ISI>://BCI200900328276

**Reference Type:**  Journal Article

**Record Number:** 1352

**Author:** J. Burger, M. Gochfeld, C. Jeitner, D. Snigaroff, R. Snigaroff, T. Stamm and C. Volz

**Year:** 2008

**Title:** Assessment of metals in down feathers of female common eiders and their eggs from the Aleutians: arsenic, cadmium, chromium, lead, manganese, mercury, and selenium

**Journal:** Environmental Monitoring and Assessment

**Volume:** 143

**Issue:** 1-3

**Pages:** 247-256

**Date:** Aug 2008

**Short Title:** Assessment of metals in down feathers of female common eiders and their eggs from the Aleutians: arsenic, cadmium, chromium, lead, manganese, mercury, and selenium

**Accession Number:** BCI:BCI200800625294

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Concentrations of arsenic, cadmium, chromium, lead, manganese, mercury and selenium were examined in the down feathers and eggs of female common eiders (Somateria mollissima) from Amchitka and Kiska Islands in the Aleutian Chain of Alaska to determine whether there were (1) differences between levels in feathers and eggs, (2) differences between the two islands, (3) positive correlations between metal levels in females and their eggs, and (4) whether there was more variation within or among clutches. Mean levels in eggs (dry weight) were as follows: arsenic (769 ppb, ng/g), cadmium (1.49 ppb), chromium (414 ppb), lead (306 ppb), manganese (1,470 ppb), mercury (431 ppb) and selenium (1,730 ppb). Levels of arsenic were higher in eggs, while chromium, lead, manganese, and mercury were higher in feathers; there were no differences for selenium. There were no significant interisland differences in female feather levels, except for manganese (eider feathers from Amchitka were four times higher than feathers from Kiska). Levels of manganese in eggs were also higher from Amchitka than Kiska, and eider eggs from Kiska had significantly higher levels of arsenic, but lower levels of selenium. There were no significant correlations between the levels of any metals in down feathers of females and in their eggs. The levels of mercury in eggs were below ecological benchmark levels, and were below human health risk levels. However, Aleuts can seasonally consume several meals of bird eggs a week, suggesting cause for concern for sensitive (pregnant) women.

**URL:** <Go to ISI>://BCI200800625294

**Reference Type:**  Journal Article

**Record Number:** 1378

**Author:** J. Burger, M. Gochfeld, D. Kosson, C. W. Powers, B. Friedlander, M. Stabin, D. Favret, S. Jewett, D. Snigaroff, R. Snigaroff, T. Stamm, J. Weston, C. Jeitner and C. Volz

**Year:** 2007

**Title:** Radionuclides in marine fishes and birds from Amchitka and Kiska Islands in the Aleutians: Establishing a baseline

**Journal:** Health Physics

**Volume:** 92

**Issue:** 3

**Pages:** 265-279

**Date:** Mar 2007

**Short Title:** Radionuclides in marine fishes and birds from Amchitka and Kiska Islands in the Aleutians: Establishing a baseline

**Accession Number:** BCI:BCI200700201582

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** Amchitka Island (51 degrees N lat, 179 degrees E long) was the site of three underground nuclear tests from 1965-1971. There have been no substantive studies of radionuclides in marine fishes and birds in the area since the mid-1970's. In this study, levels of Co-60, Eu-52, Sr-90, Tc-99, I-129, Cs-137, and the actinides (Am-241, Pu-238, Pu-239,Pu-240, U-234, U-236, U-236, and U-238) were studied in ten marine fish species (including Pacific Cod Gadus macrocephalus and Pacific Halibut Hippoglossus stenolepis) and five marine bird species (including Glaucous-winged Gulls Larus glaucescens, Tufted Puffins Fratercula cirrhata, and Common Eider Ducks Somateria mollissima) from Amchitka. The same species were collected at a reference site, Kiska Island (52 degrees N lat; 177 degrees E long), about 130 km west of Amchitka. Each sample was a composite of edible muscle from five or more individual fish or birds of similar size (+/- 15%) from the same sampling station. The null hypotheses of no differences among species or between Amchitka and Kiska were tested. Most analytic results were below the minimum detectable activity (MDA), even when 1,000 g sizes and 72 h counting times were used. The only radionuclides detected above the MDA were Cs-137, Am-241, Pu-239,Pu-240, U-234, U-235, and U-238. There were significant differences in Cs-137 as a function of species, but not location, for top predatory fishes. Of the fishes, eight of ten species had Cs-137 values above the MDA for some samples; only one bird, Glaucous-winged Gull, had Cs-137 values above the MDA. The highest concentrations of Cs-137 were in Dolly Varden [Salvelinus manna. 0.780 (Bq kg(-1) wet weight)] and Pacific Cod (0.602 Bq kg(-1)). In aggregate for any actinides, 73 of 234 (31%) composites for fish were above the MDA, compared to only 3 of 98 (3 %) for birds. U-234 and U-238, radionuclides that are primarily natural in origin, were routinely detected in these biological samples, but there were no significant differences in mean concentrations between Amchitka and Kiska. The concentrations of all radionuclides examined at Amchitka are similar to those of other uncontaminated Northern Hemisphere sites, and are lower than those reported for fishes and birds from the Irish Sea in the vicinity of the Sellafield nuclear reprocessing facility, an area with known contamination.

**URL:** <Go to ISI>://BCI200700201582

**Reference Type:**  Journal Article

**Record Number:** 1819

**Author:** K. K. Burnham, J. A. Johnson, B. Konkel and J. L. Burnham

**Year:** 2012

**Title:** Nesting Common Eider (Somateria mollissima) Population Quintuples in Northwest Greenland

**Journal:** Arctic

**Volume:** 65

**Issue:** 4

**Pages:** 456-464

**Date:** Dec

**Short Title:** Nesting Common Eider (Somateria mollissima) Population Quintuples in Northwest Greenland

**ISSN:** 0004-0843

**Accession Number:** WOS:000313598700009

**Keywords:** Common eider; somateria mollissima; Abundance, Distribution, and Trends; Breeding Season

**Notes:** Times Cited: 0

Burnham, Kurt K. Johnson, Jeff A. Konkel, Bridger Burnham, Jennifer L.

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**URL:** <Go to ISI>://WOS:000313598700009

**Reference Type:**  Journal Article

**Record Number:** 16

**Author:** N. H. K. Burton, A. J. Musgrove, M. M. Rehfisch and N. A. Clark

**Year:** 2010

**Title:** Birds of the Severn Estuary and Bristol Channel: Their current status and key environmental issues

**Journal:** Marine Pollution Bulletin

**Volume:** 61

**Issue:** 1-3, Sp. Iss. SI

**Pages:** 115-123

**Short Title:** Birds of the Severn Estuary and Bristol Channel: Their current status and key environmental issues

**Accession Number:** BCI:BCI201000246703

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** The Severn Estuary and Bristol Channel encompass a number of designated sites supporting populations of waterbirds and seabirds that are of national or international importance, including the Severn Estuary and Burry Inlet Special Protection Areas (SPAs)/Ramsar Sites and Carmarthen Bay, the UK's first marine SPA. Here, we provide an overview of the present numbers and trends of the waterbirds and seabirds using these sites, updating previous reviews undertaken prior to these designations. We further provide a summary of the main issues that have affected the status of the area's bird populations. Declines in the numbers of waders on the Severn Estuary and the southwest over the last two decades have been linked to climate change. The Sea Empress oil-spill impacted both breeding seabirds and the wintering common Scoters in Carmarthen Bay, though numbers of the latter recovered 3 years after the spill. At the Burry Inlet, Oystercatcher numbers have fallen over the last 25 years and considerable research has been undertaken into the conflict with cockle and mussel fisheries. A long-term study at Cardiff Bay, at the mouth of the Severn, revealed a significant impact on the survival of Redshanks following its impoundment and has helped to further understanding of responses of waterbirds to estuarine habitat loss. The potential impacts of the construction of a tidal power scheme on the Severn Estuary are also discussed. (C) 2009 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000246703

**Reference Type:**  Journal Article

**Record Number:** 1589

**Author:** J. O. Bustnes

**Year:** 1993

**Title:** Exploitation of others' vigilance by the Common Eider Somateria mollissima

**Journal:** Wildfowl

**Volume:** 44

**Pages:** 108-110

**Short Title:** Exploitation of others' vigilance by the Common Eider Somateria mollissima

**Accession Number:** BCI:BCI201000201424

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Individuals obtain advantages from group-living through reduced probability of predation (Hamilton 1971). In addition to reducing the perimeter exposed to predators, flocking behaviour also increases vigilance, and thereby reduces the chance of surprise attacks (Krebs & Davies 1986). In the Common Eider Somateria mollissima flocking behaviour during brood-rearing is very frequent. These groups are often called creches, and such behaviour has been explained as an adaptation for minimizing predation on the ducklings (Ahlen & Andersson 1970, Gorman & Milne 1972, Bedard & Munro 1976, Munro & Bedard 1977a,b, Bustnes & Erikstad 1991a). However, females, that do not care for young themselves, are often temporarily present in or near creches (Munro & Bedard 1977a, Schmutz et al. 1982, Bustnes & Erikstad 1991b). Adult Common Eider are exposed to dangers, such as harassment by kleptoparasitic gulls (Ingolfsson 1969) and, in some areas (e.g. northern Norway), predation from birds of prey such as White-tailed Eagles Haliaeetus albicilla (Norderhaug 1978). Females that care for ducklings spend 40 to 45% of a feeding bout watching for potential duckling predators (Bustnes & Erikstad 1991a). It would thus seem advantageous for a female without young to stay close to brood-caring females, thereby exploiting the high degree of vigilance that will enable them to feed more effectively (Bustnes & Erikstad 1991b). In order to test this hypothesis, I recorded time budgets of females, without young, that were feeding close to or away from creches.

**URL:** <Go to ISI>://BCI201000201424

**Reference Type:**  Journal Article

**Record Number:** 1558

**Author:** J. O. Bustnes

**Year:** 1996

**Title:** Is parental care a constraint on the habitat use of common eider females?

**Journal:** Condor

**Volume:** 98

**Issue:** 1

**Pages:** 22-26

**Short Title:** Is parental care a constraint on the habitat use of common eider females?

**Accession Number:** BCI:BCI199698741019

**Keywords:** Common Eider; Somateria mollissima; Behavior; Dispersal; Habitat; Breeding Season;

**Abstract:** The aim of this study was to investigate how parental care in Common Eider (Somateria mollissima) females affected their habitat selection. I compared the post-nesting behavior of brood-caring females and females without young. Females that cared for ducklings and females without young moved similar distances from the nesting colony to the feeding areas. However, throughout the brood rearing season, females without young undertook longer secondary movements than brood-caring females. The type of feeding habitat used and the feeding mode were similar among the different female categories, and all females that had attempted to nest foraged in the intertidal zone by dabbling. This study suggests that in a large sea duck like the Common Eider, with highly developed ducklings at hatching, parental care does not constrain habitat use very much compared to females without young.

**URL:** <Go to ISI>://BCI199698741019

**Reference Type:**  Journal Article

**Record Number:** 1545

**Author:** J. O. Bustnes

**Year:** 1998

**Title:** Selection of blue mussels, Mytilus edulis, by common eiders, Somateria mollissima, by size in relation to shell content

**Journal:** Canadian Journal of Zoology

**Volume:** 76

**Issue:** 9

**Pages:** 1787-1790

**Date:** Sept., 1998

**Short Title:** Selection of blue mussels, Mytilus edulis, by common eiders, Somateria mollissima, by size in relation to shell content

**Accession Number:** BCI:BCI199900211256

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** The blue mussel, Mytilus edulis, is the most important food item for the common eider, Somateria mollissima, but the mussels eaten by eiders vary in length between both areas and seasons. The aim of this study was to experimentally test the hypothesis that common eiders try to minimize shell intake when selecting among mussels of different lengths. Two types of experiments were conducted using wild common eiders in captivity. Experiment 1 tested whether eiders could seek out the mussels with least relative shell content and highest flesh content from among mussels of an array of lengths. They selected the shortest mussels (<20 mm), which had the lowest shell content. In experiment 2, the eiders were given mussels of the same length class (26-31 mm), but with different shell morphology and shell mass, from the subtidal and upper intertidal zones. The birds only ate the subtidal-zone mussels with the lowest shell mass. The results of this study strongly indicate that reducing the amount of indigestible shell is an important factor for eiders selecting among mussels of different lengths.

**URL:** <Go to ISI>://BCI199900211256

**Reference Type:**  Journal Article

**Record Number:** 1820

**Author:** J. O. Bustnes

**Year:** 2013

**Title:** Reproductive Recovery of a Common Eider Somateria mollissima Population Following Reductions in Discharges of Polycyclic Aromatic Hydrocarbons (PAHs)

**Journal:** Bulletin of Environmental Contamination and Toxicology

**Volume:** 91

**Issue:** 2

**Pages:** 202-207

**Date:** Aug

**Short Title:** Reproductive Recovery of a Common Eider Somateria mollissima Population Following Reductions in Discharges of Polycyclic Aromatic Hydrocarbons (PAHs)

**ISSN:** 0007-4861

**DOI:** 10.1007/s00128-013-1041-4

**Accession Number:** WOS:000321910800012

**Keywords:** Common eider; Somateria mollissima; Population dynamics; contaminants; productivity; Breeding Season

**Notes:** Times Cited: 0

Bustnes, Jan O.

0

**URL:** <Go to ISI>://WOS:000321910800012

**Reference Type:**  Journal Article

**Record Number:** 1208

**Author:** J. O. Bustnes, M. Asheim, T. H. Bjorn, H. Gabrielsen and G. H. Systad

**Year:** 2000

**Title:** The diet of Steller's Eiders wintering in Varangerfjord, northern Norway

**Journal:** Wilson Bulletin

**Volume:** 112

**Issue:** 1

**Pages:** 8-13

**Date:** March, 2000

**Short Title:** The diet of Steller's Eiders wintering in Varangerfjord, northern Norway

**Accession Number:** BCI:BCI200000155993

**Keywords:** Steller's eider; Polysticta stelleri; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We examined the winter diet of Steller's Eiders (Polysticta stelleri) in Varangerfjord, northern Norway, by analyzing the esophagus content of 29 individuals (12 juveniles and 17 adults). A total of 8389 prey items of 31 species were identified: 13 species of gastropods (making up 68.4% of total number of items); 4 species of bivalves (18.5%); 12 species of crustaceans (13%); and 2 species of echinoderms (<0.1%). In terms of percentage aggregate wet weight 31.4% was gastropods, 22.6% was bivalves, and 41.4% was crustaceans. Juvenile eiders ate more crustaceans (x = 61% aggregate w.w.) than adults (x = 26%, P < 0.05), possibly because they were in poor body condition and may have had higher energy requirements than adults. Adults tended to eat more gastropods (x = 41% vs 22%) and Mytilus edulis (x = 27% vs 12%) than juveniles. There were only small differences between sexes. Most of the prey items were of species known to be associated with kelp plants, especially Laminaria hyperborea, suggesting that Steller's Eiders obtain a large proportion of their prey directly from the vegetation.

**URL:** <Go to ISI>://BCI200000155993

**Reference Type:**  Journal Article

**Record Number:** 1790

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1988

**Title:** The Diets of Sympatric Wintering Populations of Common Eider Somateria-Mollissima and King Eider Somateria-Spectabilis in Northern Norway

**Journal:** Ornis Fennica

**Volume:** 65

**Issue:** 4

**Pages:** 163-168

**Short Title:** The Diets of Sympatric Wintering Populations of Common Eider Somateria-Mollissima and King Eider Somateria-Spectabilis in Northern Norway

**Accession Number:** BCI:BCI198988002516

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** A total of 2534 food items of 42 species (exclusive eggs of fish) were identified in the diet of Common Eiders Somateria mollissima (1650 items of 34 species) and King Eiders S. spectabilis (884 items of 35 species) from Troms in northern Norway in April/May. Both species had been feeding on much the same prey species but in quite different proportions. The diet of Common Eiders was dominated by Mytilus edulis (46.3% wet wt.), eggs of Cyclopterus lumpus (25.9%) and other molluscs, Modiolus modiolus (7.3%), Modiolaria discors (2.1%) and Arctica islandica (2.8%). King Eiders feed mainly on echinoderms, Ophiopholis aculeata (27.1%), Strongylocentrotus droebachiensis (22.7%) and Asterias rubens (15.1%). Other important King Eider food items were molluscs, Modiolaria discors (4.8%), Modiolus modiolus (3.6%) and Trophonopsis clathratus (4.3%). King Eiders had a broader diet than Common Eiders (average number of food species per individual 6.9 vs. 3.6), and the calculated diet overlap was 0.15. The differences in the diet observed is most likely a result of King Eiders feeding at greater depths than Common Eiders.

**URL:** <Go to ISI>://BCI198988002516

**Reference Type:**  Journal Article

**Record Number:** 1616

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1990

**Title:** Size Selection of Common Mussels Mytilus-Edulis by Common Eiders Somateria-Mollissima Energy Maximization or Shell Weight Minimization

**Journal:** Canadian Journal of Zoology

**Volume:** 68

**Issue:** 11

**Pages:** 2280-2283

**Short Title:** Size Selection of Common Mussels Mytilus-Edulis by Common Eiders Somateria-Mollissima Energy Maximization or Shell Weight Minimization

**Accession Number:** BCI:BCI199191048595

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** Prey size selection by common eiders, Somateria mollissima, preying on common mussels, Mytilus edulis, in northern Norway is described. The mean length (.+-. SD) of mussels preyed upon was 13.9 .+-. 5.7 mm (range 3.5-38.1 mm). The dry flesh weight as a percentage of the total dry weight ranged from 4.2 to 8.6% in different body-length categories and was greatest in the mussels most frequently fed upon. There was a close negative correlation between the size of mussels fed upon and the estimated total shell weight that birds had to ingest to obtain their daily requirement of food (rs = -0.86). A hypothesis is proposed that common eiders select mussels of certain size classes to minimize the daily shell weight intake.

**URL:** <Go to ISI>://BCI199191048595

**Reference Type:**  Journal Article

**Record Number:** 1617

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1990

**Title:** Effects of Patagial Tags on Laying Date and Egg Size in Common Eiders

**Journal:** Journal of Wildlife Management

**Volume:** 54

**Issue:** 2

**Pages:** 216-218

**Short Title:** Effects of Patagial Tags on Laying Date and Egg Size in Common Eiders

**Accession Number:** BCI:BCI199090026752

**Keywords:** Common Eider; Somateria mollissima; Techniques; Productivity; Breeding Season;

**Abstract:** We examined the effects of patagial tags on common eiders (Somateria mollissima) by comparing laying date, clutch size, and egg size of the same females in 2 breeding seasons, before tagging (1987) and after the birds had carried tags for 1 year (1988). Similar data were obtained from unmarked birds used as controls in both years. Clutch size of tagged birds did not differ from control (P < 0.05), but tagged birds laid eggs later (P < 0.001) and produced smaller eggs (P < 0.05) in 1988 than in 1987. The egg size of control females was larger (P < 0.001) during 1988. We suggest that patagial tags affect a female's ability to accumulate body reserves before breeding by decreasing feeding time, increasing preening activity, and/or increasing energy costs of diving.

**URL:** <Go to ISI>://BCI199090026752

**Reference Type:**  Journal Article

**Record Number:** 1611

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1991

**Title:** Parental Care in the Common Eider Somateria-Mollissima Factors Affecting Abandonment and Adoption of Young

**Journal:** Canadian Journal of Zoology

**Volume:** 69

**Issue:** 6

**Pages:** 1538-1545

**Short Title:** Parental Care in the Common Eider Somateria-Mollissima Factors Affecting Abandonment and Adoption of Young

**Accession Number:** BCI:BCI199192134401

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Parental care in common eiders (Somateria mollissima) was studied during three field seasons in northern Norway. Forty-two percent of the females were found to abandon their brood. Abandonment and tending of broods and creches were not obligate individual strategies, but changed between years. Females abandoning their young laid smaller clutches and had a lower body weight at hatching than brood- and creche-tending females, indicating that they were in poor body condition. This supports the hypothesis that abandoning the brood is a salvage strategy in which energetic stress limits females' ability to care for their young. Young of "abandoners" seemed to have a lower survival rate than young of "tenders," which suggests a reproductive cost of abandoning the young. Forty-seven percent of tagged ducklings were found with females other than their mother. Twenty-seven percent of the brood- and creche-tending females lost young to other females, but never more than one duckling. Adoptions of foreign ducklings, above the normal brood size of four, did not lead to greater parental effort, and duckling survival was similar among broods and creches of different sizes. This suggests that adoptions may be of neutral adaptive value. Two females often formed stable creches, but duckling survival was not sigificantly different from that in broods and creches with single females.

**URL:** <Go to ISI>://BCI199192134401

**Reference Type:**  Journal Article

**Record Number:** 1612

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1991

**Title:** The Role of Failed Nesters and Brood Abandoning Females in the Creching System of the Common Eider Somateria-Mollissima

**Journal:** Ornis Scandinavica

**Volume:** 22

**Issue:** 4

**Pages:** 335-339

**Short Title:** The Role of Failed Nesters and Brood Abandoning Females in the Creching System of the Common Eider Somateria-Mollissima

**Accession Number:** BCI:BCI199293060495

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** In Common Eiders, females other than the mother often protect young from predators. This study was designed to determine if failed nesters and females which loose their young shortly after hatching (brood abandoners) participate in such rearing activities. Brood caring females always reacted aggressively towards approaching gulls and stayed close to the young during disturbance. The behavior of failed nesters and brood abandoners towards broods and creches was similar. Their creche attendance was highly temporal and independent of the time since they had lost their eggs or hatched their young. They usually left the creches at the slightest disturbance, and during gull attacks failed nesters showed no reaction while a few brood abandoners tending creches reacted aggressively. Most of the creche attendance in nest-failing and brood abandoning females is presumably motivated by selfish interest, e.g. seeking safety from predators or kleptoparasites. The so-called "visiting" females or "aunts" in Eider creches should be divided into two categories: broody females showing protective behavior and females temporarily attending creches and showing no broodiness. Failed nesters and most of the brood abandoners belong to the latter category. Most of the females showing protective behaviour probably belong to the non-breeding cohort (young and/or non-breeding birds).

**URL:** <Go to ISI>://BCI199293060495

**Reference Type:**  Journal Article

**Record Number:** 1590

**Author:** J. O. Bustnes and K. E. Erikstad

**Year:** 1993

**Title:** Site fidelity in breeding common eider Somateria mollissima females

**Journal:** Ornis Fennica

**Volume:** 70

**Issue:** 1

**Pages:** 11-16

**Short Title:** Site fidelity in breeding common eider Somateria mollissima females

**Accession Number:** BCI:BCI199396026353

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Breeding Season;

**Abstract:** We studied nest-site and post-nesting feeding site fidelity in a population of Common Eiders Somateria mollissima in North Norway during five consecutive breeding seasons (1986-90). Twenty-five per cent of the females that nested successfully and none of the unsuccessful females returned to the same nest. Whether females nested at the same site was independent of nesting variables other than total clutch loss. Similarly, nest-site fidelity did not result in nesting variables different from those of females which changed their nest-site. In contrast, fidelity to post-nesting feeding sites was very high (92%). Females that showed post-nesting feeding site fidelity did not have a higher rate of nest-site fidelity than other birds in the population. We therefore contend that in Common Eiders fidelity to a specific nest-site is less important than fidelity to the post-nesting feeding site. Going to areas where the female knows that sufficient food can be found is very important for both the female and her brood. In comparison to other duck species with more specific nest-site requirements (cavity-nesting ducks), Common Eiders have a low return rate to previous nest-sites, and we suggest that this reflects a difference in the availability of suitable sites.

**URL:** <Go to ISI>://BCI199396026353

**Reference Type:**  Journal Article

**Record Number:** 1487

**Author:** J. O. Bustnes, K. E. Erikstad and T. H. Bjorn

**Year:** 2002

**Title:** Body condition and brood abandonment in Common Eiders breeding in the high Arctic

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 1

**Pages:** 63-66

**Date:** March, 2002

**Short Title:** Body condition and brood abandonment in Common Eiders breeding in the high Arctic

**Accession Number:** BCI:BCI200200254949

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Breeding Season;

**Abstract:** Post-hatch brood amalgamation is common in many waterfowl species and especially prevalent in the Common Eider (Somateria mollissima). Studies in the temperate region have shown that brood abandonment is influenced both by female body condition and brood size. In this study we tested how these two factors influenced the probability of brood desertion in eiders breeding under harsh conditions in the high Arctic (78degreeN). We found that females in poor body condition were less likely to care for their young, but there was no effects of brood size. We speculate that the differences between southern and northern populations of eiders may be due to different environmental conditions.

**URL:** <Go to ISI>://BCI200200254949

**Reference Type:**  Journal Article

**Record Number:** 1536

**Author:** J. O. Bustnes and K. Galaktionov

**Year:** 1999

**Title:** Anthropogenic influences on the infestation of intertidal gastropods by seabird trematode larvae on the southern Barents Sea coast

**Journal:** Marine Biology (Berlin)

**Volume:** 133

**Issue:** 3

**Pages:** 449-453

**Date:** April, 1999

**Short Title:** Anthropogenic influences on the infestation of intertidal gastropods by seabird trematode larvae on the southern Barents Sea coast

**Accession Number:** BCI:BCI199900269983

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** In this study we examined how the variation in the distribution of six species of seabird trematodes was influenced by human activities along the subarctic Barents Sea coast of northern Norway. This was done by comparing the prevalence of the parasites in two species of intermediate host (Littorina saxatilis and Littorina obtusata) on seashores near fishing industry complexes, fish farms and at control sites. In L. saxatilis there were higher prevalences at sites influenced by human activities for three out of five trematode species (Microphallus piriformes, M. similis, Cryptocotyle lingua) which have gulls (Larus spp.) as their predominant final hosts, while in L. obtusata, only M. similis was more common at sites with human activity. For M. pygmaeus, a trematode which has the common eider (Somateria mollissima) as its most predominant final host, the prevalence in L. saxatilis tended to be higher at sites with fishing industry, but differences were not significant. No such tendency was found in L. obtusata for this trematode. The overall prevalence in L. obtusata was lower than in L. saxatilis. This indicates that the vulnerability to trematode infection differs between the two snail species depending on the variation in the distribution patterns in the intertidal zone. Gulls tend to concentrate in areas near fishing industry and fish farms to feed on fish offal, which leads to an increase in the transmission between hosts, and to a higher level of parasite infection, locally.

**URL:** <Go to ISI>://BCI199900269983

**Reference Type:**  Journal Article

**Record Number:** 1197

**Author:** J. O. Bustnes and K. V. Galaktionov

**Year:** 2004

**Title:** Evidence of a state-dependent trade-off between energy intake and parasite avoidance in Steller's eiders

**Journal:** Canadian Journal of Zoology

**Volume:** 82

**Issue:** 10

**Pages:** 1566-1571

**Date:** October 2004

**Short Title:** Evidence of a state-dependent trade-off between energy intake and parasite avoidance in Steller's eiders

**Accession Number:** BCI:BCI200500158128

**Keywords:** Steller's eider; Polysticta stelleri; Energetics and Nutrition; Parasites; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** We examined the hypothesis that Steller's eiders, Polysticta stelleri (Pallas, 1769), in good body condition avoided nutritious and abundant prey that were intermediate hosts of acanthocephalans, while birds in poor condition accepted the long-term costs of parasitism to minimize the short-term risk of starvation. We predicted that the intensity of the acanthocephalan Polymorphus phippsi (Kostylev, 1922) should be positively related to the intake of intermediate hosts and that the intake of such prey should be negatively related to body condition. All Steller's eiders were infected (2-1142 parasites/bird). Only the intake of the amphipod Gammarus oceanicus (Segerstrale, 1947), a known intermediate host of P. phippsi, was significantly related to parasite intensity. Juvenile Steller's eiders were in poorer condition than adults and fed more on amphipods (44% vs. 9% of total biomass). On the contrary, adults preferred isopods (26% of total biomass vs. 12% for juveniles), which were less abundant than littoral amphipods but were not intermediate hosts of P. phippsi. Moreover, in juveniles there was a negative relationship between body condition and the proportion of amphipods in the diet. Hence, juveniles in poor body condition consumed potentially infected prey while adults and juveniles in good condition avoided such prey. The cost of avoiding littoral amphipods was probably a lower energy return per unit feeding effort.

**URL:** <Go to ISI>://BCI200500158128

**Reference Type:**  Book Section

**Record Number:** 155

**Author:** J. O. Bustnes and O. J. Lonne

**Year:** 1995

**Title:** Sea ducks as predators on sea urchins in a northern kelp forest

**Book Title:** Ecology of fjords and coastal waters

**Pages:** 599-608

**Short Title:** Sea ducks as predators on sea urchins in a northern kelp forest

**Accession Number:** BCI:BCI199698719868

**Keywords:** Sea Ducks - General; Trophic Interactions;

**URL:** <Go to ISI>://BCI199698719868

**Reference Type:**  Journal Article

**Record Number:** 1821

**Author:** J. O. Bustnes, B. Moe, S. A. Hanssen, D. Herzke, A. A. Fenstad, T. Nordstad, K. Borga and G. W. Gabrielsen

**Year:** 2012

**Title:** Temporal Dynamics of Circulating Persistent Organic Pollutants in a Fasting Seabird under Different Environmental Conditions

**Journal:** Environmental Science & Technology

**Volume:** 46

**Issue:** 18

**Pages:** 10287-10294

**Date:** Sep

**Short Title:** Temporal Dynamics of Circulating Persistent Organic Pollutants in a Fasting Seabird under Different Environmental Conditions

**ISSN:** 0013-936X

**DOI:** 10.1021/es301746j

**Accession Number:** WOS:000308787800059

**Keywords:** Common eider; somateria mollissima; contaminants; Breeding Season

**Notes:** Times Cited: 3

Bustnes, Jan Ove Moe, Borge Hanssen, Sveinn Are Herzke, Dorte Fenstad, Anette A. Nordstad, Tore Borga, Katrine Gabrielsen, Geir W.

Hanssen, Sveinn Are/C-9989-2009

Hanssen, Sveinn Are/0000-0003-1792-435X

3

**URL:** <Go to ISI>://WOS:000308787800059

**Reference Type:**  Journal Article

**Record Number:** 1315

**Author:** J. O. Bustnes, B. Moe, D. Herzke, S. A. Hanssen, T. Nordstad, K. Sagerup, G. W. Gabrielsen and K. Borga

**Year:** 2010

**Title:** Strongly increasing blood concentrations of lipid-soluble organochlorines in high arctic common eiders during incubation fast

**Journal:** Chemosphere

**Volume:** 79

**Issue:** 3

**Pages:** 320-325

**Date:** Apr 2010

**Short Title:** Strongly increasing blood concentrations of lipid-soluble organochlorines in high arctic common eiders during incubation fast

**Accession Number:** BCI:BCI201000255736

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Female common eiders (Somateria mollissima) starve during the nesting stage and may loose 30-45% of their initial body mass, mostly through lipid mobilization. In this study, the effects of fasting on the blood concentrations of three lipid-soluble organochlorines (OCs: polychlorinated biphenyl [PCB]-153; 1-dichloro-2,2-bis (p-chlorophenyl) ethylene [p,p'-DDE]: and hexachlorobenzene [HCB]) were examined in eiders breeding in the high Arctic. Blood samples were taken from females (n = 47) at day 5 and day 20 of the incubation period. The mean wet weight concentrations of PCB-153 and p,p'-DDE increased strongly between day 5 and day 20 (3.6 and 8.2-fold, respectively), while HCB increased less (1.7-fold). There was a strong negative association between daily increase in PCB-153 and clutch size, and a weaker relationship for pp'-DDE, suggesting that maternal transfer to the eggs is a significant pathway of elimination of OCs in eiders. Moreover, poor body condition (body mass controlled for body size) late in the incubation period was associated with strong daily increase of both p,p'-DDE and PCB-153, which may suggest that the release of these compounds increases when lipid reserves become depleted. For HCB, the increase was mainly associated with increase in blood lipid concentrations, and weakly to the amount of burned lipids. The causes for the differences between the compounds are, however, poorly understood. Although the absolute levels of OCs in eiders were relatively low, their rapid build up during incubation is worrying as it coincides with poor body condition and weakened immune systems. (C) 2010 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000255736

**Reference Type:**  Journal Article

**Record Number:** 1723

**Author:** J. O. Bustnes, A. Mosbech, C. Sonne and G. H. Systad

**Year:** 2010

**Title:** Migration patterns, breeding and moulting locations of king eiders wintering in north-eastern Norway

**Journal:** Polar Biology

**Volume:** 33

**Issue:** 10

**Pages:** 1379-1385

**Date:** Oct 2010

**Short Title:** Migration patterns, breeding and moulting locations of king eiders wintering in north-eastern Norway

**Accession Number:** BCI:BCI201000560258

**Keywords:** King Eider; Somateria spectabilis; Population Delineation; Migration; Breeding Season; Nonbreeding Seasons;

**Abstract:** The Norwegian coast is a very important winter area for king eiders (Somateria spectabilis), but their origin has been unknown. We determined spring and autumn migration routes, timing of migration and potential breeding areas of king eiders wintering in north-eastern Norway using implanted satellite transmitters. Five males and five females were equipped with transmitters in February 2008, and location data were received from six birds. All birds departed within 10 days in mid April and flew to the Pechora Sea and Kara Sea in western Russia where they staged until mid June. Subsequently, four of five birds with active transmitters (two females and two males) moved east to potential breeding locations on the Gydan and Taymyr Peninsulas. In early July, the males moved west to moult at Kolguyev Island and in the Pechora Sea. The two females departed in mid July, one probably moulting between the gulfs of the Ob and Yenisei Rivers, after which it moved to the Pechora Sea. The other female probably moulted in the eastern Taymyr, thereafter moving to Novaya Zemlya. This female returned to the north-eastern coast of Norway 1 December, while the other female returned 2 January. For the males, the transmitters stopped in December/January when they were still in the Pechora/Kolguyev area. King eiders wintering in north-eastern Norway thus originate from the western half of Arctic Russia, and the Taymyr Peninsula is probably the dividing point between the eastern and western flyways.

**URL:** <Go to ISI>://BCI201000560258

**Reference Type:**  Journal Article

**Record Number:** 1203

**Author:** J. O. Bustnes and G. H. Systad

**Year:** 2001

**Title:** Habitat use by wintering Steller's Eiders Polysticta stelleri in northern Norway

**Journal:** Ardea

**Volume:** 89

**Issue:** 2

**Pages:** 267-274

**Short Title:** Habitat use by wintering Steller's Eiders Polysticta stelleri in northern Norway

**Accession Number:** BCI:BCI200100398584

**Keywords:** Steller's eider; Polysticta stelleri; Habitat; Nonbreeding Seasons;

**Abstract:** Habitat use of Steller's Eiders Polysticta stelleri was studied in Varangerfjord, northern Norway, during three winter periods (November, January and April) in 1996/97. We partitioned habitats based on water depth and benthic conditions, and compared the benthic characteristics in known feeding areas to nearby areas avoided by Steller's Eiders. On average 88% of the birds were in natural habitats, outside of harbours. Mean water depth at feeding areas varied from 3.7 m in November to 2.5 m in April. Overall 89% of eiders foraged by diving at locations where water depths were less than 5 m. Steller's Eiders foraged in areas with underwater vegetation, predominantly in kelp beds. Two factors were positively associated (P < 0.05) with the probability that an area was used by Steller's Eiders: the proportion of the area covered by the kelp species Laminaria hyperborea and the vegetation density. Shallowly flooded kelp beds are the prime habitat for Steller's Eiders in Varangerfjord, and protection of these habitats is probably of great importance for preserving the species in the area.

**URL:** <Go to ISI>://BCI200100398584

**Reference Type:**  Journal Article

**Record Number:** 1204

**Author:** J. O. Bustnes and G. H. Systad

**Year:** 2001

**Title:** Comparative feeding ecology of Steller's Eider and Long-tailed Ducks in winter

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 3

**Pages:** 407-412

**Date:** December, 2001

**Short Title:** Comparative feeding ecology of Steller's Eider and Long-tailed Ducks in winter

**Accession Number:** BCI:BCI200200056787

**Keywords:** Long-tailed Duck; Clangula hyemalis; Steller's eider; Polysticta stelleri; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We examined the flexibility in feeding ecology of Steller's Eider (Polysticta stelleri) by comparing its diet to the taxonomically relatively close Long-tailed Duck (Clangula hyemalis) during two winter periods (early and late) when the two species occurred together. Steller's Eider generally fed on the same type of prey in early and late winter, with a dietary overlap of 43% between the two periods (57% among shelled prey). The mean number of prey species per bird was 7.8 in both early winter and late winter. In contrast, the Long-tailed Duck changed completely from feeding on benthic invertebrates in early winter to spawning Capelin (Mallotus villosus) in late winter. The dietary overlap between the two bird species was 38% in early winter. In early winter, the mean number of prey species was 5.5 in the Long-tailed Duck, and not significantly different from the Steller's Eider. Steller's Eider seemed to be restricted to small prey, both compared to availability of sizes and also to the prey size taken by the Long-tailed Duck. Thus the worldwide rare Steller's Eider seems to be a specialist with limited ability to exploit different food resources, while the numerous Long-tailed Duck is an opportunistic generalist. Low flexibility in feeding ecology indicates that winter habitats for Steller's Eider may be limited, and protection of these areas would probably benefit the species.

**URL:** <Go to ISI>://BCI200200056787

**Reference Type:**  Journal Article

**Record Number:** 1822

**Author:** J. O. Bustnes, G. H. Systad and R. C. Ydenberg

**Year:** 2013

**Title:** Changing distribution of flocking sea ducks as non-regenerating food resources are depleted

**Journal:** Marine Ecology Progress Series

**Volume:** 484

**Pages:** 249-257

**Short Title:** Changing distribution of flocking sea ducks as non-regenerating food resources are depleted

**ISSN:** 0171-8630

**DOI:** 10.3354/meps10339

**Accession Number:** WOS:000320321300017

**Keywords:** COmmon eider; somateria mollissima; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Bustnes, Jan O. Systad, Geir H. Ydenberg, Ronald C.

0

**URL:** <Go to ISI>://WOS:000320321300017

**Reference Type:**  Journal Article

**Record Number:** 1109

**Author:** D. Butkauskas, A. Sruoga, S. Svazas and A. Paulauskas

**Year:** 2006

**Title:** Genetic variability among long-tailed ducks wintering in the Baltic Sea

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 144

**Date:** Aug 2006

**Short Title:** Genetic variability among long-tailed ducks wintering in the Baltic Sea

**Accession Number:** BCI:BCI200700132652

**Keywords:** Long-tailed Duck; Clangula hyemalis; Population Delineation; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200700132652

**Reference Type:**  Journal Article

**Record Number:** 1072

**Author:** R. W. Butler

**Year:** 1998

**Title:** Moulting sites of sea ducks and other marine birds in Frederick Sound, southeast Alaska

**Journal:** Canadian Field-Naturalist

**Volume:** 112

**Issue:** 2

**Pages:** 346-347

**Date:** April-June, 1998

**Short Title:** Moulting sites of sea ducks and other marine birds in Frederick Sound, southeast Alaska

**Accession Number:** BCI:BCI199800430869

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Abundance, Distribution, and Trends; Molt; Habitat; Nonbreeding Seasons;

**Abstract:** A total of 5920 moulting sea ducks were found at four sites characterized by shallow water foraging areas around islands and at entrances to glacial inlets.

**URL:** <Go to ISI>://BCI199800430869

**Reference Type:**  Journal Article

**Record Number:** 1289

**Author:** E. I. Buttler, H. G. Gilchrist, S. Descamps, M. R. Forbes and C. Soos

**Year:** 2011

**Title:** Handling Stress of Female Common Eiders During Avian Cholera Outbreaks

**Journal:** Journal of Wildlife Management

**Volume:** 75

**Issue:** 2

**Pages:** 283-288

**Date:** Feb 2011

**Short Title:** Handling Stress of Female Common Eiders During Avian Cholera Outbreaks

**Accession Number:** BCI:BCI201100302654

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** Researchers often consider the importance of minimizing holding time during research activities; however, the long-term costs of such handling stress is rarely measured explicitly. As part of an ongoing study of common eiders (Somateria mollissima) at a breeding colony in East Bay, Southampton Island, Nunavut, we recorded duration of restraint for females captured during avian cholera epizootics (2007 and 2008) and monitored female fates (breeding probability, onset of laying, and survival) relative to holding time. Probability of death increased with holding time in 2007 from an estimated 0.05 for females held 20 min to 0.33 for females held for 150 min. In 2008, we responded by limiting holding time to <90 min and mortality was no longer positively correlated with holding time, although total mortality was greater due to increased severity of avian cholera. In both years, longer restraint durations delayed onset of egg-laying after capture by 0.5 days for each 10 min of additional restraint but did not prevent breeding. This delay of nest initiation did not enhance survival probability. Our results show that prolonged holding time can exacerbate mortality during epizootics and emphasize the importance of minimizing restraint time in wild birds, especially in the presence of diseases. (C) 2011 The Wildlife Society.

**URL:** <Go to ISI>://BCI201100302654

**Reference Type:**  Journal Article

**Record Number:** 1764

**Author:** T. Byers and D. L. Dickson

**Year:** 2001

**Title:** Spring migration and subsistence hunting of king and common eiders at Holman, Northwest Territories, 1996-98

**Journal:** Arctic

**Volume:** 54

**Issue:** 2

**Pages:** 122-134

**Date:** June, 2001

**Short Title:** Spring migration and subsistence hunting of king and common eiders at Holman, Northwest Territories, 1996-98

**Accession Number:** BCI:BCI200200322378

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Migration; Conservation; Nonbreeding Seasons;

**Abstract:** A subsistence hunt for eiders by Inuvialuit of Holman, Northwest Territories, was observed over three spring harvest seasons from 1996 to 1998 to determine rates of crippling loss and to assess the sustainability of the harvest. King eiders (Somateria spectabilis) are the dominant waterfowl species harvested. The number of king eiders estimated to migrate past Holman in spring varied from 40 696+-4461 (95% confidence interval) in 1996 to 70 018+-14 356 in 1998, averaging 53 000 per year. Common eiders (Somateria mollissima v-nigra) were much less abundant, varying from 2728+-631 to 6017+-770 birds, averaging 4400 annually. Peak numbers of king eiders moved through the study area in 1-8 days during the second to third week of June in all years, and common eiders peaked in 1-8 days during the first to second week of June. Strong winds may have hindered migration for a few days. Crippling loss rates during the hunt were low (3-9%) in the first two years of the study, but increased to 13-20% in the early open-water spring of 1998, when hunters were forced to shoot over open water rather than shorefast ice. On the basis of these estimates and harvest data from the Inuvialuit Harvest Study, we determined that Holman hunters removed 3.7-6.9% of the king eider subpopulation and less than 1% of the common eiders over the three-year study period. The present level of harvest of eiders available to Holman hunters is likely sustainable. However, more information on natural mortality and recruitment rates, particularly for king eiders, is needed to confirm this.

**URL:** <Go to ISI>://BCI200200322378

**Reference Type:**  Journal Article

**Record Number:** 140

**Author:** I. Byrkjedal

**Year:** 1997

**Title:** Identifying inter-dive intervals in time-activity budget studies of diving ducks

**Journal:** Wildlife Biology

**Volume:** 3

**Issue:** 1

**Pages:** 45-51

**Short Title:** Identifying inter-dive intervals in time-activity budget studies of diving ducks

**Accession Number:** BCI:BCI199799684486

**Keywords:** Sea Ducks - General; Behavior;

**Abstract:** In order to identify inter-dive intervals in diving ducks, i.e. the time spent regaining breath between consecutive feeding dives, the position of the tail, carpal joints and head was recorded in different behavioural categories for eight species on the southwestern coast of Norway in March. Inter-dive intervals are part of the feeding behaviour and are easily confused with the behavioural categories of swimming and loafing. During inter-dive intervals the ducks adopt a more or less hunch-backed position, preparing for the next dive. In this position the tail touches the water surface and the head is held in a more forward position than during loafing and swimming. Some species expose carpal joints in inter-dive intervals, while most of the wings are covered by the flank feathers during non-feeding behaviour. Logistic regressions showed that a near perfect classification was obtained from the position of the wings alone in common eider Somateria mallissima, velvet scoter Melanitta fusca, and long-tailed duck Clangula hyemalis. An almost equally good classification was obtained for the two last mentioned on the position of the tail, for scaup Aythya marila on the position of the head, and for red-breasted merganser Mergus merganser on the position of the head and the stretching of the neck. Less reliable classifications were obtained for goldeneye Bucephala clangula and tufted duck Aythya fuligula, whereas in common scoter Melanitta nigra none of the variables fulfilled the criteria for entering a logistic regression function.

**URL:** <Go to ISI>://BCI199799684486

**Reference Type:**  Journal Article

**Record Number:** 834

**Author:** I. Byrkjedal

**Year:** 2000

**Title:** The role of Velvet Scoters Melanitta fusca for pursuit-diving seabirds in winter

**Journal:** Ornis Norvegica

**Volume:** 23

**Issue:** 1-2

**Pages:** 56-63

**Short Title:** The role of Velvet Scoters Melanitta fusca for pursuit-diving seabirds in winter

**Accession Number:** BCI:BCI200100461892

**Keywords:** White-winged Scoter; Melanitta fusca; Red-breasted merganser; Mergus serrator; Common merganser; Mergus merganser; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** While digging in the bottom substrate for food Velvet Scoters expose worms which are utilized by wintering Red-necked Grebes Podiceps griseigena, causing the grebes to form feeding associations with individual scoters. Several other pursuit-diving seabird species wintering on the coast of Jaeren, SW Norway, are here reported associating with Velvet Scoters. Of 14 seabird species, four species (Red-necked Grebe, Razorbill Alca torda, Red-throated Diver Gavia stellata and Slavonian Grebe Podiceps auritus) regularly formed feeding associations with Velvet Scoters (association frequencies ranging from 38% of the individuals in Red-necked to 9% in Slavonian Grebes), six species did so more casually (less than 2.5% of the observed individuals of Great Northern Diver Gavia immer, Great Crested Grebe Podiceps cristatus, Shag Phalacrocorax aristotelis, Red-breasted Merganser Mergus serrator, Common Guillemot Uria aalge, and Little Auk Plotus alle), while four species were not recorded associating with Velvet Scoters (Black-throated Diver Gavia arctica, Great Cormorant Phalacrocorax carbo, Goosander Mergus merganser, and Black Guillemot Cepphus grylle). Velvet Scoters were highly preferred association partners compared to other species of diving ducks. Association frequencies decreased towards April from a maximum in November. No clear relationship was found between association and the general prey type of the pursuit-diving species involved, but large and small species associated less often with Velvet Scoters than medium-sized species, probably reflecting an effect of optimal prey size.

**URL:** <Go to ISI>://BCI200100461892

**Reference Type:**  Journal Article

**Record Number:** 992

**Author:** I. Byrkjedal, S. Eldoy, S. Grundetjern and M. K. Loyning

**Year:** 1997

**Title:** Feeding associations between red-necked grebes Podiceps griseigena and velvet scoters Melanitta fusca in winter

**Journal:** Ibis

**Volume:** 139

**Issue:** 1

**Pages:** 45-50

**Short Title:** Feeding associations between red-necked grebes Podiceps griseigena and velvet scoters Melanitta fusca in winter

**Accession Number:** BCI:BCI199799376828

**Keywords:** White-winged Scoter; Melanitta fusca; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Red-necked Grebes Podiceps griseigena wintering along the coast of Jaeren, southwest Norway were found to feed either solitarily or in close association with Velvet Scoters Melanitta fusca feeding on bottom prey (mainly echinoderms) dug out from the sandy substrate. By scuba diving at spots where both species were feeding, we found that stirring the sand caused polychaete worms to emerge from the substrate. Bottom samples showed that these worms (on average gt 1000 per m-2) vastly outnumbered other animal taxa living in the substrate and that polychaetes were probably the most likely prey of grebes associated with scoters. Food competition between the two species and/or kleptoparasitism by the grebes were probably not involved (no food-stealing attempts by the grebes toward scoters handling prey brought to the surface, no aggression by scoters toward grebes and no effect of the grebes on the time budget of the scoters). Red-necked Grebes associating with scoters were mainly first-year birds, and the frequency of association decreased from a maximum of nearly 60% of the grebes in November to c. 5% before spring departure in April. Grebes feeding solitarily hunted in a manner resembling divers (Gavia), and they brought fish to the surface significantly more often than grebes feeding with scoters. Solitary grebes spent less time feeding and more time preening and swimming than did grebes associating with scoters. The association appears to be a way naive birds could easily obtain prey. Skills needed to dive for more nutritious but agile fish are probably gradually acquired through the winter as more of the grebes adopt solitary feeding.

**URL:** <Go to ISI>://BCI199799376828

**Reference Type:**  Journal Article

**Record Number:** 1463

**Author:** A. J. Cabanac

**Year:** 2003

**Title:** Physical condition of an animal, using as an example the common elder, Somateria mollissima

**Journal:** Canadian Field-Naturalist

**Volume:** 117

**Issue:** 2

**Pages:** 230-235

**Date:** April 2003

**Short Title:** Physical condition of an animal, using as an example the common elder, Somateria mollissima

**Accession Number:** BCI:BCI200400267412

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Techniques;

**Abstract:** An index of the physical condition of an animal should describe its endogenous available energy. The welfare of the animal depends on its ability to spend its stored energy (lipid and protein) in order to survive the environmental and behavioural challenge at the particular time of its capture. I propose a new index to predict the survival chance of the subject. The new index of physical condition takes into account the available endogenous energy reserves and the known needs of the species at that particular time of year. I further illustrate this new method of estimating the physical condition by running a trial with Common Eiders, Somateria mollissima.

**URL:** <Go to ISI>://BCI200400267412

**Reference Type:**  Journal Article

**Record Number:** 1504

**Author:** A. J. Cabanac and M. Guillemette

**Year:** 2001

**Title:** Temperature and heart rate as stress indicators of handled common eider

**Journal:** Physiology and Behavior

**Volume:** 74

**Issue:** 4-5

**Pages:** 475-479

**Date:** November-December, 2001

**Short Title:** Temperature and heart rate as stress indicators of handled common eider

**Accession Number:** BCI:BCI200200100480

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**Abstract:** Three eider ducks were handled every 4 min for 16 min to measure their cloacal temperature. This simple handling triggered a rise in their core temperatures from 41.5+-0.6degreeC at minute 0 to 43.5+-0.5degreeC at minute 16. This increase in body temperature occurred with no obvious motor load from the eiders, but was facilitated by peripheral vasoconstriction and, moreover, was blocked significantly by salicylate, suggesting that the increase in temperature was due to fever. After 10 days of similar handling, the mean fever-like responses displayed by the ducks was significantly lower than their responses of day one, showing a habituation to the emotional stimulation. The eider's heart rate was measured continuously before, during and for a 10-min session following a 1-min handling period. Results showed that the eiders displayed a tachycardia during handling and for 2-3 min posthandling. Such tachycardia is another sign of emotion in animals (Am J Psychol 39 (1927) 106). Our study showed therefore that eider ducks are prone to emotions and, when emotionally stressed, will display a fever-like response and a tachycardia. Our results on ducks are similar to responses obtained from studies on more terrestrial birds in similar conditions (e.g., chicken (Physiol Behav 69 (2000) 541)), but are in opposition to the bradycardia and the observed decreases in temperature (Hvalradets Skr 22 (1940) 1; Acta Physiol Scand 46 (1959) 231) of birds forcibly submerged.

**URL:** <Go to ISI>://BCI200200100480

**Reference Type:**  Journal Article

**Record Number:** 840

**Author:** D. K. Cairns

**Year:** 1998

**Title:** Diet of cormorants, mergansers, and kingfishers in northeastern North America

**Journal:** Canadian Technical Report of Fisheries and Aquatic Sciences

**Volume:** 0

**Issue:** 2225

**Pages:** I

**Date:** Aug., 1998

**Short Title:** Diet of cormorants, mergansers, and kingfishers in northeastern North America

**Accession Number:** BCI:BCI199800430941

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Trophic Interactions; Breeding Season; Nonbreeding Seasons;

**Abstract:** Cormorant, merganser, and kingfisher diets in northeastern North America are reviewed. Double-crested cormorants (Phalacrocorax auritus) breed and forage primarily along the coast, but may invade fresh water during spring runs of anadromous fish. Diets include a substantial fraction of Atlantic salmon (Salmo salar) during smolt exodus in rivers whose runs are supplemented by stocking. At other times birds feed on a variety of marine and estuarine species. Great cormorants (P. carbo) occupy marine habitats, and chiefly eat marine bottom fish. Common mergansers (Mergus merganser) eat juvenile salmon and other freshwater fish during spring and summer, but tend to move toward river mouths and estuaries in late summer. Red-breasted merganser's (M. serrator) have a largely coastal distribution, where they feed on estuarine, diadromous, and some salmonid species. Hooded merganser (Lophodytes cucullatus) diet in the region is poorly known, but probably includes a variety of fish and invertebrates. Belted kingfishers (Ceryle alcyon) live mostly along rivers, where they eat salmonids and other freshwater and diadromous fishes. Mean representation of commercial and recreational prey species is 44% for double-crested cormorants (outside the Atlantic salmon smolt run), 31 % for great cormorants, 43% for common mergansers, 3% for red-breasted mergansers, and 34% for belted kingfishers. Despite large sample sizes (total N > 6,982), reported diets only approximately reflect actual food ingested. Major sources of bias include differential digestion rates, erroneous inclusion of prey from prey stomachs, incomplete spatial and temporal coverage, and over-representation of samples from salmon rivers.

**URL:** <Go to ISI>://BCI199800430941

**Reference Type:**  Journal Article

**Record Number:** 1588

**Author:** M. Cameron and I. M. Weis

**Year:** 1993

**Title:** Organochlorine contaminants in the country food diet of the Belcher Island Inuit, Northwest Territories, Canada

**Journal:** Arctic

**Volume:** 46

**Issue:** 1

**Pages:** 42-48

**Short Title:** Organochlorine contaminants in the country food diet of the Belcher Island Inuit, Northwest Territories, Canada

**Accession Number:** BCI:BCI199396011460

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** An initial assessment of the country food diet at the Belcher Islands' community of Sanikiluaq, Northwest Territories (Canada) was made by interviewing 16 families during May-July 1989. Estimates of consumption per day were established over a two-week period for 10 of these families. This information was utilized along with previously published harvest data for the community to estimate country food consumption in grams/day and kg/year. Beluga (Delphinapterus leucas), ringed seal, (Phoca hispida), arctic charr (Salvelinus alpinus), common eider (Somateria mollissima) and Canada goose (Branta canadensis) were found to be important components in the diet during this period. Results of analysis for organochlorine contaminants reveal that ringed seal fat and beluga muktuk (skin and fat layer) samples have the highest concentration of DDE and total PCBs among the country food species. Average DDE and total PCB values were 1504.6 mu-g/kg and 1283.4 mu-g/kg respectively in ringed seal fat and 184.3 mu-g/kg and 144.7 C(9/kg respectively in beluga muktuk. Comparison of contaminants in seal fat indicates concentrations approximately two times higher in samples from the Belcher Islands than from sites in the Canadian Western Arctic, but lower than concentrations reported from various European sites. The daily consumption estimates in grams/day were used along with organic contaminant analysis data to calculate the estimated intake levels of 0.22 mu-g/kg body weight/day of total DDT and 0.15 mu-g/kg body weight/day of total PCBs during the study period. Although limited in sample site, studies such as this provide a framework from which to establish future consumption guidelines more applicable to arctic systems and native diets.

**URL:** <Go to ISI>://BCI199396011460

**Reference Type:**  Journal Article

**Record Number:** 630

**Author:** J. M. Campbell

**Year:** 1969

**Title:** The Canvasback Common Goldeneye and Bufflehead in Arctic Alaska USA Aythya-Valisineria Bucephala-Clangula Bucephala-Albeola Occurrence

**Journal:** Condor

**Volume:** 71

**Issue:** 1

**Pages:** 80

**Short Title:** The Canvasback Common Goldeneye and Bufflehead in Arctic Alaska USA Aythya-Valisineria Bucephala-Clangula Bucephala-Albeola Occurrence

**Accession Number:** BCI:BCI196905029577

**Keywords:** Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI196905029577

**Reference Type:**  Journal Article

**Record Number:** 199

**Author:** L. H. Campbell

**Year:** 1978

**Title:** Patterns of Distribution and Behavior of Flocks of Sea Ducks Wintering at Leith and Musselburgh Scotland

**Journal:** Biological Conservation

**Volume:** 14

**Issue:** 2

**Pages:** 111-124

**Short Title:** Patterns of Distribution and Behavior of Flocks of Sea Ducks Wintering at Leith and Musselburgh Scotland

**Accession Number:** BCI:BCI197967020932

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The numbers, distribution and behavior of flocks of seaducks in the Firth of Forth off Edinburgh [UK] are described for 6 winters. Flocks of goldeneye and scaup were concentrated near sewer outfalls where they fed on invertebrates benefiting from the sewage and on items (grain) in the effluent. Eiders were found around beds of mussels and other bivalves. For goldeneye and scaup, feeding on items in the effuent was of secondary importance to feeding on sewer-enriched populations of invertebrates. While these species showed a close link with sewers, eiders and other marine seaduck species [long-tailed duck, common and velvet scoter] were at most only tenuously linked.

**URL:** <Go to ISI>://BCI197967020932

**Reference Type:**  Journal Article

**Record Number:** 183

**Author:** L. H. Campbell

**Year:** 1984

**Title:** The Impact of Changes in Sewage Treatment on Sea Ducks Wintering in the Firth of Forth Scotland Uk

**Journal:** Biological Conservation

**Volume:** 28

**Issue:** 2

**Pages:** 173-180

**Short Title:** The Impact of Changes in Sewage Treatment on Sea Ducks Wintering in the Firth of Forth Scotland Uk

**Accession Number:** BCI:BCI198478002155

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Conservation; Nonbreeding Seasons;

**Abstract:** Changes in the numbers and distribution of seaducks wintering in the Firth of Forth off Edinburgh following the introduction of sewage treatment are described. Numbers of scaup [Aythya marila] and goldeneye [Bucephala clangula] were considerably reduced and feeding flocks were only recorded at outfalls where sewage continued to be discharged in large quantities. Although food items borne in the sewage were important in determining local distribution patterns, it was unclear whether these or abundant invertebrates were the most important factor attracting seaducks to this area. As a result of an environmentally desirable improvement scheme the UK has lost an internationally important concentration of wildfowl.

**URL:** <Go to ISI>://BCI198478002155

**Reference Type:**  Journal Article

**Record Number:** 1486

**Author:** C. J. Camphuysen, C. M. Berrevoets, H. J. W. M. Cremers, A. Dekinga, R. Dekker, B. J. Ens, T. M. van der Have, R. K. H. Kats, T. Kuiken, M. F. Leopold, J. Van der Meer and T. Piersma

**Year:** 2002

**Title:** Mass mortality of common eiders (Somateria mollissima) in the Dutch Wadden Sea, winter 1999/2000: Starvation in a commercially exploited wetland of international importance

**Journal:** Biological Conservation

**Volume:** 106

**Issue:** 3

**Pages:** 303-317

**Date:** August, 2002

**Short Title:** Mass mortality of common eiders (Somateria mollissima) in the Dutch Wadden Sea, winter 1999/2000: Starvation in a commercially exploited wetland of international importance

**Accession Number:** BCI:BCI200200424781

**Keywords:** Common Eider; Somateria mollissima; Survival; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Mass mortality of common eiders (Somateria mollissima) was observed in winter 1999/2000 in the Dutch Wadden Sea. Approximately 21,000 common eiders died. Dissected birds were severely emaciated and 94% were infected with the acanthocephalan parasite Profilicollis botulus. Green shore crabs (Carcinus maenas), intermediate hosts of the parasite, were slightly more 'available' than in other years, but parasite infections in the eiders were close to normal. Few eiders were oiled (5%), there were no toxicological, bacteriological, or virological explanations for the observed mortality. In the Wadden Sea, a wetland of international importance, mussel (Mytilus edulis) cultures occur in sublittoral areas, while mechanical cockle (Cerastoderma edule) fisheries are licensed annually after evaluation of available resources. The wintering eiders in 1999/2000 required c. 3.1 million kg ash-free dry mass, while information on mussel and cockle stocks (irrespective of accessibility and profitability) suggested a resource 4.7X the requirement of common eiders only. Food shortage is suggested to have caused the observed mortality, involving both principal (mussels and cockles) and secondary (Spisula) prey. Winter census reports showed shifts in wintering distribution of common eiders in the 1990s, indicating the utilisation of Spisula in the North Sea in poor food years in the Wadden Sea. Following particularly intense fisheries in summer 1999, attempts to feed on Spisula in winter 1999/2000 failed. It is hypothesised that overfishing of mussels and cockles in the Wadden Sea in the early 1990s resulted in structurally reduced food resources, contractions of the foraging area of common eiders, and increased use of secondary prey in the North Sea.

**URL:** <Go to ISI>://BCI200200424781

**Reference Type:**  Journal Article

**Record Number:** 163

**Author:** K. C. J. Camphuysen

**Year:** 1993

**Title:** Beached seabirds in The Netherlands: 26 years of study (1965-1991)

**Journal:** Limosa

**Volume:** 66

**Issue:** 1

**Pages:** 1-16

**Short Title:** Beached seabirds in The Netherlands: 26 years of study (1965-1991)

**Accession Number:** BCI:BCI199396037571

**Keywords:** Sea Ducks - General; Contaminants; Nonbreeding Seasons;

**Abstract:** National beached bird surveys in February has been conducted annually in The Netherlands since 1965, with the exception of 1974. Between 1965 and 1978, the surveys were organized by The Netherlands' Youth organisation for Nature studies (NJN). Since 1979, the working group beached bird surveys (NSO) was responsible. Slight differences in methodology between the two schemes have made that the oil rates were different (generally slightly lower since 1979). Volunteers were asked to search for corpses at the high water mark. During 1965-78, the main attempt was to cover as many kilometres as possible, regardless where. Since 1979, 6 subregions (fig. 1) were "sampled" (at least 10% surveyed was considered a reliable sample). The usual output of the national surveys, a "national" density (N/km) was considered reliable, particularly because some of the subregions were not visited every year (tab. 1). A re-analysis of the data was performed din order to assess densities in each of the subregions and to provide baseline data for a future monitoring programme for beached birds in The Netherlands. Proportions oiled were calculated using all birds in a survey, to avoid small samples (national index): oil rates were calculated only when samples continued at least 10 corpse of a species or group. Trends in oil rates were tested using Spearman's Rank Correlation Coefficient for 1965-78 and for 1979-91 separately (tab. 2). Correlations between oil rate and density, and between an index of winter severity (IJnsen index) and density were tested using linear regression analysis, differences in species composition were assessed using the G-test (Sokal and Rohlf (1981). Of 531 divers found dead, 8.1% remained unidentified. Red-throated divers predominated (75.6%, N = 488). Ca. 90% of the divers were oiled, while densities were slightly lower in recent years than previously (fig. 2). Great Crested Grebes were the most numerous grebes (84.6%, N = 1929), followed by Red-necked Grebes (9.0%). Massive mortality was recorded in most cold and all severe winters (fig. 3), when oil rates were comparatively low. Fulmars were found in small numbers in most years (N = 473), but an increase was found in recent years (fig. 4, appendix 1, 2). Mass strandings in 1981 (95), 1984 (54), and 1988 (83) included 91.7, 90.2 and 67.2% with oil on the feathers. Gannets were found in small numbers, and generally, over 75% were oiled. Several oil incidents involving Eiders and scoters were recorded (fig. 5, 6). In Eider, oil rates declined, while other mortality factors became more prominent. Particularly so in the 1990s, when acute food shortages due to overfishing of shellfish in the Wadden Sea led to starvation and mass mortality. Oil was the most important cause of death in scoters (tab. 2). Scaup, Goldeneye, Goosander and Red-breasted Merganser were the most common species in a group named "other sea-duck". Severe winter conditions can force these birds to leave the IJsselmeer and Wadden Sea to enter the coastal marine environment and mass mortality occurred particularly in cold and severe winters (tab. 3). Other waterfowl and wader also were mainly encountered in beached bird surveys in cold winters (appendix 1, 2). Relatively few were oiled, and this proportion declined (tab. 2). Herring, Common, Black-headed and Great Black-backed were the commonest of the Larus-gulls. Some 50% of these gulls were oiled and the proportion declined slightly, but not significantly (fig. 7, tab. 2). Slightly higher numbers were found in cold winters. Of Kittiwakes, a common species only in the early 1980s (fig. 8), the majority were oiled. Wrecks were recorded during 1981-84, with oil rates above average. The Guillemot was the most numerous oiled bird on Dutch beaches in the 1980s and early 1990s. A sudden increase in numbers was found from 1981 onwards (fig. 9), remarkably few were found in 1987. Oil rates were always high (tab. 2). As in the next species, very few were found in the 1970. Also the Razorbill was found in lares numbers in the early 1980s, but number fell after 1984 (fig. 10). A wreck was recorded in 1990. Very high numbers were oiled (tab. 2). The value of national surveys is discussed. Important features to be derived from these data are: (1) winter mortality, particularly amongst species not normally occurring in Dutch coastal waters (grebes, seaduck, waterfowl, waders), (2) local oil incidents, (3) a decline in the oil rate in several of the coastal species, (4) very large proportions oiled in pelagic species and (5) mass strandings of pelagic species in the 1980s. The auk 'wrecks' are discussed in more detail. Patterns found in The Netherlands were in fact found all along the North Sea, including very small numbers in 1987 (and 1992). The availability of food in winter is probably the key factor, leading to changes in winter distribution. The oil-induced mortality in our waters, clearly shows that pollution of the North Sea by oil is still at an unacceptable level.

**URL:** <Go to ISI>://BCI199396037571

**Reference Type:**  Journal Article

**Record Number:** 910

**Author:** K. C. J. Camphuysen, H. Barreveld, G. Dahlmann and J. A. Van Franeker

**Year:** 1999

**Title:** Seabirds in the North Sea demobilized and killed by polyisobutylene (C4H8)n (PIB)

**Journal:** Marine Pollution Bulletin

**Volume:** 38

**Issue:** 12

**Pages:** 1171-1176

**Date:** Dec., 1999

**Short Title:** Seabirds in the North Sea demobilized and killed by polyisobutylene (C4H8)n (PIB)

**Accession Number:** BCI:BCI200000093344

**Keywords:** Black Scoter; Melanitta nigra; Contaminants; Nonbreeding Seasons;

**Abstract:** This paper reports on a mass stranding of seabirds in the North Sea in December 1998. Hundreds of birds were washed ashore alive in Zeeland (SW Netherlands), covered in a whitish, sticky substance, and were transported to a rehabilitation centre. About 10 days later, more (dead) casualties washed ashore further to the north on Texel and along the mainland coast, again covered in a glue-like substance. Common guillemots Uria aalge, northern fulmars Fulmarus glacialis and common scoters Melanitta nigra were the most numerous birds affected in this incident. Both strandings were temporarily (10 days) and geographically separated (ca. 120 km apart), but were apparently caused by a single source of pollution. The meteorology at the time was consistent with the course of a single incident. At least 1100 seabirds were affected by this substance, soon identified as polyisobutylene (C4H8)n. PIB is known as a non-toxic, non-aggressive substance. Volunteers cleaning the birds in the rehabilitation centre reported serious discomfort and dizziness and the soft parts of the PIB-affected birds found dead (bill, eye, throat, feet, webs) appeared to dissolve in a few days time. Both effects cannot be attributed to PIB, and are therefore unexplained. Although the dumping of PIB in the marine environment is not explicitly prohibited under MARPOL, the effects on wildlife observed are enough to plead for counter-measures.

**URL:** <Go to ISI>://BCI200000093344

**Reference Type:**  Journal Article

**Record Number:** 1694

**Author:** M. Cantin, J. Bedard and H. Milne

**Year:** 1974

**Title:** The Food and Feeding of Common Eiders in the St-Lawrence Estuary Canada USA in Summer

**Journal:** Canadian Journal of Zoology

**Volume:** 52

**Issue:** 3

**Pages:** 319-334

**Short Title:** The Food and Feeding of Common Eiders in the St-Lawrence Estuary Canada USA in Summer

**Accession Number:** BCI:BCI197458065497

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**URL:** <Go to ISI>://BCI197458065497

**Reference Type:**  Journal Article

**Record Number:** 15

**Author:** L. Cao, Y. Zhang, M. Barter and G. Lei

**Year:** 2010

**Title:** Anatidae in eastern China during the non-breeding season: Geographical distributions and protection status

**Journal:** Biological Conservation

**Volume:** 143

**Issue:** 3

**Pages:** 650-659

**Date:** Mar 2010

**Short Title:** Anatidae in eastern China during the non-breeding season: Geographical distributions and protection status

**Accession Number:** BCI:BCI201000323864

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Eastern China's Anatidae are globally important, occurring in large numbers and exhibiting very high diversity; however populations have declined greatly since the 1950s due to habitat loss and degradation, and poaching. To meet the urgent need for up-to-date conservation information, we conducted extensive surveys of the region's inland and coastal wetlands to collect data on current Anatidae numbers, distributions and key sites. This paper provides information on the non-breeding distributions of 27 species and how these have changed during the last 30 years, and discusses the protection status afforded to Anatidae and their habitats. About 80% of eastern China's Anatidae occur at inland wetlands, predominantly within the Yangtze River floodplain. Current distributions of most species are different to those of the late-1970s; range contraction, range shift and northward expansion have occurred. Approximately 45% of the total Anatidae population, and high proportions of five globally threatened species populations, were located within National Nature Reserves: coverage could be increased to ca. 65% by inclusion of additional important Anatidae sites within the National Reserve system. However, a number of important issues, such as management skilling and control of land use within reserves, need to be addressed if National Nature Reserves are to provide satisfactory protection for Anatidae. it is also highly desirable that the China National List of Protected Animals include all the relevant Anatidae species on the IUCN Red List to provide a high level of protection for globally threatened species. (C) 2009 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000323864

**Reference Type:**  Journal Article

**Record Number:** 1288

**Author:** P. Carlsson, D. Herzke, M. Wedborg and G. W. Gabrielsen

**Year:** 2011

**Title:** Environmental pollutants in the Swedish marine ecosystem, with special emphasis on polybrominated diphenyl ethers (PBDE)

**Journal:** Chemosphere

**Volume:** 82

**Issue:** 9

**Pages:** 1286-1292

**Date:** Feb 2011

**Short Title:** Environmental pollutants in the Swedish marine ecosystem, with special emphasis on polybrominated diphenyl ethers (PBDE)

**Accession Number:** BCI:BCI201100178940

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Levels of polybrominated diphenyl ethers (PBDEs), polybrominated biphenyls (PBBs), polychlorinated biphenyls (PCBs), dichlorodiphenyltrichloroethane (DDT) and perfluorinated organic compounds (PFCs) were analysed in whole herring (Clupea harengus) and sprat (Sprattus sprattus), eggs from common eider (Somateria mollissima) and eggs and livers from herring gull (Larus argentatus) from the Swedish west coast. The contaminant values obtained were compared with published values from the Arctic marine ecosystem. Tetra- and penta-brominated PBDEs were detected at low levels in herring, sprat and common eider (Sigma PBDE 0.3-2.0 ng g(-1) ww), while the levels were higher in the herring gull samples (Sigma PBDE 1.3-29.9 ng g(-1) ww). Hexa-decaBDEs were also found in samples from herring gulls. Eggs from herring gulls from the sub-Arctic contained four times more PBDE than the Swedish herring gulls eggs. Fish samples from the Arctic had two times higher levels of PBDEs and DDTs than similar samples from Sweden. The higher levels of contaminants in fish and seabirds from the Arctic reflect differences in transport processes, feeding ecology (reflected by trophic levels) and metabolism. PBDEs contributed to <10% of the total contaminant load in all investigated samples. The relative contribution of DDTs was higher in fish and bird samples from the Arctic when compared to Swedish samples, e.g. 65% in glaucous gull livers compared to 10% in herring gull livers. This study shows that even though the Swedish west coast is more urban than the Arctic, higher pollutants levels are found in seabird species from the Arctic. (C) 2010 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201100178940

**Reference Type:**  Journal Article

**Record Number:** 2005

**Author:** J. T. Carlton and J. Hodder

**Year:** 2003

**Title:** Maritime mammals: terrestrial mammals as consumers in marine intertidal communities

**Journal:** Marine Ecology Progress Series

**Volume:** 256

**Pages:** 271-286

**Short Title:** Maritime mammals: terrestrial mammals as consumers in marine intertidal communities

**DOI:** 10.3354/meps256271

**Notes:** Carlton, JT Hodder, J

**Reference Type:**  Journal Article

**Record Number:** 557

**Author:** S. M. Carney

**Year:** 1983

**Title:** Species Age and Sex Identification of Nearctic Goldeneyes from Wings

**Journal:** Journal of Wildlife Management

**Volume:** 47

**Issue:** 3

**Pages:** 754-761

**Short Title:** Species Age and Sex Identification of Nearctic Goldeneyes from Wings

**Accession Number:** BCI:BCI198477001166

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Techniques;

**Abstract:** Wings from Barrow's (Bucephala islandica) and common goldeneyes (B. clangula) were evaluated for species, sex and age differences. On Barrow's goldeneyes, the black bases of most greater secondary coverts (GSC) are visible, the white or gray-white on lesser secondary coverts (LSC) is restricted to feather edges, and usually the outer vanes of fewer than 7 secondaries are white. On common goldeneyes, the black bases of GSC are hidden by the middle coverts, several LSC are white or gray-white, and outer vanes of 7 or more secondaries are white. After-hatching-year (AHY) males of each species are sufficiently distinctive to be easily identified. AHY females of both species have a broad black band across the tips of the GSC. GSC of hatching-year (HY) birds of both species have white or variably dark-spotted tips (not banded) that are often slightly frayed. The sexes of HY birds appear similar, but 95% may be identified on the basis of wing length. Wings of HY male Barrow's goldeneyes are .gtoreq. 218 mm; HY female wings are .ltoreq. 217 mm. Wings of HY male common goldeneyes are .gtoreq. 213 mm; HY female wings are .ltoreq. 212 mm.

**URL:** <Go to ISI>://BCI198477001166

**Reference Type:**  Journal Article

**Record Number:** 277

**Author:** C. M. Caron and P. W. C. Paton

**Year:** 2007

**Title:** Population trends and habitat use of harlequin ducks in Rhode island

**Journal:** Journal of Field Ornithology

**Volume:** 78

**Issue:** 3

**Pages:** 254-262

**Date:** Sep 2007

**Short Title:** Population trends and habitat use of harlequin ducks in Rhode island

**Accession Number:** BCI:BCI200700524657

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** To assess population trends of Harlequin Ducks (Histrionicus histrionicus) in Rhode Island (U.S.A.), we analyzed Christmas Bird Counts and other historical surveys and also conducted surveys during the winter of 2005-2006. We estimated sex and age ratios, evaluated the effects of tidal regime and time of day on survey precision, and quantified habitat use. The population in Rhode Island experienced logistic growth from 1976 to 2004, with approximately 150 birds now wintering at three primary sites in the state. We estimated that the current ratio of males to females in the region was 1.6:1 (62% males) and that 13% of males were first-winter birds. Most Harlequin Ducks were observed in rocky habitats within 50 m of the shore or offshore islands. We detected the greatest numbers of birds, with the least amount of variation, during morning surveys at low tide, suggesting that this may be the most appropriate time for population monitoring. Increases in the Rhode Island population and male-biased sex ratios may indicate a local population recovery resulting from a hunting ban initiated in 1990. Although most Harlequin Ducks in eastern North America winter in Maine, the population in Rhode Island represents one of the largest in the southern part of their range.

**URL:** <Go to ISI>://BCI200700524657

**Reference Type:**  Journal Article

**Record Number:** 773

**Author:** S. Carter and P. Evans

**Year:** 1988

**Title:** The Goosander in Relation to Salmon Fisheries

**Journal:** Ibis

**Volume:** 130

**Issue:** 4

**Pages:** 589

**Short Title:** The Goosander in Relation to Salmon Fisheries

**Accession Number:** BCI:BCI198936061456

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation;

**URL:** <Go to ISI>://BCI198936061456

**Reference Type:**  Journal Article

**Record Number:** 348

**Author:** E. F. Cassirer, C. R. Groves and R. L. Wallen

**Year:** 1991

**Title:** Distribution and Population Status of Harlequin Ducks in Idaho

**Journal:** Wilson Bulletin

**Volume:** 103

**Issue:** 4

**Pages:** 723-725

**Short Title:** Distribution and Population Status of Harlequin Ducks in Idaho

**Accession Number:** BCI:BCI199242066367

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI199242066367

**Reference Type:**  Journal Article

**Record Number:** 346

**Author:** E. F. Cassirer, G. Schirato, F. Sharpe, C. R. Groves and R. N. Anderson

**Year:** 1993

**Title:** Cavity nesting by Harlequin Ducks in the Pacific Northwest

**Journal:** Wilson Bulletin

**Volume:** 105

**Issue:** 4

**Pages:** 691-694

**Short Title:** Cavity nesting by Harlequin Ducks in the Pacific Northwest

**Accession Number:** BCI:BCI199497120309

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI199497120309

**Reference Type:**  Journal Article

**Record Number:** 906

**Author:** I. Castege, G. Hemery, N. Roux, J. d'Elbee, Y. Lalanne, F. D'Amico and C. Mouches

**Year:** 2004

**Title:** Changes in abundance and at-sea distribution of seabirds in the Bay of Biscay prior to, and following the "Erika"oil spill

**Journal:** Aquatic Living Resources

**Volume:** 17

**Issue:** 3

**Pages:** 361-367

**Date:** July 2004

**Short Title:** Changes in abundance and at-sea distribution of seabirds in the Bay of Biscay prior to, and following the "Erika"oil spill

**Accession Number:** BCI:BCI200500071979

**Keywords:** Black Scoter; Melanitta nigra; Abundance, Distribution, and Trends; Contaminants;

**Abstract:** We investigated the impact of the "Erika" oil spill in the Bay of Biscay (France) on seabird populations. Relative abundance and spatial distribution at sea between 1980-1999 and 2000-2002 periods were compared. This study took place in a standardized monitoring at sea carried out with Coast Guard vessels following the line transect method. This work rests on 107 551 standardized counts of one minute before "Erika" and 23 449 after the oil spill. There was not a simple correlation between the number of individuals found oiled and the numerical variation of the populations at sea during the two years following the accident. The guillemot Uria aalge, the most frequently collected species in the north of the Bay of Biscay, showed no decrease in at sea abundance during the two years following the pollution. Conversely, some species found in small numbers on the coast (e.g. divers Gavia sp., razorbill Alca torda, common scoter Melanitta nigra) decreased significantly at sea (20 to 80%). Overall, marine bird populations declined significantly in the northern sector of the Bay of Biscay (48degree32' to 46degree58' north) and increased in the southern sector (45degree13' to 43degree15' north), whereas decreases and increases occurred in the central sector (46degree57' to 45degree14' north). Changes in the spatial distribution of the species after the "Erika" oil spill occurred through disappearance or retraction (Bay of Vilaine, Houat-Hoedic archipelago), or through displacement and reinforcement (Gouf of Capbreton). Overall, this suggests a redistribution of the populations within the Bay of Biscay, depending on the level of injuries to the ecosystems caused by the pollution.

**URL:** <Go to ISI>://BCI200500071979

**Reference Type:**  Journal Article

**Record Number:** 139

**Author:** G. Catsadorakis

**Year:** 1997

**Title:** The importance of Prespa National Park for breeding and wintering birds

**Journal:** Hydrobiologia

**Volume:** 351

**Issue:** 0

**Pages:** 157-174

**Date:** Aug. 22, 1997

**Short Title:** The importance of Prespa National Park for breeding and wintering birds

**Accession Number:** BCI:BCI199800032057

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The breeding avifauna of Prespa National Park is of national and international importance both due to its high richness and the internationally important populations of rare species. The latter include the Dalmatian (Pelecanus crispus) and Great White (Pelecanus onocrotalus) pelicans and the Pygmy Cormorant (Phalacrocorax pygmaeus). Populations of national interest include Cormorant (Phalacrocorax carbo), Greylag Goose (Anser anser), Goosander (Mergus merganser), Great White Egret (Egretta alba) and six other species of ardeids. Among the 261 bird species observed in the area of ca 250 km2 since the late 60s, 164 breed and 41 are very rarely observed. Passage migrants and winter visitors include 91 species. Twelve breeding species became extinct in the National Park during the last 25 years and others are endangered. Raptors and aquatic birds suffered more due to habitat and land use alterations brought about by the construction of an irrigation scheme. Eighty-one species observed in the area are listed as in need of special protection in Annex I of the 79/409 EEC Directive and 32 of them breed. Lake Mikri Prespa is of virtually no importance for wintering waterfowl since it is frozen every winter, but the Greek part of Lake Megali Prespa, which never freezes, concentrates among other species the 20% and 35% respectively of the Great Crested Grebes and Tufted Ducks wintering in Greece.

**URL:** <Go to ISI>://BCI199800032057

**Reference Type:**  Journal Article

**Record Number:** 2141

**Author:** A. Cervencl, K. Troost, E. Dijkman, M. de Jong, C. J. Smit, M. F. Leopold and B. J. Ens

**Year:** 2015

**Title:** Distribution of wintering Common Eider Somateria mollissima in the Dutch Wadden Sea in relation to available food stocks

**Journal:** Marine Biology

**Volume:** 162

**Issue:** 1

**Pages:** 153-168

**Date:** Jan

**Short Title:** Distribution of wintering Common Eider Somateria mollissima in the Dutch Wadden Sea in relation to available food stocks

**ISSN:** 0025-3162

**DOI:** 10.1007/s00227-014-2594-4

**Accession Number:** WOS:000347405400012

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Habitat; Abundance, Distribution, & Trends

**Abstract:** The number of Eiders Somateria mollissima wintering in the Dutch Wadden Sea has declined rapidly during the last two decades. Changes in the available food stocks are assumed to be an important cause of this trend. In order to extend the knowledge of the importance of particular food sources to wintering Eiders, data on distribution of Eiders obtained from aerial counts were spatially related to routinely collected monitoring data of shellfish. Based on previous diet studies, we hypothesized that the distribution of Eiders in the Dutch Wadden Sea is related to the presence of Mytilus edulis stocks and that M. edulis from the sublittoral areas, especially the ones from mussel culture plots will have the strongest effect on Eider distribution. Boosted regression tree models were applied to quantify the relative importance of different potential prey items on the distribution of wintering Eiders. Indeed, Eiders were found to prefer sites with high densities of medium- and large-sized M. edulis, especially from mussel culture plots. Other bivalve species seemed to serve as alternative prey, since sites with a relatively high abundance of these species increased in importance, when less M. edulis was available on culture plots. The contribution of cultured M. edulis to the diet of Eiders decreased during the course of the winter seasons, indicating that harvesting of M. edulis from the culture plots might reduce this high-quality food source at the end of the winter, forcing the Eiders to switch to less profitable prey.

**Notes:** Cervencl, Anja Troost, Karin Dijkman, Elze de Jong, Martin Smit, Cor J. Leopold, Mardik F. Ens, Bruno J.

**URL:** <Go to ISI>://WOS:000347405400012

**Reference Type:**  Journal Article

**Record Number:** 666

**Author:** L. Champoux

**Year:** 1996

**Title:** PCBs, dioxins and furans in hooded merganser (Lophodytes cucullatus), common merganser (Mergus merganser) and mink (Mustela vison) collected along the St. Maurice River near La Tuque, Quebec

**Journal:** Environmental Pollution

**Volume:** 92

**Issue:** 2

**Pages:** 147-153

**Short Title:** PCBs, dioxins and furans in hooded merganser (Lophodytes cucullatus), common merganser (Mergus merganser) and mink (Mustela vison) collected along the St. Maurice River near La Tuque, Quebec

**Accession Number:** BCI:BCI199699014435

**Keywords:** Common merganser; Mergus merganser; Hooded Merganser; Lophodytes cucullatus; Contaminants; Breeding Season;

**Abstract:** A pulp and paper mill located in La Tuque on the St. Maurice River, Quebec, and using the kraft bleaching process was historically the largest pulp and paper industry point source of chlorinated dibenzo-p-dioxins and dibenzofurans in Quebec. A study was undertaken to document the bioaccumulation of PCBs, dioxins and furans in piscivorous birds and mammals in this area. Hooded and Common Merganser eggs were collected in nest boxes along the St. Maurice River and Common Merganser fledglings were collected at two sites on the river. Wild minks were trapped along the St. Maurice River and in a control area upstream. Analysis of pooled merganser eggs showed contamination with dioxins, furans and PCBs. Liver samples of fledglings were contaminated with 2,3,7,8-tetrachlorodibenzofuran at the downstream site. Analysis of mink livers showed a significant higher contamination with dioxins and furans in some downstream samples compared with the upstream samples.

**URL:** <Go to ISI>://BCI199699014435

**Reference Type:**  Journal Article

**Record Number:** 1668

**Author:** G. Chapdelaine and A. Bourget

**Year:** 1981

**Title:** Distribution Abundance and Fluctuations in Populations of Marine Birds of the Mingan Archipelago Gulf of St-Lawrence Quebec Canada

**Journal:** Naturaliste Canadien (Quebec)

**Volume:** 108

**Issue:** 3

**Pages:** 219-228

**Short Title:** Distribution Abundance and Fluctuations in Populations of Marine Birds of the Mingan Archipelago Gulf of St-Lawrence Quebec Canada

**Accession Number:** BCI:BCI198375047922

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Eleven spp. of marine birds breed in the Mingan archipelago along the north shore of the Gulf of St. Lawrence. The family Laridae accounts for 97.4% of the total population [great black-backed gull (Larus marinus), herring gull (L. argentatus), ring-billed gull (Larus delawarensis), black-legged kittiwake (Rissa tridactyla), common tern (Sterna hirundo) arctic tern (S. paradisaea)], the Alcidae 1.5% [razorbill auk (Alca torda), black guillemot (Cepphus grylle), Atlantic puffin (Fratercula arctica)] and the Anatidae 1.1% [common eider (Somateria mollissima)]. Double-crested cormorant (Phalacrocorax auritus) was not a nesting species in 1978, but was considered as such in 1980. Common and arctic tern populations represent one of the most important concentrations of these birds in the Gulf of St. Lawrence. Larids have increased considerably since 1925 while alcids and common eiders have diminished since 1965. The birds are found mainly in the western part of the archipelago, where 71% of the breeding birds are found. Factors influencing bird distribution and population changes in the Mingan Islands are discussed.

**URL:** <Go to ISI>://BCI198375047922

**Reference Type:**  Journal Article

**Record Number:** 168

**Author:** G. Chapdelaine and P. Brousseau

**Year:** 1991

**Title:** Thirteenth Census of Seabird Populations in the Sanctuaries of the North Shore of the Gulf of St. Lawrence 1982-1988

**Journal:** Canadian Field-Naturalist

**Volume:** 105

**Issue:** 1

**Pages:** 60-66

**Short Title:** Thirteenth Census of Seabird Populations in the Sanctuaries of the North Shore of the Gulf of St. Lawrence 1982-1988

**Accession Number:** BCI:BCI199192062878

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends;

**Abstract:** The 1988 census revealed an increase in all families of birds present in the sanctuaries. Common Eiders increased tremendously between 1982 and 1988. The vigorous enforcement program carried out by Parks Canada in Betchouane Bird Sanctuary and by the Canadian Wildlife Service in the Iles Sainte-Marie Bird Sanctuary may explain this spectacular comeback. The high rate of yearly increase of this species supports an immigration hypothesis. Although the gull population also grew, their rate of increase was lower those that of other species. Alcids, which represent 58% of the nesting birds, continued to increase, as they have done since 1977. Two factors may account for the improvement: a better conservation program, of which enforcement and education are the two main components, and the exploitation of large predatory fish competitors by fisheries, which made more small prey fish (Capelin and sand lace) available for seabirds. However, the abundant Capelin stocks have now become attractive to the fisheries, and their imminent exploitation may augur a leaner future for the alcids.

**URL:** <Go to ISI>://BCI199192062878

**Reference Type:**  Journal Article

**Record Number:** 1425

**Author:** K. Chaulk, G. J. Robertson, B. T. Collins, W. A. Montevecchi and B. Turner

**Year:** 2005

**Title:** Evidence of recent population increases in common eiders breeding in Labrador

**Journal:** Journal of Wildlife Management

**Volume:** 69

**Issue:** 2

**Pages:** 805-809

**Date:** Apr 2005

**Short Title:** Evidence of recent population increases in common eiders breeding in Labrador

**Accession Number:** BCI:BCI200510255442

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI200510255442

**Reference Type:**  Journal Article

**Record Number:** 1424

**Author:** K. Chaulk, G. J. Robertson, W. A. Montevecchi and P. C. Ryan

**Year:** 2005

**Title:** Aspects of common eider nesting ecology in Labrador

**Journal:** Arctic

**Volume:** 58

**Issue:** 1

**Pages:** 10-15

**Date:** Mar 05

**Short Title:** Aspects of common eider nesting ecology in Labrador

**Accession Number:** BCI:BCI200510010472

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Productivity; Breeding Season;

**Abstract:** The status, distribution, and nesting ecology of common eiders (Somateria mollissima) breeding in Labrador are not well known. This study is an initial effort to improve understanding of the nesting ecology of eiders on the Labrador coast, a zone of intergradation between the northern (S. m. borealis) and American (S. in. dresseri) subspecies of common eider. During 1998 and 1999, 187 islands were surveyed for nesting eiders at four sites (from north to south: Nain, Hopedale, Makkovik, St. Peter's Bay) along 750 km of the coast. Nest initiation dates (calculated by candling eggs) ranged over a four- to five-week period and were positively associated with latitude: the earliest mean initiation date (5 June) was in St. Peter's Bay in the south and the latest (27 June) at Nain in the north. Mean clutch size ranged from 3.5 to 4.2 and varied by area and year; eiders nesting in Nain had the smallest clutches. In 1999, the highest nest density (49.8 nests/ha) was observed in Nain and the lowest (3.9 nests/ha) in Makkovik. In some cases, we used boat surveys to assess eider presence and absence and found it to be a reliable method; this search technique could be beneficial to researchers working in remote locations where operational costs are high.

**URL:** <Go to ISI>://BCI200510010472

**Reference Type:**  Journal Article

**Record Number:** 1335

**Author:** K. G. Chaulk

**Year:** 2009

**Title:** Suspected Long-Term Population Increases in Common Eiders, Somateria mollissima, on the Mid-Labrador Coast, 1980, 1994, and 2006

**Journal:** Canadian Field-Naturalist

**Volume:** 123

**Issue:** 4

**Pages:** 304-308

**Date:** Oct-Dec 2009

**Short Title:** Suspected Long-Term Population Increases in Common Eiders, Somateria mollissima, on the Mid-Labrador Coast, 1980, 1994, and 2006

**Accession Number:** BCI:BCI201100323518

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Aerial surveys for adult male Common Eiders, Somateria mollissima, were flown on the Labrador coast during June 2006. This information was then compared with aerial counts of adult male Common Eiders collected in 1980 and 1994. For each survey year, data were grouped and paired by coastal block and were analyzed for population trends. Overall, the observed counts of adult male Common Eiders increased by 244% between 1980 and 2006. Much of this increase seemed to occur in the southern region of the study area.

**URL:** <Go to ISI>://BCI201100323518

**Reference Type:**  Journal Article

**Record Number:** 1826

**Author:** K. G. Chaulk and M. L. Mahoney

**Year:** 2012

**Title:** Does spring ice cover influence nest initiation date and clutch size in common eiders?

**Journal:** Polar Biology

**Volume:** 35

**Issue:** 5

**Pages:** 645-653

**Date:** May

**Short Title:** Does spring ice cover influence nest initiation date and clutch size in common eiders?

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-011-1110-2

**Accession Number:** WOS:000302480600001

**Keywords:** Common eider; somateria mollissima; productivity; Breeding Season

**Notes:** Times Cited: 5

Chaulk, Keith G. Mahoney, Matthew L.

5

**URL:** <Go to ISI>://WOS:000302480600001

**Reference Type:**  Journal Article

**Record Number:** 1445

**Author:** K. G. Chaulk, G. J. Robertson and W. A. Montevecchi

**Year:** 2004

**Title:** Regional and annual variability in common elder nesting ecology in Labrador

**Journal:** Polar Research

**Volume:** 23

**Issue:** 2

**Pages:** 121-130

**Short Title:** Regional and annual variability in common elder nesting ecology in Labrador

**Accession Number:** BCI:BCI200500091745

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** Nesting densities are often used to estimate breeding population size and with other measures of reproductive performance can be useful indicators of population status. These aspects of breeding biology often show considerable spatial and temporal variation. Between 2000 and 2003, we surveyed nesting common ciders (Somateria mollissima) on 172 islands in three archipelagos (Nain, Hopedale, Rigolet) on the Labrador coast. Rigolet was the largest archipelago (2834 km2) followed by Nain then Hopedale, and island density varied inversely with archipelago size. Overall means were: nest density 52.0 +/- 141.9 (SD) nests/ha; nest initiation 12 June 12 days; clutch size 3.7 +/- 1.2 eggs/nest; egg volume 98.8 +/- 10.4 cm3; and clutch volume 392.3 +/- 135.0 cm3. Rigolet had the highest average egg volumes and nest densities, the highest single island nest density of 1053 nests/ha, and the earliest average nest initiation date. We found significant differences in nest densities among archipelagos and across years; significant archipelago and year interactions were detected for nest initiation date and clutch size. Significant differences were found among individual islands for all response variables except egg volume. For egg volume, within-archipelago island differences were not significant, but between-archipelago differences were significant. Thus egg volume may be a useful diagnostic to identify population affiliation.

**URL:** <Go to ISI>://BCI200500091745

**Reference Type:**  Journal Article

**Record Number:** 1404

**Author:** K. G. Chaulk, G. J. Robertson and W. A. Montevecchi

**Year:** 2006

**Title:** Extinction, colonization, and distribution patterns of common eider populations nesting in a naturally fragmented landscape

**Journal:** Canadian Journal of Zoology

**Volume:** 84

**Issue:** 10

**Pages:** 1402-1408

**Date:** Oct 2006

**Short Title:** Extinction, colonization, and distribution patterns of common eider populations nesting in a naturally fragmented landscape

**Accession Number:** BCI:BCI200700098562

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Population Delineation; Breeding Season;

**Abstract:** Spatial distribution, patchy environments, and population turnover have many fundamental implications for conservation ecology. Common eider (Somateria mollissima L., 1758) population processes were investigated in Labrador, Canada, between 1998 and 2003. We predicted that local colonies would exhibit population turnover, that extinction would be negatively related to colony and patch size, that colonization would be negatively related to island isolation, and that intraspecific incidence-abundance relationships would be positive. We found that small colonies were prone to extinction, but patch size was not a significant predictor of extinction, nor was colonization related to isolation. The overall observed annual extinction and colonization rates were 0.11 +/- 0.02 and 0.41 +/- 0.06, respectively, and showed variation across archipelagos. At two spatial scales we found that mean colony size was a positive predictor of island occupancy (incidence), and these relationships were maintained across years. Our findings show that common eider colonies in Labrador are dynamic and have greater turnover rates than previously expected in a species that is considered highly philopatric. Our findings support the notion that highly mobile organisms such as migratory birds can exhibit characteristics associated with metapopulation processes.

**URL:** <Go to ISI>://BCI200700098562

**Reference Type:**  Journal Article

**Record Number:** 1377

**Author:** K. G. Chaulk, G. J. Robertson and W. A. Montevecchi

**Year:** 2007

**Title:** Landscape features and sea ice influence nesting common eider abundance and dispersion

**Journal:** Canadian Journal of Zoology

**Volume:** 85

**Issue:** 3

**Pages:** 301-309

**Date:** Mar 2007

**Short Title:** Landscape features and sea ice influence nesting common eider abundance and dispersion

**Accession Number:** BCI:BCI200700375866

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** Factors that influence individual and colony spacing are still not well understood in many organisms. Common ciders (Somateria mollissima (L. 1758)) nest on coastal islands and forage in intertidal and shallow subtidal waters. We considered several biotic and abiotic factors, their interactions, and how these might influence the distribution of eider colonies at several spatial scales in Labrador, Canada. At the island level, nest abundance was not related to intertidal prey density. At the 104 km(2) grid scale, eider nest abundance and the coefficient of dispersion (CD; the variance to mean ratio of colony size or grid cell, where CD indicates population dispersion) were negatively related to the number of islands. Spring ice cover was positively related to the number of islands but was negatively related to eider nest abundance and to CD. Ice cover - abundance and ice cover - CD were significant at two spatial scales (104 and 455 km(2), respectively), but other relationships were weaker at the larger spatial scale. We hypothesize that during the spring, archipelagos with many islands trap ice, providing terrestrial predators access to nesting islands by acting as bridges and that increased predation reduces habitat quality causing nesting ciders to disperse. Our findings suggest that ciders respond to landscape features, including ice cover, a feature that is being influenced by climate change.

**URL:** <Go to ISI>://BCI200700375866

**Reference Type:**  Journal Article

**Record Number:** 460

**Author:** K. G. Chaulk and B. Turner

**Year:** 2007

**Title:** The timing of waterfowl arrival and dispersion during spring migration in Labrador

**Journal:** Northeastern Naturalist

**Volume:** 14

**Issue:** 3

**Pages:** 375-386

**Short Title:** The timing of waterfowl arrival and dispersion during spring migration in Labrador

**Accession Number:** BCI:BCI200800029455

**Keywords:** Common Goldeneye; Bucephala clangula; Migration; Nonbreeding Seasons;

**Abstract:** Weekly aerial surveys were conducted in central Labrador during the spring staging period (27 April to 29 May, 2000), and the relative abundance of waterfowl was documented. Anas rupribes (American Black Duck) and Bucephala clangula (Common Goldeneye) were among the first species to arrive, while peak waterfowl diversity occurred on the latest survey date. Overall, Branta canadensis (Canada Geese) were the most abundant species, followed by American Black Duck and Anas crecca (Green-winged Teal). As expected, the relative abundance of these species varied by date and region. By the time of the last survey on 29 May, average flock size had decreased for most species, most likely corresponding with the start of breeding and nest initiation. Our findings could be useful as baseline information for future studies of climate change, may have implications for the management of the aboriginal spring hunt, and also might be used to mitigate the effects of military flying activity.

**URL:** <Go to ISI>://BCI200800029455

**Reference Type:**  Journal Article

**Record Number:** 667

**Author:** F. Chavez-Ramirez

**Year:** 1995

**Title:** Sex-biased kleptoparasitism of Hooded Mergansers by Ring-billed Gulls

**Journal:** Wilson Bulletin

**Volume:** 107

**Issue:** 2

**Pages:** 379-382

**Short Title:** Sex-biased kleptoparasitism of Hooded Mergansers by Ring-billed Gulls

**Accession Number:** BCI:BCI199598373225

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Trophic Interactions;

**URL:** <Go to ISI>://BCI199598373225

**Reference Type:**  Journal Article

**Record Number:** 1376

**Author:** G. Chilton and M. D. Sorenson

**Year:** 2007

**Title:** Genetic identification of eggs purportedly from the extinct Labrador Duck (Camptorhynchus labradorius)

**Journal:** Auk

**Volume:** 124

**Issue:** 3

**Pages:** 962-968

**Date:** Jul 2007

**Short Title:** Genetic identification of eggs purportedly from the extinct Labrador Duck (Camptorhynchus labradorius)

**Accession Number:** BCI:BCI200700514514

**Keywords:** Red-breasted merganser; Mergus serrator; Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** Material extracted from inside the shells of nine purported Labrador Duck (Camptorhynchus labradorius) eggs was subjected to DNA extraction and polymerase chain reaction (PCR) amplification. For each egg, partial sequences of one to three mitochondrial genes (12S, ND2, and control region) were compared with sequences derived from a Labrador Duck specimen and representatives of several other waterfowl species. Sequences from six eggs were consistent with those of the Red-breasted Merganser (Mergus serrator), whereas the sequences from one egg was most consistent with that of the Common Eider (Somateria mollissima). The remaining two eggs yielded sequences consistent with that of the Mallard (Anas platyrhynchos) or a domestic duck. Regrettably, none of the eggs provided additional information about the breeding grounds of the extinct Labrador Duck. To our knowledge, this is the first report of DNA extraction and amplification from old eggshells of birds.

**URL:** <Go to ISI>://BCI200700514514

**Reference Type:**  Journal Article

**Record Number:** 361

**Author:** H. L. Ching

**Year:** 1961

**Title:** Three trematodes from the harlequin duck

**Journal:** Canadian Jour Zool

**Volume:** 39

**Issue:** (3)

**Pages:** 373-376

**Short Title:** Three trematodes from the harlequin duck

**Accession Number:** BCI:BCI19613600066307

**Keywords:** Harlequin duck; Histrionicus histrionicus; Parasites; Nonbreeding Seasons;

**Abstract:** Three trematodes from the digestive tract of two harlequin ducks, Histrionicus histrionicus pacificus were collected at Friday Harbour, Washington. They are Paramonostomum histrionici, n. sp. (Notocotylidae), and two micro-phallids, Pseudospelotrema japonicum Yamaguti, 1939 (new locality record) and Spelotrema pygmaeum (Levinsen, 1881) Jagerskiold, 1901 (new host and locality record). || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19613600066307

**Reference Type:**  Journal Article

**Record Number:** 542

**Author:** H. L. Ching

**Year:** 1989

**Title:** Profilicollis-Botulus Van Cleave 1916 from Diving Ducks and Shore Crabs of British Columbia Canada

**Journal:** Journal of Parasitology

**Volume:** 75

**Issue:** 1

**Pages:** 33-37

**Short Title:** Profilicollis-Botulus Van Cleave 1916 from Diving Ducks and Shore Crabs of British Columbia Canada

**Accession Number:** BCI:BCI198987116074

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Parasites; Nonbreeding Seasons;

**Abstract:** Adults of Profilicollis botulus were found in 6 species of diving ducks in British Columbia including 3 new hosts: common goldeneye, Bucephala clangula (L.); Barrow's goldeneye, B. islandica (Gmelin); and greater scaup, Aythya marila (L.). The identification of the species was verified by the examination of co-types and specimens from eider ducks, Somateria mollissima (L.), from Scotland [UK] and oldsquaw, Clangula hyemalis (L.), from New Brunswick. Cystacanths from the hairy shore crab, Hemigrapsus oregonensis (Dana), were similar in morphology to those from Carcinus maenas (L.) from Scotland.

**URL:** <Go to ISI>://BCI198987116074

**Reference Type:**  Journal Article

**Record Number:** 2317

**Author:** J. G. Chipault, C. L. White, D. S. Blehert, S. K. Jennings and S. M. Strom

**Year:** 2015

**Title:** Avian botulism type E in waterbirds of Lake Michigan, 2010-2013

**Journal:** Journal of Great Lakes Research

**Volume:** 41

**Issue:** 2

**Pages:** 659-664

**Date:** Jun

**Short Title:** Avian botulism type E in waterbirds of Lake Michigan, 2010-2013

**ISSN:** 0380-1330

**DOI:** 10.1016/j.jglr.2015.03.021

**Accession Number:** WOS:000356400000037

**Keywords:** Long-tailed Duck; Red-breasted Merganser; White-winged Scoter; Clangula hyemalis; Mergus serrator; Melanitta fusca; Nonbreeding season; Disease

**Abstract:** During 2010 to 2013, waterbird mortality surveillance programs used a shared protocol for shoreline walking surveys performed June to November at three areas in northern Lake Michigan. In 2010 and 2012, 1244 total carcasses (0.8 dead bird/km walked) and 2399 total carcasses (1.2 dead birds/km walked), respectively, were detected. Fewer carcasses were detected in 2011 (353 total carcasses, 0.2 dead bird/km walked) and 2013 (451 total carcasses, 0.3 dead bird/km walked). During 3 years, peak detection of carcasses occurred in October and involved primarily migratory diving and fish-eating birds, including long-tailed ducks (Clangula hyemalis; 2010), common loons (Gavia immer; 2012), and red-breasted mergansers (Mergus serrator; 2013). In 2011, peak detection of carcasses occurred in August and consisted primarily of summer residents such as gulls (Larus spp.) and double-crested cormorants (Phalacrocorax auritus). A subset of fresh carcasses was collected throughout each year of the study and tested for botulinum neurotoxin type E (BoNT/E). Sixty-one percent of carcasses (57/94) and 10 of 11 species collected throughout the sampling season tested positive for BoNT/E, suggesting avian botulism type E was a major cause of death for both resident and migratory birds in Lake Michigan. The variety of avian species affected by botulism type E throughout the summer and fall during all 4 years of coordinated surveillance also suggests multiple routes for bird exposure to BoNT/E in Lake Michigan. Published by Elsevier B.V. on behalf of International Association for Great Lakes Research.

**Notes:** Chipault, Jennifer G. White, C. LeAnn Blehert, David S. Jennings, Susan K. Strom, Sean M.

**URL:** <Go to ISI>://WOS:000356400000037

**Reference Type:**  Journal Article

**Record Number:** 1502

**Author:** K. D. Christensen and K. Falk

**Year:** 2001

**Title:** Status of the common eider breeding in the municipality of Avanersuaq (Thule), north-west Greenland

**Journal:** Polar Research

**Volume:** 20

**Issue:** 1

**Pages:** 109-114

**Short Title:** Status of the common eider breeding in the municipality of Avanersuaq (Thule), north-west Greenland

**Accession Number:** BCI:BCI200100424977

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Late in the summers of 1997 and 1998 surveys of common eider (Somateria mollissima) colonies were conducted throughout Avanersuaq Municipality in north-west Greenland. Although old information from eider colonies was available, these surveys provided the first thorough census of almost all colonies in the district, thereby improving the baseline data for assessing future population changes. The surveys were based on nest counts, and all but two colonies in the district were counted. In total, 3800 nests were counted, and an educated guess for the total common eider population in Avanersuaq Municipality, including the two inaccessible colonies, would be around 5000 pairs. Average clutch size was 3.74, similar to or higher than in other areas of Greenland and high Arctic Canada, suggesting favourable conditions for eiders in the survey area. Comparison with older data suggests that the breeding population in Avanersuaq is stable. This observation contrasts with the declines observed in other parts of Greenland. Further studies into possible population-specific migration routes and wintering areas as well as the direct and indirect effects of the intensive winter hunting in south-west Greenland are warranted.

**URL:** <Go to ISI>://BCI200100424977

**Reference Type:**  Journal Article

**Record Number:** 1535

**Author:** T. K. Christensen

**Year:** 1999

**Title:** Effects of cohort and individual variation in duckling body condition on survival and recruitment in the Common Eider Somateria mollissima

**Journal:** Journal of Avian Biology

**Volume:** 30

**Issue:** 3

**Pages:** 302-308

**Date:** Sept., 1999

**Short Title:** Effects of cohort and individual variation in duckling body condition on survival and recruitment in the Common Eider Somateria mollissima

**Accession Number:** BCI:BCI199900504717

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Survival; Breeding Season;

**Abstract:** The relationship between juvenile body condition and pre-reproductive survival and recruitment of female Common Eiders was analysed in three duckling cohorts marked in the Stavns Fjord colony, Denmark during 1991-1993, based on recoveries of females in the colony in 1996. Mean duckling condition differed significantly between the three cohorts, but recruitment was not affected by this difference, c. 18% having recruited from each cohort in the third year after ringing. Compared to mean cohort condition, in all years a positive relationship existed between individual duckling condition and recruitment, irrespective of duckling size at capture. The present results suggest that survival and recruitment of female eiders were related to the relative body condition attained as ducklings within cohorts rather than related to the absolute condition attained by separate cohorts.

**URL:** <Go to ISI>://BCI199900504717

**Reference Type:**  Journal Article

**Record Number:** 1524

**Author:** T. K. Christensen

**Year:** 2000

**Title:** Female pre-nesting foraging and male vigilance in Common Eider Somateria mollissima

**Journal:** Bird Study

**Volume:** 47

**Issue:** 3

**Pages:** 311-319

**Date:** November, 2000

**Short Title:** Female pre-nesting foraging and male vigilance in Common Eider Somateria mollissima

**Accession Number:** BCI:BCI200100230559

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Breeding Season;

**Abstract:** Foraging activity and behaviour of paired female Common Eider from arrival to laying at Saltholm, Denmark, was studied during the spring of 1994 and 1995 to assess the importance of female resource accumulation just prior to egg-laying. Ovary development was studied in paired females collected in 1995, 1996 and 1998. Male activity and behaviour were recorded in 1996 in order to assess the importance of mate-guarding in optimizing female resource acquisition. From arrival at the colony in late March until laying in mid-April, female Eiders allocated on average 62% of the daylight hours to foraging by dabbling in inshore waters (<1 m water depth). In offshore waters (1-4 m depth) foraging by diving averaged 74% of the daylight hours. Paired males foraged an average of 17% of the day time in the inshore habitat, and closely attended their females during this time. The males actively defended their females in encounters with other pairs and from single males. Defence events involving encounters with single males increased significantly from 9.2 times per hour to 17.5 times per hour by the time of laying. The frequency of interruption to female foraging did not change significantly as a result of the more frequent encounters towards the time of laying, being 4.0 times per hour before early April and 5.8 times per hour at the time of laying. Female ovary weights showed a significant increase from early April, indicating that resources obtained locally were allocated to egg production. The increase in encounters with single males suggests that extra-pair copulation may be a secondary reproductive strategy in male Eiders at the time their females start to incubate. The present results emphasize the importance of pre-nesting foraging for female Eiders in maximizing the nutrient intake in preparation for reproduction, and the importance of the behaviour of attendant males in protecting female foraging from interruptions from other males.

**URL:** <Go to ISI>://BCI200100230559

**Reference Type:**  Journal Article

**Record Number:** 1503

**Author:** T. K. Christensen

**Year:** 2001

**Title:** Effects of duckling body condition on hunting vulnerability in juvenile and immature common eiders Somateria mollissima

**Journal:** Wildlife Biology

**Volume:** 7

**Issue:** 2

**Pages:** 97-104

**Date:** June, 2001

**Short Title:** Effects of duckling body condition on hunting vulnerability in juvenile and immature common eiders Somateria mollissima

**Accession Number:** BCI:BCI200100410542

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Survival; Conservation; Breeding Season; Nonbreeding Seasons;

**Abstract:** Condition related pre-breeding hunting vulnerability in the common eider Somateria mollissima, i.e. the relationship between body condition attained as a duckling and the probability of being shot, was analysed from recoveries of hunter-retrieved birds ringed in the Stavns Fjord colony in Denmark during 1991-1995. Mean duckling cohort condition showed significant variation between years, but the proportions of birds retrieved during the first three seasons were similar (4.9%+-1.4 SD). The proportion of birds retrieved by hunters declined from 3.9% in the first year to 0.64% and 0.38% in the second and third year, respectively. A condition bias was found in first-year retrieved birds in the cohorts with the highest and poorest mean condition, but not in the cohorts of intermediate condition. In accordance with a priori predictions regarding condition related non-hunting mortality during the period between marking and the opening of the hunting season, the direction of the bias was negative (hunters retrieved poor individuals compared to cohort mean) in the cohort of high mean condition, and positive (hunters retrieved good individuals compared to cohort mean) in the cohort of poor mean condition. Despite significant variation in cohort condition, the duckling condition of individuals retrieved during their first season from the cohorts of high and poor mean condition was comparable. The condition of first-year retrieved birds was not significantly different from the condition of birds retrieved during their second and third year, when all years were pooled. As there is a significant positive relationship within cohorts between duckling condition and recruitment of (female) eiders, the present results suggest, 1) that hunting vulnerability in the eider is related to a specific (poor) level of body condition attained prior to fledging, and 2) that hunting tends to remove the poorest individuals present at the time when the hunting season opens.

**URL:** <Go to ISI>://BCI200100410542

**Reference Type:**  Journal Article

**Record Number:** 1423

**Author:** T. K. Christensen

**Year:** 2005

**Title:** Factors affecting the bag size of the common eider Somateria mollissima in Denmark, 1980-2000

**Journal:** Wildlife Biology

**Volume:** 11

**Issue:** 2

**Pages:** 89-99

**Date:** Jun 05

**Short Title:** Factors affecting the bag size of the common eider Somateria mollissima in Denmark, 1980-2000

**Accession Number:** BCI:BCI200510130412

**Keywords:** Common Eider; Somateria mollissima; Conservation; Nonbreeding Seasons;

**Abstract:** Based on data compiled from the official Danish Bag Record and from the annual wing surveys of waterfowl, analyses of long-term trends in the bag of common eiders Somateria mollissima were performed for the period 1958-2000, while more detailed analyses of factors affecting bag size were made for the period 1980-1999. The bag size increased from ca 100,000 in the late 1950s to ca 140,000 in the 1970s and 1980s. During the 1990s, the bag size decreased to ca 83,000 in parallel with a decrease in the number of eiders wintering in Danish waters and in parallel with a significant decrease in the number of eider hunters. Assessed from both national and regional developments in bag size, hunter numbers and numbers of eiders bagged per hunter during 1980-1999, there were no indications that bag size was related to the number of wintering eiders. Stepwise multiple regression on data from 1983-1999 showed that the number of eider hunters significantly explained 71.3% of the variation in bag size, and the annual juvenile:adult female ratio in October significantly explained 10.6% of the variation. Marked decreases in the number of eider hunters during the mid-1980s and between the hunting seasons of 1992/93 and 1993/94 coincide with public debates and introductions of legislative restrictions on waterfowl hunting in Denmark. My results stress the importance of detailed analyses of factors contributing to variation in the bag size of waterfowl before accepting an apparent correlation between bag size and population size.

**URL:** <Go to ISI>://BCI200510130412

**Reference Type:**  Journal Article

**Record Number:** 1551

**Author:** T. K. Christensen, T. Bregnaballe, T. H. Andersen and H. H. Dietz

**Year:** 1997

**Title:** Outbreak of Pasteurellosis among wintering and breeding common eiders Somateria mollissima in Denmark

**Journal:** Wildlife Biology

**Volume:** 3

**Issue:** 2

**Pages:** 125-128

**Short Title:** Outbreak of Pasteurellosis among wintering and breeding common eiders Somateria mollissima in Denmark

**Accession Number:** BCI:BCI199799812086

**Keywords:** Common Eider; Somateria mollissima; Disease; Survival; Breeding Season; Nonbreeding Seasons;

**Abstract:** In 1996, an epizootic occurred among wintering and breeding common eiders Somateria mollissima in southwest Kattegat, Denmark, causing the death of at least 900 birds during late winter, and of a total of 3,146 females in five local breeding colonies, corresponding to 35-95% of the females present within the single colonies. The cause of death was related to a bacterial infection by Pasteurella multocida isolated from all examined eiders collected on wintering and breeding grounds. This is the first documented incidence of pasteurellosis in Scandinavia. Based on knowledge of the phenology and winter distribution of eiders, the temporal occurrence of the disease suggests that apparently healthy birds acted as carriers of the disease bringing it from the wintering grounds to the breeding colonies.

**URL:** <Go to ISI>://BCI199799812086

**Reference Type:**  Journal Article

**Record Number:** 2217

**Author:** T. K. Christensen and A. D. Fox

**Year:** 2014

**Title:** Changes in age and sex ratios amongst samples of hunter-shot wings from common duck species in Denmark 1982-2010

**Journal:** European Journal of Wildlife Research

**Volume:** 60

**Issue:** 2

**Pages:** 303-312

**Date:** Apr

**Short Title:** Changes in age and sex ratios amongst samples of hunter-shot wings from common duck species in Denmark 1982-2010

**ISSN:** 1612-4642

**DOI:** 10.1007/s10344-013-0787-7

**Accession Number:** WOS:000332759700018

**Keywords:** Common Goldeneye; Bucephala clangula; Population Dynamics

**Abstract:** There are almost no long-term demographic monitoring programmes of commoner waterbird species, yet such data are fundamental to our understanding of drivers of population change. In the present study, we present annual age and sex ratios in samples of shot duck wings forwarded on a voluntary basis by hunters throughout Denmark from 1982 to 2010 for eight common quarry species. Wigeon, Shoveler, Pintail and Goldeneye showed statistically significant declines in the proportions of young birds in the samples, but only Wigeon showed a statistically significant decline in the proportion of females in the adult sample over this period. Amongst Wigeon, the proportions of first winter birds and females were lower amongst the sample shot over decoys compared with those shot without decoys, suggesting these two shooting methods differentially select for young birds and females. However, the slopes of declines in these proportions shot with and without decoys over time did not differ. We found no correlations between North Atlantic Oscillation index values and the proportions of young for any of the species or between May and June temperatures on the breeding areas of Wigeon and the proportions of young in samples derived the following winter. With the exception of Wigeon, little is known about how well the shot duck wing samples reflect the true ratios in the populations, and unravelling the error and bias associated with these samples remains a high future research priority. If long-term declines in age and sex ratio in the wing surveys reflect true trends in the Wigeon population as a whole, we have strong grounds for concern for this population, and effort should be invested in increased demographic surveillance to better understand the causes of these changes. We need improved methods to derive unbiased measures of annual breeding of our common duck species if we are to be better able to understand the population dynamics of these stocks and be effective in their management. In the meantime, the Danish wing survey represents a unique time series of reproductive success for many common migratory duck species and must be maintained and further exploited.

**Notes:** Christensen, Thomas K. Fox, Anthony D.

**URL:** <Go to ISI>://WOS:000332759700018

**Reference Type:**  Journal Article

**Record Number:** 2142

**Author:** T. K. Christensen and J. P. Hounisen

**Year:** 2014

**Title:** Managing hunted populations through sex-specific season lengths: a case of the Common Eider in the Baltic-Wadden Sea flyway population

**Journal:** European Journal of Wildlife Research

**Volume:** 60

**Issue:** 5

**Pages:** 717-726

**Date:** Oct

**Short Title:** Managing hunted populations through sex-specific season lengths: a case of the Common Eider in the Baltic-Wadden Sea flyway population

**ISSN:** 1612-4642

**DOI:** 10.1007/s10344-014-0840-1

**Accession Number:** WOS:000342412300002

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Population Dynamics; Survival; Population Model; Conservation

**Abstract:** Management of harvested wildlife populations aims to protect species from overexploitation and ultimately extinction, by regulating exploitation towards achievable sustainable levels. However, assessments of impact and sustainability of implemented management actions on a population level are scarce. This study assesses effects of changes in hunting season length imposed on the Baltic-Wadden Sea Common Eider Somateria mollissima population, including differential restriction on hunting of the sexes. The potential impact of these changes on the population was assessed by simple demographic matrix projections. Since the early 1990s, this population has declined at ca. 6.3 % per annum, and the male/female ratio among shot birds has fallen from 3:2 to about 3:1. Concerns in Denmark regarding the conservation status and sustainability of contemporary levels of exploitation resulted in shortening the open season by 44 and 46 days for females and 13 and 15 days for males from the hunting seasons 2004/2005 and 2011/2012 onwards, respectively. These reduced the kill of adult females by 82 %, adult males by 31 %, juvenile females by 58 % and juvenile males by 55 %. The observed reduction in the kill of adult females following both changes in 2004/2005 and 2011/2012 matched the expected changes based on the seasonal distribution of sexes in the bag prior to the change. Post 2004/2005 hunters killed more adult males, but shot markedly fewer juvenile birds than expected. Demographic modelling of the female population showed that the effects of the reduced hunting would correspond to an increase in the annual population growth rate from the previous -6.3 to -3.6 % (post 2004) and -1.6 % (post 2011). The model also predicted that a full ban on hunting female eiders (adults and juveniles) would lead to a positive population growth rate of 0.7 %. Taking into account the conservative model estimates and natural variations in annual breeding success, the implemented changes in sex-specific regulation of hunting may potentially be an effective management tool to halt the decline of the Baltic-Wadden Sea eider population, potentially rendering such levels of hunting sustainable under prevailing conditions.

**Notes:** Christensen, Thomas Kjaer Hounisen, Jens Peder

**URL:** <Go to ISI>://WOS:000342412300002

**Reference Type:**  Journal Article

**Record Number:** 1716

**Author:** M. Christiansen

**Year:** 1948

**Title:** Epidemic-like outbreak of disease due to zooparasites. among the common eiders. S. mollissima.on the Island of Bornholm

**Journal:** Dansk Ornithol Foren Tidsskr

**Volume:** 42

**Issue:** (2)

**Pages:** 41-47

**Short Title:** Epidemic-like outbreak of disease due to zooparasites. among the common eiders. S. mollissima.on the Island of Bornholm

**Accession Number:** BCI:BCI19502400021922

**Keywords:** Common Eider; Somateria mollissima; Disease;

**Abstract:** A disease outbreak in Aug.-Sept., 1947, was caused by Polymorphus boschadis, one of the Acanthocephala, which were attached in masses in the small intestines. Three birds had lesions in the kidneys caused by coccidia. Later reports indicate no serious reduction of the eider colony. || ABSTRACT AUTHORS: O. J. Murie

**URL:** <Go to ISI>://BCI19502400021922

**Reference Type:**  Journal Article

**Record Number:** 1715

**Author:** M. Christiansen

**Year:** 1952

**Title:** Renal coccidiosis in wild anseriform birds. E. somateriae n. sp. in the common eider

**Journal:** Nordisk Veterinaermed

**Volume:** 4

**Pages:** 1173-1191

**Short Title:** Renal coccidiosis in wild anseriform birds. E. somateriae n. sp. in the common eider

**Accession Number:** BCI:BCI19532700020820

**Keywords:** Common Eider; Somateria mollissima; Parasites; Breeding Season;

**Abstract:** E. truncata was found in goslings of the grey goose (Anser anser) from 2 separate nesting places. Oocysts resembling E. truncata but much smaller were found in kidneys of 4 young swans (Cygnus olor). 20 out of 21 common eiders (Somateria mollisima) were found to have 2 kinds of oocysts. One appeared to be a small variant of E. truncata; the other is descr. as E. somateriae. || ABSTRACT AUTHORS: A. G. Karlson

**URL:** <Go to ISI>://BCI19532700020820

**Reference Type:**  Journal Article

**Record Number:** 314

**Author:** T. E. Chubbs, B. Mactavish, K. Oram, P. G. Trimper, K. Knox and R. I. Goudie

**Year:** 2001

**Title:** Unusual Harlequin Duck, Histrionicus histrionicus, nest site discovered in central Labrador

**Journal:** Canadian Field-Naturalist

**Volume:** 115

**Issue:** 1

**Pages:** 177-179

**Date:** January-March, 2001

**Short Title:** Unusual Harlequin Duck, Histrionicus histrionicus, nest site discovered in central Labrador

**Accession Number:** BCI:BCI200100398603

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Breeding Season;

**Abstract:** During telemetry monitoring of adult Harlequin Ducks, Histrionicus histrionicus, in 1999, a female was radio-tracked to her nest site. The nest site, only the third recorded in Labrador, was unusual, as it was located 108 m from the nearest river, in open spruce-lichen boreal forest.

**URL:** <Go to ISI>://BCI200100398603

**Reference Type:**  Journal Article

**Record Number:** 326

**Author:** T. E. Chubbs, B. Mactavish and P. G. Trimper

**Year:** 2000

**Title:** Site characteristics of a repetitively used Harlequin Duck, Histrionicus histrionicus, nest in northern Labrador

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 2

**Pages:** 324-326

**Date:** April-June, 2000

**Short Title:** Site characteristics of a repetitively used Harlequin Duck, Histrionicus histrionicus, nest in northern Labrador

**Accession Number:** BCI:BCI200100020408

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Breeding Season;

**Abstract:** As part of field investigation for the Voisey's Bay Mine Mill Environmental Assessment in 1995, baseline studies on Harlequin Ducks, Histrionicus histrionicus, were initiated around the proposed site on Labrador's north coast. During ground brood surveys in 1997, a Harlequin Duck nest was discovered. This was the second Harlequin Duck nest ever found in Labrador. The exact same site was used again in 1998 indicating favorable nesting habitat and repetitive nest-site use for Harlequin Ducks in Labrador. This finding contributes to our meager knowledge of the species breeding habits in Labrador and has implications on future research.

**URL:** <Go to ISI>://BCI200100020408

**Reference Type:**  Journal Article

**Record Number:** 262

**Author:** T. E. Chubbs, P. G. Trimper, G. W. Humphries, P. W. Thomas, L. T. Elson and D. K. Laing

**Year:** 2008

**Title:** Tracking Seasonal Movements of Adult Male Harlequin Ducks from Central Labrador Using Satellite Telemetry

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 173-182

**Short Title:** Tracking Seasonal Movements of Adult Male Harlequin Ducks from Central Labrador Using Satellite Telemetry

**Accession Number:** BCI:BCI200900160430

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** Satellite telemetry was used to determine the migration patterns between breeding, staging, and molting areas of adult. male Harlequin Ducks (Histrionicus histrionicus) breeding in central Labrador during 2001 (N = 5) and 2002 (N = 6). Male Harlequin Ducks remained near their capture locations for an average of 19-20 d. Males spent an average of 18 and 34 d on the Labrador coast in 2001 and 2002, respectively, and moved along the coast between several important staging areas prior to migration to Greenland. Male Harlequin Ducks may be completing a pre-basic molt prior to migrating to Greenland. Seven males migrated from the Labrador coast to three distinct molting areas in Greenland. All transmitters, expired by September preventing a confirmation of whether these males wintered in Greenland. The absence of hand sightings during winter in eastern Canada, especially Maine, indicates that some Harlequin Ducks breeding in central Labrador may also winter in eastern Greenland.

**URL:** <Go to ISI>://BCI200900160430

**Reference Type:**  Journal Article

**Record Number:** 214

**Author:** R. B. Clark and J. P. Croxall

**Year:** 1972

**Title:** Rescue Operations for Oiled Sea Birds

**Journal:** Marine Pollution Bulletin

**Volume:** 3

**Issue:** 8

**Pages:** 123-127

**Short Title:** Rescue Operations for Oiled Sea Birds

**Accession Number:** BCI:BCI197208086124

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI197208086124

**Reference Type:**  Journal Article

**Record Number:** 2218

**Author:** R. G. Clark, H. Poysa, P. Runko and A. Paasivaara

**Year:** 2014

**Title:** Spring phenology and timing of breeding in short-distance migrant birds: phenotypic responses and offspring recruitment patterns in common goldeneyes

**Journal:** Journal of Avian Biology

**Volume:** 45

**Issue:** 5

**Pages:** 457-465

**Date:** Sep

**Short Title:** Spring phenology and timing of breeding in short-distance migrant birds: phenotypic responses and offspring recruitment patterns in common goldeneyes

**ISSN:** 0908-8857

**DOI:** 10.1111/jav.00290

**Accession Number:** WOS:000341706400006

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Behavior; Productivity

**Abstract:** Understanding how organisms adjust breeding dates to exploit resources that affect fitness can provide insights into impacts of climate change on avian demography. For instance, mismatches have been reported in long-distance migrant bird species when environmental cues experienced during spring migration are decoupled from conditions on breeding grounds. Short-distance migrant bird species that store reproductive nutrients prior to breeding may avoid or buffer adverse phenological effects. Furthermore, reduced short-term reproductive success could be offset by higher future recruitment of surviving offspring. We evaluated whether recruitment of locally-hatched female offspring was related to hatching date alone or strength of mismatched breeding date for 405 individually-marked adult female common goldeneyes Bucephala clangula (a short-distance migrant) and their ducklings from a site in central Finland where ice-out date has advanced by approximate to 2 weeks over 24 yr. Path analyses revealed that older, early-nesting females with good body condition and larger broods recruited the most female offspring. Offspring recruitment decreased strongly among females that bred late relative to other females in the population each year; the extent of mismatched breeding date, i.e. hatching date scaled to annual ice-out date, was less influential. Overall, most females advanced breeding dates when ice-out occurred earlier in spring, but some females exhibited greater flexibility in response to ice-out conditions than did others. In general, directional selection favoured early breeding over a wide range of ice-out dates. Our results seem most consistent with a hypothesis that some short-distance migrant species like goldeneyes have the capacity to track and respond appropriately to changing environmental conditions prior to onset of breeding.

**Notes:** Clark, Robert G. Poysa, Hannu Runko, Pentti Paasivaara, Antti

**URL:** <Go to ISI>://WOS:000341706400006

**Reference Type:**  Journal Article

**Record Number:** 978

**Author:** M. Collinson, D. T. Parkin, A. G. Knox, G. Songster and A. J. Helbig

**Year:** 2006

**Title:** Species limits within the genus Melanitta, the scoters

**Journal:** British Birds

**Volume:** 99

**Issue:** 4

**Pages:** 183-201

**Date:** Apr 2006

**Short Title:** Species limits within the genus Melanitta, the scoters

**Accession Number:** BCI:BCI200600426526

**Keywords:** Surf Scoter; Melanitta perspicillata; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Taxonomy;

**Abstract:** As part of its reassessment of the taxonomy of birds on the British List, the BOURC Taxonomic Sub-committee has assessed all six recognised taxa of scoters Melanitta against its previously published Species Guidelines (Helbig et al. 2002). We consider that, on the basis of evidence currently available, at least five species should be recognised: Common Scoter M. nigra, Black Scoter M. americana, Velvet Scoter M. fusca,White-winged Scoter M. deglandi and Surf Scoter M. perspicitiata. The taxonomic status of the Asian subspecies of White-winged Scoter (stejnegeri) is uncertain, owing to insufficient information on several aspects of its morphology and behaviour. Provisionally, we suggest that it is best treated as conspecific with M. deglandi.

**URL:** <Go to ISI>://BCI200600426526

**Reference Type:**  Journal Article

**Record Number:** 22

**Author:** L. A. Comeau, P. St-Onge, F. Pernet and L. Lanteigne

**Year:** 2009

**Title:** Deterring coastal birds from roosting on oyster culture gear in eastern New Brunswick, Canada

**Journal:** Aquacultural Engineering

**Volume:** 40

**Issue:** 2

**Pages:** 87-94

**Date:** Mar 2009

**Short Title:** Deterring coastal birds from roosting on oyster culture gear in eastern New Brunswick, Canada

**Accession Number:** BCI:BCI200900276815

**Keywords:** Sea Ducks - General;

**Abstract:** An ornithological survey was conducted along the eastern coastline of New Brunswick Canada where,, oysters are cultivated in suspension using PVC bags and wire-mesh cages. Thirteen bird species and a variety of unidentified shorebirds were observed roosting on the floating oyster gear. The double-crested cormorant (Phalacrocorax auritus) was the most common species observed (47.6% of all counts) closely, followed by herring gulls (Larus argentatus) and common terns (Sterna hirundo) at 18.7% and 13.0%, respectively. Birds were densely aggregated where few cages or bags had been deployed. A gear-type effect was also detected: birds were more abundant on floating cages (mean = 47.9/100 m(2) of exposed area, S.E. = 5.8) than on floating bags (mean = 32.8/100 m(2), S.E. = 1.9). The survey was followed by two experiments designed to test the effects of gear modifications on bird abundance and diversity. For bags, results indicated that shallow immersion (similar to 6 cm below surface) and floater instability were effective deterrents to P. auritus, reducing its abundance by a 37-fold factor. For wire-mesh cages, a dented triangular structure mounted on top of floaters was a harassing physical barrier to roosting behaviour, consequently reducing bird abundances to null (or near null) values. Crown Copyright (C) 2008 Published by Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200900276815

**Reference Type:**  Journal Article

**Record Number:** 1827

**Author:** J. A. Conkin and R. T. Alisauskas

**Year:** 2013

**Title:** Modeling probability of waterfowl encounters from satellite imagery of habitat in the central Canadian arctic

**Journal:** Journal of Wildlife Management

**Volume:** 77

**Issue:** 5

**Pages:** 931-946

**Date:** Jul

**Short Title:** Modeling probability of waterfowl encounters from satellite imagery of habitat in the central Canadian arctic

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.560

**Accession Number:** WOS:000320937000008

**Keywords:** Sea Ducks; habitat; Abundance, Distribution, and Trends; Breeding Season

**Notes:** Times Cited: 0

Conkin, John A. Alisauskas, Ray T.

0

**URL:** <Go to ISI>://WOS:000320937000008

**Reference Type:**  Journal Article

**Record Number:** 1708

**Author:** F. G. Cooch

**Year:** 1965

**Title:** The breeding biology and management of the northern eider (Somateria mollissima borealis) in the Cape Dorset Area, Northwest Territories

**Journal:** Wildlife Manage Bull [Ottawa] Ser Ii

**Volume:** 10

**Pages:** 5-68

**Short Title:** The breeding biology and management of the northern eider (Somateria mollissima borealis) in the Cape Dorset Area, Northwest Territories

**Accession Number:** BCI:BCI19684900033251

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** The first northern eiders arrived in early May, with the peak of migration occurring in late May and early June. The first migrants were males, but sex ratios equalized in early June. Little courtship was noted at first, but it became fairly common in early June. Pre-nesting flights started in mid-June, and egg laying on June 19, 1955, and on June 23, 1956. Most nest sites were inspected and prepared at least 2 days before the laying of the 1st egg. More than 90% of the sites contained old down. Site tenacity is shown to occur in northern eiders. The average clutch size on the study area in 1955 was 3.7 eggs and in 1956, 3.83 eggs. Predation and other losses accounted for 25% of all eggs laid in 1955 and 15% in 1956. Renesting reduced the effect of complete nest destruction. However, second clutches were approximately half as large as 1st ones. Nearly all nesting down is deposited before the laying of the last egg. Incubation frequently starts before the last egg is laid, and lasts 28 to 29 days. Males desert nesting females soon after the laying of the last egg. The female rarely leaves the nest after the midpoint of incubation. Ducklings are able to leave the nest soon after hatching. On the West Foxe Islands, most ducklings remain on the lakes for 2 or 3 days; elsewhere they proceed directly to the sea. A post-hatch migration to mainland tidal pools occurs within a week of hatching. Ducklings, escorted by relatively few females, stay in those areas for nearly a month. The fledging period is thought to be 60 days. Autumn migration from Cape Dorset area is gradual. Some birds remain in the area throughout the winter. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19684900033251

**Reference Type:**  Journal Article

**Record Number:** 342

**Author:** F. Cooke, G. J. Robertson, R. I. Goudie and W. S. Boyd

**Year:** 1997

**Title:** Molt and the basic plumage of male harlequin ducks

**Journal:** Condor

**Volume:** 99

**Issue:** 1

**Pages:** 83-90

**Short Title:** Molt and the basic plumage of male harlequin ducks

**Accession Number:** BCI:BCI199799469796

**Keywords:** Harlequin duck; Histrionicus histrionicus; Molt; Behavior; Nonbreeding Seasons;

**Abstract:** Using observations on 28 individually marked male Harlequin Ducks from mid-June until late November, we describe plumage changes which occur as individuals proceed from the alternate plumage through basic to the return of the new alternate plumage. We also describe the timing of these events, at the individual and population level. Conspicuous white tertial feathers which become visible early in the period of the basic plumage present a challenge to existing theories to explain the function of the drab basic plumage. We hypothesize that these feathers act as a badge of quality and are used as a sexual signal to other birds. Intra-sexual competition among males to assess the quality of rival males prior to subsequent pair formation is a proposed function of this feather badge.

**URL:** <Go to ISI>://BCI199799469796

**Reference Type:**  Journal Article

**Record Number:** 325

**Author:** F. Cooke, G. J. Robertson, C. M. Smith, R. I. Goudie and W. S. Boyd

**Year:** 2000

**Title:** Survival, emigration, and winter population structure of Harlequin Ducks

**Journal:** Condor

**Volume:** 102

**Issue:** 1

**Pages:** 137-144

**Date:** Feb., 2000

**Short Title:** Survival, emigration, and winter population structure of Harlequin Ducks

**Accession Number:** BCI:BCI200000127527

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** A population of individually marked Harlequin Ducks (Histrionicus histrionicus) at White Rock, British Columbia, Canada was examined to measure the degree of population differentiation among birds which pair during the winter months. This required an understanding of the patterns of emigration among wintering sites in different segments of the population. Some juveniles arrived at the wintering grounds accompanied by their mothers, thus initially arriving into the same winter population as their parents. Young males were more likely than young females to disperse during the first two years of life. Adult males had higher local survival than adult females during the summer months, probably because of the greater mortality risks to nesting females. During the nonbreeding seasons, local survival was the same in both sexes. Paired males had a local survival of more than 90%, suggesting both high survival and strong philopatry. Unpaired males had a lower local survival rate, suggesting they have higher mortality and/or emigration rates. Young females had the same local survival rate as adult females, suggesting that they did not disperse during the winter. These winter philopatry patterns are similar to the general pattern of breeding philopatry in waterfowl, with females showing stronger philopatry than males, and paired adults stronger philopatry than unpaired and young birds. The dispersal of young males makes local population differentiation unlikely in this species.

**URL:** <Go to ISI>://BCI200000127527

**Reference Type:**  Journal Article

**Record Number:** 1800

**Author:** L. W. Cooper, M. G. Sexson, J. M. Grebmeier, R. Gradinger, C. W. Mordy and J. R. Lovvorn

**Year:** 2013

**Title:** Linkages between sea-ice coverage, pelagic-benthic coupling, and the distribution of spectacled eiders: Observations in March 2008, 2009 and 2010, northern Bering Sea

**Journal:** Deep-Sea Research Part Ii-Topical Studies in Oceanography

**Volume:** 94

**Pages:** 31-43

**Date:** Oct

**Type of Article:** Article

**Short Title:** Linkages between sea-ice coverage, pelagic-benthic coupling, and the distribution of spectacled eiders: Observations in March 2008, 2009 and 2010, northern Bering Sea

**Alternate Journal:** Deep-Sea Res. Part II-Top. Stud. Oceanogr.

**ISSN:** 0967-0645

**DOI:** 10.1016/j.dsr2.2013.03.009

**Accession Number:** WOS:000326361600004

**Keywords:** Spectacled Eider; Somateria fischeri; Trophic Interactions; Habitat; Nonbreeding Seasons

**Abstract:** Icebreaker-based sampling in the northern Bering Sea south of St. Lawrence Island in March of 2008, 2009, and 2010 has provided new data on overall ecosystem function early in the annual productive cycle. While water-column chlorophyll concentrations (<25 mg m(-2) integrated over the whole water column) are two orders of magnitude lower than observed during the spring bloom in May, sea-ice algal inventories of chlorophyll are high (up to 1 g m(-3) in the bottom 2-cm of sea-ice). Vertical fluxes of chlorophyll as measured in sediment traps were between 0.3 and 3.7 mg m(-2) d(-1) and were consistent with the recent deposition (days' to weeks' time scale) of chlorophyll to the surface sediments (0-25 mg m(-2) present at 0-1 cm). Sediment oxygen respiration rates were lower than previous measurements that followed the spring bloom, but were highest in areas of known high benthic biomass. Early spring release of sedimentary ammonium occurs, particularly southeast of St. Lawrence Island, leading to bottom-water ammonium concentrations of >5 mu M. These data, together with other physical, biological, and nutrient data, are presented here in conjunction with observed sea-ice dynamics and the distribution of an apex predator, the Spectacled Eider (Somateria fischeri). Sea-ice dynamics in addition to benthic food availability, as determined by sedimentation processes, play a role in the distribution of spectacled eiders, which cannot always access the greatest biomass of their preferred bivalve prey. Overall, the data and observations indicate that the northern Bering Sea is biologically active in late winter, but with strong atmospheric and hydrographic controls. These controls pre-determine nutrient and chlorophyll distributions, water-column mixing, as well as pelagic-benthic coupling. (C) 2013 Elsevier Ltd. All rights reserved.

**Notes:** ISI Document Delivery No.: 244BH

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Cited Reference Count: 42

Cooper, L. W. Sexson, M. G. Grebmeier, J. M. Gradinger, R. Mordy, C. W. Lovvorn, J. R.

Grebmeier, Jacqueline/L-9805-2013

North Pacific Research Board; Office of Polar Programs of the National Science Foundation [ARC-0732767, ARC-0732430, ARC-082290]; Joint Institute for the Study of the Atmosphere and Ocean (JISAO) under NOAA [NA17RJ1232]

The field sampling would not have been possible without strong support from the commanding officers, crew and officers of both the USCGC Healy on the 2008 and 2009 cruises, and during the apparently final science mission of the USCGC Polar Sea in 2010. Shipboard support for water column collections and data management was provided by Steve Roberts, Tom Bolmer, Matt Durham, Ben Gire, Sigrid Salo, Peter Proctor, Mark Bradford, John Allison, and Scott Hiller. Also at sea, we thank Markus Janout, Boris Sirenko, Craig Casemodel, Deanna Wheeler, Rebecca Neumann, Sarah Story, Joe Bump, Perry Pungowiyi, Gay Sheffield, Marisa Guarinello, Regan Simpson, Krista Hoff, Maria Ceballos, Linton Beaven, Cynthia Yeung, Laura Gemery, Nathalie Morata, Jared Weems, Brenna McConnell, Marjorie Brooks, Steve Fenske, Dawn Sechler, Martin Schuster, and Edward Davis for their help in collecting the data presented here. Alynne Bayard and Aariel Rowan provided GIS expertise with drafting some of the figures and Dana Biasatti made the oxygen isotope determinations. We thank two anonymous reviewers and guest editor Mike Lomas for their efforts in reviewing earlier versions of the manuscript. Financial support was provided in part by the North Pacific Research Board. The Office of Polar Programs of the National Science Foundation also supported this work, through ARC-0732767 to RG, ARC-0732430 to CM, and ARC-082290 to L.C. and J.G. The spectacled eider telemetry efforts were supported by the Bureau of Ocean Energy Management, the Bureau of Land Management, the National Fish and Wildlife Foundation, the US Fish and Wildlife Service, ConocoPhillips-Alaska, Inc., the Columbus Zoo and Aquarium, the Mesker Park Zoo & Botanic Garden, and the Point Defiance Zoo 82 Aquarium. Use of trade names is for descriptive purposes only and does not imply endorsement by the US Geological Survey or the US Government. This study was also in part funded by the Joint Institute for the Study of the Atmosphere and Ocean (JISAO) under NOAA Cooperative Agreement no. NA17RJ1232. This work is Contribution 3854 to NOAA's Pacific Environmental Laboratory, 2041 to JISAO, EcoFOCI-0786 to NOAA's Fisheries-Oceanography Coordinated Investigations, and Contribution 87 to the BEST-BSIERP program.

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**URL:** <Go to ISI>://WOS:000326361600004

**Author Address:** [Cooper, L. W.; Grebmeier, J. M.] Univ Maryland, Chesapeake Biol Lab, Ctr Environm Sci, Solomons, MD 20688 USA. [Sexson, M. G.] US Geol Survey, Alaska Sci Ctr, Anchorage, AK 99508 USA. [Gradinger, R.] Univ Alaska Fairbanks, Sch Fisheries & Ocean Sci, Fairbanks, AK 99775 USA. [Mordy, C. W.] Univ Washington, Joint Inst Study Atmosphere & Ocean, Seattle, WA 98105 USA. [Lovvorn, J. R.] So Illinois Univ, Dept Zool, Carbondale, IL 62901 USA. [Lovvorn, J. R.] So Illinois Univ, Ctr Ecol, Carbondale, IL 62901 USA.

Cooper, LW (reprint author), Univ Maryland, Chesapeake Biol Lab, Ctr Environm Sci, POB 38, Solomons, MD 20688 USA.

cooper@umces.edu

**Language:** English

**Reference Type:**  Journal Article

**Record Number:** 1028

**Author:** R. O. Y. Corfixsen

**Year:** 1947

**Title:** The voice of the velvet scoter, Melanitta fusca (L.), a hitherto unsolved riddle

**Journal:** Dansk Orni Thol Foren Tidsskr

**Volume:** 41

**Issue:** (3)

**Pages:** 171-174

**Short Title:** The voice of the velvet scoter, Melanitta fusca (L.), a hitherto unsolved riddle

**Accession Number:** BCI:BCI19492300009469

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Nonbreeding Seasons;

**Abstract:** Observing flocks of males in the winter of 1946-47 off the coast of s. Zealand, the author recorded the call motes as "longong-longong" (o pronounced as i in bird), and another call "tititititi" which was believed not to come from the wing beats. || ABSTRACT AUTHORS: O. J. Murie

**URL:** <Go to ISI>://BCI19492300009469

**Reference Type:**  Journal Article

**Record Number:** 1829

**Author:** R. M. Corrigan, G. J. Scrimgeour and C. Paszkowski

**Year:** 2011

**Title:** Nest Boxes Facilitate Local-Scale Conservation of Common Goldeneye (Bucephala clangula) and Bufflehead (Bucephala albeola) in Alberta, Canada

**Journal:** Avian Conservation and Ecology

**Volume:** 6

**Issue:** 1

**Date:** Jun

**Short Title:** Nest Boxes Facilitate Local-Scale Conservation of Common Goldeneye (Bucephala clangula) and Bufflehead (Bucephala albeola) in Alberta, Canada

**ISSN:** 1712-6568

**DOI:** 10.5751/ace-00435-060101

**Article Number:** 1

**Accession Number:** WOS:000295461500003

**Keywords:** Common Goldeneye; Bufflehead; Bucephala albeola; Bucephala clangula; Habitat; Conservation; Breeding Season

**Notes:** Times Cited: 2

Corrigan, Robert M. Scrimgeour, Garry J. Paszkowski, Cynthia

2

**URL:** <Go to ISI>://WOS:000295461500003

**Reference Type:**  Journal Article

**Record Number:** 745

**Author:** P. J. Cosgrove

**Year:** 1997

**Title:** A winter survey of sawbill ducks and cormorants on the River Deveron, north east Scotland

**Journal:** Scottish Birds

**Volume:** 19

**Issue:** 2

**Pages:** 93-100

**Date:** Winter, 1997

**Short Title:** A winter survey of sawbill ducks and cormorants on the River Deveron, north east Scotland

**Accession Number:** BCI:BCI199800492663

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** During January 1996 a winter survey of sawbill ducks and Cormorants was carried out on the main stem of the River Deveron, in north east Scotland. A total of 91 Goosanders were counted representing approximately one bird per 1km of river. Nearly half of the birds were adult males and the rest females or yearlings. Goosanders were most abundant in the lower to middle reaches of the river. No Red-breasted Mergansers were detected on the river. There were 15 Cormorants on the river representing approximately one bird per 6 km of river, although birds were only recorded in the lower to middle sections of the river. The figure of 91 Goosanders shows that the River Deveron is a nationally important wintering site, holding at least 1% of the estimated population in Great Britain. However the national population has been estimated in the absence of comprehensive river surveys and so the national figures need to be reassessed to take account of all Goosander habitats. Both Goosanders and Cormorants have been culled under licence in relatively high numbers on the Deveron in recent years. The impact of culling on the bird and fish populations are considered and the necessity of culling is questioned.

**URL:** <Go to ISI>://BCI199800492663

**Reference Type:**  Journal Article

**Record Number:** 726

**Author:** P. J. Cosgrove, J. R. A. Butler and R. L. Laughton

**Year:** 2004

**Title:** Canoe and walking surveys of wintering Goosanders, Red-Breasted Mergansers, Great Cormorants and Common Goldeneyes on the River Spey, 1994-2003

**Journal:** Scottish Birds

**Volume:** 24

**Issue:** 2

**Pages:** 1-10

**Date:** June 2004

**Short Title:** Canoe and walking surveys of wintering Goosanders, Red-Breasted Mergansers, Great Cormorants and Common Goldeneyes on the River Spey, 1994-2003

**Accession Number:** BCI:BCI200400454840

**Keywords:** Common Goldeneye; Bucephala clangula; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Winter surveys of Goosanders, Red-breasted Mergansers, Great Cormorants and Common Goldeneyes on the main stem of the River Spey were carried out in December 2002 and February 2003 using a novel survey methodology based on canoe counts. The River Spey holds nationally important wintering populations of Goosanders and Common Golden eyes, but not Red-breasted Mergansers or Great Cormorants. These data were compared with historical survey data, which demonstrated that wintering Goosander densities have remained stable on the River Spey between 1994 and 2003. Recommendations are made for future survey methods of Goosanders, Red-breasted Mergansers, Great Cormorants and Common Goldeneyes on the River Spey.

**URL:** <Go to ISI>://BCI200400454840

**Reference Type:**  Journal Article

**Record Number:** 226

**Author:** C. Cottam

**Year:** 1939

**Title:** Food habits of North American diving ducks

**Journal:** U S Dept Agric Tech Bull

**Volume:** 643

**Pages:** 1-139

**Short Title:** Food habits of North American diving ducks

**Accession Number:** BCI:BCI19391300009065

**Keywords:** Sea Ducks - General; Trophic Interactions;

**Abstract:** To return to a satisfactory abundance the duck population, which has decreased alarmingly in recent years, owing in part to drought, reclamation, and overshooting, it is necessary effectively to apply principles of conservation and restoration. To do this, a knowledge of the food requirements of the species is requisite. This bulletin treats of the food habits of the 22 N. American diving ducks (exclusive of mergansers), which may be roughly segregated as inland divers and sea ducks. It is based both on field studies and on the analyses in the Food Habits Laboratory of the Biol. Survey of the stomach contents (including both gizzard and gullet) of 6,665 adults and 141 juveniles. For each species there is a summary of distribution, habits, and status, along with detailed data on food preferences. Food percentages were computed by the volumetric method. The inland divers include the redhead, ringneck, canvasback, greater and lesser scaups, ruddy duck, and the masked duck. With the exception of the greater scaup, which consumes nearly equal proportions of plant and animal food, all are predominantly vegetarians, feeding on tubers, underground rootstalks, seeds, and green vegetative fibers of many aquatic and marsh plants. The sea ducks include the American and Barrow's goldeneyes, bufflehead, old squaw, and harlequin duck; the eiders[long dash]Steller's northern, American, Pacific, king, and spectacled[long dash]and the scoters[long dash]white-winged, surf, and American. All of these are predominantly animal feeders. For the inland divers, few plants appear to be of outstanding value as food. Most important are the submerged pondweeds (Najadaceae), wild celery (Vallisneria spiralis), musk grass (Characeae), watershield (Brasenia schreberi), wild rice (Zizania aquatica), bulrushes (Scirpus), and smartweeds (Polygonum). The most important animal foods are mollusks and insects[long dash]particularly caddis fly and midge larvae, water bugs, and water beetles. A section of the bulletin treats of methods of propagating desirable duck foods. For the sea ducks, mollusks (mostly pelecypods, especially Mytilus edulis) were the most important food for 8 species, crustaceans for 4, and insects for 2. Fishes are acceptable to all the spp. treated but were consumed in small numbers, and the kinds taken are rarely of commercial or sporting importance. Within limits, availability is the most important factor governing food selection. When an acceptable food is found the adults often make their entire meal on a single or a related group of species. The young of most spp. fed principally upon animal foods, mainly insects, crustaceans, and small mollusks, although some juveniles showed a decided, though indiscriminate, preference for vegetable material. || ABSTRACT AUTHORS: C. Cottam

**URL:** <Go to ISI>://BCI19391300009065

**Reference Type:**  Journal Article

**Record Number:** 39

**Author:** R. Cotter and J.-F. Rail

**Year:** 2007

**Title:** Third Census of Seabird Populations of the Gaspe Peninsula, Quebec, 2002

**Journal:** Canadian Field-Naturalist

**Volume:** 121

**Issue:** 3

**Pages:** 274-286

**Date:** Jul-Sep 2007

**Short Title:** Third Census of Seabird Populations of the Gaspe Peninsula, Quebec, 2002

**Accession Number:** BCI:BCI200900211176

**Keywords:** Sea Ducks - General; Common eider; Abundance, Distribution, and Trends;

**Abstract:** In the tradition of the quinquennial census of seabirds in the Migratory Bird Sanctuaries along Quebec's North Shore. which began in 1925, this paper presents the results of the first three seabird censuses of the Gaspe Peninsula conducted in 1979. 1989, and 2002, with an emphasis on the third census and on changes in seabird populations that occurred between the second and third censuses. In 1979 the population of seabirds was estimated at 134 163 birds, and this increased 72% to 23 1 186 birds in 1989. The upward trend in population continued in the 1990s but less sharply. The 2002 census recorded 279 276 birds, a 21% increase over the second census. The seabird community of the Gaspe Peninsula comprises 14 species. In each of the three censuses, three species accounted for over 75% of the total seabird population: Northern Gannet, Black-legged Kittiwake, and Common Murre. Between 1989 and 2002, Common Eider, Northern Gannet, Great Cormorant, Ring-billed Gull, Razorbill, and Black Guillemot increased in numbers. whereas Herring Gull, Black-legged Kittiwake. and Common Tern all suffered declines. Populations for Double-crested Cormorant, Great Black-backed Gull, and Common Murre all remained stable. Very small populations (<25 birds) of Leach's Storm-Petrel and Atlantic Puffin have been recorded during the censuses at only one location, Bonaventure Island. In the 2002 census there were no petrels observed, neither of adults nor of active burrows.

**URL:** <Go to ISI>://BCI200900211176

**Reference Type:**  Journal Article

**Record Number:** 1314

**Author:** J. C. Coulson

**Year:** 2010

**Title:** A long-term study of the population dynamics of Common Eiders Somateria mollissima: why do several parameters fluctuate markedly?

**Journal:** Bird Study

**Volume:** 57

**Issue:** Part 1

**Pages:** 1-18

**Short Title:** A long-term study of the population dynamics of Common Eiders Somateria mollissima: why do several parameters fluctuate markedly?

**Accession Number:** BCI:BCI201000153258

**Keywords:** Common Eider; Somateria mollissima; Population Dynamics; Survival; Productivity; Breeding Season;

**Abstract:** Capsule The population dynamics of an Eider population has been studied from 1958 to 2006 to evaluate the causes of changes in abundance and breeding potential.Aims To evaluate the changes in clutch size, survival rate of adult ducks, the extent of non-breeding, and recruitment to the breeding population of Common Eiders nesting on Coquet Island, Northumberland.Methods Survival rates, recruitment and size of the population have been determined by an annual mark-recapture study, while the numbers of nests and clutch size have been directly recorded each year.Results There was marked annual variation in the number of ducks alive, their mortality rates, extent of non-breeding, clutch size and recruitment of adult ducks. Overall, the annual survival rate and clutch size decreased, and numbers of adult ducks, and presumably the population, peaked on two occasions.Conclusions No density-dependent effects were identified and the size of the population was mainly determined by changes in the adult survival rates. Because of non-breeding, nest counts were an unreliable measure of the population size. It is suggested that food shortage is the main factor that has produced the long-term changes in the population and there is an indication that adverse conditions for Eiders have extended over much of northern Europe in recent years. Identification of why the duckling survival rates were so low and whether these can be increased offers the most likely means of active conservation of this species and would involve management of feeding sites rather than breeding areas.

**URL:** <Go to ISI>://BCI201000153258

**Reference Type:**  Journal Article

**Record Number:** 1830

**Author:** J. C. Coulson

**Year:** 2013

**Title:** Age-related and Annual Variation in Mortality Rates of Adult Female Common Eiders (Somateria mollissima)

**Journal:** Waterbirds

**Volume:** 36

**Issue:** 2

**Pages:** 234-239

**Date:** Jun

**Short Title:** Age-related and Annual Variation in Mortality Rates of Adult Female Common Eiders (Somateria mollissima)

**ISSN:** 1524-4695

**Accession Number:** WOS:000320345000013

**Keywords:** common eider; Somateria mollissima; survival; Breeding Season; Nonbreeding Seasons

**Notes:** Times Cited: 0

Coulson, John C.

0

**URL:** <Go to ISI>://WOS:000320345000013

**Reference Type:**  Journal Article

**Record Number:** 1334

**Author:** S. J. Coulson, B. Moe, F. Monson and G. W. Gabrielsen

**Year:** 2009

**Title:** The invertebrate fauna of High Arctic seabird nests: the microarthropod community inhabiting nests on Spitsbergen, Svalbard

**Journal:** Polar Biology

**Volume:** 32

**Issue:** 7

**Pages:** 1041-1046

**Date:** Jul 2009

**Short Title:** The invertebrate fauna of High Arctic seabird nests: the microarthropod community inhabiting nests on Spitsbergen, Svalbard

**Accession Number:** BCI:BCI200900426708

**Keywords:** Common Eider; Somateria mollissima; Breeding Season;

**Abstract:** The invertebrate fauna of the nests of three seabird species, black-legged kittiwakes (Rissa tridactyla), common eider (Somateria mollissima) and glaucous gull (Larus hyperboreus), were sampled in Kongsfjorden, Spitsbergen, Svalbard. The invertebrate community was species poor, consisting predominantly of the flea, Mioctenopsylla arctica arctica (Insecta: Siphonaptera), but with six species of oribatid mite (Acari: Oribatida), Diapterobates notatus, Oribatula tibialis, Ameronothrus lineatus, Hermannia reticulata, Trichoribates trimaculatus and Ceratoppia bipilis, plus an occasional mesostigmatid mite. No Collembola or ticks (Acari: Ixodidae) were observed. With the exception of M. arctica arctica, the fauna of seabird nests consisted of opportunistic microarthropod species rather than specialised nest-dwelling or bird parasitic species. Species diversity of soil oribatid mites was greater in nests of the common eider than compared to nests of the black-legged kittiwake, which may be related to the ground nesting behaviour of the common eiders. No rare or unusual microarthropod species for Svalbard were found in the seabird nests. The contentions that nests may facilitate microarthropod colonisation of High Arctic regions via bird phoresy by providing a high-quality habitat at the point of arrival, or that there might be a specialised microarthropod fauna exploiting this habitat, were not supported in this study. These are amongst the first data on the microarthropod community of seabird nests in the High Arctic.

**URL:** <Go to ISI>://BCI200900426708

**Reference Type:**  Journal Article

**Record Number:** 2296

**Author:** K. L. Counihan, J. M. Maniscalco, M. Bozza, J. M. Hendon and T. E. Hollmen

**Year:** 2015

**Title:** The influence of year, laying date, egg fertility and incubation, individual hen, hen age and mass and clutch size on maternal immunoglobulin Y concentration in captive Steller's and spectacled eider egg yolk

**Journal:** Developmental and Comparative Immunology

**Volume:** 52

**Issue:** 1

**Pages:** 10-16

**Date:** Sep

**Short Title:** The influence of year, laying date, egg fertility and incubation, individual hen, hen age and mass and clutch size on maternal immunoglobulin Y concentration in captive Steller's and spectacled eider egg yolk

**ISSN:** 0145-305X

**DOI:** 10.1016/j.dci.2015.04.005

**Accession Number:** WOS:000357145900002

**Keywords:** Spectacled Eider; Steller’s Eider; Somateria fischeri; Polysticta stelleri; Breeding Season; Physiology

**Abstract:** Steller's eiders and spectacled eiders are sea duck species whose populations have declined significantly and infectious diseases could influence offspring survival. Therefore, the maternal transfer of immunoglobulin Y (IgY) into yolk was investigated in captive Steller's and spectacled eiders during the 2007-2013 breeding seasons. This project had two objectives: establish baseline IgY levels in Steller's and spectacled eider yolk under controlled captive conditions and evaluate the effect of year, laying date, egg fertility, egg incubation duration, individual hen, hen age and mass, and laying order to determine which variables influenced IgY levels. Average IgY concentrations were 0.03-0.48 mg ml(-1) in Steller's eider yolk and 0.10-0.51 mg ml(-1) in spectacled eider yolk. The year and individual hen influenced IgY concentration in Steller's and spectacled eider yolk. The laying date was negatively correlated with egg IgY levels for most Steller's eider hens, but laying order was positively correlated with egg IgY concentration for spectacled eiders. (C) 2015 Elsevier Ltd. All rights reserved.

**Notes:** Counihan, Katrina L. Maniscalco, John M. Bozza, Maryann Hendon, Jill M. Hollmen, Tuula E.

**URL:** <Go to ISI>://WOS:000357145900002

**Reference Type:**  Journal Article

**Record Number:** 2267

**Author:** K. L. Counihan, L. F. Skerratt, J. C. Franson and T. E. Hollmen

**Year:** 2015

**Title:** Phylogenetic and pathogenic characterization of novel adenoviruses isolated from long-tailed ducks (Clangula hyemalis)

**Journal:** Virology

**Volume:** 485

**Pages:** 393-401

**Date:** Nov

**Short Title:** Phylogenetic and pathogenic characterization of novel adenoviruses isolated from long-tailed ducks (Clangula hyemalis)

**ISSN:** 0042-6822

**DOI:** 10.1016/j.virol.2015.07.026

**Accession Number:** WOS:000363993100041

**Keywords:** Long-tailed Duck; Clangula hyemalis; Disease

**Abstract:** Novel adenoviruses were isolated from a long-tailed duck (Clangula hyemalis) mortality event near Prudhoe Bay, Alaska in 2000. The long-tailed duck adenovirus genome was approximately 27 kb. A 907 bp hexon gene segment was used to design primers specific for the long-tailed duck adenovirus. Nineteen isolates were phylogenetically characterized based on portions of their hexon gene and 12 were most closely related to Goose adenovirus A. The remaining 7 shared no hexon sequences with any known adenoviruses. Experimental infections of mallards with a long-tailed duck reference adenovirus caused mild lymphoid infiltration of the intestine and paint brush hemorrhages of the mucosa and dilation of the intestine. This study shows novel adenoviruses from long-tailed ducks are diverse and provides further evidence that they should be considered in cases of morbidity and mortality in sea ducks. Conserved and specific primers have been developed that will help screen sea ducks for adenoviral infections. (C) 2015 Elsevier Inc. All rights reserved.

**Notes:** Counihan, Katrina L. Skerratt, Lee F. Franson, J. Christian Hollmen, Tuula E.

**URL:** <Go to ISI>://WOS:000363993100041

**Reference Type:**  Journal Article

**Record Number:** 738

**Author:** M. Coupe and F. Cooke

**Year:** 1999

**Title:** Factors affecting the pairing chronologies of three species of Mergansers in southwest British Columbia

**Journal:** Waterbirds

**Volume:** 22

**Issue:** 3

**Pages:** 452-458

**Short Title:** Factors affecting the pairing chronologies of three species of Mergansers in southwest British Columbia

**Accession Number:** BCI:BCI200000152856

**Keywords:** Red-breasted merganser; Mergus serrator; Hooded Merganser; Lophodytes cucullatus; Common merganser; Mergus merganser; Behavior; Nonbreeding Seasons;

**Abstract:** Most Northern Hemisphere ducks form pairs on the wintering grounds, and timing of pairing varies considerably among species and populations. Hypotheses to explain variation in pairing chronology utilize sex-specific cost-benefit frameworks. These hypotheses have not been adequately tested, largely because of inadequate sample size of pairing chronologies, especially within the tribe Mergini. Wintering Common (Mergus merganser), Hooded (Lophodytes cucullatus), and Red-breasted mergansers (M. serratus) were observed at several sites in southwest British Columbia to determine pairing chronology. Courtship displays of Hooded Mergansers occurred significantly earlier than those of Red-breasted Mergansers. Hooded Mergansers began to pair in mid-November, Red-breasted Mergansers in early February, and Common Mergansers in late February. We tested the prediction that the largest species of ducks pair earliest. This could occur if females derive energetic benefits as a result of pairing, and females of larger species begin to accumulate endogenous nutrients earlier. It could also occur if pairing exerts an energetic cost on males, such that males of smaller species are more prone to winter mortality as a result of fluctuations in energy demand. The much earlier pairing of the smallest species (Hooded Mergansers) is inconsistent with either scenario. We suggest that between-species differences in pairing chronology may be better explained by the constraints imposed by sexual segregation during winter.

**URL:** <Go to ISI>://BCI200000152856

**Reference Type:**  Journal Article

**Record Number:** 2340

**Author:** S. Craik, John Pearce and Rodger D. Titman

**Year:** 2015

**Title:** Red-breasted Merganser (Mergus serrator)

**Journal:** The Birds of North America

**Short Title:** Red-breasted Merganser (Mergus serrator)

**Keywords:** Red-breasted Merganser; Mergus serrator

**Reference Type:**  Journal Article

**Record Number:** 2283

**Author:** S. R. Craik, A. R. Hanson, R. D. Titman, M. L. Mahoney and E. Tremblay

**Year:** 2015

**Title:** Potential Impacts of Storm Surges and Sea-level Rise on Nesting Habitat of Red-breasted Mergansers (Mergus serrator) on Barrier Islands in New Brunswick, Canada

**Journal:** Waterbirds

**Volume:** 38

**Issue:** 1

**Pages:** 77-85

**Date:** Mar

**Short Title:** Potential Impacts of Storm Surges and Sea-level Rise on Nesting Habitat of Red-breasted Mergansers (Mergus serrator) on Barrier Islands in New Brunswick, Canada

**ISSN:** 1524-4695

**DOI:** 10.1675/063.038.0110

**Accession Number:** WOS:000370892800009

**Keywords:** Red-breasted Merganser; Mergus serrator; Breeding Season; Habitat; Conservation

**Abstract:** Predicted sea-level rise and increases in the frequency and magnitude of storm surges are potential threats to waterbird nests and associated breeding habitat on low-lying landforms, such as barrier islands. Sea-level rise in Northumberland Strait of eastern Canada, predicted to rise by at least 0.50-0.60 m by 2100, could permanently flood large tracts of barrier island habitat. Potential impacts of higher sea levels on breeding habitat of Red-breasted Mergansers (Mergus serrator) were studied on three barrier islands at Kouchibouguac National Park, New Brunswick, Canada. Objectives of the study were to: 1) identify the range of dates for which nests (n = 189) were active and thus vulnerable to flooding; 2) determine elevation and distance to water for each nest; 3) examine whether birds selected nest sites that were relatively elevated and far from water; and 4) estimate the proportion of nests that could be flooded under four plausible sea-level rise and storm surge scenarios. Peak nesting occurred during mid-June to mid-July. Red-breasted Mergansers generally sought elevated regions with beach grasses for nest placement. Nearly 50% of nests were < 2 m above mean sea level. Nest elevations were greater than a conservative estimate of sea-level rise of 0.60 m. However, = 50% of these nests are predicted to be flooded during a high spring tide if sea levels are 0.60 m greater, and these impacts would be exacerbated when phased with a storm surge. A predicted surge of 2.55 m above mean sea level would inundate 90% of nests on the islands. Results indicate that predicted sea-level rise for Northumberland Strait over the next century threatens the habitat and survival of waterbird nests on barrier islands, particularly if there is little accretion to the islands during this period. Accordingly, rates of sediment accretion or erosion on the Tern Islands should be monitored closely as sea levels continue to rise.

**Notes:** Craik, Shawn R. Hanson, Alan R. Titman, Rodger D. Mahoney, Matthew L. Tremblay, Eric

**URL:** <Go to ISI>://WOS:000370892800009

**Reference Type:**  Journal Article

**Record Number:** 1831

**Author:** S. R. Craik, J. P. L. Savard, M. J. Richardson and R. D. Titman

**Year:** 2011

**Title:** Foraging Ecology of Flightless Male Red-breasted Mergansers in the Gulf of St. Lawrence, Canada

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 3

**Pages:** 280-288

**Date:** Sep

**Short Title:** Foraging Ecology of Flightless Male Red-breasted Mergansers in the Gulf of St. Lawrence, Canada

**ISSN:** 1524-4695

**Accession Number:** WOS:000294592900003

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; molt; Nonbreeding Seasons

**Notes:** Times Cited: 2

Craik, Shawn R. Savard, Jean-Pierre L. Richardson, Michael J. Titman, Rodger D.

2

**URL:** <Go to ISI>://WOS:000294592900003

**Reference Type:**  Journal Article

**Record Number:** 818

**Author:** S. R. Craik, J.-P. L. Savard and R. D. Titman

**Year:** 2009

**Title:** Wing and Body Molts of Male Red-Breasted Mergansers in the Gulf of St. Lawrence, Canada

**Journal:** Condor

**Volume:** 111

**Issue:** 1

**Pages:** 71-80

**Date:** Feb 2009

**Short Title:** Wing and Body Molts of Male Red-Breasted Mergansers in the Gulf of St. Lawrence, Canada

**Accession Number:** BCI:BCI200900240916

**Keywords:** Red-breasted merganser; Mergus serrator; Molt; Nonbreeding Seasons;

**Abstract:** Little is known of the chronology of wing molt and the intensity of body molt among flightless Red-breasted Mergansers (Mergus serrator) in North America. We examined molt of 39 postbreeding males collected at Anticosti Island, Quebec, Canada, from July to September 2005 and 2006. We estimated that birds were flightless for 30-33 days. Nearly 75% of males initiated the flightless period between 20 July and 3 August, and >90% were flightless from 8 to 25 August. Subadult males became flightless slightly earlier ((x) over bar = 28 July; n = 7) than adult males (a = 1 August; n = 28). Most of the head and neck attained the cryptic alternate plumage before remiges were lost, consistent with observations at a neat-by breeding site in eastern New Brunswick, where >75% of adult males were undergoing prealternate molt on the head region by late June. Molt intensities declined on the side, collar, and back and increased on the belly and tail throughout the period of flightlessness. Greater coverts generally molted in synchrony with new flight feathers, and most median and lesser coverts initiated replacement within 10 days of loss of remiges. This study provides evidence that the prealternate molt functions effectively to replace bright upperpart feathers with cryptic plumage prior to the flightless period. We suggest that the staggered pattern of molt among feather regions may minimize nutritional and energetic demands associated with feather replacement and changes in plumage insulation among flightless male Red-breasted Mergansers in the upper Gulf of St. Lawrence.

**URL:** <Go to ISI>://BCI200900240916

**Reference Type:**  Journal Article

**Record Number:** 823

**Author:** S. R. Craik and R. D. Titman

**Year:** 2008

**Title:** Movements and Habitat Use by Red-Breasted Merganser Broods in Eastern New Brunswick

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 4

**Pages:** 743-754

**Date:** Dec 2008

**Short Title:** Movements and Habitat Use by Red-Breasted Merganser Broods in Eastern New Brunswick

**Accession Number:** BCI:BCI200900123310

**Keywords:** Red-breasted merganser; Mergus serrator; Dispersal; Habitat; Breeding Season;

**Abstract:** Red-breasted Mergansers (Mergus serrator) commonly breed in estuaries, but little is known about their brood-rearing in coastal environments. We measured daily movements and habitat use of radio-marked (n = 17) female Red-breasted Mergansers with broods originating from coastal barrier islands at Kouchibouguac National Park, New Brunswick, Canada from 2002 to 2004. primary brood movements from nest sites to initial rearing areas were often extensive, averaging 3.5 km (it = 15), since many brood,; crossed Saint-Louis Lagoon to continental rearing sites. Broods remained mobile throughout the rearing period and there was little difference in daily movements between age class I (days 1-10 post nest exodus), Class II (days 11-20), and class III (> 20 days) broods. Broods frequented shallow ((x) over bar = 51 cm, 95% CI: 44-58 cm, n = 191 locations), nearshore ((x) over bar = 47 in, 95% CI: 33-60 n = 157 locations) waters that often supported submergent eel grass (Zostera marina). Broods selected estuarine intertidal regions in Saint-Louis and Kouchibouguac lagoons, as well as wetlands at the mouths of tidal streams. Few broods Were found in tidal river and marine habitats. Continental estuarine intertidal, tidal stream, and saltmarsh habitats were preferred by age class I broods whereas estuarine intertidal and subtidal habitats were preferred by age classes II and III. This study highlights the importance Of estuarine habitats in lagoons and tidal streams for brood-rearing Red-breasted Mergansers in eastern New Brunswick.

**URL:** <Go to ISI>://BCI200900123310

**Reference Type:**  Journal Article

**Record Number:** 819

**Author:** S. R. Craik and R. D. Titman

**Year:** 2009

**Title:** Nesting Ecology of Red-breasted Mergansers in a Common Tern Colony in Eastern New Brunswick

**Journal:** Waterbirds

**Volume:** 32

**Issue:** 2

**Pages:** 282-292

**Date:** Jun 2009

**Short Title:** Nesting Ecology of Red-breasted Mergansers in a Common Tern Colony in Eastern New Brunswick

**Accession Number:** BCI:BCI200900481097

**Keywords:** Red-breasted merganser; Mergus serrator; Habitat; Productivity; Breeding Season;

**Abstract:** Nest-site selection and nest success for Red-breasted Mergansers (Mergus senator) breeding on a barrier island complex (Tern Islands) with >10,000 Common Terns (Sterna hirundo) in eastern New Brunswick, Canada, were studied in 2005 and 2006. Concealment was the most important feature for nest placement as 153 of 156 nests were in dense stands of Marram Grass (Ammophila breviligulata), and overhead concealment, vegetation density and vegetation height were all greater at nests than at random locations. Apparent. success for all nests was 57% and was similar between years. Few nests were depreciated (N = 3), but abandonment was responsible for 95% of nest losses and was most common early in the season. Nest success was <45% for nests initiated before 25 May but >75% for nests initiated after 10 June. Nest. abandonment was influenced by intraspecific nest parasitism and investigator activity. Red-breasted Mergansers selected nest sites adaptively on Tern Islands because: 1) nests were more concealed than random sites; 2) avian predation at nests in the Common Tern colony was lower than at nests on nearby islands without terns; 3) nests were not exposed to mammalian predators; and 4) nest success and nest densities were high.

**URL:** <Go to ISI>://BCI200900481097

**Reference Type:**  Journal Article

**Record Number:** 1499

**Author:** F. Criscuolo

**Year:** 2001

**Title:** Does blood sampling during incubation induce nest desertion in the female Common Eider Somateria mollissima?

**Journal:** Marine Ornithology

**Volume:** 29

**Issue:** 1

**Pages:** 47-50

**Date:** January, 2001

**Short Title:** Does blood sampling during incubation induce nest desertion in the female Common Eider Somateria mollissima?

**Accession Number:** BCI:BCI200200537998

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** The Common Eider Somateria mollissima is an appropriate species with which to study the physiology of fasting during reproduction, and particularly to follow how individual females incubate in natural conditions. However, it usually relies on invasive techniques including bird capture and blood sampling. Consequently, disturbance of birds can induce unusual behaviour and lead to nest desertion and spurious results. This note describes the effect of capture and blood sampling on incubating female eiders from Spitzbergen. Female eiders were either caught and bled or simply flushed from their nests. We found that nest desertion was linked with treatment and with the date of incubation. Birds were more likely to desert their nests when handled at the beginning of incubation. By contrast, no effect of disturbance (without capture) was detected. We suggest that capture of incubating eiders should be avoided during the critical initial incubation period.

**URL:** <Go to ISI>://BCI200200537998

**Reference Type:**  Journal Article

**Record Number:** 1422

**Author:** F. Criscuolo, O. Chastel, F. Bertile, G. W. Gabrielsen, Y. Le Maho and T. Raclot

**Year:** 2005

**Title:** Corticosterone alone does not trigger a short term behavioural shift in incubating female common eiders Somateria mollissima, but does modify long term reproductive success

**Journal:** Journal of Avian Biology

**Volume:** 36

**Issue:** 4

**Pages:** 306-312

**Date:** Jul 2005

**Short Title:** Corticosterone alone does not trigger a short term behavioural shift in incubating female common eiders Somateria mollissima, but does modify long term reproductive success

**Accession Number:** BCI:BCI200700144212

**Keywords:** Common Eider; Somateria mollissima; Physiology; Productivity; Breeding Season;

**Abstract:** The trade-off between reproductive effort and adult survival in birds is modulated by several factors. Corticosterone and prolactin have additive effects on reproductive behaviour by stimulating foraging and parental behaviours, respectively. When incubation is associated with fasting, nest desertion is supposed to be activated by an unknown refeeding signal when body condition becomes critically deteriorated. The concomitant rise in corticosterone levels has been suggested to be the triggering factor. We tested the role of corticosterone on reproductive success by observing the effect of corticosterone implants on reproductive success and on plasma prolactin concentration in female common eiders Somateria mollissima. Implanted females showed a significant increase in corticosterone and a decrease in prolactin levels. Despite their enhanced daily body mass loss, females did not abandon incubation nor did they start to refeed in the four days following implantation. These data show that the experimentally induced rise in plasma corticosterone concentration alone does not trigger nest desertion. However, after 25 days of incubation, implanted females displayed a higher rate of egg loss, suggesting lower nest attentiveness towards the end of incubation. We suggest that the short-term effects of corticosterone may be dependent on the energy state of the bird. However, the late-induced change in reproductive success is indirectly linked to corticosterone, and we suggest that either a prolactin decrease, or a depletion in protein body reserves, may participate in the long-term adjustment of incubation behaviour in female eiders.

**URL:** <Go to ISI>://BCI200700144212

**Reference Type:**  Journal Article

**Record Number:** 1484

**Author:** F. Criscuolo, O. Chastel, G. W. Gabrielsen, A. Lacroix and Y. Le Maho

**Year:** 2002

**Title:** Factors affecting plasma concentrations of prolactin in the common eider Somateria mollissima

**Journal:** General and Comparative Endocrinology

**Volume:** 125

**Issue:** 3

**Pages:** 399-409

**Date:** February 15, 2002

**Short Title:** Factors affecting plasma concentrations of prolactin in the common eider Somateria mollissima

**Accession Number:** BCI:BCI200200248914

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** In the common eider only the females incubate while they fast for 25 days. Thus, since they rely entirely on their body reserves for successful incubation, they can be defined as capital incubators. To assess the potential effects of their initial body mass, the incubation duration, and depletion in body reserves on prolactinemia, blood samples of eiders were analyzed during the breeding cycle and an experimental manipulation of the duration of incubation. Levels of circulating prolactin increased at the onset of incubation and then reached a high and stable level during incubation before increasing sharply before hatching. The prolactin level decreased significantly upon hatching. Captive females deprived from their eggs exhibited a rapid decrease in prolactinemia, suggesting that egg stimuli are necessary to prolactin secretion. Aunts, i.e., helper females caring for conspecific young, presented prolactin levels higher than nonbreeding captive females but not significantly different from those of females at hatching. Plasma prolactin at hatch was directly related to body mass loss. Birds with shortened incubation have higher body masses and showed higher levels of prolactinemia at hatching than the control group, in accordance with the idea that circulant prolactin at hatching is linked to body condition. Females which underwent an extended incubation (and started to eat again) displayed a low body mass and a high prolactinemia. These data therefore suggest that refeeding, albeit increasing the risk of predation, enhances prolactin secretion and allows the bird to continue incubation despite that it has reached a poor body condition.

**URL:** <Go to ISI>://BCI200200248914

**Reference Type:**  Journal Article

**Record Number:** 1485

**Author:** F. Criscuolo, G. W. Gabrielsen, J.-P. Gendner and Y. Le Maho

**Year:** 2002

**Title:** Body mass regulation during incubation in female common eiders Somateria mollissima

**Journal:** Journal of Avian Biology

**Volume:** 33

**Issue:** 1

**Pages:** 83-88

**Date:** March, 2002

**Short Title:** Body mass regulation during incubation in female common eiders Somateria mollissima

**Accession Number:** BCI:BCI200200284911

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Behavior; Breeding Season;

**Abstract:** We investigated changes in incubation behaviour induced by body fuel depletion in incubating female common eiders, which, in contrast to pelagic seabirds, fast despite being close to marine food sources. In the Svalbard Archipelago, electronic scales were placed under eider nests and the incubation of six birds was prolonged by using wax-filled eggs. Based on changes in the rate of body mass loss in normally incubating females and in ten captive birds that did not incubate, body reserves neared depletion on average four days after hatching. During prolonged incubation, females took more frequent and longer recesses. Nest attentiveness consequently decreased, but was still high. In contrast to recesses during normal incubation, during which body mass of the birds decreased, mass remained constant during the recesses of prolonged incubation. The body stores of female eiders seemed to enable them to complete incubation with a limited safety margin. A further drop in body mass is avoided when a critical body mass is reached, because birds then start feeding enough to maintain mass while continuing incubation. Presumably, a similar mechanism will enable eiders to continue incubation when body reserves are prematurely depleted before hatching.

**URL:** <Go to ISI>://BCI200200284911

**Reference Type:**  Journal Article

**Record Number:** 1522

**Author:** F. Criscuolo, G. W. Gabrielsen, J.-P. Gendner and L. M. Yvon

**Year:** 2000

**Title:** An automatic weighing system application in a study of the Common Eider Somateria mollissima breeding biology

**Journal:** Alauda

**Volume:** 68

**Issue:** 1

**Pages:** 59-63

**Short Title:** An automatic weighing system application in a study of the Common Eider Somateria mollissima breeding biology

**Accession Number:** BCI:BCI200000306404

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI200000306404

**Reference Type:**  Journal Article

**Record Number:** 1523

**Author:** F. Criscuolo, M. Gauthier-Clerc, G. W. Gabrielsen and Y. L. Maho

**Year:** 2000

**Title:** Recess behaviour of the incubating Common Eider Somateria mollissima

**Journal:** Polar Biology

**Volume:** 23

**Issue:** 8

**Pages:** 571-574

**Date:** August, 2000

**Short Title:** Recess behaviour of the incubating Common Eider Somateria mollissima

**Accession Number:** BCI:BCI200000386346

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Female eiders show the highest incubation constancy among ducks. However, detailed data on their behaviour during the short recesses were not available. In this study, activities during recesses were observed in a colony of female eiders breeding in the high arctic to define what the principal purposes of these temporary nest desertions are. Incubating eiders do not feed during their recess periods. Drinking salt or fresh water or eating snow (28.7%) and preening (38.0%) were the two main activities observed. After snow melting, the time spent drinking decreased (14.3%) while the time spent preening was unchanged (38.1%). Moreover, despite the fact that females started to fly longer distances to reach fresh water sources, the recess duration did not change significantly (401.5 vs 431.0 s). Since recess during incubation increases the risk of breeding failure, drinking presumably has an important survival value for female eiders. In this context, our data suggest that searching for fresh water at a greater distance is favoured despite the higher energetic cost for a fasting bird.

**URL:** <Go to ISI>://BCI200000386346

**Reference Type:**  Journal Article

**Record Number:** 1500

**Author:** F. Criscuolo, M. Gauthier-Clerc, Y. Le Maho and G. W. Gabrielsen

**Year:** 2001

**Title:** Brood patch temperature during provocation of incubating common eiders in Ny-Alesund, Svalbard

**Journal:** Polar Research

**Volume:** 20

**Issue:** 1

**Pages:** 115-118

**Short Title:** Brood patch temperature during provocation of incubating common eiders in Ny-Alesund, Svalbard

**Accession Number:** BCI:BCI200100419777

**Keywords:** Common Eider; Somateria mollissima; Physiology; Behavior; Breeding Season;

**Abstract:** In this short note we describe the behaviour and body temperature changes of three incubating female common eiders (Somateria mollissima) during provocation made by humans approaching the nest. The study site was near the settlement of Ny-Alesund, Svalbard. Temperature transmitters were implanted subcutaneously at the brood patch and data recorded using a VHF receiver. We found that the female eiders in the experiment exhibited a passive defence response ("freezing"), accompanied by a significant drop in brood patch temperature (0.6 degreeC) during provocation; this temperature drop lasted for 5 minutes. These results accord with other studies of the physiological changes which accompany the passive defence response in birds and other animals.

**URL:** <Go to ISI>://BCI200100419777

**Reference Type:**  Journal Article

**Record Number:** 1501

**Author:** F. Criscuolo, M. Gauthier-Clerc, Y. Le Maho, T. Zorn and G. W. Gabrielsen

**Year:** 2001

**Title:** Sleep changes during long-term fasting in the incubating female Common Eider Somateria mollissima

**Journal:** Ardea

**Volume:** 89

**Issue:** 3

**Pages:** 441-448

**Short Title:** Sleep changes during long-term fasting in the incubating female Common Eider Somateria mollissima

**Accession Number:** BCI:BCI200200116446

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** In the present study we have made observations of eye closure duration of Common Eider Somateria mollissima in the field, to determine the amount of time devoted to sleep during the incubation period, both in breeding and non-breeding females. Breeding females started to incubate with a higher level of vigilance than non-breeding females, and increased progressively the duration of sleep over the course of incubation. At the end of the incubation period, breeding females reached a sleep time comparable to that of the non-breeding females. The data are in accordance with the hypothesis that sleep time could be modified in relation to the deterioration of body condition. Accordingly, we suggest that sleep might play a key role in saving energy when the birds experience a prolonged negative energy balance. Consequently, since female eiders can be threatened by terrestrial predators during incubation, they would therefore have to found a compromise between energy conservation while sleeping and maintenance of a threshold vigilance. Incubating female eiders could thus face conflicting priorities during incubation: that is sleeping to save energy and wakefulness for predator detection.

**URL:** <Go to ISI>://BCI200200116446

**Reference Type:**  Journal Article

**Record Number:** 1462

**Author:** F. Criscuolo, T. Raclot, Y. Le Maho and G. W. Gabrielsen

**Year:** 2003

**Title:** Do T3 levels in incubating eiders reflect the cost of incubation among clutch sizes?

**Journal:** Physiological and Biochemical Zoology

**Volume:** 76

**Issue:** 2

**Pages:** 196-203

**Date:** March-April 2003

**Short Title:** Do T3 levels in incubating eiders reflect the cost of incubation among clutch sizes?

**Accession Number:** BCI:BCI200300365064

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Complete development of avian eggs requires external heat, inducing in most species an energetic cost of incubation for the parents. Triiodothyronine (T3) has been implicated in the control of the metabolic rate and is decreased during fasting in most bird species. This raises the question of the regulation of T3 during reproduction when incubation (thus heat production) is associated with fasting (and energy sparing). In this study, plasma concentrations of T3 were studied for different clutch sizes in incubating, as well as in nonincubating, fasting female eiders. Our results show that the T3 levels decrease during fasting in nonincubating birds, whereas they were maintained during the incubation fast. T3 levels increased in female eiders at hatching. The plasma T3 level did not vary among natural clutch sizes in eiders but did so when manipulated. T3 levels increased when eggs were added (to a maximum of six eggs, i.e., the biggest natural clutch size) or removed (to two eggs, i.e., the smallest natural clutch size). Our results suggest that (1) high T3 levels during incubation may participate to a threshold of heat production and incubation metabolic rate in eiders despite the fact that they are fasting; (2) since T3 is associated with the energy expenditure in birds, incubating an enlarged or reduced clutch size may lead to a higher energetic cost of incubation in eiders; and (3) the energy demand of the ducklings at hatching is probably important, as the female T3 concentrations are then at their highest levels. Thus, any modification of the natural clutch size leads to a rise in the T3 level of the incubating female, suggesting an additional cost of incubation. Knowing that there is no variation of T3 levels among natural clutch sizes, this study suggests that a female eider produces a number of eggs corresponding to the energy she can invest in incubation.

**URL:** <Go to ISI>://BCI200300365064

**Reference Type:**  Journal Article

**Record Number:** 2318

**Author:** S. E. Crowell, A. M. Wells-Berlin, C. E. Carr, G. H. Olsen, R. E. Therrien, S. E. Yannuzzi and D. R. Ketten

**Year:** 2015

**Title:** A comparison of auditory brainstem responses across diving bird species

**Journal:** Journal of Comparative Physiology a-Neuroethology Sensory Neural and Behavioral Physiology

**Volume:** 201

**Issue:** 8

**Pages:** 803-815

**Date:** Aug

**Short Title:** A comparison of auditory brainstem responses across diving bird species

**ISSN:** 0340-7594

**DOI:** 10.1007/s00359-015-1024-5

**Accession Number:** WOS:000358326200007

**Keywords:** Common Eider; Long-tailed Duck; Surf Scoter; White-winged Scoter; Black Scoter; Harlequin Duck; Somateria mollissima; Clangula hyemalis; Melanitta perspicillata; Melanitta fusca; Melanitta americana; Histrionicus histrionicus; Physiology

**Abstract:** There is little biological data available for diving birds because many live in hard-to-study, remote habitats. Only one species of diving bird, the black-footed penguin (Spheniscus demersus), has been studied in respect to auditory capabilities (Wever et al., Proc Natl Acad Sci USA 63:676-680, 1969). We, therefore, measured in-air auditory threshold in ten species of diving birds, using the auditory brainstem response (ABR). The average audiogram obtained for each species followed the U-shape typical of birds and many other animals. All species tested shared a common region of the greatest sensitivity, from 1000 to 3000 Hz, although audiograms differed significantly across species. Thresholds of all duck species tested were more similar to each other than to the two non-duck species tested. The red-throated loon (Gavia stellata) and northern gannet (Morus bassanus) exhibited the highest thresholds while the lowest thresholds belonged to the duck species, specifically the lesser scaup (Aythya affinis) and ruddy duck (Oxyura jamaicensis). Vocalization parameters were also measured for each species, and showed that with the exception of the common eider (Somateria mollisima), the peak frequency, i.e., frequency at the greatest intensity, of all species' vocalizations measured here fell between 1000 and 3000 Hz, matching the bandwidth of the most sensitive hearing range.

**Notes:** Crowell, Sara E. Wells-Berlin, Alicia M. Carr, Catherine E. Olsen, Glenn H. Therrien, Ronald E. Yannuzzi, Sally E. Ketten, Darlene R.

**URL:** <Go to ISI>://WOS:000358326200007

**Reference Type:**  Journal Article

**Record Number:** 594

**Author:** C. M. Custer and T. W. Custer

**Year:** 1996

**Title:** Food habits of diving ducks the in the Great Lakes after the zebra mussel invasion

**Journal:** Journal of Field Ornithology

**Volume:** 67

**Issue:** 1

**Pages:** 86-99

**Short Title:** Food habits of diving ducks the in the Great Lakes after the zebra mussel invasion

**Accession Number:** BCI:BCI199698677125

**Keywords:** Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Zebra mussels (Dreissena polymorpha) invaded the Great Lakes in the mid-1980s and quickly reached high densities. The objective of this study was to determine current consumption of zebra mussels by waterfowl in the Great Lakes region. Feeding Lesser Scaups (Aythya affinis), Greater Scaups (A. marila), Canvasbacks (A. valisineria), Redheads (A. americana), Buffleheads (Bucephala albeola) and Common Goldeneyes (B. clangula) were collected in western Lake Erie and in Lake St. Clair between fall and spring, 1992-1993 to determine food habits. All 10 Redheads, 97% of Lesser Scaups, 83% of Goldeneyes, 60% of Buffleheads and 9% of Canvasbacks contained one or more zebra mussels in their upper gastrointestinal tracts. The aggregate percent of zebra mussels in the diet of Lesser Scaups was higher in Lake Erie (98.6%) than in Lake St. Clair (54.4%). Zebra mussels (aggregate percent) dominated the diet of Common Goldeneyes (79.2%) but not in Buffleheads (23.5%), Redheads (21 %) or Canvasbacks (9%). Lesser Scaups from Lake Erie fed on larger zebra mussels ( hivin x = 10.7 +- 0.66 mm SE) than did Lesser Scaups from Lake St. Clair ( hivin x = 4.4 +- 0.22 mm). Lesser Scaups, Buffleheads and Common Goldeneyes from Lake Erie consumed zebra mussels of similar size.

**URL:** <Go to ISI>://BCI199698677125

**Reference Type:**  Journal Article

**Record Number:** 591

**Author:** C. M. Custer and T. W. Custer

**Year:** 2000

**Title:** Organochlorine trace element contamination in wintering migrating diving ducks in the southern Great Lakes, USA, since the zebra mussel invasion

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 19

**Issue:** 11

**Pages:** 2821-2829

**Date:** November, 2000

**Short Title:** Organochlorine trace element contamination in wintering migrating diving ducks in the southern Great Lakes, USA, since the zebra mussel invasion

**Accession Number:** BCI:BCI200100550755

**Keywords:** Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Contaminants; Nonbreeding Seasons;

**Abstract:** Because of the potential for increased trophic transfer of contaminants by zebra mussels (Dreissena sp.) to higher trophic levels, we collected four species of waterfowl (n=65 ducks) from four locations in Lake Erie, Lake St. Clair, and Lake Michigan, USA, between 1991 and 1993 for organochlorine contaminant and trace element analyses. Geometric mean concentrations of total polychlorinated biphenyls (PCBs) and p,p'-dichlorodiphenyldichloroethylene (DDE) were 1.35 and 0.15 mug/g wet weight in lesser scaup (Aythya affinis) carcasses and were below known effect levels. Total PCBs in 80% of carcasses, however, were above the U.S. Food and Drug Administration's threshold of 3.0 mug/g lipid weight for consumption of poultry. With the exception of selenium, trace elements were also at background or no-effect levels. Selenium concentrations in livers of 95% of lesser scaup, 90% of bufflehead (Bucephala albeola), and 72% of common goldeneye (Bucephala clangula) were in the elevated (>10 mug/g dry wt) or potentially harmful range (>33 mug/g dry wt). The effects of these high selenium concentrations are unknown but should be investigated further based on reproductive effects observed in field and laboratory studies of dabbling ducks and because lesser scaup populations are declining. Concentrations of total PCBs in dreissenid mussels in western Lake Erie were 10 times higher than in the upper Mississippi River but were similar to concentrations in other industrialized rivers in Europe and the United States. Metal concentrations were similar to other industrialized sites where zebra mussels have been sampled.

**URL:** <Go to ISI>://BCI200100550755

**Reference Type:**  Journal Article

**Record Number:** 649

**Author:** T. W. Custer, C. M. Custer and R. K. Hines

**Year:** 2002

**Title:** Dioxins and congener-specific polychlorinated biphenyls in three avian species from the Wisconsin River, Wisconsin

**Journal:** Environmental Pollution

**Volume:** 119

**Issue:** 3

**Pages:** 323-332

**Short Title:** Dioxins and congener-specific polychlorinated biphenyls in three avian species from the Wisconsin River, Wisconsin

**Accession Number:** BCI:BCI200200428218

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Contaminants; Breeding Season;

**Abstract:** Sediments from the Wisconsin River, WI, USA are contaminated with 2,3,7,8-tetrachloro-p-dioxin (TCDD) and polychlorinated biphenyls (PCBs). Wet weight concentrations of TCDD and PCBs in eggs were at background levels and highest in the piscivorous hooded merganser (Lophodytes cucullatus; geometric mean = 7 pg/g TCDD and 0.92 mug/g PCBs) and lowest in the omnivorous wood duck (Aix sponsa) (< 1 pg/g and 0.07 mug/g); concentrations in eggs of the insectivorous tree swallow (Tachycineta bicolor) were intermediate (< 1 pg/g and 0.33 mug/g). Positive accumulation rates of TCDD (8-19 pg/day) and PCBs (0.4-0.7 mug/day) in tree swallow nestlings suggest that the Wisconsin River is the source of these contaminants for tree swallow nestlings. The lower representation of trichlorobiphenyls and tetrachorobiphenyls in hooded merganser eggs compared to wood duck or tree swallow eggs suggests that the hooded merganser or its diet has a greater ability to metabolize lower-numbered PCB congeners than wood ducks or tree swallows.

**URL:** <Go to ISI>://BCI200200428218

**Reference Type:**  Journal Article

**Record Number:** 1461

**Author:** T. M. Dahl, S. Falk-Petersen, G. W. Gabrielsen, J. R. Sargent, H. Hop and R. M. Millar

**Year:** 2003

**Title:** Lipids and stable isotopes in common eider, black-legged kittiwake and northern fulmar: A trophic study from an Arctic fjord

**Journal:** Marine Ecology Progress Series

**Volume:** 256

**Pages:** 257-269

**Date:** July 17, 2003

**Short Title:** Lipids and stable isotopes in common eider, black-legged kittiwake and northern fulmar: A trophic study from an Arctic fjord

**Accession Number:** BCI:BCI200400080831

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** Lipid class and fatty acid compositions were determined in common eider (Somateria mollissima), black-legged kittiwake (Rissa tridactyla) and northern fulmar (Fulmarus glacialis) from Kongsfjorden, Spitsbergen. Muscle and liver were sampled in all species, while fat tissue was sampled in eiders and fulmars. Triacylglycerols (TAG) dominated the lipid class compositions of all tissues, and the major fatty acids found in TAG were: 18:1n9, 16:0, 18:0, 20:5n3 and 16:1n7 for eider; 16:0, 18:1n9, 18:0, 20:1n9 and 16:1n7 for kittiwake; 18:1n9, 16:0, 20:1n9, 22:1n11, and 18:0 for fulmar. To attain information on prey composition, fatty acid signature analysis was performed on muscle fatty acid profiles of the bird species, together with fatty acid data from potential prey species. This study of lipids combined with stable isotopes supports the following findings: (1) Common eiders are strongly linked to the benthic food chain, through both fatty acid compositions (high levels of 20:4n6) and stable isotope values (high levels of delta13C). (2) Black-legged kittiwakes and northern fulmars are linked to the pelagic food chain, through both fatty acid compositions (high levels of 20:1n9 and 22:1n11) and stable isotope values (low levels of delta13C). The high level of 20:1 and 22:1 moieties also indicates the importance of Calanus in the Arctic pelagic food chain supporting fulmar and kittiwake. (3) The levels delta15N show that of the 3 species, the fulmar occupies the highest trophic level, followed by kittiwake and common eider.

**URL:** <Go to ISI>://BCI200400080831

**Reference Type:**  Journal Article

**Record Number:** 2269

**Author:** A. K. Dahlberg, V. L. Chen, K. Larsson, A. Bergman and L. Asplund

**Year:** 2016

**Title:** Hydroxylated and methoxylated polybrominated diphenyl ethers in long-tailed ducks (Clangula hyemalis) and their main food, Baltic blue mussels (Mytilus trossulus x Mytilus edulis)

**Journal:** Chemosphere

**Volume:** 144

**Pages:** 1475-1483

**Date:** Feb

**Short Title:** Hydroxylated and methoxylated polybrominated diphenyl ethers in long-tailed ducks (Clangula hyemalis) and their main food, Baltic blue mussels (Mytilus trossulus x Mytilus edulis)

**ISSN:** 0045-6535

**DOI:** 10.1016/j.chemosphere.2015.10.012

**Accession Number:** WOS:000367774400186

**Keywords:** Long-tailed Duck; Clangula hyemalis; Nonbreeding season; Trophic Interactions; Contaminants

**Abstract:** Long-tailed ducks (Clangula hyemalis) that breed in northern Europe and western Siberia and commonly winter in the Baltic Sea, are threatened by a significant population decrease. The ducks are, by primarily feeding on Baltic blue mussels (Mytilus trossulus x Mytilus edulis) while wintering in the Baltic Sea, potentially subjected to high levels of toxic hydroxylated polybrominated diphenyl ethers (OH-PBDEs). To assess long-tailed ducks exposure to polybrominated phenols (PBPs), polybrominated anisoles (PBAs), hydroxylated polybrominated diphenyl ethers (OH-PBDEs), their methylated counterparts (MeO-PBDEs) and polybrominated diphenyl ethers (PBDEs), livers of ten long-tailed ducks wintering in the Baltic Sea were analysed. Pattern and levels of analytes in long-tailed ducks (liver) and blue mussels sampled in March and May at nine sites in the Baltic Sea were compared. The geometric mean concentration (ng/g l.w.) in livers of long-tailed ducks and Baltic blue mussels were: Sigma(2)PBPs: 0.57 and 48; Sigma 2PBAs: 0.83 and 11; Sigma 7OH-PBDEs: 6.1 and 45; Sigma 7MeO-PBDEs: 3.8 and 69; Sigma 7PBDEs: 8.0 and 7.2, respectively. Based on an estimated daily intake of 450 g fresh blue mussel meat, long-tailed ducks daily dietary intake of brominated substances while foraging in the Baltic Sea in March-May was estimated to; 390 ng Sigma(2)PBPs, 90 ng Sigma 2PBAs, 370 ng Sigma 7OH-PBDEs, 590 ng Sigma 7MeO-PBDEs and 59 ng Sigma 7PBDEs. The low levels of PBPs, PBAs, OH-PBDEs and MeO-PBDEs in the long-tailed duck livers compared to blue mussel, despite a continuous daily intake, suggest that these compounds are poorly retained in long-tailed ducks. (C) 2015 The Authors. Published by Elsevier Ltd.

**Notes:** Dahlberg, Anna-Karin Chen, Vivian Lindberg Larsson, Kjell Bergman, Ake Asplund, Lillemor

**URL:** <Go to ISI>://WOS:000367774400186

**Reference Type:**  Journal Article

**Record Number:** 2270

**Author:** A. K. Dahlberg, J. Norrgran, L. Hovander, A. Bergman and L. Asplund

**Year:** 2014

**Title:** Recovery discrepancies of OH-PBDEs and polybromophenols in human plasma and cat serum versus herring and long-tailed duck plasma

**Journal:** Chemosphere

**Volume:** 94

**Pages:** 97-103

**Date:** Jan

**Short Title:** Recovery discrepancies of OH-PBDEs and polybromophenols in human plasma and cat serum versus herring and long-tailed duck plasma

**ISSN:** 0045-6535

**DOI:** 10.1016/j.chemosphere.2013.09.020

**Accession Number:** WOS:000327685300014

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Techniques

**Abstract:** Hydroxylated polybrominated diphenyl ethers (OH-PBDEs) have been identified as metabolites of polybrominated diphenyl ethers (PBDEs) and/or as natural products. The OH-PBDEs and polybromophenols have come into focus over the last decade due to their abundance in biota and their potential adverse health effects. The present recovery study aims to validate a commonly used method (published by Hovander et al. 2000) for OH-PBDE analysis in human plasma. Further, the authors intended to determine the method's applicability to serum/plasma matrices from other species than humans. The investigated matrices were human plasma, cat serum, herring- and long-tailed duck plasma. The recovery study included nine OH-PBDEs, four polybromophenols and three methoxylated PBDEs (MeO-PBDEs). Five replicates of each matrix were spiked with these compounds at two dose levels; a low dose (0.5 ng) and a high dose (5 ng) and were cleaned up according to the Hovander method. The recovery of OH-PBDEs and polybromophenols in human plasma and cat serum were high and reproducible at both dose levels whereas the recovery for herring and long-tailed duck plasma were low and insufficient with great variability amongst OH-PBDE congeners at both dose levels. Our data show that the method can be fully applied to matrices like human plasma and cat serum but not for herring and long-tailed duck plasma without further method development. Hence care needs to be taken when applying the method onto other blood matrices without validation since the present study have demonstrated that the recoveries may differ amongst OH-PBDE congeners and specie. (C) 2013 Published by Elsevier Ltd.

**Notes:** Dahlberg, Anna-Karin Norrgran, Jessica Hovander, Lotta Bergman, Ake Asplund, Lillemor

**URL:** <Go to ISI>://WOS:000327685300014

**Reference Type:**  Journal Article

**Record Number:** 1403

**Author:** L. D'Alba, P. Monaghan and R. Nager

**Year:** 2006

**Title:** The role of nest site and structure in incubation performance in the Common Eider

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 153

**Date:** Aug 2006

**Short Title:** The role of nest site and structure in incubation performance in the Common Eider

**Accession Number:** BCI:BCI200700132684

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI200700132684

**Reference Type:**  Journal Article

**Record Number:** 1333

**Author:** L. D'Alba, P. Monaghan and R. G. Nager

**Year:** 2009

**Title:** Thermal benefits of nest shelter for incubating female eiders

**Journal:** Journal of Thermal Biology

**Volume:** 34

**Issue:** 2

**Pages:** 93-99

**Date:** Feb 2009

**Short Title:** Thermal benefits of nest shelter for incubating female eiders

**Accession Number:** BCI:BCI200900230075

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** 1. In species that actively maintain optimal conditions for offspring development, the quality of the breeding site may have a substantial effect on reproductive effort and breeding success. Here, we studied the effect of nest shelter on reproductive costs for incubating female common eiders (Somateria mollissima) nesting in an arctic environment using both a correlative and an experimental approach.2. The correlative data showed that females that nested in naturally well-sheltered nests experienced milder temperatures, laid larger clutches, provided a more favourable thermal environment for their eggs and had a higher hatching success than those at exposed nest-sites.3. We added artificial shelters to exposed nest-sites and compared them to unmanipulated exposed nest-sites to examine the effect of nest shelter in females of similar quality. Costs of nesting in exposed sites were greater as evidenced by the reduced female mass loss and more favourable thermal conditions for the eggs at artificially sheltered nest-sites relative to exposed nest-sites. However, there was no difference in hatchings success between artificially sheltered and exposed nest-sites.4. This study shows even small changes in the climatic conditions at the nest-site can have substantial consequences for reproductive effort, but the association between nest-site quality and breeding success in eiders is due to better quality individuals occupying better nest-sites. (C) 2008 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200900230075

**Reference Type:**  Journal Article

**Record Number:** 1313

**Author:** L. D'Alba, P. Monaghan and R. G. Nager

**Year:** 2010

**Title:** Advances in laying date and increasing population size suggest positive responses to climate change in Common Eiders Somateria mollissima in Iceland

**Journal:** Ibis

**Volume:** 152

**Issue:** 1

**Pages:** 19-28

**Date:** Jan 2010

**Short Title:** Advances in laying date and increasing population size suggest positive responses to climate change in Common Eiders Somateria mollissima in Iceland

**Accession Number:** BCI:BCI201000051382

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Productivity; Breeding Season;

**Abstract:** Models of climate change predict that its effects on animal populations will not always be negative, but most studies indicate negative associations between changes in climate and the phenology of animal migration and reproduction. For some populations, however, climate change may render particular environments more favourable, with positive effects on population growth. We used a 30-year population dataset on over 2000 Common Eiders Somateria mollissima at a colony in southwest Iceland to examine the response of this species to climate fluctuations. Eiders are strongly dependent on suitable climatic conditions for successful reproduction and survival. Temperatures in southwest Iceland, in both winter and summer, have generally increased over the past 30 years but have shown considerable fluctuation. We show that females laid earlier following mild winters and that year-to-year variation in the number of nests was related to the temperature during the breeding season 2 years previously. Milder summers could have positive effects on breeding success and offspring survival, producing an increase in nest numbers 2 years later when most Eiders recruit into the breeding population. In this part of their range, Eiders could benefit from a general warming of the climate.

**URL:** <Go to ISI>://BCI201000051382

**Reference Type:**  Journal Article

**Record Number:** 1287

**Author:** L. D'Alba, K. A. Spencer, R. G. Nager and P. Monaghan

**Year:** 2011

**Title:** State dependent effects of elevated hormone: Nest site quality, corticosterone levels and reproductive performance in the common eider

**Journal:** General and Comparative Endocrinology

**Volume:** 172

**Issue:** 2

**Pages:** 218-224

**Date:** Jun 1 2011

**Short Title:** State dependent effects of elevated hormone: Nest site quality, corticosterone levels and reproductive performance in the common eider

**Accession Number:** BCI:BCI201100380192

**Keywords:** Common Eider; Somateria mollissima; Physiology; Habitat; Energetics and Nutrition; Breeding Season;

**Abstract:** Nest shelter in incubating birds is of major importance in providing protection against unfavourable conditions such as harshness of the environment and exposure to predators. We examined the link between nest shelter, baseline corticosterone (CORT) levels and hatching success in common eiders (Somateria mollissima) incubating at nest sites with different levels of shelter. Since more sheltered nest sites could be occupied by better-quality females, we also used an experimental manipulation of nest shelter to separate the effects of the physical attributes of the nest site from those of individual quality. We compared birds with naturally sheltered nests, exposed nests and exposed nests provided with artificial nest shelters and measured clutch size, body condition, CORT levels at the end of incubation and hatching success. If nest shelter reduces CORT levels, we predicted that CORT levels would be highest at the least sheltered sites, and that the provision of artificial shelter would reduce CORT levels. We found that nest shelter was not related to CORT levels in incubating eiders. Nest shelter, however, affected body condition, with females at exposed sites losing more body mass during incubation than females at naturally and artificially sheltered nests. Interestingly however, in those birds nesting at the exposed sites, with and without artificial shelter, those with the highest CORT levels had the lowest hatching success. This relationship was not evident in females nesting at naturally sheltered sites. These results suggest that the level of nest shelter does not directly affect CORT levels in females. Instead, we suggest that the relationship between CORT levels and hatching success is state-dependent. Exposed sites are occupied by individuals that laid smaller clutches, and hence are likely to be of lower quality, and the negative effects of elevated CORT on hatching success are more pronounced in these females. Published by Elsevier Inc.

**URL:** <Go to ISI>://BCI201100380192

**Reference Type:**  Journal Article

**Record Number:** 1834

**Author:** B. Dane, R. Harris and J. M. Reed

**Year:** 2013

**Title:** Female Goldeneye Ducks (Bucephala clangula) Do Not Discriminate among Male Precopulatory Display Patterns

**Journal:** Plos One

**Volume:** 8

**Issue:** 3

**Date:** Mar

**Short Title:** Female Goldeneye Ducks (Bucephala clangula) Do Not Discriminate among Male Precopulatory Display Patterns

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0057589

**Article Number:** e57589

**Accession Number:** WOS:000316407400011

**Keywords:** Bucephala clangula; Common Goldeneye; Behavior; Behavior

**Notes:** Times Cited: 0

Dane, Benjamin Harris, Rebecca Reed, J. Michael

0

**URL:** <Go to ISI>://WOS:000316407400011

**Reference Type:**  Journal Article

**Record Number:** 197

**Author:** K. Danell and K. Sjoberg

**Year:** 1979

**Title:** Abundance and Productivity of Ducks on Boreal Lakes in Northern Sweden

**Journal:** Annales Zoologici Fennici

**Volume:** 16

**Issue:** 2

**Pages:** 123-128

**Short Title:** Abundance and Productivity of Ducks on Boreal Lakes in Northern Sweden

**Accession Number:** BCI:BCI198069043198

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The numbers of duck pairs and broods present within a 56 km2 study area, predominantly pine and spruce forest, in the coastal region of northern Sweden were estimated during 1977. The study area contained 95 relatively small, shallow lakes, covering 3.6% of the total area. In May, 3 counts showed a total of 108 duck pairs, and 91 broods were recorded during July. The duck species observed were: mallard (Anas platyrhynchos), teal (A. crecca), wigeon (A. penelope), pochard (Aythya ferina), tufted duck (A. fuligula), velvet scoter (Melanitta fusca), goldeneye (Bucephala clagula), smew (Mergus albellus), red-breasted merganser (M. serrator) and goosander (M. merganser). The mean values for the whole survey period were 2.2 pairs and 1.9 broods/km of lake shoreline, or 54 pairs and 46 broods/100 h of the entire area covered by lakes.

**URL:** <Go to ISI>://BCI198069043198

**Reference Type:**  Journal Article

**Record Number:** 154

**Author:** N. Dankers and D. R. Zuidema

**Year:** 1995

**Title:** The role of the mussel (Mytilus edulis L.) and mussel culture in the Dutch Wadden Sea

**Journal:** Estuaries

**Volume:** 18

**Issue:** 1A

**Pages:** 71-80

**Short Title:** The role of the mussel (Mytilus edulis L.) and mussel culture in the Dutch Wadden Sea

**Accession Number:** BCI:BCI199598373745

**Keywords:** Sea Ducks - General; Trophic Interactions;

**Abstract:** Mussel populations (Mytilus edulis) in the Dutch Wadden Sea (intertidal mussel beds, subtidal beds and culture plots), the culture methods, the extent of mussel culture, and the ecology of the mussel are described. Mussels filter suspended matter from the water column and deposit it as feces and pseudofeces. Mussel beds consume large amounts of phytoplankton and speed up the cycle of production and breakdown of organic matter. There are indications that the consumption of phytoplankton can lead to food shortage for several animal groups. Mussels serve as an important food source for a wide range of organisms (e.g., starfish, eider ducks, and oystercatchers). Because mussel culture increased the mussel biomass in the Dutch Wadden Sea, the impact also increased. The most obvious impact of the culture is the dredging of seed mussels. Overexploitation of intertidal mussel and cockle beds and bad spatfall of both mussels and cockles since 1988 had a negative impact on bird populations. The extent of positive and negative aspects of mussel culture depends on natural and human influences. The negative aspects may (partly) be overcome by appropriate measures.

**URL:** <Go to ISI>://BCI199598373745

**Reference Type:**  Journal Article

**Record Number:** 1269

**Author:** C. P. Dau

**Year:** 1976

**Title:** Capturing and Marking Spectacled Eiders in Alaska

**Journal:** Bird-Banding

**Volume:** 47

**Issue:** 3

**Pages:** 273

**Short Title:** Capturing and Marking Spectacled Eiders in Alaska

**Accession Number:** BCI:BCI197713005855

**Keywords:** Spectacled Eider; Somateria fischeri; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI197713005855

**Reference Type:**  Journal Article

**Record Number:** 1270

**Author:** C. P. Dau

**Year:** 1976

**Title:** Clutch Sizes of the Spectacled Eider on the Yukon Kuskokwim Delta Alaska USA

**Journal:** Wildfowl

**Volume:** 27

**Pages:** 111-114

**Short Title:** Clutch Sizes of the Spectacled Eider on the Yukon Kuskokwim Delta Alaska USA

**Accession Number:** BCI:BCI197713042311

**Keywords:** Spectacled Eider; Somateria fischeri; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI197713042311

**Reference Type:**  Journal Article

**Record Number:** 1266

**Author:** C. P. Dau

**Year:** 1978

**Title:** Observations on Helminth Parasites of the Spectacled Eider Somateria-Fischeri in Alaska USA

**Journal:** Canadian Journal of Zoology

**Volume:** 56

**Issue:** 8

**Pages:** 1882-1885

**Short Title:** Observations on Helminth Parasites of the Spectacled Eider Somateria-Fischeri in Alaska USA

**Accession Number:** BCI:BCI197967010734

**Keywords:** Spectacled Eider; Somateria fischeri; Parasites; Breeding Season;

**Abstract:** Data concerning the occurrence of species diversity of helminth parasites in a sample of 11 spectacled eiders from the Yukon-Kuskokwim Delta, Alaska [USA] are presented. Differences in helminth species diversity and intensity of infections were encountered between adult males and females. Adult males and young of the year were host to the greatest variety of species and in most cases total helminths. Helminth parasitism in the spectacled eider may be a compounding factor in the mortality of young birds after departure from the nesting grounds. [Helminths found were Lateraporus teres, Fimbriaria fasciolaris, Diorchis inflata, Sobolevicanthus sp., Hymenolepis echinorostrae, H. formosa, H. yukonensis, Corynosoma strumosum, C. tunitae, Filicollis anatis and an unidentified cestode and an acanthocephalan.].

**URL:** <Go to ISI>://BCI197967010734

**Reference Type:**  Journal Article

**Record Number:** 1207

**Author:** C. P. Dau, P. L. Flint and M. R. Petersen

**Year:** 2000

**Title:** Distribution of recoveries of Steller's Eiders banded on the lower Alaska Peninsula, Alaska

**Journal:** Journal of Field Ornithology

**Volume:** 71

**Issue:** 3

**Pages:** 541-548

**Date:** Summer, 2000

**Short Title:** Distribution of recoveries of Steller's Eiders banded on the lower Alaska Peninsula, Alaska

**Accession Number:** BCI:BCI200000505035

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Molt; Population Delineation;

**Abstract:** Molting adult Steller's Eiders (Polysticta stelleri) were banded at Izembek Lagoon (1961-1998) and Nelson Lagoon (1995-1997) along the lower Alaska Peninsula to determine breeding distribution and movements. Of 52,985 Steller's Eiders banded, 347 were recovered. The overall low recovery rate may not be indicative of harvest levels but may be due to low reporting rates of bands. Almost all recoveries during summer were from Russia and recovery rates did not differ between sexes. We found no evidence that Steller's Eiders molting in specific locations were more likely to be recovered in specific geographic locations in Russia. Our recoveries suggest that Steller's Eiders molting along the Alaska Peninsula were from Russian breeding sites and from remnant breeding populations in Alaska.

**URL:** <Go to ISI>://BCI200000505035

**Reference Type:**  Journal Article

**Record Number:** 1268

**Author:** C. P. Dau and S. A. Kistchinski

**Year:** 1977

**Title:** Seasonal movements and distribution of the Spectacled Eider

**Journal:** Wildfowl

**Volume:** 28

**Pages:** 65-75

**Short Title:** Seasonal movements and distribution of the Spectacled Eider

**Accession Number:** BCI:BCI201000234530

**Keywords:** Spectacled Eider; Somateria fischeri; Behavior; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Observations show that the nesting patterns of the Spectacled Eider, Somateria fischeri are similar on their Alaskan and Siberian nesting areas. Adult males are the first to leave the nesting grounds, doing so during the incubation period. Subadult males are rarely encountered on the nesting grounds and but few subadult females. Seasonal movements to and from the nesting grounds are poorly known. Published and unpublished data on the distribution in fall and winter are summarized and interpreted in conjunction with information on the dynamics of the Bering Sea ice pack as revealed by Satellite photographs.

**URL:** <Go to ISI>://BCI201000234530

**Reference Type:**  Journal Article

**Record Number:** 61

**Author:** I. Davydenkol

**Year:** 2006

**Title:** A census of waterbirds on large fishponds in the northern Ukraine

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 154

**Date:** Aug 2006

**Short Title:** A census of waterbirds on large fishponds in the northern Ukraine

**Accession Number:** BCI:BCI200700132689

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI200700132689

**Reference Type:**  Journal Article

**Record Number:** 60

**Author:** R. H. Day

**Year:** 2006

**Title:** Seabirds in the northern Gulf of Alaska and adjacent waters, October to May

**Journal:** Western Birds

**Volume:** 37

**Issue:** 4

**Pages:** 190-214

**Short Title:** Seabirds in the northern Gulf of Alaska and adjacent waters, October to May

**Accession Number:** BCI:BCI200700243671

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** I studied the distribution and abundance of seabirds in the northern Gulf of Alaska and adjacent waters during 16 research cruises from October to May 1997-2001. 1 recorded 58 species of seabirds on transects, plus one off the transects. The avifauna was dominated numerically by tubenoses (50% of all birds) and alcids (29%), with much smaller numbers of lands (3%), shorebirds (phalaropes; 3%), waterfowl (2%), cormorants (1%), and loons (< 1%). Five species each composed >= 5%, and collectively composed 74%, of the wintering avifauna: the Common Murre (Uria aalge; 21%), Northern Fulmar (Fulmarus glacialis; 19%), Fork-tailed Storm-Petrel (Oceanodroma furcata; 16%), Sooty Shearwater (Puffinus griseus; 11%), and Black-legged Kittiwake (Rissa tridactyla; 7%). Another nine species collectively composed similar to 19% of all birds, whereas the other 44 species collectively composed similar to 7% of all birds. I recorded from 10 to 37 species per cruise; both the number of species and total density of all birds combined decreased from October to March, then increased rapidly in April and (especially) May.

**URL:** <Go to ISI>://BCI200700243671

**Reference Type:**  Journal Article

**Record Number:** 138

**Author:** R. H. Day, S. M. Murphy, J. A. Wiens, G. D. Hayward, E. J. Harner and L. N. Smith

**Year:** 1997

**Title:** Effects of the Exxon Valdez oil spill on habitat use by birds in Prince William Sound, Alaska

**Journal:** Ecological Applications

**Volume:** 7

**Issue:** 2

**Pages:** 593-613

**Short Title:** Effects of the Exxon Valdez oil spill on habitat use by birds in Prince William Sound, Alaska

**Accession Number:** BCI:BCI199799546529

**Keywords:** Sea Ducks - General; Habitat; Contaminants; Nonbreeding Seasons;

**Abstract:** Oil spills may affect species through direct effects on population size and structure and direct and indirect (toxicological) effects on reproduction. Spill effects on the habitats these organisms occupy have received less attention, but they are no less important. For 2.5 yr following the Exxon Valdez oil spill in Prince William Sound, Alaska, we studied the use of oil-affected habitats by 42 species of marine-oriented birds. On 11 survey cruises, we surveyed bays that had received different levels of initial oiling. We related the abundance of individual species in the bays to the oiling gradient, using regression models that included habitat measures to control for variations among the sites in features other than oiling level. We defined a spill-induced impact as a statistically significant relationship between the abundance of a species and values along the oiling gradient, after accounting for the effects of variations in habitat features. We used among-year comparisons of regressions between oiling levels and abundance, controlled for season, to assess recovery. We concluded that recovery from a spill-induced impact had occurred when we no longer could detect a significant relationship between a species' abundance and oiling levels. Overall, 23 (55%) of the 42 species exhibited no initial negative impacts on their use of oil-affected habitats. Of the 19 species that did exhibit negative impacts, 13 (68%) showed evidence of recovery within 2.5 yr (the final survey in 1991). Six species (Homed Grebe, Red-necked Grebe, Barrow's Goldeneye, Bufflehead, Mew Gull, and Northwestern Crow) showed no clear evidence of recovery by our final survey. The proportion of species recorded on individual surveys that exhibited negative impacts at that time declined over the study, from 54% on the first survey after the spill in 1989 to 10% in late 1991. A principal components analysis revealed extensive ecological overlap between species that were negatively impacted in their use of oil-affected habitats and those that were not. The six species that had not recovered by late 1991 tended to be intertidal feeders and residents, but these traits also characterized some species that did not exhibit initial impacts and some species that subsequently recovered from impacts. We detected no obvious ecological differences between species that suffered spill impacts on habitat use and those that apparently were not affected, or between impacted species that later recovered in their use of habitats and species that had not yet recovered. These results indicate that the Exxon Valdez oil spill had clear initial negative impacts on habitat use by nearly half of the species examined, suggesting substantial initial effects on habitat suitability for these species. These impacts persisted for lt 2.5 yr for most affected species. This rate of recovery in habitat use parallels the rapid recovery (usually lt 2 yr) documented for other oil-affected communities (e.g., intertidal invertebrates, fishes, and birds) that have been studied in Alaska and elsewhere.

**URL:** <Go to ISI>://BCI199799546529

**Reference Type:**  Journal Article

**Record Number:** 1754

**Author:** R. H. Day, J. R. Rose, A. K. Prichard, R. J. Blaha and B. A. Cooper

**Year:** 2004

**Title:** Environmental effects on the fall migration of eiders at Barrow, Alaska

**Journal:** Marine Ornithology

**Volume:** 32

**Issue:** 1

**Pages:** 13-24

**Short Title:** Environmental effects on the fall migration of eiders at Barrow, Alaska

**Accession Number:** BCI:BCI200510226150

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Migration; Nonbreeding Seasons;

**Abstract:** We studied the effects of environmental factors on the migration of Common and King Eiders (Somateria mollissima and S. spectabilis) past Barrow, Alaska, during fall migration in 1997 and 2000 with ornithological radar and visual observations. Among-day variation in movement rates was high, with birds apparently flying at any time if migratory conditions were favorable. Movement rates were significantly higher during good visibility than poor visibility, higher during tailwinds than crosswinds and headwinds, higher during strong crosswinds than weak ones and higher during weak headwinds than strong ones. Eider groundspeed velocities averaged 83.5 +/- 0.3 km/h and were significantly higher with good visibility and strong winds, higher with good visibility at night than with poor visibility at night, higher with crosswinds and tailwinds than with headwinds, higher with weak headwinds than with strong ones and higher with strong tailwinds and crosswinds than with weak ones. Eiders flew slightly south of northwest (310 degrees). Flight directions differed significantly by time of day and visibility, but the differences are not biologically significant. Essentially all migrating ciders passing Barrow flew through a 3-km-wide zone centered on the base of Barrow Spit. Eider flocks averaged 110.4 +/- 7.1 birds and were largest during crosswinds and smallest during tailwinds. Eiders had a mean flight altitude of 12.1 +/- 0.8 m above ground or sea level (agl/asl); night altitudes were significantly lower during headwinds than during crosswinds and tailwinds. Wind direction and strength had the greatest effect on eider migration past Barrow, in that strong tailwinds and crosswinds significantly increased movement rates, velocities (if crosswinds or tailwinds), flock sizes and flight altitudes. Monitoring of eider migration should be modified to increase the accuracy and precision of population estimates by using a stratified systematic sampling scheme based on weather conditions and by sampling at night.

**URL:** <Go to ISI>://BCI200510226150

**Reference Type:**  Journal Article

**Record Number:** 2271

**Author:** R. H. Day, J. R. Rose, A. K. Prichard and B. Streever

**Year:** 2015

**Title:** Effects of Gas Flaring on the Behavior of Night-Migrating Birds at an Artificial Oil-Production Island, Arctic Alaska

**Journal:** Arctic

**Volume:** 68

**Issue:** 3

**Pages:** 367-379

**Date:** Sep

**Short Title:** Effects of Gas Flaring on the Behavior of Night-Migrating Birds at an Artificial Oil-Production Island, Arctic Alaska

**ISSN:** 0004-0843

**DOI:** 10.14430/arctic4507

**Accession Number:** WOS:000362696900010

**Keywords:** Common Eider; King Eider; Long-tailed Duck; Somateria mollissima; Somateria spectabilis; Clangula hyemalis; Nonbreeding season; Migration; Conservation; Behavior

**Abstract:** We studied movement rates and the general flight behavior of bird flocks seen on radar and recorded visually at Northstar Island, Arctic Alaska, from 13 to 27 September 2002. Most of this period (13-19 and 21-27 September) had no gas-flaring events, but a major gas-flaring event occurred on the night of 20 September. Movement rates of targets on radar and of bird flocks recorded visually in the first similar to 50%-60% of the night were much lower during the non-flaring period than during the night of flaring, whereas rates in the last similar to 40%-50% of the night were similar in all periods. The general flight behavior of birds also differed significantly, with higher percentages of both radar targets and bird flocks exhibiting straight-line (directional) flight behaviors during the non-flaring periods and higher percentages of radar targets and bird flocks exhibiting non-straight-line (erratic and circling) flight behaviors during the gas-flaring period. During the night of gas flaring, the bright illumination appeared to have an effect only after sunset, when flocks of birds circled the island after being drawn in from what appeared to be a substantial distance from the island. On both radar and visual sampling, the number of bird flocks approaching the island declined over the evening, and the attractiveness of the light from flaring appeared to decline. The visibility of the moon appeared to have little effect on the behavior of birds. Because illumination from extensive gas-flaring is such a strong attractant to migrating birds and because most bird flocks fly at low altitudes over the water, flaring booms on coastal and offshore oil-production platforms in Arctic Alaska should be positioned higher than the mean flight altitudes of migrating birds to reduce the chances of incineration.

**Notes:** Day, Robert H. Rose, John R. Prichard, Alexander K. Streever, Bill

**URL:** <Go to ISI>://WOS:000362696900010

**Reference Type:**  Journal Article

**Record Number:** 137

**Author:** A. De Faveri and M. Zenatello

**Year:** 1997

**Title:** Wintering waterbirds in the province of Belluno: Years 1989-1996

**Journal:** Societa Veneziana di Scienze Naturali Lavori

**Volume:** 22

**Issue:** 0

**Pages:** 51-59

**Short Title:** Wintering waterbirds in the province of Belluno: Years 1989-1996

**Accession Number:** BCI:BCI199799606814

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Wintering waterbirds were counted in the main wetlands of the province of Belluno (NE Italy) during years 1989-1996. Among the less common species, extreme interest for local wetlands comes from wintering individuals of Podiceps nigricollis, Phalacrocorax carbo, Bucephala clangula, Mergus merganser and Larus minutus.

**URL:** <Go to ISI>://BCI199799606814

**Reference Type:**  Journal Article

**Record Number:** 1587

**Author:** V. N. De Jonge, K. Essink and R. Boddeke

**Year:** 1993

**Title:** The Dutch Wadden Sea: A changed ecosystem

**Journal:** Hydrobiologia

**Volume:** 265

**Issue:** 1-3

**Pages:** 45-71

**Short Title:** The Dutch Wadden Sea: A changed ecosystem

**Accession Number:** BCI:BCI199497003037

**Keywords:** Common Eider; Somateria mollissima; Habitat; Nonbreeding Seasons;

**Abstract:** Since 1600 the surface area of the Dutch Wadden Sea decreased considerably by successive reclamations of saltmarshes. In 1932 the Zuiderzee (3200 km-2) was closed off from the Wadden Sea causing in the remaining part an increase in tidal range and current velocities. In 1969 the Lauwerszee (91 km-2) was closed off and turned into a freshwater lake as well. Man's use of the Wadden Sea changed simultaneously. Dredging in harbours and shipping routes, and extraction of sand and shells became common practice. Extraction of sand increased manifold between 1960 and 1985. These activities did contribute to the turbidity of the Wadden Sea water. Discharge of nitrogen and phosphorus compounds into the western Wadden Sea increased also manifold since 1950, causing an increase in phytoplankton production, duration of phytoplankton blooms, and intertidal macrozoobenthic biomass. Loads of metals and organochlorine contaminants entering the Wadden Sea were hard to estimate. Fisheries changed drastically since the 1930's. Fishing for 'Zuiderzee' herring came to an end shortly after closing off the Zuiderzee. The anchovy fishery ceased in the 1960's; that for flounder in 1983. Undersized brown shrimps were fished until 1971. Selective shrimptrawls and sorting devices with flushing seawater were introduced to reduce mortality among young flatfish and shrimps. Oysters became extinct in the 1960's due to over-exploitation of the natural beds. Production of mussels increased more than ten times between 1950 and 1961 due to 'culturing'; catches of cockles increased slowly between 1955 and 1984. Whelks were fished until 1970. The most important changes in the biotic system of the Wadden Sea, increased production of microalgae and intertidal macrozoobenthos, can be attributed to increased nutrient loads. Eutrophication provided ample food supply for mussels which are harvested mainly by man and eider duck, and may have caused also increased growth in juvenile plaice. Increased turbidity may have impaired life conditions for adult dab, and have prevented also recovery of sublittoral eelgrass beds after their disappearance in the 1930's due to the 'wasting disease'. Increased turbidity in the Wadden Sea is probably caused by closing off the Zuiderzee (1932), a significant increase of dredge spoil disposal near Hoek van Holland between 1970 and 1983, and a more than 10-fold increase of mussel culturing in the Wadden Sea since 1950. Stocks of several bird species breeding in the Wadden Sea area suffered great losses in the early 1960's due to a pesticide accident. Most of the breeding populations have recovered. PCB's caused a reproduction failure among harbour seals in the 1970's. Since 1980 official Dutch policy aims at multiple use of the Wadden Sea, with emphasis on protection and restoration of the natural environment. The 3rd Water Management Plan (1989) aims at a development of the Wadden Sea ecosystem towards the situation of ca. 1930, i.e. without undoing present sea dikes and reclaimed polders. Management of the Dutch Wadden Sea will therefore have to focus mainly on reduction of eutrophication, pollution and turbidity. Some management options are discussed.

**URL:** <Go to ISI>://BCI199497003037

**Reference Type:**  Journal Article

**Record Number:** 153

**Author:** J. De Korte, A. E. Volkov and M. V. Gavrilo

**Year:** 1995

**Title:** Bird observations in Severnaya Zemlya, Siberia

**Journal:** Arctic

**Volume:** 48

**Issue:** 3

**Pages:** 222-234

**Short Title:** Bird observations in Severnaya Zemlya, Siberia

**Accession Number:** BCI:BCI199598544183

**Keywords:** Sea Ducks - General; King Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Field work in different parts of Severnaya Zemlya in 1985, 1991,1992 and 1993 and aerial surveys in 1994 revealed a limited bird fauna with a total of 17 breeding species. The most numerous breeding birds are cliff-nesting seabirds, comprising little auk (Alle alle), 10 000-80 000 pairs; kittiwake (Rissa tridactyla), 5000-10 000; black guillemot (Cepphus grylle), 1000-5000; ivory gull (Pagophila eburnea), 1000-2000; and glaucous gull (Larus hyperboreus), 500-1000. They breed all over the archipelago, usually in rather small mixed- or single-species colonies. Arctic tern (Sterna paradisaea) 100-500, and herring gull (Larus argentatus) 1-10, breed as solitary pairs or with a few pairs together. Of tundra birds, only brent goose (Branta bernicla), purple sandpiper (Calidris maritima) and snow bunting (Plectrophenax nivalis) are found breeding on most of the major islands. The other tundra species-red-throated diver (Gavia stellata), king eider (Somateria spectabilis), sanderling (Calidris alba), Arctic skua (Stercorarius parasiticus), long-tailed skua (Stercorarius longicaudus), snowy owl (Nyctea scandiaca) and Lapland bunting (Calcarius lapponicus)-breed in small numbers and in limited areas, often not every year. Of the even fewer mammal species, reindeer (Rangifer tarandus) occurs occasionally, while Arctic fox (Alopex lagopus) and collared lemming (Dicrostonyx torquatus) are locally common in some years.

**URL:** <Go to ISI>://BCI199598544183

**Reference Type:**  Journal Article

**Record Number:** 2303

**Author:** S. E. W. De la Cruz, J. M. Eadie, A. K. Miles, J. Yee, K. A. Spragens, E. C. Palm and J. Y. Takekawa

**Year:** 2014

**Title:** Resource selection and space use by sea ducks during the non-breeding season: Implications for habitat conservation planning in urbanized estuaries

**Journal:** Biological Conservation

**Volume:** 169

**Pages:** 68-78

**Date:** Jan

**Short Title:** Resource selection and space use by sea ducks during the non-breeding season: Implications for habitat conservation planning in urbanized estuaries

**ISSN:** 0006-3207

**DOI:** 10.1016/j.biocon.2013.10.021

**Accession Number:** WOS:000333574400009

**Keywords:** Surf Scoter; Melanitta perspicillata; Nonbreeding season; Habitat

**Abstract:** Wide-ranging marine birds rely on multiple habitats for wintering, breeding, and migrating, and their conservation may be dependent on protecting networks of key areas. Urbanized estuaries are critical wintering and stopover areas for many declining sea ducks in North America; however, conservation measures within estuaries are difficult to establish given lack of knowledge about habitat use by these species and the variety of competing human interests. We applied hierarchical modeling to evaluate resource selection of sea ducks (surf scoters, Melanitta perspicillata) wintering in San Francisco Bay, California, USA, a large and highly urbanized estuary. We also examined their distribution, home range, and movements with respect to key habitat features and regions within the estuary. Herring roe was the strongest predictor of bird locations; however, eelgrass, water depth and salinity were also highly-ranked, with sea ducks using deeper areas of higher salinity associated with herring roe and eelgrass presence during mid-winter. Sea ducks were also strongly associated with ferry routes, suggesting these areas may contain resources that are too important to avoid and emphasizing the need to better understand water traffic effects. Movements and home range size differed between males and females in early winter but became more similar in late winter. Birds traveled farther and used several sub-bays in early winter compared to mid-winter when herring roe availability peaked in the Central Bay. Our findings identified key environmental variables, highlighted core use areas, and documented critical periods for consideration when developing conservation plans for sea ducks in urbanized estuaries. Published by Elsevier Ltd.

**Notes:** De la Cruz, Susan E. W. Eadie, John M. Miles, A. Keith Yee, Julie Spragens, Kyle A. Palm, Eric C. Takekawa, John Y.

**URL:** <Go to ISI>://WOS:000333574400009

**Reference Type:**  Journal Article

**Record Number:** 1836

**Author:** S. E. W. De la Cruz, J. Y. Takekawa, K. A. Spragens, J. Yee, R. T. Golightly, G. Massey, L. A. Henkel, R. S. Larsen and M. Ziccardi

**Year:** 2013

**Title:** Post-release survival of surf scoters following an oil spill: An experimental approach to evaluating rehabilitation success

**Journal:** Marine Pollution Bulletin

**Volume:** 67

**Issue:** 1-2

**Pages:** 100-106

**Date:** Feb

**Short Title:** Post-release survival of surf scoters following an oil spill: An experimental approach to evaluating rehabilitation success

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2012.11.027

**Accession Number:** WOS:000316526300025

**Keywords:** Surf scoter; Melanitta perspicillata; survival; Contaminants; techniques; Nonbreeding Seasons

**Notes:** Times Cited: 0

De la Cruz, Susan E. W. Takekawa, John Y. Spragens, Kyle A. Yee, Julie Golightly, Richard T. Massey, Greg Henkel, Laird A. Larsen, R. Scott Ziccardi, Michael

0

**URL:** <Go to ISI>://WOS:000316526300025

**Reference Type:**  Journal Article

**Record Number:** 1040

**Author:** S. E. W. De La Cruz, J. Y. Takekawa, M. T. Wilson, D. R. Nysewander, J. R. Evenson, D. Esler, W. S. Boyd and D. H. Ward

**Year:** 2009

**Title:** Spring migration routes and chronology of surf scoters (Melanitta perspicillata): a synthesis of Pacific coast studies

**Journal:** Canadian Journal of Zoology

**Volume:** 87

**Issue:** 11

**Pages:** 1069-1086

**Date:** Nov 2009

**Short Title:** Spring migration routes and chronology of surf scoters (Melanitta perspicillata): a synthesis of Pacific coast studies

**Accession Number:** BCI:BCI201000040125

**Keywords:** Surf Scoter; Melanitta perspicillata; Migration; Population Delineation; Dispersal; Nonbreeding Seasons; Breeding Season; SDJV funded

**Abstract:** Understanding interconnectivity among wintering, stopover, and breeding areas of migratory birds is pivotal to discerning how events occurring in each might have a cross-seasonal effect on another. Such information can guide the location and timing of conservation efforts. Thus, we examined spring migration routes, chronology, and stopover use of 85 surf scoters (Melanitta perspicillata (L., 1758)) marked with satellite transmitters at four Pacific Flyway wintering sites: San Quintin Bay, Baja California; San Francisco Bay, California; Puget Sound, Washington; and Strait of Georgia, British Columbia. Eighty-three percent of marked scoters followed two main routes to the breeding area: a Southern Inland route involving staging in Puget Sound and Strait of Georgia and protracted inland migration, or a Northern Coastal route characterized by short movements along the Pacific coast of British Columbia and southeast Alaska with inland migration initiating from Lynn Canal and surrounding areas. Route choice was related to nesting site latitude in the Canadian Northern Boreal Forest. Data from birds tracked over 2 years indicated strong migration route fidelity, but altered chronology and stopover locations between years. Departure date varied by wintering site, but arrival and apparent settling dates were synchronous, suggesting individuals adjusted migration timing to meet an optimized reproductive schedule.

**URL:** <Go to ISI>://BCI201000040125

**Reference Type:**  Journal Article

**Record Number:** 942

**Author:** H. De Roever-Bonnet

**Year:** 1971

**Title:** Toxoplasma and Intestinal Parasites in Birds in the Netherlands

**Journal:** Journal of Parasitology

**Volume:** 57

**Issue:** 4 SECT 2 PART 1

**Pages:** 41-42

**Short Title:** Toxoplasma and Intestinal Parasites in Birds in the Netherlands

**Accession Number:** BCI:BCI197208065234

**Keywords:** Black Scoter; Melanitta nigra; Parasites;

**URL:** <Go to ISI>://BCI197208065234

**Reference Type:**  Journal Article

**Record Number:** 1076

**Author:** R. Decarie, F. Morneau, D. Lambert, S. Carriere and J.-P. L. Savard

**Year:** 1995

**Title:** Habitat use by brood-rearing waterfowl in subarctic Quebec

**Journal:** Arctic

**Volume:** 48

**Issue:** 4

**Pages:** 383-390

**Short Title:** Habitat use by brood-rearing waterfowl in subarctic Quebec

**Accession Number:** BCI:BCI199698677220

**Keywords:** Black Scoter; Melanitta nigra; Surf Scoter; Melanitta perspicillata; Habitat; Breeding Season;

**Abstract:** Aerial surveys of waterfowl were conducted in subarctic Quebec in 1989 and 1990 on randomly selected 100 km-2 plots. We used logistic regression for modelling relationships between the presence of waterfowl broods and habitat characteristics. For each species, models of habitat use were generated with one data set and tested with two others. We also compared the frequency distributions of broods of each species in different habitat types. Correct-classification rates of models varied between 0.53 and 0.77. Sensitivity of models generally increased when applied to validation data sets. Models showed that green-winged teals (Anas crecca) avoided lakes gt 501 ha and used vegetated lakes, ponds and fens or bogs more than predicted by their availability. Black scoters (Melanitta nigra) and surf scoters (M. perspicillata) were found mostly on small lakes ( lt 10 ha) and medium lakes (10- 100 ha). Black scoters were associated with the presence of ponds and lakes with sedge and grass, whereas surf scoters were not. The presence of scaup (Aythia spp.) broods was associated with the presence of vegetation. Green-winged teals were observed more often on bogs than were either scoters or scaups. Black scoters were observed more often on ponds and less often on medium-sized lakes than surf scoters and scaups. The latter differed in their use of lakes lt 10 ha: surf scoters, like black scoters, mostly used unvegetated lakes, while scaups and green-winged teals mostly used vegetated lakes. The accuracy and precision of logistic models may be enhanced by additional habitat variables, careful selection of sample-cell size and further investigation of the breeding biology of the surveyed species.

**URL:** <Go to ISI>://BCI199698677220

**Reference Type:**  Journal Article

**Record Number:** 954

**Author:** P. Deflorenne and A. Derouaux

**Year:** 2010

**Title:** Status of Scoters Melanitta sp in the Belgian Entre-Sambre-et-Meuse

**Journal:** Aves

**Volume:** 47

**Issue:** 3

**Pages:** 129-138

**Date:** Sep 2010

**Short Title:** Status of Scoters Melanitta sp in the Belgian Entre-Sambre-et-Meuse

**Accession Number:** BCI:BCI201000606993

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The Velvet Scoter Melanitta fusca and the Common Scoter Melanitta nigra are rarely, but regularly seen in Wallonia. They are almost never seen in Brussels. Essentially they are limited to the river Meuse and to some large lakes. In particular, the lakes of les Barrages de l'Eau d'Heure (BEH), which offer an abundant source of crayfish and molluscs, are a regular overwintering site for the Velvet Scoter. Although one Common Scoter has been observed overwintering among Velvet Scoters at BEH, this species is normally a bird of passage in Wallonia. It is found on more sites than the Velvet Scoter, including much smaller lakes (for example in the Entre-Sambre-et-Meuse, Roly, Virelles ...)

**URL:** <Go to ISI>://BCI201000606993

**Reference Type:**  Journal Article

**Record Number:** 4

**Author:** L. A. Degernes, P. S. Lynch and H. L. Shivaprasad

**Year:** 2011

**Title:** Degenerative joint disease in captive waterfowl

**Journal:** Avian Pathology

**Volume:** 40

**Issue:** 1

**Pages:** 103-110

**Short Title:** Degenerative joint disease in captive waterfowl

**Accession Number:** BCI:BCI201100134295

**Keywords:** Sea Ducks - General; Disease;

**Abstract:** A retrospective study was conducted to evaluate degenerative joint disease (DJD) in captive waterfowl that died or were euthanized at Fresno's Chaffee Zoo in Fresno, California, USA from 2001 to 2005. Of these, 16 out of 33 birds (48%) had DJD in one or both stifle (femoral-tibiotarsal joint; n = 13), hock (tibiotarsal-tarsometatarsal joint; n = 4), or toe joints (n = 2), based on gross, histologic and/or radiographic confirmation. No joint disease was observed in any wings, nor were any infectious pathogens isolated from affected joints. Sixteen species of waterfowl were included (n = 1 to 5 per species), with an average age at death of 12.1 years and 11.3 years for waterfowl with, and without DJD, respectively. Neither age nor sex was associated with the presence of joint disease. Waterfowl housed in the Rainforest exhibit were more likely to be diagnosed with DJD compared with waterfowl housed in the duck pond exhibit, possibly due to the rough-textured concrete surfaces in the Rainforest exhibit. Further research involving a larger number of zoological collections and birds is necessary to gain a better understanding of risk factors in captive waterfowl.

**URL:** <Go to ISI>://BCI201100134295

**Reference Type:**  Journal Article

**Record Number:** 895

**Author:** S. Degraer, P. Meire and M. Vincx

**Year:** 2007

**Title:** Spatial distribution, population dynamics and productivity of Spisula subtruncata: implications for Spisula fisheries in seaduck wintering areas

**Journal:** Marine Biology (Berlin)

**Volume:** 152

**Issue:** 4

**Pages:** 863-875

**Date:** Sep 2007

**Short Title:** Spatial distribution, population dynamics and productivity of Spisula subtruncata: implications for Spisula fisheries in seaduck wintering areas

**Accession Number:** BCI:BCI200700563969

**Keywords:** Black Scoter; Melanitta nigra; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Bivalves are important in shallow marine habitats, not at least being the major food resource for seaducks such as the common scoter (Melanitta nigra), thousands of which are wintering on the Western Coastal Banks, near the Belgian-French border (North Sea). Next to this ecological importance, fishable stocks of one of these bivalves, Spisula subtruncata, occur in the area. This study aimed at investigating S. subtruncata's spatial distribution, population dynamics and productivity and its implications for a sustainable Spisula fishery in seaduck wintering areas. The spatial distribution of S. subtruncata was studied in 1994 and 1997 in two areas of the Belgian Western Coastal Banks. The population dynamics and production were investigated by monthly sampling of two stations between April 1995 and April 1996 and a seasonal sampling between April 1996 and April 1998. Spisula subtruncata had a patchy distribution in the deeper (6 m), fine sandy (200 +/- 20 mu m) sediments of the Abra alba community, mainly found in the western most part of the Western Coastal Banks. In August 1995, an overwhelming and successful recruitment was observed in this area: local densities were as high as 150,000 ind m(-2). Minor, non-successful recruitments were detected in August 1996 and 1997. Due to space limitation, high densities of S. subtruncata are hypothesized to be responsible for the occurrence of aberrant shapes as observed from August 1996 onwards. Growth was described by a seasonally oscillating version of the von Bertalanffy growth function (VBGF): a growth stop was observed from late autumn till early spring. The VBGF parameters K (growth constant) and L-infinity (asymptotic length) were estimated at 0.7-0.9 and 31-33 mm. A combination of length and individual biomass increment showed: (1) a faster length increment of smaller individuals during the second growing period (catching-up phenomenon), (2) a constant length combined with a decreasing individual biomass during the suboptimal winter periods (except for the first winter, when the individual biomass slightly increased), (3) a positive relationship between the individual biomass decrease and the seawater temperature during the winter periods, and (4) a strong increase of the individual biomass in early spring (April 1997 and 1998) because of gametogenesis, followed by a decrease because of spawning (August 1997). The extremely high total production of the 1995 year class in the tidal gully (Potje) during the study period was estimated at approximately 1,500 g ash-free dry weight (ADW) m(-2) or 600 g ADW m(-2) on average per year. Shellfisheries for S. subtruncata within seaduck wintering areas, such as the Western Coastal Banks, should be carefully deliberated since (1) an important food resource for the seaducks will decrease, (2) the ecologically most diverse and rich macrobenthic A. alba community will be heavily affected, and (3) the recovery of Spisula populations after depletion is expected to be erratic.

**URL:** <Go to ISI>://BCI200700563969

**Reference Type:**  Journal Article

**Record Number:** 909

**Author:** S. Degraer, M. Vincx, P. Meire and H. Offringa

**Year:** 1999

**Title:** The macrozoobenthos of an important wintering area of the common scoter (Melanitta nigra)

**Journal:** Journal of the Marine Biological Association of the United Kingdom

**Volume:** 79

**Issue:** 2

**Pages:** 243-251

**Date:** April, 1999

**Short Title:** The macrozoobenthos of an important wintering area of the common scoter (Melanitta nigra)

**Accession Number:** BCI:BCI199900301431

**Keywords:** Black Scoter; Melanitta nigra; Trophic Interactions; Habitat; Nonbreeding Seasons;

**Abstract:** In October 1994, 39 macrobenthic samples, divided between two areas, were taken on the western Belgian Coastal Banks. The two areas could not be clearly divided, concerning their macrobenthic communities. Multivariate techniques revealed five coherent communities, linked with typical sedimentological factors: (1) the Barnea candida community in a very compact muddy sediment (median 14 mum); (2) a second community characterized by the presence of spat of Mytilus edulis, with a medium sandy sediment (median 456 mum); (3) the Lanice conchilega community inhabiting a fine sandy sediment (median 211 mum); (4) the Nephtys cirrosa-Echinocardium cordatum community in a coarser fine sandy sediment (median 242 mum); and (5), closely related to the latter, the N. cirrosa community also occurring in a fine sandy sediment (median 224 mum). Only the L. conchilega community belongs to the diverse transition zone. The other four communities seem to be part of the heterogeneous, species-poor coastal zone associations. No open sea communities have been detected in the area. On the western Coastal Banks only the L. conchilega community, because of the high numbers of Abra alba, Tellina fabula, and Spisula subtruncata, can be interesting as feeding grounds for the common scoter (Melanitta nigra (Aves: Mergini)). Comparison of the spatial distribution of the wintering common scoters and the L. conchilega community revealed no direct similarity. The factors possibly causing this dissimilarity have been discussed.

**URL:** <Go to ISI>://BCI199900301431

**Reference Type:**  Journal Article

**Record Number:** 732

**Author:** R. J. DeJong, R. L. Reimink and H. D. Blankespoor

**Year:** 2001

**Title:** Hematozoa of hatch-year common mergansers from Michigan

**Journal:** Journal of Wildlife Diseases

**Volume:** 37

**Issue:** 2

**Pages:** 403-407

**Date:** April, 2001

**Short Title:** Hematozoa of hatch-year common mergansers from Michigan

**Accession Number:** BCI:BCI200100338968

**Keywords:** Common merganser; Mergus merganser; Parasites; Breeding Season;

**Abstract:** Fifty-five hatch-year common mergansers (Mergus merganser) were sampled for hematozoa from Douglas Lake (Michigan, USA) on 17 July 1995. Forty-one (75%) were infected with hematozoa. Haemoproteus greineri and Leucocytozoon simondi were common, infecting 28 (51 %) and 26 (47%) common mergansers, respectively. Plasmodium circumflexum infected two (4%) birds. The common merganser is a new host record for H. greineri and P. circumflexum. Intensity data indicate possible negative interspecific interaction between H. greineri and L. simondi.

**URL:** <Go to ISI>://BCI200100338968

**Reference Type:**  Journal Article

**Record Number:** 703

**Author:** J. Delcourt

**Year:** 2010

**Title:** Predation behaviour of the Common Goosander Mergus merganser in low water levels

**Journal:** Aves

**Volume:** 47

**Issue:** 4

**Pages:** 201-212

**Date:** Dec 2010

**Short Title:** Predation behaviour of the Common Goosander Mergus merganser in low water levels

**Accession Number:** BCI:BCI201100134279

**Keywords:** Common merganser; Mergus merganser; Behavior; Breeding Season;

**Abstract:** This article describes the predation behaviour of the Common Goosander, observed on the river Ourthe during periods of low water levels. Even though it is catalogued as a diving duck, the bird can, starting from the "head under water" posture typical of the species, adopt a mode of search and pursuit of its prey which does not require diving. The "head under water" posture has been noted previously in the specialist literature, but it has never before been so precisely described. The fishing behaviour in very low water levels was never mentioned. We report here observations carried out in September 2009 and June 2010 on the site of the Grosses-Battes in Basse-Ourthe (Angleur). These observations show that some summering individuals prefer riffle zone close to the dam as feeding site at times of low water level, even though many deeper zones are accessible in the vicinity.

**URL:** <Go to ISI>://BCI201100134279

**Reference Type:**  Journal Article

**Record Number:** 1837

**Author:** J. C. Denton, C. L. Roy, G. J. Soulliere and B. A. Potter

**Year:** 2012

**Title:** Change in Density of Duck Nest Cavities at Forests in the North Central United States

**Journal:** Journal of Fish and Wildlife Management

**Volume:** 3

**Issue:** 1

**Pages:** 76-88

**Date:** Jun

**Short Title:** Change in Density of Duck Nest Cavities at Forests in the North Central United States

**ISSN:** 1944-687X

**DOI:** 10.3996/112011-jfwm-067

**Accession Number:** WOS:000311625900006

**Keywords:** Common Goldeneye; bufflehead; Bucephala albeola; Bucephala clangula; habitat; Breeding Season

**Notes:** Times Cited: 0

Denton, John C. Roy, Charlotte L. Soulliere, Gregory J. Potter, Bradly A.

0

**URL:** <Go to ISI>://WOS:000311625900006

**Reference Type:**  Book

**Record Number:** 2361

**Author:** D. V. Derksen, M. R. Petersen, and J.-P. L. Savard

**Year:** 2015

**Title:** Habitats of North American sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 469-527

**Short Title:** Habitats of North American sea ducks

**Keywords:** Habitat; Conservation

**Abstract:** Breeding, molting, fall and spring staging, and wintering habitats of the sea duck tribe Mergini are described based on geographic locations and distribution in North America, geomorphology, vegetation and soil types, and freshwater and marine characteristics. The dynamics of habitats are discussed in light of natural and anthropogenic events that shape areas important to sea ducks. Strategies for sea duck habitat management are outlined and recommendations for international collaboration to preserve key terrestrial and aquatic habitats are advanced

**Reference Type:**  Journal Article

**Record Number:** 874

**Author:** J. R. Des Lauriers and B. H. Brattstrom

**Year:** 1965

**Title:** Cooperative feeding behavior in red-breasted mergansers

**Journal:** Auk

**Volume:** 82

**Issue:** (4)

**Pages:** 639

**Short Title:** Cooperative feeding behavior in red-breasted mergansers

**Accession Number:** BCI:BCI19664700039952

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** Cooperative feeding is described for red-breasted mergansers, Mergus serrator, near Guaymas, Sonora, Mexico. Hunting birds formed a semicircle around a discovered fish and chased the fish until caught. Greater fishing success was observed in cooperative feeding than in solitary feeding. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19664700039952

**Reference Type:**  Journal Article

**Record Number:** 1286

**Author:** S. Descamps, J. Bety, O. P. Love and H. G. Gilchrist

**Year:** 2011

**Title:** Individual optimization of reproduction in a long-lived migratory bird: a test of the condition-dependent model of laying date and clutch size

**Journal:** Functional Ecology

**Volume:** 25

**Issue:** 3

**Pages:** 671-681

**Date:** Jun 2011

**Short Title:** Individual optimization of reproduction in a long-lived migratory bird: a test of the condition-dependent model of laying date and clutch size

**Accession Number:** BCI:BCI201100326084

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Productivity; Breeding Season;

**Abstract:** P>1. Optimality theory predicts that both timing of arrival and arrival state on the breeding area will determine reproductive timing and investment in migratory organisms. We tested this idea using a condition-dependent individual optimization model (Ardea68, 1980, 225 and The American Naturalist143, 1994, 698) in common eider ducks through descriptive data, path analyses and experimental manipulation.2. Our results support the causal pathways drawn from the optimization model indicating that individuals adjust their reproductive decisions as a function of their arrival date and body condition at arrival.3. Independent of body condition, early-arriving females had a longer pre-laying period, but still initiated their nests earlier, and produced larger clutches than late-arriving birds. Independent of arrival date, females in good condition laid earlier than those in poor condition. Manipulation of pre-laying female body condition confirmed that the relationship between condition and laying date was causal.4. Female common eiders appear to optimize reproductive decisions in response to both their external (i.e. environmental conditions affecting the egg-value) and internal (i.e. body condition) states. These adjustments seem to minimize the fitness costs of reproduction, in which higher clutch size is not associated with an apparent lower survival or future breeding probability.5. Our study emphasizes the importance of (i) simultaneously considering the timing of migration, the state of individuals and the seasonal change in egg-value to understand clearly birds' breeding decisions and (ii) appreciating the potential proximate and ultimate factors explaining why some individuals delay breeding and/or produce small clutches.

**URL:** <Go to ISI>://BCI201100326084

**Reference Type:**  Journal Article

**Record Number:** 1285

**Author:** S. Descamps, M. R. Forbes, H. G. Gilchrist, O. P. Love and J. Bety

**Year:** 2011

**Title:** Avian cholera, post-hatching survival and selection on hatch characteristics in a long-lived bird, the common eider Somateria mollisima

**Journal:** Journal of Avian Biology

**Volume:** 42

**Issue:** 1

**Pages:** 39-48

**Date:** Jan 2011

**Short Title:** Avian cholera, post-hatching survival and selection on hatch characteristics in a long-lived bird, the common eider Somateria mollisima

**Accession Number:** BCI:BCI201100163048

**Keywords:** Common Eider; Somateria mollissima; Disease; Survival; Population Dynamics; Breeding Season;

**Abstract:** Infectious diseases can have dramatic impacts on animal population dynamics, but how they influence vital rates remains understudied. We took advantage of the appearance of an avian cholera epizootic in an arctic colony of common eiders Somateria mollissima to study variation in juvenile survival and selection on hatch characteristics in relation to this highly infectious disease. Avian cholera is one of the most important infectious diseases affecting wild birds and is thought to primarily affect adult survival. Here, we show that avian cholera was associated with a 90% decline in duckling survival, leading to almost zero recruitment. Before the cholera outbreak, there was significant stabilizing selection on hatching date and significant positive directional selection on hatching mass. During cholera outbreaks, selection on hatch characteristics was no longer significant. These results were based on a low sample of surviving ducklings in cholera years, but suggested that date and mass at hatching did no longer affect duckling survival in the presence of cholera. These effects of avian cholera on post-hatching survival were likely not only the consequence of the disease per se, but also a consequence of an increase in predation rates that followed the emergence of avian cholera. Our results emphasize the dramatic direct and indirect impacts that infectious disease can have on vital rates, and thus population dynamics.

**URL:** <Go to ISI>://BCI201100163048

**Reference Type:**  Journal Article

**Record Number:** 1840

**Author:** S. Descamps, S. Jenouvrier, H. G. Gilchrist and M. R. Forbes

**Year:** 2012

**Title:** Avian Cholera, a Threat to the Viability of an Arctic Seabird Colony?

**Journal:** Plos One

**Volume:** 7

**Issue:** 2

**Date:** Feb

**Short Title:** Avian Cholera, a Threat to the Viability of an Arctic Seabird Colony?

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0029659

**Article Number:** e29659

**Accession Number:** WOS:000302741300004

**Keywords:** Common eider; somateria mollissima; Disease; Breeding Season; SDJV funded

**Notes:** Times Cited: 3

Descamps, Sebastien Jenouvrier, Stephanie Gilchrist, H. Grant Forbes, Mark R.

Forbes, Mark/B-3575-2013

3

**URL:** <Go to ISI>://WOS:000302741300004

**Reference Type:**  Journal Article

**Record Number:** 1312

**Author:** S. Descamps, N. G. Yoccoz, J.-M. Gaillard, H. G. Gilchrist, K. E. Erikstad, S. A. Hanssen, B. Cazelles, M. R. Forbes and J. Bety

**Year:** 2010

**Title:** Detecting population heterogeneity in effects of North Atlantic Oscillations on seabird body condition: get into the rhythm

**Journal:** Oikos

**Volume:** 119

**Issue:** 9

**Pages:** 1526-1536

**Date:** Sep 2010

**Short Title:** Detecting population heterogeneity in effects of North Atlantic Oscillations on seabird body condition: get into the rhythm

**Accession Number:** BCI:BCI201000537291

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Climatic influences on animal populations, mediated by changes in condition-dependent survival or reproduction, have long intrigued ecologists. We analyzed links between winter North Atlantic Oscillations (NAO), a large scale climatic phenomenon affecting weather conditions over the North Atlantic and the Arctic, and average pre-laying body mass in common eiders. Body mass is a good proxy for condition-dependent reproductive output in this species. Time series links were assessed for two eider populations breeding at high latitudes, over a 10- and a 21-year time series. Winter NAO affected body mass in both populations and these effects were easier to detect when changes in the series rhythm were assessed using a novel method based on data discretization and information theory, rather than detection based on changes in amplitude, assessed using traditional linear models. Winter conditions affected body condition of eiders in both populations. Different mechanisms, however, are likely to be involved in the two populations, one being presumably affected by direct effects of climate and the other by effects through the food chain. Therefore, the same species can respond along different pathways to the same large scale climatic pattern, an important consideration when seeking to understand or manage the response of species to present and future climate change.

**URL:** <Go to ISI>://BCI201000537291

**Reference Type:**  Journal Article

**Record Number:** 550

**Author:** J. L. Desgranges and M. Darveau

**Year:** 1985

**Title:** Effect of Lake Acidity and Morphometry on the Distribution of Aquatic Birds in Southern Quebec Canada

**Journal:** Holarctic Ecology

**Volume:** 8

**Issue:** 3

**Pages:** 181-190

**Short Title:** Effect of Lake Acidity and Morphometry on the Distribution of Aquatic Birds in Southern Quebec Canada

**Accession Number:** BCI:BCI198681070781

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Trophic Interactions; Breeding Season;

**Abstract:** More than half the lakes in the deciduous and boreal forest regions of southern Quebec harbour at least one aquatic bird species during the nesting period. Although the number of nesting pairs per lake is generally small, those pairs are most commonly seen on lakes with a surface area of more than 15 ha, a winter pH lower than that of normal rain (i.e. < 5.6), an irregular shore configuration marked by abundant riparian vegetation, and islands. In a correspondence analysis, the first axis, representing lake acidity, explains 68% of the total variance. The common goldeneye Bucephala clangula, which is frequently seen on the most acidic lakes, and the American black duck Anas rubripes, which tends to avoid acidic lakes, show the largest contributions to that axis. The second axis describes an altitude/surface area gradient and brings the cumulative percentage of explained total variance to 94%; the great blue heron Ardea herodias and the common loon Gavia immer primarily use large, low-altitude lakes, whereas the ringnecked duck Aythya collaris and the American black duck are often found on the smaller, higher-altitude lakes. Those results are discussed as they relate to the feeding requirements of the various species of bird and the biology of their main prey. The ecological segregation of the three waterfowl species is attributed to interspecific competition.

**URL:** <Go to ISI>://BCI198681070781

**Reference Type:**  Journal Article

**Record Number:** 547

**Author:** J. L. Desgranges and M. Darveau

**Year:** 1988

**Title:** Visiting of Lakes in Southern Quebec Canada by Aquatic Birds During the Breeding Season

**Journal:** Naturaliste Canadien (Quebec)

**Volume:** 115

**Issue:** 1

**Pages:** 1-8

**Short Title:** Visiting of Lakes in Southern Quebec Canada by Aquatic Birds During the Breeding Season

**Accession Number:** BCI:BCI198987113638

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** Five common species of aquatic birds that frequent lakes in the hilly regions of southern Ouebec are sympatrically distributed throughout the breeding season. Although their distribution was fairly uniform over both space and time, each species was observed more frequently on a specific type of lake during both nesting and brood rearing. Habitat shift vectors built from a correspondence analysis showed that the common loon (Gavia immer) and the great blue heron (Ardea herodias) were found mainly on large (i.e. > 15 ha), buffered, low altitude (i.e. < 600 m) lakes. The American black duck (Anas rubripes) and the ring-necked duck (Aythya collaris) often frequented smaller lakes with abundant riparian vegetation, while the common goldeneye (Bucephala clangula) primarily used acidic lakes. Few habitats are probably used by each species throughout the breeding season because wetlands in hilly regions are generally stable in terms of permanence of lakes and productivity of aquatic communities, so that all food and cover requirements are met on one lake type.

**URL:** <Go to ISI>://BCI198987113638

**Reference Type:**  Journal Article

**Record Number:** 529

**Author:** J.-L. Desgranges and C. Gagnon

**Year:** 1994

**Title:** Duckling response to changes in the trophic web of acidified lakes

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 207-221

**Short Title:** Duckling response to changes in the trophic web of acidified lakes

**Accession Number:** BCI:BCI199497325666

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Contaminants; Breeding Season;

**Abstract:** We reared American Black Duck (Anas rubripes Brewster) and Common Goldeneye (Bucephala clangula Linnaeus) ducklings on two Quebec laurentian lakes in which we manipulated brook trout populations (Salvelinus fontinalis Mitchill), lake acidity and take productivity to relate waterfowl foraging to trophic status of lakes. We developed a preliminary model to assess the effects of lake acidity and productivity, fish predation and interspecific fish/duck competition in relation to available food (aquatic invertebrates). We then validated the model using a factorial analysis of the relationships between the variables pertaining to the diet of the fish and ducklings, and the environmental characteristics of the lakes (acidity, biological production and fish predation). The first factorial axis can be interpreted in terms of biological productivity, while the second axis illustrates the effect that fish have on the quantity and type of food available to ducklings. Two different trends appear to occur depending on whether the carrying capacity of the lake is reduced by acidification of the water or increase through liming or fertilization. In the first case, fish predation appears to have a marked effect on available food, whereas in the second case, interspecific fish/duck competition is apparently to blame for changes in the diet of ducklings. In both instances, but to a lesser extent, fish compete increasingly (exploitation and/or interference) with the ducklings, forcing them to feed to a greater extent in riparian sites that are less accessible to fish.

**URL:** <Go to ISI>://BCI199497325666

**Reference Type:**  Journal Article

**Record Number:** 1460

**Author:** M. Desholm

**Year:** 2003

**Title:** How much do small-scale changes in flight direction increase overall migration distance?

**Journal:** Journal of Avian Biology

**Volume:** 34

**Issue:** 2

**Pages:** 155-158

**Date:** June 2003

**Short Title:** How much do small-scale changes in flight direction increase overall migration distance?

**Accession Number:** BCI:BCI200300406473

**Keywords:** Common Eider; Somateria mollissima; Behavior; Migration; Nonbreeding Seasons;

**Abstract:** During a radar study of autumn migrating waterfowl Denmark, individual flight trajectories of bird flocks were seen to show zigzag-like patterns, rather than exact straight lines. An analysis of these small-scale changes in flight directions, which are too small to be detected by satellite telemetry, showed that geese and common eiders Somateria m. mollissima were flying on average 0.7% and 1.6% longer distances, respectively, than if they would have flown along exact straight lines. Thus, it is concluded that the flight paths are remarkably similar to straight lines. A multivariate regression analysis suggested cross wind as a factor increasing flight distance, and hence, the small-scale changes in flight directions could in part be a result of birds trying to compensate for wind drift.

**URL:** <Go to ISI>://BCI200300406473

**Reference Type:**  Journal Article

**Record Number:** 1483

**Author:** M. Desholm, T. K. Christensen, G. Scheiffarth, M. Hario, A. Andersson, B. Ens, C. J. Camphuysen, L. Nilsson, C. M. Waltho, S. H. Lorentsen, A. Kuresoo, R. K. H. Kats, D. M. Fleet and A. D. Fox

**Year:** 2002

**Title:** Status of the Baltic/Wadden Sea population of the Common Eider Somateria m. mollissima

**Journal:** Wildfowl

**Volume:** 53

**Pages:** 167-203

**Short Title:** Status of the Baltic/Wadden Sea population of the Common Eider Somateria m. mollissima

**Accession Number:** BCI:BCI200300547727

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** A dramatic decline in the number of wintering Common Eiders from c. 800,000 to c. 370,000 occurred in Danish waters between 1990 and 2000. Denmark represents the second most important wintering area for Eiders from the Baltic/Wadden Sea flyway, and mid-winter counts suggest the total population could have fallen from c.1.2 million individuals in 1991 to c. 760,000 in 2000, implying major (c.36%) overall declines. However, although declines of similar magnitude have been detected in breeding numbers at some sites (eg Saltholm in Denmark), such a dramatic reduction is not generally evident amongst breeding numbers monitored throughout the flyway. Five hypotheses are offered to explain this discrepancy, two of which are considered likely to contribute to the differences. These relate to shortcomings in our ability to monitor adequately breeding and wintering numbers in both time and space, as well as to an unknown buffering effect of non-breeders (which are counted on the winter quarters, but which do not appear amongst assessments of breeding abundance). Parameters known to contribute to declines in population size include low duckling survival caused by viral infections, mass adult mortality due to Avian Cholera, and reduced adult annual survival rates due to mass mortality events on the wintering grounds. The population continues to be a quarry species in Denmark, Sweden, Norway and Finland. It is strongly recommended that the national monitoring schemes should be standardised and synchronised, in order to establish future population abundance and change. It is further recommended that population modelling is undertaken to understand the relationships between the numbers of Common Eiders in the Baltic/Wadden Sea flyway population and the different factors affecting their abundance.

**URL:** <Go to ISI>://BCI200300547727

**Reference Type:**  Journal Article

**Record Number:** 440

**Author:** L. Dessborn, J. Elmberg and G. Englund

**Year:** 2011

**Title:** Pike predation affects breeding success and habitat selection of ducks

**Journal:** Freshwater Biology

**Volume:** 56

**Issue:** 3

**Pages:** 579-589

**Date:** Mar 2011

**Short Title:** Pike predation affects breeding success and habitat selection of ducks

**Accession Number:** BCI:BCI201100159965

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** P>1. Fish and ducks often belong to the same local food web, and several studies indicate that there is a general negative effect of fish on breeding ducks. This pattern has so far been addressed mainly within the framework of competition for common invertebrate prey, while predation by large fish as a force behind settlement and abundance patterns in ducks remains largely unknown. This is the first study to address the effect of fish predation on breeding ducks, isolated from that of competition, and the first experiment to explore the ability of ducks to identify and avoid lakes with high risk of fish predation.2. We used a before-after control-impact design and 11 naturally fishless lakes. Waterfowl on the lakes were surveyed during the breeding season of 2005. Large adult pike (Esox lucius) were added to two lakes in early spring 2008, and waterfowl surveys were repeated on all 11 lakes.3. Pike introduction did not affect the number of pairs on lakes during the nesting season in any of three focal duck species (mallard Anas platyrhynchos, teal Anas crecca, and goldeneye Bucephala clangula). During the brood-rearing season, however, there was a decrease in duck days in teal and goldeneye in lakes with pike, with similar trends observed in mallard. The number of goldeneye ducklings was also significantly lower in lakes with pike. We were unable to determine whether the response was attributable to direct pike predation or to broods leaving experimental lakes, but in either case, our study demonstrates high fitness costs for ducks breeding on lakes with pike.4. The apparent inability of nesting ducks to detect pike and the clear fitness implications may influence the annual recruitment of ducks on a larger scale as pike are both common and widespread. Vegetation complexity and food abundance are likely to be of overriding importance when breeding ducks are choosing a nesting site. As pike have a strong influence on breeding birds, relying on vegetation and cues of food abundance, while ignoring indicators of predation risk from fish, could lead to lakes with pike acting as an ecological trap.

**URL:** <Go to ISI>://BCI201100159965

**Reference Type:**  Journal Article

**Record Number:** 1842

**Author:** E. M. DeVink, S. M. Slattery, R. G. Clark, R. T. Alisauskas and K. A. Hobson

**Year:** 2011

**Title:** COMBINING STABLE-ISOTOPE AND BODY-COMPOSITION ANALYSES TO ASSESS NUTRIENT-ALLOCATION STRATEGIES IN BREEDING WHITE-WINGED SCOTERS (MELANITTA FUSCA)

**Journal:** Auk

**Volume:** 128

**Issue:** 1

**Pages:** 166-174

**Date:** Jan

**Short Title:** COMBINING STABLE-ISOTOPE AND BODY-COMPOSITION ANALYSES TO ASSESS NUTRIENT-ALLOCATION STRATEGIES IN BREEDING WHITE-WINGED SCOTERS (MELANITTA FUSCA)

**ISSN:** 0004-8038

**DOI:** 10.1525/auk.2010.10069

**Accession Number:** WOS:000288237700017

**Keywords:** white-winged Scoter; Melanitta fusca; energetics and Nutrition; Techniques; Breeding Season

**Notes:** Times Cited: 0

DeVink, Ean-Michel Slattery, Stuart M. Clark, Robert G. Alisauskas, Ray T. Hobson, Keith A.

0

**URL:** <Go to ISI>://WOS:000288237700017

**Reference Type:**  Journal Article

**Record Number:** 950

**Author:** E.-M. DeVink, S. M. Slattery, R. G. Clark, R. T. Alisauskas and K. A. Hobson

**Year:** 2011

**Title:** Combining Stable-Isotope and Body-Composition Analyses to Assess Nutrient-Allocation Strategies in Breeding White-Winged Scoters (Melanitta Fusca)

**Journal:** Auk

**Volume:** 128

**Issue:** 1

**Pages:** 166-174

**Date:** Jan 2011

**Short Title:** Combining Stable-Isotope and Body-Composition Analyses to Assess Nutrient-Allocation Strategies in Breeding White-Winged Scoters (Melanitta Fusca)

**Accession Number:** BCI:BCI201100197639

**Keywords:** White-winged Scoter; Melanitta fusca; Energetics and Nutrition; Techniques; Breeding Season;

**Abstract:** Birds meet the energy and nutrient demands of egg formation by using dietary (exogenous) sources, somatic (endogenous) nutrients, or combinations of both. Therefore, understanding plasticity in resource acquisition and the allocation strategies that are used is important for predicting how ecosystem changes across a species' range could affect vital rates. Sources of egg nutrients have traditionally been assessed through analyses of body composition, but stable-isotope analysis has provided a new tool in cases where animal tissues differ isotopically from the local food webs where they breed. We provide the first simultaneous comparison of these two techniques and test the "seasonally variable nutrient threshold hypothesis." Using body-composition analysis of White-winged Scoters (Melanitta fusca) collected at the northern extent of their range, we inferred that protein in rapidly developing ovarian follicles was derived entirely from dietary sources but that follicle lipids were most likely derived largely from somatic reserves. Stable-isotope analysis confirmed that most protein was derived from dietary sources during early (70.7-86.6%) and late (83.4-94.4%) spring collection periods, but dietary lipids were not distinguishable isotopically from stored somatic lipids to estimate lipid contributions to eggs. This pattern differed from that at the southern limit of the species' breeding range, where both lipid and protein for egg formation were derived from exogenous sources. Although our results were consistent with plasticity in resource-allocation strategies among sites (latitudinal variation), they did not support the seasonally variable nutrient threshold hypothesis within a site. We discuss the benefits of using both techniques simultaneously to assess reproductive strategies of birds that migrate between isotopically distinct areas. Received 16 March 2010, accepted 1 September 2010.

**URL:** <Go to ISI>://BCI201100197639

**Reference Type:**  Journal Article

**Record Number:** 966

**Author:** J.-M. A. DeVink, R. G. Clark, S. M. Slattery and M. Wayland

**Year:** 2008

**Title:** Is selenium affecting body condition and reproduction in boreal breeding scaup, scoters, and ring-necked ducks?

**Journal:** Environmental Pollution

**Volume:** 152

**Issue:** 1

**Pages:** 116-122

**Date:** Mar 2008

**Short Title:** Is selenium affecting body condition and reproduction in boreal breeding scaup, scoters, and ring-necked ducks?

**Accession Number:** BCI:BCI200800367734

**Keywords:** White-winged Scoter; Melanitta fusca; Contaminants; Energetics and Nutrition; Productivity; Breeding Season;

**Abstract:** Elevated levels of selenium (Se) have been detected in wintering and spring-staging lesser scaup. Here, we compared spring scaup Se and mercury (Hg) levels to those of ring-necked ducks and white-winged scoters, species exhibiting increasing and decreasing boreal populations, respectively. Mercury concentrations were low in all three species. Geometric mean (95%Cl) liver Se concentrations were 6.2 (5.5-7.0), 4.6 (4.0-5.4), and 32.6 (28.4-37.3) mg/kg dry weight (dw) in scaup, ringnecks and scoters, respectively. Only scoter livers (66%) were above 33 mg/ka dw Se. Scaup and ringneck Se levels were unrelated to breeding status or lipid and protein levels; breeding scoters and females with greater lipid mass had higher Se than non-breeders. Egg and follicle concentrations in scaup and scoters were normal (mean [95%CI] = 2.3 [1.9-2.6] and 2.4 [2.1-2.7] mg/kg dw, respectively). Overall, we found no support for a relationship between selenium and boreal scaup and scoter declines, and discuss current Se threshold concentrations. (c) 2007 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200800367734

**Reference Type:**  Journal Article

**Record Number:** 1421

**Author:** J.-M. A. DeVink, H. G. Gilchrist and A. W. Diamond

**Year:** 2005

**Title:** Effects of water salinity on growth and survival of common eider (Somateria mollissima) ducklings

**Journal:** Auk

**Volume:** 122

**Issue:** 2

**Pages:** 523-529

**Date:** Apr 05

**Short Title:** Effects of water salinity on growth and survival of common eider (Somateria mollissima) ducklings

**Accession Number:** BCI:BCI200510086351

**Keywords:** Common Eider; Somateria mollissima; Physiology; Survival; Habitat; Breeding Season;

**Abstract:** The need for fresh water may affect growth and survival of young waterfowl, including ducklings of sea ducks that are routinely raised in coastal marine habitats. We studied the influence of water salinity on growth and survival of Common Eider (Somateria mollissima) ducklings collected from nests on Southampton Island, Nunavut, Canada, in July 2001 and 2002. In 2001, 50 ducklings were partitioned into five groups (n = 10) and assigned a water salinity treatment for 6.5 days. Treatments included fresh water (<1 ppt NaCl), brackish water (11 ppt or 21 ppt), seawater (33 ppt), and a mixed regime (<1 ppt for 12 h, followed by 33 ppt for six days). In 2002, the experiment was replicated twice with different ducklings. Overall, growth rates were negatively correlated, and mortality rates positively correlated, with water salinity: 3%, 17%, and 60% of ducklings died in the <1-ppt, 11-ppt, and 21-ppt treatment groups, respectively; and 100% died in the 33-ppt and mixed-regime groups. The results confirm that fresh water is required for growth and survival of Common Eider ducklings immediately after hatch, which suggests that sources of fresh water in brood-rearing areas are an important requirement for successful reproduction.

**URL:** <Go to ISI>://BCI200510086351

**Reference Type:**  Journal Article

**Record Number:** 1011

**Author:** R. T. Di Giulio and P. F. Scanlon

**Year:** 1984

**Title:** Heavy Metals in Tissues of Waterfowl from the Chesapeake Bay USA

**Journal:** Environmental Pollution Series A Ecological and Biological

**Volume:** 35

**Issue:** 1

**Pages:** 29-48

**Short Title:** Heavy Metals in Tissues of Waterfowl from the Chesapeake Bay USA

**Accession Number:** BCI:BCI198478088051

**Keywords:** Long-tailed Duck; Clangula hyemalis; Bufflehead; Bucephala albeola; White-winged Scoter; Melanitta fusca; Contaminants; Nonbreeding Seasons;

**Abstract:** Concentrations of Cd, Pb, Cu and Zn were measured in 774 livers, 266 kidneys and 271 ulnar bones from 15 spp. [mallard, black duck, pintail, gadwall, American wigeon, green-winged teal, wood duck, ring-necked duck, greater scaup, bufflehead, canvasback, lesser scaup, ruddy duck, oldsquaw, white-winged scoter] of ducks obtained from the Chesapeake Bay region. A major purpose of this study was to elucidate relationships between food habits and tissue accumulations of heavy metals in Chesapeake Bay waterfowl. Liver and kidney concentrations of Cd were highest among 2 carnivorous seaduck species, Clangula hyemalis and Melanitta deglandi. Pb concentrations in tissues were generally highest in largely herbivorous species, such as Anas platyrhynchos, A. rubripes and A. strepera. Spent shot may have been an important source for tissue burdens of Pb in these ducks. No marked trends were observed between food habits and tissue concentrations of the nutrient elements, Cu and Zn.

**URL:** <Go to ISI>://BCI198478088051

**Reference Type:**  Journal Article

**Record Number:** 400

**Author:** B. Di Labio, R. Pittaway and P. Burke

**Year:** 1997

**Title:** Bill Colour and identification of female Barrow's Goldeneye

**Journal:** Ontario Birds

**Volume:** 15

**Issue:** 2

**Pages:** 81-85

**Short Title:** Bill Colour and identification of female Barrow's Goldeneye

**Accession Number:** BCI:BCI199799794874

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Techniques;

**URL:** <Go to ISI>://BCI199799794874

**Reference Type:**  Journal Article

**Record Number:** 1375

**Author:** J. L. Dickinson

**Year:** 2007

**Title:** Decoding dumping ducks

**Journal:** Molecular Ecology

**Volume:** 16

**Issue:** 13

**Pages:** 2610-2612

**Date:** Jul 2007

**Short Title:** Decoding dumping ducks

**Accession Number:** BCI:BCI200700471537

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism, where females of the same species lay eggs in each other's nests, is common in waterfowl, and is usually considered costly to host females, which are stuck looking after eggs and chicks that are not their own. However, since female waterfowl often exhibit an unusual propensity to nest near where they were born, there has been some uncertainty over whether, in ducks and geese, laying in nests of conspecifics really is parasitism. Do parasitic and host females tend to be related? And is parasitism actually a form of cooperation in disguise? In a population in Hudson Bay, Andersson & Waldeck (this issue) found that 'parasitic' eggs in nests of the common eider, Somateria mollissima sedentaria, are more closely related to host eggs than expected by chance. In fact, host and 'donor' eggs are more closely related than are females breeding at neighbouring nests. The Hudson Bay population of common eiders is unusual, because unlike in more benign climates, females do not tend to breed near their natal nest. Spatial proximity alone cannot account for the high relatedness between host eggs and 'dumped' or donor eggs. Instead, the high relatedness values are probably the result of active recognition, where females favour kin, either when dumping or accepting eggs. These new data, along with evidence indicating that the donor lays the first egg in the nest nearly half the time, suggest that what appears to be parasitism in common eiders may be a form of kin-based cooperation.

**URL:** <Go to ISI>://BCI200700471537

**Reference Type:**  Journal Article

**Record Number:** 2352

**Author:** D. L. Dickson

**Year:** 1997

**Title:** King and Common eiders of the western Canadian Arctic

**Journal:** Occasional paper - Canadian Wildlife Service

**Short Title:** King and Common eiders of the western Canadian Arctic

**Reference Type:**  Report

**Record Number:** 2353

**Author:** D. L. Dickson

**Year:** 2012

**Title:** Seasonal movement of Pacific Common Eiders breeding in Arctic Canada

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 521

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Seasonal movement of Pacific Common Eiders breeding in Arctic Canada

**Keywords:** Common Eider; Somateria mollissima; Breeding season; Nonbreeding season; Molt; Migration; SDJV funded

**Abstract:** Pacific Common Eiders (Somateria mollissima v-nigrum) were tagged with satellite transmitters at a site

in central arctic Canada and their year-round movement was tracked to determine migration routes,

timing of movement, and location of moulting, wintering and staging areas. Males departed the nesting

colony in the second week of July about a week after median date of start of incubation. Two thirds of the

males remained in arctic Canada to moult, primarily in outer Bathurst Inlet, Dolphin and Union Strait and

off Cape Parry, while the rest moulted closer to the wintering area, mostly at Kolyuchin Bay in northern

Russia. Females remained on the nesting colony until time of hatch, and then moved to marine waters

within 45 km of the colony to moult. Males that moulted in Canada departed on fall migration in early

October, whereas females departed approximately two weeks later. Fall migration through the Beaufort

and Chukchi seas took an average (± SD) of 11 ± 4 days, and none of the eiders staged until they reached

the Chukotsk Peninsula in the northern Bering Sea. All but one eider wintered in the polynyas and flaw

leads off the southeast coast of Chukotsk Peninsula and St. Lawrence Island; the exception likely

wintered north of Nunivak Island, Alaska. Spring migration of birds destined for breeding areas in North

America lasted 2.4 ± 0.7 months. Four key spring staging areas were identified: off Chukotsk Peninsula

just north of the wintering area, eastern Chukchi Sea, southeast Beaufort Sea, and Lambert Channel in

Dolphin and Union Strait. Eiders arrived on their breeding grounds in mid-June. All females returned to

within 2 km of the nest site used the previous year (n = 7). By contrast, males were widely distributed

across the breeding range in the second year from northeastern Russia to central arctic Canada. Assuming

a male follows a female to her breeding area, the dispersal of males in the second breeding season

suggests that Pacific Common Eiders from across eastern arctic Russia, northern Alaska and western

arctic Canada are all part of the same population that winters in the northern Bering Sea. All females

(n = 4), plus those males that returned to Canada to breed in the second year (n = 3), moulted within

24 km of the moult site used the previous year. However, two males that bred in Russia in the second year

remained in Russia to moult, thus using an entirely different area. All wintered in the same general location

in two consecutive years (n = 5). Due to their tendency to congregate in large numbers in a few select

locations especially during spring migration and winter, Pacific Common Eiders are vulnerable to changes

in their environment such as oil spills and altered ice conditions brought about by climate change.

**Reference Type:**  Report

**Record Number:** 2354

**Author:** D. L. Dickson

**Year:** 2012

**Title:** Seasonal movement of King Eiders breeding in western Arctic Canada and northern Alaska

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 520

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Seasonal movement of King Eiders breeding in western Arctic Canada and northern Alaska

**Keywords:** King Eider; Somateria spectabilis; Breeding season; Nonbreeding season; Molt; Migration; SDJV funded

**Abstract:** Tracking the year-round movement of King Eiders using satellite telemetry technology

has rapidly expanded our knowledge of a species that spends much of its life at sea. In this study,

satellite transmitters were implanted in 86 King Eiders from two breeding sites in western arctic

Canada (Victoria Island and Banks Island), as well as 10 eiders from a site in northern Alaska.

Transmitters provided eider locations for a median of 13 months (range: 1-22 months).

Males departed the breeding area in late June (mean ± SD: 26 June ± 6 days), whereas

females departed about a month later, following hatch. Most eiders initially moved to coastal

waters near the breeding area, where they staged for 2-4 weeks prior to moult migration.

However, the majority of males from Victoria Island flew a distance of about 700 km to the flaw

lead in the southeastern Beaufort Sea after breeding. Males arrived at moulting areas in the

second week of August on average (11 August ± 9 days), whereas females arrived at the end of

August (30 August ± 11 days). Regardless of the difference in timing of migration, both sexes

followed the same route across the Beaufort, Chukchi, and Bering seas. Over half of the eiders

(44 of 80) moulted in the northern Bering Sea off the Chukotsk Peninsula: 8 moulted off St.

Lawrence Island, 2 females remained on the breeding area, 3 males moulted in the Chukchi Sea,

and the rest were scattered along both the Russian and Alaskan coasts of the Bering Sea.

Timing and duration of fall migration was highly variable. Some eiders (15%) did not

migrate, and instead remained on the moulting area for winter. The rest departed from the

moulting area over a 3-month period from 24 September to 16 December, and arrived on the

wintering area over an even more protracted period from 8 October to 2 January. The area most

heavily used during fall migration was the northern Bering Sea near St. Lawrence Island, where

75% of the eiders staged for 4 weeks on average (30 ± 19 days). The King Eiders spent winter in

three separate regions: off the southeast Chukotsk Peninsula, off the Alaska Peninsula, and off

the Kamchatka Peninsula.

By the end of the first week of April, most eiders had begun spring migration. The initial

move consisted of a shift northward within the winter region. This was followed by departure

from the winter region, which occurred in the second half of April (23 April ± 11 days). Spring

migration lasted an average of 2.4 months, and consisted of rapid long-distance movements

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followed by periods of 1-4 weeks of staging. Seven spring staging areas were identified,

including the eastern Chukchi Sea and southeastern Beaufort Sea. The latter area was the most

heavily used staging area for eiders destined for breeding areas in arctic Canada; the average

length of stay in the southeastern Beaufort Sea was 26 ± 10 days, with peak numbers occurring

from 13 May to 5 June. King Eiders arrived on the breeding grounds over a 3-week period from

6-27 June (n=30).

Females showed a high degree of breeding site fidelity. Excluding a suspected immature

female, average distance apart in two consecutive years was 1.6  1.1 km (n = 22). By contrast,

distance between breeding sites in two consecutive years for males averaged over 1000 km

(n = 22).

Males and females both returned to the same general area to moult over two consecutive

years; mean distance apart was 18  15 km (n = 13).

Breeding and wintering areas were diffusely connected. The eiders from two separate

breeding areas (Victoria and Banks islands) used all three winter regions in similar proportions.

Furthermore, in the second year, males from each winter region migrated to areas throughout the

breeding range.

Results of this study add to the growing evidence that boundaries in the breeding area

between the Pacific and Atlantic population of King Eiders are the Taymyr Peninsula in central

Russia and the east side of Victoria Island in central arctic Canada (approximately 100-104° W).

Six key marine areas for King Eiders were identified: the southeastern Beaufort Sea, off

the west coast of Banks Island, the eastern Chukchi Sea, Bristol Bay, Bering Sea off the

southeast Chukotsk Peninsula, and Anadyr Bay.

Information obtained during this study will be useful in several ways, including:

assessment of impact of resource development on King Eiders; development of regulations to

ensure sustainable harvest; design of monitoring surveys; and identification of marine areas that

require special protective status.

**Reference Type:**  Report

**Record Number:** 2355

**Author:** D. L. Dickson

**Year:** 2012

**Title:** Movement of King Eiders from Breeding Grounds on Banks Island, NWT, to Moulting and Wintering Areas

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 516

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Movement of King Eiders from Breeding Grounds on Banks Island, NWT, to Moulting and Wintering Areas

**Keywords:** King Eider; Somateria spectabilis; Nonbreeding season; Migration; Molt; SDJV funded

**Abstract:** This study was part of a long-term program to document spatiotemporal characteristics of migration of

King Eiders (Somateria spectabilis) from breeding areas in the western Canadian Arctic, and to identify

key areas used by the eiders during various stages of their life history. In mid-June 2008, 16 males and

13 females were captured and implanted with satellite transmitters at Banks Island, Northwest Territories,

Canada. Movements were subsequently tracked by Argos satellites. With the exception of one eider shot

in July during moult migration, and another that died on a wintering area in January, the remaining

27 transmitters provided locations for a period of 13 months on average.

Male King Eiders departed from the breeding grounds in late June and arrived at moulting areas to the west

of the continent during the first half of August. Females departed from the breeding grounds about a month

later than the males and arrived at moulting areas in the third week of August. The primary staging area for

both sexes during moult migration was the west coast of Banks Island, where males and females staged an

average of 25 ± 7 and 18 ± 8 days, respectively. Other areas used for staging during moult migration, but to

much lesser extent, included off Cape Bathurst, NWT, and Smith Bay, Alaska, in the Beaufort Sea; off

Alaska in the Chukchi Sea; and off the east side of Chukotsk Peninsula, Russia, in the Bering Sea.

All but one King Eider moulted in the Bering Sea: 8 off the coast of Alaska and 19 off the coast of Russia. The

remaining eider moulted in Kolyuchin Bay on the north side of Chukotsk Peninsula. All but two eiders remained

in the Bering Sea for the winter: 15 off Chukotsk Peninsula, 9 along the south shore of Bristol Bay, Alaska, and

1 off Cape Olyutor, Russia. The other two eiders wintered in the North Pacific off Kodiak Island, Alaska.

Eiders began to move northward as early as February 4. However, they did not depart from their

wintering region until the fourth week of April on average. The eiders that migrated to breeding areas in

North America staged at three locations during spring migration: off Alaska in the eastern Chukchi Sea;

off Tuktoyaktuk Peninsula in the southeast Beaufort Sea and off Banks Island in the eastern Beaufort Sea.

The most heavily used of these staging areas was the southeast Beaufort Sea, where all of the eiders that

returned to breeding areas in North America (n=18) staged for an average of 30 ± 9 days. Peak numbers

occurred in the southeast Beaufort Sea from May 8 to June 4.

In the second year, all females returned to within 2.2 km of the area where they had nested the previous

year (mean 1.0 ± 0.6, n=10). By contrast, males (n=11) were scattered across the breeding range from the

Lena River Delta, Russia, to Victoria Island, Canada. Date of arrival of females on their nesting grounds

on Banks Island in 2009 ranged from June 6 to June 17.

Eiders moulted within 2 to 44 km of the site used the previous year (mean 18 ± 16 km, n=8).

**Reference Type:**  Journal Article

**Record Number:** 107

**Author:** D. L. Dickson and H. G. Gilchrist

**Year:** 2002

**Title:** Status of marine birds of the southeastern Beaufort Sea

**Journal:** Arctic

**Volume:** 55

**Issue:** Supplement 1

**Pages:** 46-58

**Short Title:** Status of marine birds of the southeastern Beaufort Sea

**Accession Number:** BCI:BCI200300490933

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Migration; Molt; Nonbreeding Seasons;

**Abstract:** This summary and update of information on the marine birds of the southeastern Beaufort Sea is intended to support discussions on how to improve management of marine resources in the Canadian Beaufort Sea region. Perhaps the most outstanding use of the Beaufort Sea by marine birds is the staging during spring migration by hundreds of thousands of eiders and long-tailed ducks in the early open water off Cape Bathurst and Banks Island. During midsummer, tens of thousands of long-tailed ducks, scoters, scaup, and mergansers moult in the sheltered bays and behind barrier beaches and spits. Although several species of geese, ducks, loons, gulls, and terns nest on islands and in wetlands along the Beaufort Sea coast, this region has relatively few nesting seabirds compared to eastern Arctic Canada and the Bering Sea. Two possible reasons for this are a shortage of cliffs suitable for nesting and a lack of pelagic fish. The five most common sea duck species that occur in the region, long-tailed duck, king eider, common eider, surf scoter, and white-winged scoter, have all declined in numbers since the mid-1970s. Western Arctic brant populations have also declined, although their status within the Beaufort Sea region is unclear. Brant and king eider are the only marine bird species harvested there in substantial numbers. Other threats to Beaufort Sea marine bird populations include oil spills, global warming, coastal development, and contaminants. Certain threats can be managed at a local level since they are a result of local economic development, but others, such as global warming or loss of critical wintering areas, stem from environmental problems outside the region. Solving these issues will require mutual understanding and commitment on the part of numerous countries.

**URL:** <Go to ISI>://BCI200300490933

**Reference Type:**  Journal Article

**Record Number:** 1843

**Author:** D. L. Dickson and P. A. Smith

**Year:** 2013

**Title:** Habitat used by common and king eiders in spring in the southeast Beaufort Sea and overlap with resource exploration

**Journal:** Journal of Wildlife Management

**Volume:** 77

**Issue:** 4

**Pages:** 777-790

**Date:** May

**Short Title:** Habitat used by common and king eiders in spring in the southeast Beaufort Sea and overlap with resource exploration

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.529

**Accession Number:** WOS:000318028100014

**Keywords:** Common eider; King eider; Somateria mollissima; Somateria spectabilis; habitat; migration; Nonbreeding Seasons; SDJV funded

**Notes:** Times Cited: 0

Dickson, D. Lynne Smith, Paul A.

0

**URL:** <Go to ISI>://WOS:000318028100014

**Reference Type:**  Journal Article

**Record Number:** 921

**Author:** R. C. Dickson

**Year:** 1992

**Title:** Feeding Groups of Common Scoters Containing Other Species

**Journal:** British Birds

**Volume:** 85

**Issue:** 1

**Pages:** 35-36

**Short Title:** Feeding Groups of Common Scoters Containing Other Species

**Accession Number:** BCI:BCI199242089176

**Keywords:** Black Scoter; Melanitta nigra;

**URL:** <Go to ISI>://BCI199242089176

**Reference Type:**  Journal Article

**Record Number:** 1844

**Author:** R. D. Dickson, D. Ester, J. W. Hupp, E. M. Anderson, J. R. Evenson and J. Barrett

**Year:** 2012

**Title:** Phenology and duration of remigial moult in Surf Scoters (Melanitta perspicillata) and White-winged Scoters (Melanitta fusca) on the Pacific coast of North America

**Journal:** Canadian Journal of Zoology-Revue Canadienne De Zoologie

**Volume:** 90

**Issue:** 8

**Pages:** 932-944

**Date:** Aug

**Short Title:** Phenology and duration of remigial moult in Surf Scoters (Melanitta perspicillata) and White-winged Scoters (Melanitta fusca) on the Pacific coast of North America

**ISSN:** 0008-4301

**DOI:** 10.1139/z2012-061

**Accession Number:** WOS:000308779000002

**Keywords:** Surf Scoter; white-winged Scoter; Melanitta fusca; Melanitta perspicillata; molt; Nonbreeding Seasons

**Notes:** Times Cited: 1

Dickson, R. D. Ester, D. Hupp, J. W. Anderson, E. M. Evenson, J. R. Barrett, J.

1

**URL:** <Go to ISI>://WOS:000308779000002

**Reference Type:**  Journal Article

**Record Number:** 1284

**Author:** K. M. Diemer, M. J. Conroy, S. H. Ferguson, D. D. W. Hauser, A. Grgicak-Mannion and A. T. Fisk

**Year:** 2011

**Title:** Marine mammal and seabird summer distribution and abundance in the fjords of northeast Cumberland Sound of Baffin Island, Nunavut, Canada

**Journal:** Polar Biology

**Volume:** 34

**Issue:** 1

**Pages:** 41-48

**Date:** Jan 2011

**Short Title:** Marine mammal and seabird summer distribution and abundance in the fjords of northeast Cumberland Sound of Baffin Island, Nunavut, Canada

**Accession Number:** BCI:BCI201100147465

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Critical baseline population knowledge is required to properly assess the status of marine mammal and bird populations in the Canadian Arctic and the effects of climate trends on them. To address this need for one significant Arctic region, a boat-based marine mammal and seabird transect survey was conducted in Cumberland Sound fjords during summer 2008. During 173 km effort (20 h), 959 birds were recorded representing at least nine species which were dominated by Common Eiders (Somateria mollissima borealis), Iceland or Glaucous Gulls (Larus glaucoides or Larus hyperboreus), and Black Guillemots (Cepphus grylle), in addition to less common birds including Red-throated and Common Loons (Gavia stellata and Gavia immer), Northern Fulmars (Fulmarus glacialis), and Great or Lesser Black-backed Gulls (Larus marinus or Larus fuscus). Of these, 480 birds were observed on the water in one event consisting of eiders and gulls which may have biased encounter rates. Of 101 marine mammal sightings, four species were represented: 73 harp seals (Pagophilus groenlandicus), 13 beluga whales (Delphinapterus leucas), nine bowhead whales (Balaena mysticetus), five ringed seals (Pusa hispida), and one unidentified pinniped. A pod of four killer whales (Orcinus orca) was observed off-effort in Pangnirtung Fjord during the survey period. This pilot study provided the first estimates of relative abundance for marine mammals and seabirds in the study area to aid in developing future surveys.

**URL:** <Go to ISI>://BCI201100147465

**Reference Type:**  Journal Article

**Record Number:** 1845

**Author:** H. Dieval, J. F. Giroux and J. P. L. Savard

**Year:** 2011

**Title:** Distribution of common eiders Somateria mollissima during the brood-rearing and moulting periods in the St. Lawrence Estuary, Canada

**Journal:** Wildlife Biology

**Volume:** 17

**Issue:** 2

**Pages:** 124-134

**Date:** Jun

**Short Title:** Distribution of common eiders Somateria mollissima during the brood-rearing and moulting periods in the St. Lawrence Estuary, Canada

**ISSN:** 0909-6396

**DOI:** 10.2981/10-064

**Accession Number:** WOS:000293263100002

**Keywords:** Common eider; somateria mollissima; Abundance, Distribution, and Trends; molt; Nonbreeding Seasons

**Notes:** Times Cited: 0

Dieval, Helene Giroux, Jean-Francois Savard, Jean-Pierre L.

0

**URL:** <Go to ISI>://WOS:000293263100002

**Reference Type:**  Journal Article

**Record Number:** 731

**Author:** M. Dionne and J. J. Dodson

**Year:** 2002

**Title:** Impact of exposure to a simulated predator (Mergus merganser) on the activity of juvenile Atlantic salmon (Salmo salar) in a natural environment

**Journal:** Canadian Journal of Zoology

**Volume:** 80

**Issue:** 11

**Pages:** 2006-2013

**Date:** November 2002

**Short Title:** Impact of exposure to a simulated predator (Mergus merganser) on the activity of juvenile Atlantic salmon (Salmo salar) in a natural environment

**Accession Number:** BCI:BCI200300147107

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Some laboratory studies suggest that the presence of predators influences the short-term behaviour of juvenile Atlantic salmon. However, few studies have been conducted in the natural environment to confirm these observations and to document how biological and environmental factors influence the behaviour of fish faced with a predator. Of the many potential predators of juvenile Atlantic salmon, Salmo salar, the common merganser, Mergus merganser, is a major one. This study was designed to investigate the immediate and short-term impact of exposure to a simulated avian predator on the activity of juvenile Atlantic salmon in their natural habitat. The influence of riverbed sediment grain size, a major determinant of habitat choice in salmon, and body size of juvenile salmon on the nature and intensity of their response to the predator was also investigated. Observations were made before and after exposure to a model of M. merganser in three situations: (1) fry (young salmon during their first summer of life) on fine sediment, (2) fry on coarse sediment, and (3) parr (young salmon during their second or third summer of life) on coarse sediment. Observations were also made on fry exposed to a harmless floating stimulus to evaluate if the decoys were perceived as threat. Following exposure, the feeding rate of juvenile salmon decreased by 25-39% and the moving rate increased by 123-386%. Sediment grain size influenced the nature of the immediate response of juvenile salmon, while body size influenced the intensity of the moving response. Parr moved significantly more than fry after exposure to the simulated predator.

**URL:** <Go to ISI>://BCI200300147107

**Reference Type:**  Journal Article

**Record Number:** 772

**Author:** H. Dittberner

**Year:** 1988

**Title:** The Fitness of the Goosander Upon Leaving the Nesting Hole

**Journal:** Falke

**Volume:** 35

**Issue:** 2

**Pages:** 57-58

**Short Title:** The Fitness of the Goosander Upon Leaving the Nesting Hole

**Accession Number:** BCI:BCI198835023222

**Keywords:** Common merganser; Mergus merganser; Breeding Season;

**URL:** <Go to ISI>://BCI198835023222

**Reference Type:**  Journal Article

**Record Number:** 1005

**Author:** H. Dittberner and W. Dittberner

**Year:** 1987

**Title:** Imprinting of a Velvet Scoter Melanitta-Fusca to a Female Tufted Duck Aythya-Fuligula

**Journal:** Beitraege zur Vogelkunde

**Volume:** 33

**Issue:** 2

**Pages:** 122-123

**Short Title:** Imprinting of a Velvet Scoter Melanitta-Fusca to a Female Tufted Duck Aythya-Fuligula

**Accession Number:** BCI:BCI198834054720

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior;

**URL:** <Go to ISI>://BCI198834054720

**Reference Type:**  Journal Article

**Record Number:** 1569

**Author:** G. J. Divoky and R. Suydam

**Year:** 1995

**Title:** An artificial nest site for arctic nesting common eiders

**Journal:** Journal of Field Ornithology

**Volume:** 66

**Issue:** 2

**Pages:** 270-276

**Short Title:** An artificial nest site for arctic nesting common eiders

**Accession Number:** BCI:BCI199598279350

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** Artificial structures were placed on a barrier island in arctic Alaska to provide nesting cover for Common Eiders (Somateria mollissima). Wooden cross-like nest sites, providing four quadrants with 20-cm high and 61-cm long boards on two sides of each quadrant, were occupied by nesting eiders. Previous research had shown that sites based on the design developed for the eastern Atlantic subspecies (S. m. dresseri) were not used by the arctic Alaska subspecies (S. m. v-nigra) perhaps due to different predation pressures in the two regions.

**URL:** <Go to ISI>://BCI199598279350

**Reference Type:**  Journal Article

**Record Number:** 644

**Author:** M. R. Donaldson, K. M. Henein and M. W. Runtz

**Year:** 2007

**Title:** Assessing the effect of developed habitat on waterbird behaviour in an urban riparian system in Ottawa, Canada

**Journal:** Urban Ecosystems

**Volume:** 10

**Issue:** 2

**Pages:** 139-151

**Date:** Jun 2007

**Short Title:** Assessing the effect of developed habitat on waterbird behaviour in an urban riparian system in Ottawa, Canada

**Accession Number:** BCI:BCI200700353815

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Habitat; Behavior; Nonbreeding Seasons;

**Abstract:** Waterbird species were used to assess the consequences of developed habitat on wildlife behaviour in an urban riparian system along the Rideau River in Ottawa, Canada. Fourteen developed sites and 14 undeveloped sites were surveyed from October 2004 to February 2005. Each site was approached on foot and the first observed behaviour (i.e., fleeing, foraging, resting or swimming) of each individual was recorded. A total of 10,604 behavioural observations were made across 12 taxa. Overall, the fleeing behaviour was observed more often at undeveloped sites. Foraging, resting and swimming behaviours were observed more often at developed sites. We found that seven species fled more often at undeveloped sites, including hooded merganser. This species was also more abundant at undeveloped sites, suggesting that hooded merganser may be more sensitive to anthropogenic disturbance in urban environments than other species that are habituated toward humans. For sensitive species, undeveloped shoreline may serve as a refuge from human disturbance in urban ecosystems.

**URL:** <Go to ISI>://BCI200700353815

**Reference Type:**  Journal Article

**Record Number:** 1351

**Author:** C. E. Donehower and D. M. Bird

**Year:** 2008

**Title:** Gull Predation and Breeding Success of Common Eiders on Stratton Island, Maine

**Journal:** Waterbirds

**Volume:** 31

**Issue:** 3

**Pages:** 454-462

**Date:** Sep 2008

**Short Title:** Gull Predation and Breeding Success of Common Eiders on Stratton Island, Maine

**Accession Number:** BCI:BCI200900035958

**Keywords:** Common Eider; Somateria mollissima; Productivity; Trophic Interactions; Breeding Season;

**Abstract:** Common Eider (Somateria mollissima dresseri) breeding success and gull-eider interactions were studied at Stratton Island, Maine in 2004 and 2005. Eiders suffered little nest predation, and most egg losses to gulls were either facilitated by researcher intrusions or confined to newly inititated, unattended nest. Despite high nest success (>80%) in both study years, predation watches indicated that few, if any, ducklings survived to fledging as a result of extreme harassment and predation by Great Black-backed Gulls (Larus marinus). Gull attacks were opportunistic, involved one to 36 gulls, and often resulted in complete creche destruction. herring Gulls (L. argentatus) also took occasional young and eggs. Although Stratton Island is managed as a tern restoration site, and gull control measures to enhance tern productivity include nest destruction and shooting of tern predators, gulls continued to congregate around creching areas and to prey on ducklings. We suggest that additional gull control measures, particularly at a nearby gull colony, may enhance duckling survival. We also recommend monitoring of other eider colonies in the region to better assess duckling survival and recruitment rates.

**URL:** <Go to ISI>://BCI200900035958

**Reference Type:**  Journal Article

**Record Number:** 1332

**Author:** C. E. Donehower and D. M. Bird

**Year:** 2009

**Title:** Nesting Habitat Use by Common Eiders on Stratton Island, Maine

**Journal:** Wilson Journal of Ornithology

**Volume:** 121

**Issue:** 3

**Pages:** 493-497

**Date:** Sep 2009

**Short Title:** Nesting Habitat Use by Common Eiders on Stratton Island, Maine

**Accession Number:** BCI:BCI200900555152

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** We examined nesting habitat use of Common Eiders (Somateria mollissima dresseri) breeding on Stratton Island. Maine in 2004 and 2005. Eiders generally avoided low-lying, open vegetation, and nested in dense, structurally complex habitats. The three most common habitat types used were Asiatic bittersweet (Celastrus orbiculata) patches, red raspberry (Rubus idaeus) thickets, and forest (primarily Malus pumila and Prunus virginiana). Nest densities were highest in bittersweet (> 500 nests/ha). Eiders had little nest predation by Larus gulls, and apparent nest success was high in all three habitats (bittersweet: 82-89%, raspberry: 87%. forest: 58-72%). Eiders appeared to select nest sites adaptively to avoid detection or access by predators, although other factors such as nest microclimate, female quality or condition, and energetic demands during incubation may also be important.

**URL:** <Go to ISI>://BCI200900555152

**Reference Type:**  Journal Article

**Record Number:** 671

**Author:** W. A. Donnelly and F. G. J. Whoriskey

**Year:** 1991

**Title:** Background-Color Acclimation of Brook Trout for Crypsis Reduces Risk of Predation by Hooded Mergansers Lophodytes-Cucullatus

**Journal:** North American Journal of Fisheries Management

**Volume:** 11

**Issue:** 2

**Pages:** 206-211

**Short Title:** Background-Color Acclimation of Brook Trout for Crypsis Reduces Risk of Predation by Hooded Mergansers Lophodytes-Cucullatus

**Accession Number:** BCI:BCI199192039173

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Trophic Interactions;

**Abstract:** In a laboratory study, fry of brook trout Salvelinus fontinalis experienced less predation by hooded mergansers if they were previously acclimated for 11-12 weeks to tanks having the same background color as the predation arena. Color acclimation produced morphological color changes that rendered the fish more cryptic to the birds. Overall, cryptic trout accounted for 37% of predation, whereas unmatched fish experienced 63% of the total predation mortality. Implications of this study for salmonid management are that reduced predation of transplanted fish will occur if they are acclimated in hatcheries to backgrounds having similar coloration to the gravel in the habitat where they will be transplanted.

**URL:** <Go to ISI>://BCI199192039173

**Reference Type:**  Journal Article

**Record Number:** 679

**Author:** H. A. Doty, F. B. Lee, A. D. Kruse, J. W. Matthews, J. R. Foster and P. M. Arnold

**Year:** 1984

**Title:** Wood Duck Aix-Sponsa and Hooded Merganser Lophodytes-Cucullatus Nesting on Arrowwood National Wildlife Refuge North-Dakota USA

**Journal:** Journal of Wildlife Management

**Volume:** 48

**Issue:** 2

**Pages:** 577-580

**Short Title:** Wood Duck Aix-Sponsa and Hooded Merganser Lophodytes-Cucullatus Nesting on Arrowwood National Wildlife Refuge North-Dakota USA

**Accession Number:** BCI:BCI198427057246

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI198427057246

**Reference Type:**  Journal Article

**Record Number:** 37

**Author:** C. J. Dove and A. Agreda

**Year:** 2007

**Title:** Differences in plumulaceous feather characters of dabbling and diving ducks

**Journal:** Condor

**Volume:** 109

**Issue:** 1

**Pages:** 192-199

**Date:** Feb 2007

**Short Title:** Differences in plumulaceous feather characters of dabbling and diving ducks

**Accession Number:** BCI:BCI200700198713

**Keywords:** Sea Ducks - General; Physiology;

**Abstract:** We examined variation in five microscopic plumulaceous (downy) feather characters of eighteen species of dabbling (Anatini) and diving (Aythyini, Mergini) ducks to quantify the differences between these tribes, and to explain how the plumulaceous feather ultrastructure in ducks may be influenced by different ecological requirements. Over 75% of the variation in feather characters among these ducks was explained by the first two components of a principal components analysis (PCA). Component I explained 51% of the variation and was positively correlated with the characters that quantified the number of barbules with expanded nodes and the number of expanded nodes on barbules. The microscopic feather characters of dabbling ducks (Anatini) have triangular-shaped, expanded nodes on most proximal barbules, whereas diving ducks (Aythyini and Mergini) lack expanded nodes on some barbules. Anatini also have a greater density of expanded nodes per barbule, wider nodes, shorter distance between expanded nodes, and longer barbule length. Further analysis of node density across all taxa showed that as dive depths increase, the number of expanded nodes per barbule decreases, and in the deepest divers many of the barbules completely lack expanded nodes. The significantly greater density of expanded nodes in dabbling ducks suggests that the downy nodes may function to trap more air. Diving species have fewer expanded nodes, less buoyant plumage, and are more efficient at foraging in deeper water than dabbling ducks.

**URL:** <Go to ISI>://BCI200700198713

**Reference Type:**  Journal Article

**Record Number:** 1846

**Author:** M. C. Drever, R. G. Clark, C. Derksen, S. M. Slattery, P. Toose and T. D. Nudds

**Year:** 2012

**Title:** Population vulnerability to climate change linked to timing of breeding in boreal ducks

**Journal:** Global Change Biology

**Volume:** 18

**Issue:** 2

**Pages:** 480-492

**Date:** Feb

**Short Title:** Population vulnerability to climate change linked to timing of breeding in boreal ducks

**ISSN:** 1354-1013

**DOI:** 10.1111/j.1365-2486.2011.02541.x

**Accession Number:** WOS:000299042500008

**Keywords:** white-winged Scoter; Surf Scoter; Melanitta fusca; Melanitta perspicillata; Population Dynamics; Breeding Season

**Notes:** Times Cited: 8

Drever, Mark C. Clark, Robert G. Derksen, Chris Slattery, Stuart M. Toose, Peter Nudds, Thomas D.

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**URL:** <Go to ISI>://WOS:000299042500008

**Reference Type:**  Journal Article

**Record Number:** 2341

**Author:** B. D. Dugger, Katie M. Dugger and Leigh H. Fredrickson

**Year:** 2009

**Title:** Hooded Merganser (Lophodytes cucullatus)

**Journal:** The Birds of North America

**Short Title:** Hooded Merganser (Lophodytes cucullatus)

**Keywords:** Hooded Merganser; Lophodytes cucullatus

**Reference Type:**  Journal Article

**Record Number:** 654

**Author:** B. D. Dugger, L. C. Bollmann and L. H. Fredrickson

**Year:** 1999

**Title:** Response of female hooded mergansers to eggs of an interspecific brood parasite

**Journal:** Auk

**Volume:** 116

**Issue:** 1

**Pages:** 269-273

**Date:** Jan., 1999

**Short Title:** Response of female hooded mergansers to eggs of an interspecific brood parasite

**Accession Number:** BCI:BCI199900110275

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199900110275

**Reference Type:**  Journal Article

**Record Number:** 655

**Author:** K. M. Dugger, B. D. Dugger and L. H. Fredrickson

**Year:** 1999

**Title:** Annual survival rates of female Hooded Mergansers and Wood Ducks in southeastern Missouri

**Journal:** Wilson Bulletin

**Volume:** 111

**Issue:** 1

**Pages:** 1-6

**Date:** March, 1999

**Short Title:** Annual survival rates of female Hooded Mergansers and Wood Ducks in southeastern Missouri

**Accession Number:** BCI:BCI199900201046

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Survival; Breeding Season;

**Abstract:** Successful conservation and management, particularly of harvested species, relies on accurate estimates of population demographics. In addition, estimates of survival and longevity allow more accurate modeling of evolutionary life-history trade-offs within and between species. We estimated survival rates for box nesting female Hooded Mergansers (Lophodytes cucullatus) and Wood Ducks (Aix sponsa) in southeastern Missouri during 1987-1997 and 1987-1993, respectively. Hooded Merganser survival rates varied annually and ranged from 0.42-1.0 (x = 0.66 +- 0.04). Wood Duck survival did not vary significantly over time and averaged 0.63 (+- 0.02). Mean annual survival rates and capture probabilities were similar for the two species (chi2 = 0.49, df = 1, P > 0.05; chi2 = 0.02, df = 1, P > 0.05). Annual variation in Hooded Merganser survival rates was an important component of this species' population ecology, but was not related to winter weather conditions, harvest rates, b reeding season rainfall, or nesting parameters. Our female Wood Duck survival rates were higher than survival estimates for other adult females in the north-central subpopulation, but were comparable to some estimates for adult females that breed in southern and mid-Atlantic states.

**URL:** <Go to ISI>://BCI199900201046

**Reference Type:**  Journal Article

**Record Number:** 2018

**Author:** J. V. Dumas and J. D. Witman

**Year:** 1993

**Title:** PREDATION BY HERRING-GULLS (LARUS-ARGENTATUS COUES) ON 2 ROCKY INTERTIDAL CRAB SPECIES CARCINUS-MAENAS (L) AND CANCER-IRRORATUS SAY

**Journal:** Journal of Experimental Marine Biology and Ecology

**Volume:** 169

**Issue:** 1

**Pages:** 89-101

**Short Title:** PREDATION BY HERRING-GULLS (LARUS-ARGENTATUS COUES) ON 2 ROCKY INTERTIDAL CRAB SPECIES CARCINUS-MAENAS (L) AND CANCER-IRRORATUS SAY

**DOI:** 10.1016/0022-0981(93)90045-p

**Notes:** DUMAS, JV WITMAN, JD

**Reference Type:**  Journal Article

**Record Number:** 1847

**Author:** S. E. DuRant, W. A. Hopkins, G. R. Hepp and L. M. Romero

**Year:** 2013

**Title:** Energetic constraints and parental care: Is corticosterone indicative of energetic costs of incubation in a precocial bird?

**Journal:** Hormones and Behavior

**Volume:** 63

**Issue:** 2

**Pages:** 385-391

**Date:** Feb

**Short Title:** Energetic constraints and parental care: Is corticosterone indicative of energetic costs of incubation in a precocial bird?

**ISSN:** 0018-506X

**DOI:** 10.1016/j.yhbeh.2012.12.001

**Accession Number:** WOS:000315551100023

**Keywords:** Hooded Merganser; Lophodytes cucullatus; energetics and Nutrition; Physiology; Breeding Season

**Notes:** Times Cited: 1

DuRant, Sarah E. Hopkins, William A. Hepp, Gary R. Romero, L. Michael

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**URL:** <Go to ISI>://WOS:000315551100023

**Reference Type:**  Journal Article

**Record Number:** 998

**Author:** J. Durinck, K. D. Christensen, H. Skov and F. Danielsen

**Year:** 1993

**Title:** Diet of the common scoter Melanitta nigra and velvet scoter Melanitta fusca wintering in the North Sea

**Journal:** Ornis Fennica

**Volume:** 70

**Issue:** 4

**Pages:** 215-218

**Short Title:** Diet of the common scoter Melanitta nigra and velvet scoter Melanitta fusca wintering in the North Sea

**Accession Number:** BCI:BCI199497170276

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199497170276

**Reference Type:**  Journal Article

**Record Number:** 147

**Author:** J. Durinck and K. Falk

**Year:** 1996

**Title:** The distribution and abundance of seabirds off southwestern Greenland in autumn and winter 1988-1989

**Journal:** Polar Research

**Volume:** 15

**Issue:** 1

**Pages:** 23-42

**Short Title:** The distribution and abundance of seabirds off southwestern Greenland in autumn and winter 1988-1989

**Accession Number:** BCI:BCI199699180994

**Keywords:** Sea Ducks - General; King Eider; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Ship-based surveys of seabirds were carried out off southwestern Greenland in the autumn of 1988 and winter of 1989. The results provide the first quantitative information on seabird distribution and numbers for single seasons and estimates for one particular area in winter. Some oceanographic habitat characteristics important for seabird distribution are described. In winter, high numbers of king eiders Somateriaspectabilis, Brunnich's guillemots Urialomvia, glaucous gulls Larushyperboreus. Iceland gulls Larusglaucoides, great black-backed gulls Larusmarinus and black guillemots Cepphusgrylle were found in offshore habitats with heavy ice cover. An estimated 280,000 king eiders, 170,000 Brunnich's guillemots, 2,500 glaucous gulls, 7,000 Iceland gulls, 9,500 great black-backed gulls and 25,000 black guillemots were found in winter in an area west of Nuuk.

**URL:** <Go to ISI>://BCI199699180994

**Reference Type:**  Journal Article

**Record Number:** 554

**Author:** M. R. Duwors, C. S. Houston and P. W. Brown

**Year:** 1984

**Title:** Survival of the Common Goldeneye Banded at Emma Lake Saskatchewan Canada

**Journal:** Journal of Field Ornithology

**Volume:** 55

**Issue:** 3

**Pages:** 382-383

**Short Title:** Survival of the Common Goldeneye Banded at Emma Lake Saskatchewan Canada

**Accession Number:** BCI:BCI198528064936

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Breeding Season;

**URL:** <Go to ISI>://BCI198528064936

**Reference Type:**  Journal Article

**Record Number:** 1127

**Author:** E. Dziala-Szczepanczyk

**Year:** 2003

**Title:** Morphometry of gut in long-tailed duck Clangula hyemalis wintering in the Polish Baltic coast

**Journal:** Vogelwarte

**Volume:** 42

**Issue:** 1-2

**Pages:** 45

**Date:** Juli 2003

**Short Title:** Morphometry of gut in long-tailed duck Clangula hyemalis wintering in the Polish Baltic coast

**Accession Number:** BCI:BCI200400010415

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200400010415

**Reference Type:**  Journal Article

**Record Number:** 905

**Author:** E. Dziala-Szczepanczyk

**Year:** 2004

**Title:** Morphometric characteristic of oesophagus and intestine in Black Scoter, Melanitta nigra (Anseriformes), wintering in the Polish Baltic coast

**Journal:** Vestnik Zoologii

**Volume:** 38

**Issue:** 4

**Pages:** 31-37

**Date:** July 2004

**Short Title:** Morphometric characteristic of oesophagus and intestine in Black Scoter, Melanitta nigra (Anseriformes), wintering in the Polish Baltic coast

**Accession Number:** BCI:BCI200500118529

**Keywords:** Black Scoter; Melanitta nigra; Physiology; Nonbreeding Seasons;

**Abstract:** The material for the studies was oesophagi and intestines of 52 individuals of the Black Scoter Melanitta nigra Linnaeus - 32 males (5 immature and 27 adult ones) and 20 females (11 immature and 9 adult ones). The following morphometric features of the alimentary system were analysed: oesophagus length EL and weight EW, duodenum length DL, combined length of jejunum and ileum JIL, combined length CBL and weight CBW of both caeca, small intestine length SIL, and combined length of rectum and cloaca RCL. In the analysis the sex and age of birds was taken into consideration, as well as their body sizes characterised by four parameters: body weight BW, body length BL, sternum length SL, and tarsus length TL. Despite the revealed significant dimorphic differences in the features describing the size of black scoters' bodies, only in EL, EW and RCL significant differences between males and females were recorded. No ontogenetic differences concerning black scoters' body sizes within each sex occurred. Such differences were, however, revealed both in the group of males and females with reference to EW, JIL, and CBW. A positive correlation for the relation of CBL to SIL and a negative one for the relation of EW to both parameters of caeca and to JIL, were shown.

**URL:** <Go to ISI>://BCI200500118529

**Reference Type:**  Journal Article

**Record Number:** 894

**Author:** E. Dziala-Szczepanczyk

**Year:** 2007

**Title:** Morphometric characteristic of glandular stomach and gizzard of the common scoter Melanitia nigra (aves, laridae) wintering on the polish baltic coast

**Journal:** Vestnik Zoologii

**Volume:** 41

**Issue:** 3

**Pages:** 257-265

**Date:** May-Jun 2007

**Short Title:** Morphometric characteristic of glandular stomach and gizzard of the common scoter Melanitia nigra (aves, laridae) wintering on the polish baltic coast

**Accession Number:** BCI:BCI200700584373

**Keywords:** Black Scoter; Melanitta nigra; Physiology; Nonbreeding Seasons;

**Abstract:** The material for studies were stomachs of 52 individuals of the Common Scoter Melanitta nigra obtained in winter in western parts of Polish Baltic coast. Six parameters of stomachs were established: glandular stomach weight (GSW) and length (GSL), gizzard length (GL) and width (GWi); combined length of both stomachs (GGL), and four measurements describing the birds' body size: body weight (BW) and length (BL), sternum length (SL) and tarsus length JL). Dimorphic differences connected with the birds' sex and age in concerning average values of stomachs parameters and indices of their relative size were examined. Relationships among values of the stomach parameters and relationships between the values of the stomach parameters and the measurements describing the bird body size were analysed. Despite clearly marked sexual dimorphism in the bird body size in favour of males, only in three parameters GWi, GW, GGL, and in the index GGL/SL (both stomach length in.relation to sternum length) drakes achieved significantly higher values than ducks. Adult and immature birds, both in the group of males and females, did not differ in body size and most average values of the stomach parameters. Only in the group of females adult individuals were characterised with heavier gizzard than immature individuals, and adult individuals of both sexes had wider gizzard than immature individuals. Except GSL and GSW, remaining parameters of the stomachs positively correlated with at least two body parameters of the birds. A positive correlation for the relation of GL to BL, TL SL; GWi to BW, BL; GW to BW, BL; GGL to BW, TL, SL were shown. No relationship between GSL and giizard measurements was noticed. But GSW was in a positive correlation with GWi and GW.

**URL:** <Go to ISI>://BCI200700584373

**Reference Type:**  Journal Article

**Record Number:** 1117

**Author:** E. Dziala-Szczepanczyk and E. Kalisinska

**Year:** 2005

**Title:** Morphometric characteristics of the caecum of long-tailed duck Clangula hyemalis wintering on the Polish Baltic coast

**Journal:** Alauda

**Volume:** 73

**Issue:** 3

**Pages:** 290-291

**Short Title:** Morphometric characteristics of the caecum of long-tailed duck Clangula hyemalis wintering on the Polish Baltic coast

**Accession Number:** BCI:BCI200600043239

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200600043239

**Reference Type:**  Journal Article

**Record Number:** 2342

**Author:** J. M. Eadie, Mark L. Mallory and H. G. Lumsden

**Year:** 1995

**Title:** Common Goldeneye (Bucephala clangula)

**Journal:** The Birds of North America

**Short Title:** Common Goldeneye (Bucephala clangula)

**Keywords:** Common Goldeneye; Bucephala clangula

**Reference Type:**  Journal Article

**Record Number:** 2343

**Author:** J. M. Eadie, Jean-Pierre L. Savard and Mark L. Mallory

**Year:** 2000

**Title:** Barrow's Goldeneye (Bucephala islandica)

**Journal:** The Birds of North America

**Short Title:** Barrow's Goldeneye (Bucephala islandica)

**Keywords:** Barrow’s Goldeneye; Bucephala islandica

**Reference Type:**  Journal Article

**Record Number:** 409

**Author:** J. M. Eadie and J. M. Fryxell

**Year:** 1992

**Title:** Density dependence, frequency dependence, and alternative nesting strategies in goldeneyes

**Journal:** American Naturalist

**Volume:** 140

**Issue:** 4

**Pages:** 621-641

**Short Title:** Density dependence, frequency dependence, and alternative nesting strategies in goldeneyes

**Accession Number:** BCI:BCI199395002657

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** We develop a simple model to explore the conditions under which intraspecific brood parasitism would be evolutionarily stable in a cavity-nesting bird, the Barrow's golodeneye. Our results show that parasitism can be maintained by negative frequency-dependent selection, which is consistent with recent speculations. However, when we include the effects of density dependence, we find a density threshold below which frequency-dependent effects on fitness are negligible but above which frequency dependence plays a prominent role. Patterns consistent with either a mixed evolutionarily stable strategy (ESS) or a conditional ESS can therefore be obtained simply by varying population density. These results may provide an explanation for contradictory patterns found in a previous field study of blood parasitism in goldeneyes. More generally, our results indicate that conclusions about the adaptive basis of alternative reproductive behaviors can be influenced strongly by population demography. Evolutionarily stable strategy theory holds that mixed and conditional ESSs are mutually exclusive, yet we suggest that attempts to test between these alternatives in field studies may meet with limited success if population density varies.

**URL:** <Go to ISI>://BCI199395002657

**Reference Type:**  Journal Article

**Record Number:** 549

**Author:** J. M. Eadie and G. Gauthier

**Year:** 1985

**Title:** Prospecting for Nest Sites by Cavity-Nesting Ducks of the Genus Bucephala

**Journal:** Condor

**Volume:** 87

**Issue:** 4

**Pages:** 528-534

**Short Title:** Prospecting for Nest Sites by Cavity-Nesting Ducks of the Genus Bucephala

**Accession Number:** BCI:BCI198681068930

**Keywords:** Bufflehead; Bucephala albeola; Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** We studied the pattern of post-laying visitation of nest sites by non-nesting females in three species of cavity-nesting ducks, the Common and Barrow's goldeneyes (Bucephala clangula and B. islandica) and the Bufflehead (B. albeola). Nests were visited from mid-June to mid-July when most nesting females either had hatched their clutches or were finishing incubation. Females often visited more than one nest site and each nest site could be visited by several birds. Observations of marked individuals and body measurements of trapped birds show that most visiting females were either yearlings or failed breeders. These females always visited nest sites in intra- or inter-specific groups, and exhibited typical vocalizations and flight patterns. We propose that these females were "prospecting" for nest sites in preparation for the next breeding season. We could not find any detrimental effects of prospecting on incubating females. We also discuss the evolutionary significance of prospecting behavior and its relationship to delayed maturity and nest-site availability for both cavity- and ground-nesting North American ducks.

**URL:** <Go to ISI>://BCI198681068930

**Reference Type:**  Journal Article

**Record Number:** 399

**Author:** J. M. Eadie and B. E. Lyon

**Year:** 1998

**Title:** Cooperation, conflict, and Creching behavior in goldeneye ducks

**Journal:** American Naturalist

**Volume:** 15

**Issue:** 5

**Pages:** 397-408

**Date:** May, 1998

**Short Title:** Cooperation, conflict, and Creching behavior in goldeneye ducks

**Accession Number:** BCI:BCI199800251106

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** Creching behavior, or brood amalgamation, results in offspring being reared by adults other than their genetic parents. Although a variety of hypotheses have been proposed to explain this behavior, most assume either that brood amalgamation is accidental (i.e., nonselected) or that adoption of young is selected for because of social benefits to the young and/or adopting parents. We propose, instead, that brood amalgamation is a function of two separate processes: brood desertion and brood adoption. To examine brood desertion, we develop a graphic model to predict when parents should abandon their young and we test this model experimentally for the Barrow's goldeneye (Bucephala islandica). As predicted, females deserted their offspring when the size of the brood was experimentally reduced. Brood adoption occurred when deserted ducklings joined other broods. However, the success of ducklings in doing so was strongly dependent on the availability of potential host broods and on the age of the recipient broods. Foreign ducklings were readily accepted into young broods (<10 d old) but invariably were rejected from old broods. We could detect no benefits or costs of brood adoption to the host females, contrary to the expectations of a social benefit hypothesis. Our experiments indicate that creching behavior is driven by selection on adults to abandon their brood when the benefits of continued investment are outweighed by the reduction in future reproduction and selection on deserted ducklings to join other broods to obtain parental care. Rather than a form of cooperative brood care, creching in goldeneyes is perhaps best considered as a form of reproductive parasitism, entailing parent-offspring conflict over brood desertion and intergenerational conflict over adoption of abandoned young.

**URL:** <Go to ISI>://BCI199800251106

**Reference Type:**  Journal Article

**Record Number:** 1848

**Author:** J. M. Eadie and B. E. Lyon

**Year:** 2011

**Title:** The relative role of relatives in conspecific brood parasitism

**Journal:** Molecular Ecology

**Volume:** 20

**Issue:** 24

**Pages:** 5114-5118

**Date:** Dec

**Short Title:** The relative role of relatives in conspecific brood parasitism

**ISSN:** 0962-1083

**DOI:** 10.1111/j.1365-294X.2011.05320.x

**Accession Number:** WOS:000298089300002

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season

**Notes:** Times Cited: 2

Eadie, John McA Lyon, Bruce E.

Lyon, Bruce/E-8491-2011

2

**URL:** <Go to ISI>://WOS:000298089300002

**Reference Type:**  Journal Article

**Record Number:** 513

**Author:** J. M. Eadie, M. L. Mallory and H. G. Lumsden

**Year:** 1995

**Title:** Common goldeneye

**Journal:** Birds of North America

**Volume:** 0

**Issue:** 170

**Pages:** 1-32

**Short Title:** Common goldeneye

**Accession Number:** BCI:BCI199598544188

**Keywords:** Common Goldeneye; Bucephala clangula; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI199598544188

**Reference Type:**  Journal Article

**Record Number:** 397

**Author:** J. M. Eadie, J.-P. L. Savard and M. L. Mallory

**Year:** 2000

**Title:** Barrow's goldeneye: Bucephala islandica

**Journal:** Birds of North America

**Issue:** 548

**Pages:** 1-32

**Short Title:** Barrow's goldeneye: Bucephala islandica

**Accession Number:** BCI:BCI200100242900

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI200100242900

**Reference Type:**  Journal Article

**Record Number:** 449

**Author:** J. M. Eadie, J. N. M. Smith, D. Zadworny, U. Kuehnlein and K. Cheng

**Year:** 2010

**Title:** Probing parentage in parasitic birds: an evaluation of methods to detect conspecific brood parasitism using goldeneyes Bucephala islandica and Bl. clangula as a test case

**Journal:** Journal of Avian Biology

**Volume:** 41

**Issue:** 2

**Pages:** 163-176

**Date:** Mar 2010

**Short Title:** Probing parentage in parasitic birds: an evaluation of methods to detect conspecific brood parasitism using goldeneyes Bucephala islandica and Bl. clangula as a test case

**Accession Number:** BCI:BCI201000278300

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Behavior; Techniques; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) occurs in over 200 species of birds. Efforts to detect CBP have relied on either observational criteria, or more recently, on molecular methods. While molecular approaches are powerful, they are expensive, time consuming and may prove prohibitive for studies requiring estimates of CBP over large spatial and temporal scales involving hundreds of nests. We evaluated a series of observational methods that have been applied in previous studies to detect CBP, using two species of cavity-nesting ducks, the Barrow's goldeneye Bucephala islandica and common goldeneye B. clangula, as test species. We first describe a method based on differences in egg morphology and find it to be a reliable method to detect CBP in both species in British Columbia, Canada. The application of recursive partitioning analysis was especially effective in classifying parasitized and non-parasitized nests using differences in egg morphology. We then evaluated five additional observational criteria that have been used previously in several studies to detect CBP in birds. We show that considerable redundancy exists among all criteria, as expected, but no single method is effective at detecting all suspected cases of CBP. Subsets of criteria (2 or more eggs/d, eggs laid 2 or more days after incubation, and clutch sizes exceeding 12 eggs) were successful, in combination, in detecting 75% of parasitized nests for goldeneyes. Finally, we suggest that ecological and evolutionary analyses of the dynamics of CBP will require estimates of the frequency of the parasitic tactic in the population (rather than just the proportion of parasitized nests) and we provide a simple method to obtain such an estimate. Although our data are specific to goldeneyes, the techniques we used should have broad application to other studies of CBP.

**URL:** <Go to ISI>://BCI201000278300

**Reference Type:**  Book

**Record Number:** 2362

**Author:** J. M. a. J.-P. L. S. Eadie

**Year:** 2015

**Title:** Breeding systems, spacing behavior, and reproductive behavior of sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 365-415

**Short Title:** Breeding systems, spacing behavior, and reproductive behavior of sea ducks

**Keywords:** Breeding season; Behavior

**Abstract:** Sea ducks in tribe Mergini exhibit a wide range of spacing, breeding, and brood-rearing behaviors and have provided important insights in both theoretical and applied behavioral ecology. The strength, timing, and duration of pairing vary among species. Long-term pair bonds of more than one year are common but the proportion of birds that re-pair annually is unknown. At least two pairing periods have been documented—one in fall, likely involving birds that are reuniting, and one in spring representing new pair formation. Courtship behaviors are diverse and spectacular but their ontogeny from juveniles to adult birds has not been described. Sea ducks have one of the largest gradients in pair spacing behavior among aquatic birds, ranging from a lack of pronounced spacing in the colonial Common Eider to extremely well-developed intra- and interspecific territorial behaviors in goldeneyes and Buffleheads. Brood spacing behavior ranges from the crèching behavior of Common Eiders to the highly developed territorial system of goldeneyes. The frequency of conspecific brood parasitism (CBP) is high in species that are cavity nesting or that nest in high densities, but uncommon in species nesting at low densities in dispersed ground nests. Strong female natal and breeding philopatry results in various levels of kinship between parasites and hosts suggesting that CBP may also constitute cooperation among generations of closely related females. We review the evidence supporting various models and hypotheses attempting to explain CBP. There is increasing evidence that nest-site quality or host quality may be important factors influencing how and where females lay their eggs. Interspecific brood parasitism is found in the same species for which CBP occurs, suggesting that there may be common ecological factors that influence both behaviors. Brood amalgamation (BA) after hatch is more frequent in cavity-nesting sea ducks and ground-nesting species that nest in high densities and rare or occasional in ground-nesting species that nest at low densities. Interestingly, BA occurs more frequently in those species in which CBP is also more common. Whether BA is the result of accidental mixing or has an adaptive basis is still debated, but studies suggest differences in benefits or costs of BA among populations and years. As for CBP, kinship may also play a role in BA but evidence is equivocal. Unfortunately, we still know little about many of these species and our understanding of their social and reproductive ecology is based on detailed studies of less than half of the species in the tribe. The great behavioral diversity of ducks within the tribe Mergini offers a rich opportunity to explore the threads of physiology, ecology, and evolution that underlie a complex and intriguing spectrum of reproductive behaviors.

**Reference Type:**  Journal Article

**Record Number:** 1039

**Author:** C. A. Eagles-Smith, J. T. Ackerman, S. E. W. De La Cruz and J. Y. Takekawa

**Year:** 2009

**Title:** Mercury bioaccumulation and risk to three waterbird foraging guilds is influenced by foraging ecology and breeding stage

**Journal:** Environmental Pollution

**Volume:** 157

**Issue:** 7

**Pages:** 1993-2002

**Date:** Jul 2009

**Short Title:** Mercury bioaccumulation and risk to three waterbird foraging guilds is influenced by foraging ecology and breeding stage

**Accession Number:** BCI:BCI200900381096

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** We evaluated mercury (Hg) in five waterbird species representing three foraging guilds in San Francisco Bay, CA. Fish-eating birds (Forster's and Caspian terns) had the highest Hg concentrations in thier tissues, but concentrations in an invertebrate-foraging shorebird (black-necked stilt) were also elevated. Foraging habitat was important for Hg exposure as illustrated by within-guild differences, where species more associated with marshes and salt ponds had higher concentrations than those more associated with open-bay and tidal mudflats. Importantly, Hg concentrations increased with time spent in the estuary. Surf scoter concentrations tripled over six months, whereas Forster's terns showed an up to 5-fold increase between estuary arrival and breeding. Breeding waterbirds were at elevated risk of Hg-induced reproductive impairment, particularly Forster's terns, in which 48% of breeding birds were at high risk due to their Hg levels. Our results highlight the importance of habitat and exposure timing, in addition to trophic position, on waterbird Hg bioaccumulation and risk. Published by Elsevier Ltd.

**URL:** <Go to ISI>://BCI200900381096

**Reference Type:**  Journal Article

**Record Number:** 358

**Author:** E. Edkins and I. A. Hansen

**Year:** 1976

**Title:** Wax Esters Secreted by the Uropygial Glands of Some Anseriformes

**Journal:** Comparative Biochemistry and Physiology B

**Volume:** 53

**Issue:** 1

**Pages:** 93-95

**Short Title:** Wax Esters Secreted by the Uropygial Glands of Some Anseriformes

**Accession Number:** BCI:BCI197662053512

**Keywords:** Harlequin duck; Histrionicus histrionicus; Physiology;

**Abstract:** Wax esters of 8 Anseriformes were shown to contain simple mixtures of the following series of acids: dimethyl-haxanoic (A) and heptanoic (B): trimethyl-octanoic (C) and nonanoic (D) tetramethyl-decanoic (E) and undecanoic (F) pentamethyl-dodecanoic (G) and tridecanoic (H). E, F, G and H were obtained from the grass whistling duck [Dendrocygna eytoni], and mass spectra of G and H indicated that the methyl substituents were at positions 2, 4, 6, 8 and 10. Other Anatidae investigated were: Hawaiian goose (C, D, E) [Branta sandvicensis], European wigeon (A, B) [Anas penelope], Chiloe wigeon (A, B, C) [A. sibilatrix], redhead [Aythya americana] and harlequin [Histrionicus histrionicus] ducks (B, C, D, E) and smew (C, D,) [Mergus albellus]. The major alcohol in each species was octadecanol. The crested screamer [Chauna torquata] (family Anhimidae) had only n-acids, mainly C12 and C14 and mainly n-C14, C15 and C16 alcohols. The resemblance of these wax esters to those of the magpie goose is striking. [The relationship of the pattern of composition of the uropygial wax esters to the taxonomic position of these species is discussed.].

**URL:** <Go to ISI>://BCI197662053512

**Reference Type:**  Journal Article

**Record Number:** 356

**Author:** A. Einarsson

**Year:** 1985

**Title:** The Bottom of Lake Myvatn Iceland Past Present and Future

**Journal:** Natturufraedingurinn

**Volume:** 55

**Issue:** 4

**Pages:** 153-173

**Short Title:** The Bottom of Lake Myvatn Iceland Past Present and Future

**Accession Number:** BCI:BCI198681101452

**Keywords:** Black Scoter; Melanitta nigra; Barrow's Goldeneye; Bucephala islandica; Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Habitat; Conservation; Breeding Season;

**Abstract:** The present lake came into being about 2300 years ago when the precursor lake was overrun by a lavaflow from the Threngslaborgir/Ludentsborgir crater row. Sediment from the precursor lake can be found underlying the sediment formed in the present lake, as well as mixed with scoria in pseudocraters to the south of Lake Myvatn. Palaeolimnological investigations have shown that the green alga Cladophora aegagropila increased considerably in the early 17th century. The most probable cause is a gradual decrease in water depth due to sedimentation. C. aegagrophila is a dominant macrophyte on the botton of the Syorifloi basin and serves as a substrate for invertebrates, i.a. Eurycercus lamellatus, which is important as food for diving ducks (Anatidae) and arctic char (Salvelinus alpinus). Certain bottom areas are clearly very important for wildlife conservation. These include (1) spawning sites of arctic charr and trout (Salmo trutta); (2) areas that are icefree in winter and hence important to the Barrow's goldeneye (Bucephala islandica); (3) major brood-rearing areas; (4) areas where large flocks of ducks occur regularly; (5) focal areas of common scoter (Melanitta nigra), (6) moulting sites of whooper swans (Cygnus cygnus) and (7) gadwall (Anas strepera). More research is urgently needed in order to determine how much of the sediments can be mined without harmful effects on this famous ecosystem.

**URL:** <Go to ISI>://BCI198681101452

**Reference Type:**  Journal Article

**Record Number:** 417

**Author:** A. Einarsson

**Year:** 1988

**Title:** Distribution and Movements of Barrow's Goldeneye Bucephala-Islandica Young in Relation to Food

**Journal:** Ibis

**Volume:** 130

**Issue:** 2

**Pages:** 153-163

**Short Title:** Distribution and Movements of Barrow's Goldeneye Bucephala-Islandica Young in Relation to Food

**Accession Number:** BCI:BCI198886046926

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Trophic Interactions; Dispersal; Breeding Season;

**Abstract:** Barrow's Goldeneye females with broods in the Lake Myvatn district, Iceland, concentrated in a small area in the lake's outlet where the density of blackfly Simulium vittatum larvae, the principal food of the young, was highest. A downstream migration of broods took place as predicted from the growth pattern and emergence of blackflies in the river.

**URL:** <Go to ISI>://BCI198886046926

**Reference Type:**  Journal Article

**Record Number:** 412

**Author:** A. Einarsson

**Year:** 1990

**Title:** Settlement into Breeding Habitats by Barrow's Goldeneyes Bucephala-Islandica Evidence for Temporary Oversaturation of Preferred Habitat

**Journal:** Ornis Scandinavica

**Volume:** 21

**Issue:** 1

**Pages:** 7-16

**Short Title:** Settlement into Breeding Habitats by Barrow's Goldeneyes Bucephala-Islandica Evidence for Temporary Oversaturation of Preferred Habitat

**Accession Number:** BCI:BCI199090037717

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Habitat; Behavior; Breeding Season;

**Abstract:** The paper describes spatio-temporal patterns of settlement into different habitats by territorial pairs of Barrow's Goldeneye at Lake Myvatn and River Laxa, Iceland, in spring. Locally, a preference for a habitat, as relfected by timing and rate of settlement and final density of pairs, could be predicted by density of potential food. Settlement followed a pattern which suggested preferred habitats were saturated. In rich habitats numbers of territorial pairs increased to a peak but decreased again before egglaying commenced. This decline could not be accounted for by a decline in food supply or redistribution of pairs due to ice break-up. This suggests that the decline represents a final adjustment of density after the habitat has become temporarily overcrowded. Territories were classified as either inshore or offshore, the latter being more costly to defend, smaller, set up later and eventually abandoned. Density of potential food was similar in both types of territory but inshore birds spent a lower proportion of time foraging.

**URL:** <Go to ISI>://BCI199090037717

**Reference Type:**  Journal Article

**Record Number:** 86

**Author:** A. Einarsson and A. Gardarsson

**Year:** 2004

**Title:** Moulting diving ducks and their food supply

**Journal:** Aquatic Ecology

**Volume:** 38

**Issue:** 2

**Pages:** 297-307

**Short Title:** Moulting diving ducks and their food supply

**Accession Number:** BCI:BCI200400340830

**Keywords:** Sea Ducks - General; Molt; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Numbers of moulting diving ducks at Myvatn, north Iceland, were monitored over a period of 25 years; aquatic insects (Chironomidae and Simuliidae), a major food resource, were monitored with window traps for 23 years. The response of the duck populations to changes in the food situation during the moulting period varied between species. Histrionicus histrionicus and Melanitta nigra invariably go to the sea to moult. Three species (Aythya fuligula, Clangula hyemalis and Mergus serrator) have shown long term variation in moult migration habits. Aythya marila and Bucephala islandica stay for moulting, their numbers supplemented by birds from elsewhere. A. marila is a generalist feeder and therefore at low risk of starving, the strategy of Bucephala islandica is to move within the water system where the food situation tends to alternate between the lake and the river. Numbers of Bucephala islandica males moulting on Lake Myvatn were strongly and positively correlated with chironomid numbers and those moulting on the river Laxa with Simulium vittatum, the main food resource there. We did not find convincing evidence that numbers of moulting A. marila and C. hyemalis responded to variation in the food supply during the study period. This applied also to A. fuligula in the South Basin of Myvatn, but numbers in the North Basin were positively associated with chironomid numbers. M. serrator moulting on Myvatn showed negative correlations with the chironomids, perhaps reflecting a negative association between chironomids and its main food, Gasterosteus aculeatus. Apart from safety considerations for a flightless bird, the choice of a moulting site is apparently influenced by the local food conditions on one hand and by the opportunities and risks involved in migrating to distant moulting sites with an unknown food situation on the other hand.

**URL:** <Go to ISI>://BCI200400340830

**Reference Type:**  Journal Article

**Record Number:** 383

**Author:** A. Einarsson, A. Gardarsson, G. M. Gislason and G. Gudbergsson

**Year:** 2006

**Title:** Populations of ducks and trout of the River Laxa, Iceland, in relation to variation in food resources

**Journal:** Hydrobiologia

**Volume:** 567

**Pages:** 183-194

**Date:** Sep 2006

**Short Title:** Populations of ducks and trout of the River Laxa, Iceland, in relation to variation in food resources

**Accession Number:** BCI:BCI200600506825

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Harlequin duck; Histrionicus histrionicus; Population Dynamics; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** We examined annual variation in production, recruitment and density of the three most abundant vertebrate species of the River Laxi at Lake Myvatn, Iceland: Barrow's goldeneye, Bucephala islandica, harlequin duck, Histrionicus histrionicus, and brown trout, Salmo trutta, in relation to food resources and other environmental variables. The study is largely based on correlations from long-term monitoring series in the period 1975-2002. Production of young in the harlequin duck was significantly correlated with food resources (the blackfly, Simulium vittatum) of the river, as was the recruitment of brown trout to the angling stock. In Barrow's goldeneye, which uses both the lake and the river, dispersion of adults in spring and young in August was influenced by the availability of aquatic insects in each habitat. The dispersion of Barrow's goldeneye tracks the availability of aquatic insects in each of these two main habitats. Introduced Amercian mink, Mustela vison, may have affected spring numbers and dispersion of harlequin ducks, but the evidence was not conclusive. Numbers of both duck species and the trout (as CPUE) were relatively stable, although a sharp drop in numbers followed by slow recovery was observed in Barrow's goldeneye, and an increase was observed in harlequin ducks in the first year of study.

**URL:** <Go to ISI>://BCI200600506825

**Reference Type:**  Journal Article

**Record Number:** 1849

**Author:** J. Ekroos, A. D. Fox, T. K. Christensen, I. K. Petersen, M. Kilpi, J. E. Jonsson, M. Green, K. Laursen, A. Cervencl, P. de Boer, L. Nilsson, W. Meissner, S. Garthe and M. Ost

**Year:** 2012

**Title:** Declines amongst breeding Eider Somateria mollissima numbers in the Baltic/Wadden Sea flyway

**Journal:** Ornis Fennica

**Volume:** 89

**Issue:** 2

**Pages:** 81-90

**Short Title:** Declines amongst breeding Eider Somateria mollissima numbers in the Baltic/Wadden Sea flyway

**ISSN:** 0030-5685

**Accession Number:** WOS:000305671500001

**Keywords:** Common eider; somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons; Breeding Season

**Notes:** Times Cited: 4

Ekroos, Johan Fox, Anthony D. Christensen, Thomas K. Petersen, Ib K. Kilpi, Mikael Jonsson, Jon E. Green, Martin Laursen, Karsten Cervencl, Anja de Boer, Peter Nilsson, Leif Meissner, Wlodzimierz Garthe, Stefan Ost, Markus

Ost, Markus/C-7376-2008; Meissner, Wlodzimierz/A-3657-2008; Fox, Anthony/I-7465-2013; Christensen, Thomas/J-4915-2013; Laursen, Karsten /L-3006-2013

Meissner, Wlodzimierz/0000-0002-1259-2838;

4

**URL:** <Go to ISI>://WOS:000305671500001

**Reference Type:**  Journal Article

**Record Number:** 1850

**Author:** J. Ekroos, M. Ost, P. Karell, K. Jaatinen and M. Kilpi

**Year:** 2012

**Title:** Philopatric predisposition to predation-induced ecological traps: habitat-dependent mortality of breeding eiders

**Journal:** Oecologia

**Volume:** 170

**Issue:** 4

**Pages:** 979-986

**Date:** Dec

**Short Title:** Philopatric predisposition to predation-induced ecological traps: habitat-dependent mortality of breeding eiders

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-012-2378-9

**Accession Number:** WOS:000310999400010

**Keywords:** Common eider; somateria mollissima; Survival; Dispersal; Trophic Interactions; Breeding Season

**Notes:** Times Cited: 6

Ekroos, Johan Ost, Markus Karell, Patrik Jaatinen, Kim Kilpi, Mikael

Jaatinen, Kim/A-3221-2011

6

**URL:** <Go to ISI>://WOS:000310999400010

**Reference Type:**  Journal Article

**Record Number:** 136

**Author:** N. Elkins and B. M. Lynch

**Year:** 1997

**Title:** Waterfowl counts on the Tay Estuary, 1985-1995

**Journal:** Scottish Birds

**Volume:** 19

**Issue:** 1

**Pages:** 36-54

**Date:** June, 1997

**Short Title:** Waterfowl counts on the Tay Estuary, 1985-1995

**Accession Number:** BCI:BCI199800045348

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Molt; Nonbreeding Seasons; Abundance, Distribution, and Trends;

**Abstract:** The Tay Estuary is an important site for both migrating and wintering waterfowl. It holds internationally important populations of wintering Eider, Redshank, and Bar-tailed Godwit. The wintering populations of Sanderling and Goldeneye achieve national importance. The estuary is a staging post for migrant waders in spring and autumn, and recent counts of migrant Sanderling, Knot, Ringed Plover and Turnstone have exceeded wintering populations, especially in spring. Mallard, Wigeon and Tufted Duck are all common wildfowl in winter, while Shelduck reach a spring peak. A substantial moulting flock of Goosander is present in late summer. This paper describes the numbers, distribution and changes in waterfowl populations on the estuary between 1985 and 1995, as shown by monthly high tide roost counts and a series of midwinter low tide counts.

**URL:** <Go to ISI>://BCI199800045348

**Reference Type:**  Journal Article

**Record Number:** 1056

**Author:** J. E. Elliott, M. L. Harris, L. K. Wilson, B. D. Smith, S. P. Batchelor and J. Maguire

**Year:** 2007

**Title:** Butyltins, trace metals and morphological variables in surf scoter (Melanitta perspicillata) wintering on the south coast of British Columbia, Canada

**Journal:** Environmental Pollution

**Volume:** 149

**Issue:** 1

**Pages:** 114-124

**Date:** Sep 2007

**Short Title:** Butyltins, trace metals and morphological variables in surf scoter (Melanitta perspicillata) wintering on the south coast of British Columbia, Canada

**Accession Number:** BCI:BCI200700551900

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Physiology; Nonbreeding Seasons; Energetics and Nutrition;

**Abstract:** From 1998 to 2001 we examined spatial and temporal variation in uptake of contaminants by surf scoters (Melanitta perspicillata) in the Georgia Basin region of the Pacific coast of Canada. Samples were collected during late fall and early spring at industrialized and reference locations, carcasses examined, and tissues collected for histology, biomarkers, and contaminant analyses. Scoters from both Vancouver and Victoria harbours had significantly higher hepatic concentrations of Sigma butyltins than birds from a reference site. In adult mate surf scoters, hepatic Sigma butyltins increased over the winter at two sites (p = 0.02, n = 26), while mercury increased (p = 0.03, n = 15) and selenium decreased at one site p = 0.001, n = 15). Body condition decreased over the winter at both the treatment site, Howe Sound (p < 0.0001, n = 12), and the reference site, Baynes Sound (p = 0.02, n = 15). Multiple regression analysis using Akaike's Information Criteria (AIC(C)) showed an association between hepatic butyltin concentrations and overall body condition (p = 0.06, r = -0.237). Crown Copyright (c) 2006 Published by Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200700551900

**Reference Type:**  Journal Article

**Record Number:** 741

**Author:** J. E. Elliott and P. A. Martin

**Year:** 1998

**Title:** Chlorinated hydrocarbon contaminants in grebes and seaducks wintering on the coast of British Columbia, Canada: 1988-1993

**Journal:** Environmental Monitoring and Assessment

**Volume:** 53

**Issue:** 2

**Pages:** 337-362

**Date:** Nov., 1998

**Short Title:** Chlorinated hydrocarbon contaminants in grebes and seaducks wintering on the coast of British Columbia, Canada: 1988-1993

**Accession Number:** BCI:BCI199800516718

**Keywords:** Common merganser; Mergus merganser; Contaminants; Nonbreeding Seasons;

**Abstract:** Grebe and seaduck species were collected during late winter at industrial and reference sites along coastal British Columbia, and during spring migration in the Yukon Territory, from 1988 to 1993. Liver and/or breast muscle were analyzed for polychlorinated dibenzo-p-dioxins (PCDDs), dibenzofurans (PCDFs), biphenyls (PCBs), organochlorine (OC) pesticides, and chlorophenol-related compounds. Piscivorous species, including western grebes (Aechmophorus occidentalis) and common mergansers (Mergus merganser), contained highest levels of all contaminants. DDE and PCBs were detectable in all species analyzed, but were at low levels (<50 and 100 mug/kg (sum PCBs) wet weight, respectively) in all but some grebe and merganser samples. Highest DDE concentration (229 mug/kg) was in liver of common mergansers collected at Port Alberni in 1989, and that of PCB (2300 mug/kg) in breast muscle of western grebes collected in 1992 from the same site. The interspecific PCDD/PCDF pattern was similar to that of the OC pesticides and PCBs, with the fish-eating species containing highest concentrations. The only congener detected in all samples was 2,3,7,8-TCDF, although 2,3,7,8-TCDD was regularly present. Generally, of all samples collected in 1989, those from the bleached-kraft pulp mill (BKPM) site at Port Alberni were the most contaminated with PCDDs and PCDFs. Of the chlorophenolic compounds measured, only pentachlorophenol was routinely detected, typically at levels below 5 mug/kg. Traces of 3,4,5,6-tetrachloroguaiacol, 5-chloroguaiacol and 4,5-dichloroguaiacol were also detected in a few samples, mainly from a BKPM site at Prince Rupert. By 1992, after changes to pulp mill bleaching processes and restrictions in chlorophenolic anti-sapstain use, PCDD and PCDF concentrations were substantially lower compared to 1989 in all species sampled and no longer posed a concern for human consumers. International TCDD-toxic equivalents (1-TEQs) in some western grebe samples were within the range of concentrations associated with sublethal effects in waterbird species (200-400 ng/kg).

**URL:** <Go to ISI>://BCI199800516718

**Reference Type:**  Journal Article

**Record Number:** 222

**Author:** D. V. Ellis and J. Evans

**Year:** 1960

**Title:** Comments on the distribution and migration of birds in Foxe Basin, Northwest Territories

**Journal:** Canadian Field Nat

**Volume:** 74

**Issue:** (2)

**Pages:** 59-70

**Short Title:** Comments on the distribution and migration of birds in Foxe Basin, Northwest Territories

**Accession Number:** BCI:BCI19603500068880

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Abundance, Distribution, and Trends;

**Abstract:** Based on field observations by scientists and crew of the Calanus during 1955, 1956 and 1957. Bird lists and ecological notes are given principally for Igloolik Island and Frustration Bay, Rowley Island, but also for a number of other localities scattered around Foxe Basin. Dates are given for arrivals and departures of different species. King eiders, Somateria spectabilis, and snow buntings, Plectrophenax nivalis, arrived in April or May in 1956 and 1957, but most other spp. during the first 2 or 3 weeks of June. In 1957 sea-birds preceded the smaller ground birds by a few days. Signs of fall migration in 1957 were the flocking and disappearing in late July of male king eiders, followed by assembling of shore birds on beaches and along streams, the gradual disappearance of common spp., and the spasmodic appearance of non-residents. It was noticed during 1955-7, and checked with previously published reports, that spp. of sea-birds normally requiring cliff nesting-sites, e. g. fulmars, kittiwakes, and some alcids, were only casual visitors to north Foxe Basin. There are few cliffs in the area which could support colonies of these birds. || ABSTRACT AUTHORS: D. V. Ellis

**URL:** <Go to ISI>://BCI19603500068880

**Reference Type:**  Journal Article

**Record Number:** 2001

**Author:** J. C. Ellis, W. Chen, B. O'Keefe, M. J. Shulman and J. D. Witman

**Year:** 2005

**Title:** Predation by gulls on crabs in rocky intertidal and shallow subtidal zones of the Gulf of Maine

**Journal:** Journal of Experimental Marine Biology and Ecology

**Volume:** 324

**Issue:** 1

**Pages:** 31-43

**Date:** Oct

**Short Title:** Predation by gulls on crabs in rocky intertidal and shallow subtidal zones of the Gulf of Maine

**DOI:** 10.1016/j.jembe.2005.04.001

**Notes:** Ellis, JC Chen, W O'Keefe, B Shulman, MJ Witman, JD

**Reference Type:**  Journal Article

**Record Number:** 1997

**Author:** J. C. Ellis, M. J. Shulman, M. Wood, J. D. Witman and S. Lozyniak

**Year:** 2007

**Title:** Regulation of intertidal food webs by avian predators on New England rocky shores

**Journal:** Ecology

**Volume:** 88

**Issue:** 4

**Pages:** 853-863

**Date:** Apr

**Short Title:** Regulation of intertidal food webs by avian predators on New England rocky shores

**DOI:** 10.1890/06-0593

**Notes:** Ellis, Julie C. Shulman, Myra J. Wood, Megan Witman, Jon D. Lozyniak, Sara

**Reference Type:**  Journal Article

**Record Number:** 2288

**Author:** A. Ellsworth, C. L. Buck, S. Atkinson and T. Hollmen

**Year:** 2014

**Title:** Longitudinal monitoring of sex steroid hormones in excrement of spectacled eiders (Somateria fischeri)

**Journal:** General and Comparative Endocrinology

**Volume:** 198

**Pages:** 59-65

**Date:** Mar

**Short Title:** Longitudinal monitoring of sex steroid hormones in excrement of spectacled eiders (Somateria fischeri)

**ISSN:** 0016-6480

**DOI:** 10.1016/j.ygcen.2013.12.012

**Accession Number:** WOS:000331921000007

**Keywords:** Spectacled Eider; Somateria fischeri; Breeding Season; Physiology

**Abstract:** From the 1970s to the 1990s, the breeding population of spectacled eiders (Somateria fischeri) in western Alaska declined by 96%, which led to the listing of this species as threatened under the Endangered Species Act in 1993. Since then, the population has stabilized, but has not recovered to pre-decline numbers. While little is known about reproductive endocrinology in spectacled eiders, in other avian species, estrogen and testosterone are known to initiate and modulate various reproductive processes including yolk protein synthesis, reproductive behaviors and secondary sex characteristics. Measurement of the metabolites of estrogen and testosterone (EM and TM, respectively) in excrement reflect circulating hormone concentrations and provide a non-invasive method to monitor reproductive physiology. We measured concentrations of excreted EM in captive females and TM in males to (1) determine the efficacy of commercially available radioimmunoassay kits to detect EM and TM, (2) describe annual profiles of EM and TM concentrations, and (3) define the reproductive season of captive spectacled eiders using endocrine status. Excrement samples were collected from captive female and male spectacled eiders three times per week throughout 1 year. Female EM and male TM levels were quantified using radioimmunoassay. Mean female EM profile exhibited values exceeding the threshold for "peak" values (EM > 193.3 ng/g) from mid-February to early July, and again in September. Additionally, the highest average concentrations of EM were seen in March, May and September. Elevated TM concentrations occurred in mid March, mid May and late June. These data suggest that levels of excreted sex steroids reflect patterns predicted by breeding landmarks in the annual cycle and will assist in field monitoring and captive breeding programs for spectacled eiders. (C) 2014 Elsevier Inc. All rights reserved.

**Notes:** Ellsworth, Abigail Buck, C. Loren Atkinson, Shannon Hollmen, Tuula

**URL:** <Go to ISI>://WOS:000331921000007

**Reference Type:**  Journal Article

**Record Number:** 448

**Author:** J. Elmberg, L. Dessborn and G. Englund

**Year:** 2010

**Title:** Presence of fish affects lake use and breeding success in ducks

**Journal:** Hydrobiologia

**Volume:** 641

**Issue:** 1

**Pages:** 215-223

**Date:** Mar 2010

**Short Title:** Presence of fish affects lake use and breeding success in ducks

**Accession Number:** BCI:BCI201000157291

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Habitat; Breeding Season;

**Abstract:** Several previous studies indicate that presence of fish has negative effects on waterbirds breeding on lakes, owing either to competition for common invertebrate prey or fish predation on ducklings/chicks. However, others have reported results to the contrary and it remains unresolved what factors trigger, inhibit, and modulate fish-waterbird interactions. The present study was designed to test the effect of fish presence per se, with a minimum of variation in possibly confounding environmental variables. Thus, after stratifying for area, depth, altitude, pH, and total phosphorus we compared 13 lakes with and 12 without fish (mainly pike Esox lucius and perch Perca fluviatilis) with respect to (i) general species richness of waterbirds, (ii) species-specific utilization and breeding success of two dabbling ducks (mallard Anas platyrhynchos and teal Anas crecca) and a diving duck (goldeneye Bucephala clangula). General species richness of waterbirds was higher on fishless lakes. Overall use (bird days) and brood number of teal and goldeneye were higher on fishless lakes. The latter also had more benthic and free-swimming prey invertebrates compared to lakes with fish. Mallard use, mallard brood number, and abundance of emerging insects did not differ between lake groups. Generalized linear models including fish presence as factor and considering seven environmental variables as covariates, confirmed that all waterbird variables except mallard days and broods were negatively correlated to fish presence. There was also a residual positive relationship of lake area on general species richness, teal days, and teal broods. Our data demonstrate a stronger effect of fish presence on diving ducks and small surface feeding ducks than on large surface-feeding ducks. We argue that observed patterns were caused by fish predation on ducks rather than by fish-duck competition for common prey.

**URL:** <Go to ISI>://BCI201000157291

**Reference Type:**  Journal Article

**Record Number:** 1851

**Author:** J. Elmberg and H. Poysa

**Year:** 2011

**Title:** Is the risk of nest predation heterospecifically density-dependent in precocial species belonging to different nesting guilds?

**Journal:** Canadian Journal of Zoology-Revue Canadienne De Zoologie

**Volume:** 89

**Issue:** 12

**Pages:** 1164-1171

**Date:** Dec

**Short Title:** Is the risk of nest predation heterospecifically density-dependent in precocial species belonging to different nesting guilds?

**ISSN:** 0008-4301

**DOI:** 10.1139/z11-093

**Accession Number:** WOS:000298441400002

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season

**Notes:** Times Cited: 1

Elmberg, Johan Poysa, Hannu

1

**URL:** <Go to ISI>://WOS:000298441400002

**Reference Type:**  Journal Article

**Record Number:** 1852

**Author:** C. R. Ely, J. S. Hall, J. A. Schmutz, J. M. Pearce, J. Terenzi, J. S. Sedinger and H. S. Ip

**Year:** 2013

**Title:** Evidence that Life History Characteristics of Wild Birds Influence Infection and Exposure to Influenza A Viruses

**Journal:** Plos One

**Volume:** 8

**Issue:** 3

**Date:** Mar

**Short Title:** Evidence that Life History Characteristics of Wild Birds Influence Infection and Exposure to Influenza A Viruses

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0057614

**Article Number:** e57614

**Accession Number:** WOS:000315634900031

**Keywords:** Sea ducks; Disease

**Notes:** Times Cited: 0

Ely, Craig R. Hall, Jeffrey S. Schmutz, Joel A. Pearce, John M. Terenzi, John Sedinger, James S. Ip, Hon S.

0

**URL:** <Go to ISI>://WOS:000315634900031

**Reference Type:**  Journal Article

**Record Number:** 786

**Author:** J. Englert and B. H. Seghers

**Year:** 1983

**Title:** Predation by Fish and Common Mergansers on Darters Pisces Percidae in the Thames River Watershed of Southwestern Ontario Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 97

**Issue:** 2

**Pages:** 218-219

**Short Title:** Predation by Fish and Common Mergansers on Darters Pisces Percidae in the Thames River Watershed of Southwestern Ontario Canada

**Accession Number:** BCI:BCI198426078190

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**URL:** <Go to ISI>://BCI198426078190

**Reference Type:**  Journal Article

**Record Number:** 2145

**Author:** M. D. English, G. J. Robertson, S. Avery-Gomm, D. Pine-Hay, S. Roul, P. C. Ryan, S. I. Wilhelm and M. L. Mallory

**Year:** 2015

**Title:** Plastic and metal ingestion in three species of coastal waterfowl wintering in Atlantic Canada

**Journal:** Marine Pollution Bulletin

**Volume:** 98

**Issue:** 1-2

**Pages:** 349-353

**Date:** Sep

**Short Title:** Plastic and metal ingestion in three species of coastal waterfowl wintering in Atlantic Canada

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2015.05.063

**Accession Number:** WOS:000362134100052

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Contaminants

**Abstract:** Relatively little attention has been paid to the occurrence of anthropogenic debris found in coastal species, especially waterfowl. We examined the incidence of ingested plastic and metal in three waterfowl species wintering in Atlantic Canada: American black ducks (Anas rubripes) and mallards (A. platyrhynchos), two species that use marine and freshwater coastal habitats for foraging in the winter, and common eider (Somateria mollissima), a coastal marine species that feeds on intertidal and subtidal benthic organisms. Plastic was found in the stomachs of 46.1% (6/13) of mallards and 6.9% (6/87) of black ducks, the first report of ingested anthropogenic debris in these species, while 2.1% (1/48) of eider stomachs contained plastic. Metal was found in the stomachs of 30.8% (4/13) of mallards, 2.3% (2/87) of black ducks, and in 2.1% (1/48) of eiders. Our results indicate that species using coastal marine and freshwater environments are exposed to and ingest anthropogenic debris. (C) 2015 Elsevier Ltd. All rights reserved.

**Notes:** English, Matthew D. Robertson, Gregory J. Avery-Gomm, Stephanie Pine-Hay, Donald Roul, Sheena Ryan, Pierre C. Wilhelm, Sabina I. Mallory, Mark L.

**URL:** <Go to ISI>://WOS:000362134100052

**Reference Type:**  Journal Article

**Record Number:** 447

**Author:** C. A. Epners, S. E. Bayley, J. E. Thompson and W. M. Tonn

**Year:** 2010

**Title:** Influence of fish assemblage and shallow lake productivity on waterfowl communities in the Boreal Transition Zone of western Canada

**Journal:** Freshwater Biology

**Volume:** 55

**Issue:** 11

**Pages:** 2265-2280

**Date:** Nov 2010

**Short Title:** Influence of fish assemblage and shallow lake productivity on waterfowl communities in the Boreal Transition Zone of western Canada

**Accession Number:** BCI:BCI201000597018

**Keywords:** Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Habitat; Breeding Season; Nonbreeding Seasons;

**Abstract:** P>1. Shallow lakes in the Boreal Transition Zone (BTZ) in Alberta, Canada are naturally productive systems that provide important breeding and moulting habitat for many waterfowl (Anseriformes). To examine the relative importance of biotic and abiotic factors on waterfowl population densities, species richness and community composition, we surveyed 30 shallow lakes and evaluated the relationships among fish communities, lake characteristics and waterfowl in both breeding and moulting habitat. Shallow lakes were either fishless (n = 15), contained only small-bodied fishes (n = 10) or contained large-bodied, mostly predatory, fish in addition to small-bodied fish (n = 5).2. Environmental factors, including water colour, submerged aquatic vegetation, lake area and potassium, explained 24.3% of the variation in breeding waterfowl communities. Fish assemblage contributed independently to a small but significant proportion (13.4%) of the variation, while 13.8% of the explained variation was shared between environmental factors and fish assemblage. In total, 51.5% of the variation in breeding waterfowl communities was explained.3. Overall, 55.5% of the total variation in moulting waterfowl communities was explained. Environment alone [especially total phosphorus, lake area, maximum depth and dissolved organic carbon (DOC)] and variation shared by fish and environment similarly accounted for most of the explained variation in moulting waterfowl communities (21.7% and 25.7% respectively), while fish assemblage was only one-third as important (8.1%).4. Both breeding and moulting waterfowl densities increased with lake productivity, even in eutrophic and hypereutrophic lakes. Breeding waterfowl density was also twice as great in fishless lakes than in lakes with fish, after accounting for lake area.5. Certain waterfowl taxa were linked to fishless lakes, especially in the moulting season. Canvasback and moulting ring-necked ducks were linked to small-bodied fish lakes, whereas moulting common goldeneye were indicators of large-bodied fish lakes. Knowledge of fish presence and species composition can therefore help guide conservation and management of waterfowl habitat in western Canada. Our results suggest that management efforts to maintain the most productive waterfowl habitat in the BTZ should focus on smaller, shallow, fishless lakes, particularly given that larger fish-bearing systems have greater regulatory protection.

**URL:** <Go to ISI>://BCI201000597018

**Reference Type:**  Journal Article

**Record Number:** 219

**Author:** R. C. Erickson

**Year:** 1963

**Title:** Oil pollution and migratory birds

**Journal:** Atlantic Nat

**Volume:** 81

**Issue:** (1)

**Pages:** 4-14

**Short Title:** Oil pollution and migratory birds

**Accession Number:** BCI:BCI19644500040828

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Since most birds suffering from oil pollution die at sea, observed loss is minimal. Aquatic species are most affected loons, greater scaup, eiders, scoters, oldsquaws, American golden-eyes, murres and auks. Feeding is impaired with buoyancy loss, with difficulty in flying and destruction of food. This results in inability to maintain body temperature and mortality is hastened with cold environmental temperatures. Treatment consists of a fuller's earth shampoo preceded when necessary by application of butter, soapy warm bath and over-night drying. || ABSTRACT AUTHORS: E. M. Boyd

**URL:** <Go to ISI>://BCI19644500040828

**Reference Type:**  Journal Article

**Record Number:** 784

**Author:** K. Eriksson and J. Niittyla

**Year:** 1985

**Title:** Breeding Performance of the Goosander Mergus-Merganser in the Archipelago of the Gulf of Finland

**Journal:** Ornis Fennica

**Volume:** 62

**Issue:** 4

**Pages:** 153-157

**Short Title:** Breeding Performance of the Goosander Mergus-Merganser in the Archipelago of the Gulf of Finland

**Accession Number:** BCI:BCI198682011374

**Keywords:** Common merganser; Mergus merganser; Productivity; Breeding Season;

**Abstract:** The clutch size of the Goosander Mergus merganser was studied in the archipelago of the Gulf of Finland, during the years 1973-81. The average clutch size was 9.93 .+-. 1.69 (SD; N = 231). The annual averages did not differ significantly but the females which started to nest earliest in the spring laid larger clutches than the late starters. Goosanders started to nest on the average on 27 April, but in an early spring the first eggs were found at the end of March. Altogether 75 females were recaptured at least once. The relative age of the female showed a positive correlation with clutch size, and a negative one with the laying date, which indicates that old females lay large clutches early in the season. The average weight of the incubating female was 1196 .+-. 73 grams (N = 156), and there was a positive correlation between the average egg size and the weight of the female. The average hatching success was 91% (N = 199), clutches laid in the beginning of May being the most successful. The most experienced females produced the highest number of young per clutch.

**URL:** <Go to ISI>://BCI198682011374

**Reference Type:**  Journal Article

**Record Number:** 561

**Author:** M. O. G. Eriksson

**Year:** 1979

**Title:** Competition between Fresh Water Fish and Goldeneyes Bucephala-Clangula for Common Prey

**Journal:** Oecologia (Berlin)

**Volume:** 41

**Issue:** 1

**Pages:** 99-108

**Short Title:** Competition between Fresh Water Fish and Goldeneyes Bucephala-Clangula for Common Prey

**Accession Number:** BCI:BCI198069035972

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Breeding Season;

**Abstract:** Goldeneyes preferred lakes [in Sweden] without fish to those with fish. Field experiments were conducted to investigate whether or not this preference could be ascribed to a higher food supply in the lakes devoid of fish, as goldeneyes and some freshwater fish (perch [Perca fluviatilis] and roach [Leuciscus rutilis] in the studied lakes) to some extent feed on the same kinds of prey. Changes in the abundance of prey common to fish and goldeneyes and the use by goldeneyes of lakes after experimentally changed predation pressure from fish were studied. Some aquatic insect groups, (Cloeon larvae, Odonata larvae, water bugs, dytiscids and Chaoborus larvae) proved sensitive to predation from fish. Goldeneyes increased their use of an experimental lake after fish were removed; they used this lake more than an adjacent control lake. Fish may be able to reduce the availability of foods common to the goldeneyes to such an extent that the selection by the ducks of feeding localities is affected and exploitation competition between freshwater fish and goldeneyes may occur.

**URL:** <Go to ISI>://BCI198069035972

**Reference Type:**  Journal Article

**Record Number:** 553

**Author:** M. O. G. Eriksson

**Year:** 1984

**Title:** Acidification of Lakes Effects on Waterbirds in Sweden

**Journal:** Ambio

**Volume:** 13

**Issue:** 4

**Pages:** 260-262

**Short Title:** Acidification of Lakes Effects on Waterbirds in Sweden

**Accession Number:** BCI:BCI198579053611

**Keywords:** Common merganser; Mergus merganser; Common Goldeneye; Bucephala clangula; Habitat; Trophic Interactions; Contaminants; Breeding Season;

**Abstract:** The decline in abundance of fish in acidified lakes affects the bird fauna according to the feeding habits of the species in question. Ducks feeding on aquatic insects are favored by the reduced competition with fish for common prey. Goldeneye in particular exploit the increased populations of highly mobile insects which turn up in lakes with reduced densities of fish. Among fish-eating birds such as divers and mergansers, which search for prey while swimming with their eyes below the surface, there is a compensation for the reduced abundance of fish prey by a concomitant increase in water transparency which makes remaining fish easier to detect. Other species, such as osprey and terns, do not benefit from the increased visibility as their diving depths limit them to fish in the uppermost meter of water. In addition to exposure to ecological changes resulting from acidification, birds are also increasingly exposed to metal pollutants, which increase in acidified waters. Among passerine birds, impaired reproductive success has been related to breeding in territories close to the shore where they are exposed to Al by feeding on emerging insects. Generally, the waterbird fauna in the type of lake which is susceptible to acidification is comparatively sparse. But for some species, such as divers and osprey, a considerable proportion of the total European populations breed at such waters and it is of international importance for the preservation of these species that people are concerned with the effects of lake acidification.

**URL:** <Go to ISI>://BCI198579053611

**Reference Type:**  Journal Article

**Record Number:** 1578

**Author:** K. E. Erikstad, T. Anker-Nilssen, M. Asheim, R. T. Barrett, J. O. Bustnes, K. O. Jacobsen, I. Johnsen, B. E. Saether and T. Tveraa

**Year:** 1994

**Title:** Parental investment and adult survival in Norwegian seabirds

**Journal:** NINA (Norsk Institutt for Naturforskning) Forskningsrapport

**Volume:** 0

**Issue:** 49

**Pages:** 1-25

**Short Title:** Parental investment and adult survival in Norwegian seabirds

**Accession Number:** BCI:BCI199497236188

**Keywords:** Common Eider; Somateria mollissima; Survival; Productivity; Breeding Season;

**Abstract:** Parental investment and adult survival was studied in Puffins Fratercula arctica (Hornoya and Rost), Common Guillemots Uria aalge (Hornoya), Brunnich's Guillemots Uria lomiva (Hornoya), Kittiwake Rissa tridacytla (Hornoya), and Common Eider Somateria mollissima (Grindoya). The survival of birds was estimated using the computer programme SURGE. Survival of Puffins on Rost was estimated to 91% and on Hornoya to only 79% during the same time period. Such a considerable difference in survival rate implies that birds on Rost have a further life expectancy of 7 years from first breeding, while the corresponding estimate for birds from Hornoya is only 3 years. For most of the species for which data from several years were available, annual adult survival varied considerably: for Common Guillemots and Kittiwakes on Hornoya from 87% to 100% and from 60% to 91%, respectively, and for Common Eiders on Grindoya from 60% to 100%. Experimental manipulation of clutch size in Kittiwakes showed that females produce the number of eggs which maximize the number of fledglings. Females which raised an additional chick had a considerably lower survival than controls. Studies on both Puffins and Common Eiders showed that female body condition greatly influenced her willingness to invest in offsprings. To increase our understanding of population regulation in seabirds there is a great need for long-term studies in combination with experimental manipulation to examine the relationship between food shortage, body condition and adult survival.

**URL:** <Go to ISI>://BCI199497236188

**Reference Type:**  Journal Article

**Record Number:** 1576

**Author:** K. E. Erikstad and J. O. Bustnes

**Year:** 1994

**Title:** Clutch size determination in common eiders: An egg removal and egg addition experiment

**Journal:** Journal of Avian Biology

**Volume:** 25

**Issue:** 3

**Pages:** 215-218

**Short Title:** Clutch size determination in common eiders: An egg removal and egg addition experiment

**Accession Number:** BCI:BCI199497493521

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** Egg addition and egg removal experiments in Common Eiders Somateria mollissima were carried out during three breeding seasons to examine their effect on final clutch size. When the third egg and all subsequent eggs were removed during the laying cycle, females did not respond by laying more eggs. This result is consistent with the hypothesis that egg-production is limited by body reserves; however the experiment may have been carried out too late in the laying cycle to make further egg-laying possible. When three eggs were added to nests containing two eggs females produced fewer eggs than a normal clutch. This suggests that females respond to egg parasitism by reducing their own clutch size. A reduced host clutch size suggests that availability of body reserves is not the only control of clutch size in Eiders, but that costs to incubate and/or to care for chicks may increase with increasing clutch size.

**URL:** <Go to ISI>://BCI199497493521

**Reference Type:**  Journal Article

**Record Number:** 1577

**Author:** K. E. Erikstad, J. O. Bustnes and T. Moum

**Year:** 1994

**Title:** Clutch-size determination in precocial birds: A study of the common eider

**Journal:** Auk

**Volume:** 110

**Issue:** 3

**Pages:** 623-628

**Date:** 1993 (1994)

**Short Title:** Clutch-size determination in precocial birds: A study of the common eider

**Accession Number:** BCI:BCI199497267616

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** Clutch-size determination in the Common Eider (Somateria mollissima) was evaluated in a colony in northern Norway. Females in good body condition (determined from mass at hatching) produced large clutches and had a shorter incubation period than females with small body reserves. Females in good body condition cared for young (including adoption of the young of other females), while females in poor body condition abandoned their young soon after hatching. Repeatability (an upper limit to heritability) of clutch size, which for individual females varies from three to six eggs, does not differ significantly from zero. A hypothesis is proposed, suggesting that there is a trade-off involved in allocating body reserves to eggs, incubation, and care of chicks and that females use a particular clutch-size strategy related to their body condition and ability to care for young.

**URL:** <Go to ISI>://BCI199497267616

**Reference Type:**  Journal Article

**Record Number:** 1568

**Author:** K. E. Erikstad and T. Tveraa

**Year:** 1995

**Title:** Does the cost of incubation set limits to clutch size in common eiders Somateria mollissima?

**Journal:** Oecologia (Berlin)

**Volume:** 103

**Issue:** 3

**Pages:** 270-274

**Short Title:** Does the cost of incubation set limits to clutch size in common eiders Somateria mollissima?

**Accession Number:** BCI:BCI199598512774

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**Abstract:** We examined the effect of natural clutch size on the cost of incubation in a population of common eiders Somateria mollissima nesting in Tromso, northern Norway. The body condition of females at day 5 in the incubation period was not related to clutch size (3-6 eggs), but females incubating large clutches lost more mass and had a lower body condition at day 20 in the incubation period than females incubating small clutches. Females incubating large clutches had a slightly shorter incubation period and a lower egg predation rate. The results do not support the hypothesis that the female's ability to produce eggs is the only ultimate control of clutch size in eider. Instead the results suggest that body there may be an interaction between the allocation of body reserves to eggs and incubation, and that females producing large clutches allocate more of their body reserves to incubation than females producing small clutches, in order to shorten the incubation period and to minimise the risk of predation on eggs.

**URL:** <Go to ISI>://BCI199598512774

**Reference Type:**  Journal Article

**Record Number:** 1544

**Author:** K. E. Erikstad, T. Tveraa and J. O. Bustnes

**Year:** 1998

**Title:** Significance in intraclutch egg-size variation in Common Eider: The role of egg size and quality of ducklings

**Journal:** Journal of Avian Biology

**Volume:** 29

**Issue:** 1

**Pages:** 3-9

**Date:** March, 1998

**Short Title:** Significance in intraclutch egg-size variation in Common Eider: The role of egg size and quality of ducklings

**Accession Number:** BCI:BCI199800208721

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season; Physiology;

**Abstract:** In ducks and geese intraclutch egg-size variation shows a consistent pattern. The first egg is generally smaller than the second egg and from then on egg size declines over the laying sequence. Such an intraclutch egg-size pattern has previously been described in the Common Eider Somateria mollissima. In our study area the differences between the largest and the smallest egg in a clutch increased on average from 7.5% among 3-egg clutches to 14.2% among 6-egg clutches. The maximum difference was as much as 25% among 6-egg clutches. In the present study we examine the relationship between egg size, laying position and the growth of ducklings. We have done this by collecting complete clutches of which we knew the exact laying order and the size of all eggs, and transferred them to a standard incubator to hatch. We then fed ducklings ad lib and measured their growth rate in relation to egg size and laying order. There was a close relationship (r2 = 0.82) between egg size and hatching body mass of ducklings. Large eggs in a clutch also produced relatively larger ducklings (in relation to egg size) at hatching than smaller eggs. Ducklings from large second eggs in a clutch had a higher body mass up to day 12 after hatching than ducklings from small final eggs. The results are consistent with the hypothesis that female eiders allocate resources to eggs in their clutch differentially and that such an investment may affect growth rate and hence the chances of survival of the ducklings.

**URL:** <Go to ISI>://BCI199800208721

**Reference Type:**  Journal Article

**Record Number:** 635

**Author:** A. J. Erskine

**Year:** 1959

**Title:** A joint clutch of Barrow's goldeneye and bufflehead eggs

**Journal:** Canadian Field Nat

**Volume:** 73

**Issue:** (2)

**Pages:** 131

**Short Title:** A joint clutch of Barrow's goldeneye and bufflehead eggs

**Accession Number:** BCI:BCI19593400002993

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** A nest was found in British Columbia containing eggs of Bucephala islandica and B albeola. Young of both species hatched and left the nest successfully. || ABSTRACT AUTHORS: A. J. Erskine

**URL:** <Go to ISI>://BCI19593400002993

**Reference Type:**  Journal Article

**Record Number:** 634

**Author:** A. J. Erskine

**Year:** 1960

**Title:** Further notes on interspecific competition among hole-nesting ducks

**Journal:** Canadian Field Nat

**Volume:** 74

**Issue:** (3)

**Pages:** 161-162

**Short Title:** Further notes on interspecific competition among hole-nesting ducks

**Accession Number:** BCI:BCI19613600000335

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** In 1959 a Barrow's goldeneye (Bucephala islandica) nest in British Columbia, described earlier (Can. Field Nat., 73131. 1959), contained a recently dead female bufflehead B. albeola, probably killed by the goldeneye found in the nest. Natural nest-sites for goldeneye are few and nest-boxes are accepted. In 1959, one box contained a joint clutch of Barrow's goldeneye and bufflehead eggs, incubated successfully by the latter species. This is the only record of such a joint clutch incubated by bufflehead. || ABSTRACT AUTHORS: A. J. Erskine

**URL:** <Go to ISI>://BCI19613600000335

**Reference Type:**  Journal Article

**Record Number:** 633

**Author:** A. J. Erskine

**Year:** 1961

**Title:** Nest-site tenacity and homing in the bufflehead

**Journal:** Auk

**Volume:** 78

**Issue:** (3)

**Pages:** 389-396

**Short Title:** Nest-site tenacity and homing in the bufflehead

**Accession Number:** BCI:BCI19613600083271

**Keywords:** Bufflehead; Bucephala albeola; Dispersal; Breeding Season;

**Abstract:** Female buffleheads Bucephala albeola exhibit a tendency to home to their natal lake, often returning to the nest site used in previous years. Re-use of a nest site may be prevented by its having become unusable, or disturbance during the previous nesting season may induce a move to another site. The homing tendency and the distance of moves between nests are similar to those established earlier for other species of ducks. Female buffleheads also tend to return to molting areas, while both sexes return to wintering grounds used in previous years. Evidence is presented to suggest that male bufflehead may home to the breeding grounds, often independently of the female. Banding male ducks on their territories, lacking for the bufflehead and for other ducks seems the logical way to prove homing in drakes. || ABSTRACT AUTHORS: A. J. Erskine

**URL:** <Go to ISI>://BCI19613600083271

**Reference Type:**  Journal Article

**Record Number:** 632

**Author:** A. J. Erskine

**Year:** 1964

**Title:** Nest-site competition between bufflehead Bucephala-albeola , mountain bluebird Sialia-currucoides and tree swallow lridoprocne-bicolorl

**Journal:** Can Field Natur

**Volume:** 78

**Issue:** (3)

**Pages:** 202-203

**Short Title:** Nest-site competition between bufflehead Bucephala-albeola , mountain bluebird Sialia-currucoides and tree swallow lridoprocne-bicolorl

**Accession Number:** BCI:BCI19664700075648

**Keywords:** Bufflehead; Bucephala albeola; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI19664700075648

**Reference Type:**  Journal Article

**Record Number:** 802

**Author:** A. J. Erskine

**Year:** 1971

**Title:** Parental Carrying of Young by Goosanders

**Journal:** Wildfowl

**Volume:** 22

**Pages:** 60

**Short Title:** Parental Carrying of Young by Goosanders

**Accession Number:** BCI:BCI197208031756

**Keywords:** Common merganser; Mergus merganser; Behavior;

**URL:** <Go to ISI>://BCI197208031756

**Reference Type:**  Journal Article

**Record Number:** 803

**Author:** A. J. Erskine

**Year:** 1971

**Title:** Growth and Annual Cycles in Weights Plumages and Reproductive Organs of Goosanders in Eastern Canada

**Journal:** Ibis

**Volume:** 113

**Issue:** 1

**Pages:** 42-58

**Short Title:** Growth and Annual Cycles in Weights Plumages and Reproductive Organs of Goosanders in Eastern Canada

**Accession Number:** BCI:BCI197152077384

**Keywords:** Common merganser; Mergus merganser; Physiology; Energetics and Nutrition;

**URL:** <Go to ISI>://BCI197152077384

**Reference Type:**  Journal Article

**Record Number:** 626

**Author:** A. J. Erskine

**Year:** 1978

**Title:** Durability of Tree Holes Used by Buffleheads

**Journal:** Canadian Field-Naturalist

**Volume:** 92

**Issue:** 1

**Pages:** 94-95

**Short Title:** Durability of Tree Holes Used by Buffleheads

**Accession Number:** BCI:BCI197815026217

**Keywords:** Bufflehead; Bucephala albeola; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI197815026217

**Reference Type:**  Journal Article

**Record Number:** 604

**Author:** A. J. Erskine

**Year:** 1990

**Title:** Joint Laying in Bucephala Ducks Parasitism or Nest-Site Competition

**Journal:** Ornis Scandinavica

**Volume:** 21

**Issue:** 1

**Pages:** 52-56

**Short Title:** Joint Laying in Bucephala Ducks Parasitism or Nest-Site Competition

**Accession Number:** BCI:BCI199090037721

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** The assumption that parasitism is involved in most joint laying by two or more conspecific ducks in one nest is questioned. Joint laying by Buffleheads Bucephala albeola and Barrow's Goldeneyes B. islandica can be explained by assuming that all females start laying with the intent to incubate. When two or more birds lay in the same nest, one bird incubates the joint clutch; birds excluded once and continuing to lay may incubate a partial clutch, or another joint clutch, or be excluded again. Birds that have been excluded from incubation twice may "dump" one or two eggs that they cannot resorb, as a last resort. The relative costs and benefits of various scenarios are reviewed.

**URL:** <Go to ISI>://BCI199090037721

**Reference Type:**  Book Section

**Record Number:** 1644

**Author:** A. J. Erskine and A. D. Smith

**Year:** 1987

**Title:** Status and Movements of Common Eiders in the Maritime Provinces Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 20-29

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Status and Movements of Common Eiders in the Maritime Provinces Canada

**Accession Number:** BCI:BCI198834004258

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI198834004258

**Reference Type:**  Journal Article

**Record Number:** 59

**Author:** R. M. Erwin, D. R. Cahoon, D. J. Prosser, G. M. Sanders and P. Hensel

**Year:** 2006

**Title:** Surface elevation dynamics in vegetated Spartina marshes versus unvegetated tidal ponds along the mid-Atlantic coast, USA, with implications to waterbirds

**Journal:** Estuaries and Coasts

**Volume:** 29

**Issue:** 1

**Pages:** 96-106

**Date:** Feb 2006

**Short Title:** Surface elevation dynamics in vegetated Spartina marshes versus unvegetated tidal ponds along the mid-Atlantic coast, USA, with implications to waterbirds

**Accession Number:** BCI:BCI200600440418

**Keywords:** Sea Ducks - General; Habitat;

**Abstract:** Mid Atlantic coastal salt marshes contain a matrix of vegetation diversified by tidal pools, pannes, and creeks, providing habitats of varying importance to many species of breeding, migrating, and wintering waterbirds. We hypothesized that changes in marsh elevation were not sufficient to keep pace with those of sea level in both vegetated and unvegetated Spartina alterniflora sites at a number of mid lagoon marsh areas along the Atlantic Coast. We also predicted that northern areas would suffer less of a deficit than would southern sites. Beginning in August 1998, we installed surface elevation tables at study sites on Cape Cod, Massachusetts, southern New Jersey, and two locations along Virginia's eastern shore. We compared these elevation changes over the 4-4.5 yr record with the long-term (> 50 yr) tidal records for each locale. We also collected data on waterbird use of these sites during all seasons of the year, based on ground surveys and replicated surveys from observation platforms. Three patterns of marsh elevation change were found. At Nauset Marsh, Cape Cod, the Spartina marsh surface tracked the pond surface, both keeping pace with regional sea-level rise rates. In New Jersey, the ponds are becoming deeper while marsh surface elevation remains unchanged from the initial reading. This may result in a submergence of the marsh in the future, assuming sea-level rise continues at current rates. Ponds at both Virginia sites are filling in, while marsh surface elevation rates do not seem to be keeping pace with local sea-level rise. An additional finding at all sites was that subsidence in the vegetated marsh surfaces was less than in unvegetated areas, reflecting the importance of the root mat in stabilizing sediments. The implications to migratory waterbirds are significant. Submergence of much of the lagoonal marsh area in Virginia and New Jersey over the next century could have major negative (i.e., flooding) effects on nesting populations of marsh-dependent seaside sparrows Ammodramus maritimus, saltmarsh sharp-tailed sparrows Ammodramus caudacutus, black rails Laterallus jamaicensis, clapper rails Rallus longirostris, Forster's terns Sterna forsteri, common terns Sterna hirundo, and gull-billed terns Sterna nilotica. Although short-term inundation of many lagoonal marshes may benefit some open-water feeding ducks, geese, and swans during winter, the long-term ecosystem effects may be detrimental, as wildlife resources will be lost or displaced. With the reduction in area of emergent marsh, estuarine secondary productivity and biotic diversity will also be reduced.

**URL:** <Go to ISI>://BCI200600440418

**Reference Type:**  Journal Article

**Record Number:** 58

**Author:** R. M. Erwin, G. M. Sanders, D. J. Prosser and D. R. Cahoon

**Year:** 2006

**Title:** High tides and rising seas: Potential effects on estuarine waterbirds

**Journal:** Studies in Avian Biology

**Issue:** 32

**Pages:** 214-228

**Short Title:** High tides and rising seas: Potential effects on estuarine waterbirds

**Accession Number:** BCI:BCI200700066380

**Keywords:** Sea Ducks - General; Conservation;

**Abstract:** Coastal waterbirds are vulnerable to water-level changes especially under predictions of accelerating sea-level rise and increased storm frequency in the next century. Tidal and wind-driven fluctuations in water levels affecting marshes, their invertebrate communities, and their dependent waterbirds are manifested in daily, monthly, seasonal, annual, and supra-annual (e.g., decadal or 18.6-yr) periodicities. Superimposed on these cyclic patterns is a long-term (50-80 yr) increase in relative sea-level rise that varies from about 2-4 + mm/yr along the Atlantic coastline. At five study sites selected on marsh islands from Cape Cod, Massachusetts to coastal Virginia, we monitored marsh elevation changes and flooding, tide variations over time, and waterbird use. We found from longterm marsh core data that marsh elevations at three of five sites may not be sufficient to maintain pace with current sea-level rise. Results of the short-term (3-4 yr) measures using surface elevation tables suggest a more dramatic difference, with marsh elevation change at four of five sites falling below relative sea-level rise. In addition, we have found a significant increase (in three of four cases) in the rate of surface marsh flooding in New Jersey and Virginia over the past 70-80 yr during May-July when waterbirds are nesting on or near the marsh surface. Short-term, immediate effects of flooding will jeopardize annual fecundity of many species of concern to federal and state agencies, most notably American Black Duck (Anas rubripes), Nelson's Sharp-tailed Sparrow (Ainniodrannts nelsoni), Saltmarsh Sharp-tailed Sparrow (A. caudacn tits), Seaside Sparrow (A. niariffina), Coastal Plain Swamp Sparrow (Melospiza georgiana nigrescens), Black Rail (Laterallus jamaicensis), Forster's Tern (Sterna forsteri). Gull-billed Tern (S. nilotica), Black Skimmer (Rynchops niger), and American Oystercatcher (Haentotopus palliatus). Forster's Terns are probably most at risk given the large proportion of their breeding range in the mid-Atlantic and their saltmarsh specialization. At a scale of 1-2 decades, vegetation changes (saltmeadow cordgrass [Spartina patens] andsalt grass [Distichlis spicata] converting to smooth cordgrass [Spartina alternifloral), interior pond expansion and erosion of marshes will reduce nesting habitat for many of these species, but may enhance feeding habitat of migrant shorebirds and/or migrant or wintering waterfowl. At scales of 50-100 yr, reversion of marsh island complexes to open water may enhance populations of open-bay waterfowl, e.g., Bufflehead (Bucephala albeola) and Canvasback (Aythya valisneria), but reduce nesting habitats dramatically for the above named marsh-nesting species, may reduce estuarine productivity by loss of the detrital food web and nursery habitat for fish and invertebrates, and cause redistribution of waterfowl, shorebirds, and other species. Such scenarios are more likely to occur in the mid- and north Atlantic regions since these estuaries are lower in sediment delivery on average than those in the Southeast. A simple hypothetical example from New Jersey is presented where waterbirds are forced to shift from submerged natural marshes to nearby impoundments, resulting in roughly a 10-fold increase in density. Whether prey fauna are sufficiently abundant to support this level of increase remains an open question, but extreme densities in confined habitats would exacerbate competition, increase disease risk, and possibly increase predation.

**URL:** <Go to ISI>://BCI200700066380

**Reference Type:**  Book

**Record Number:** 2363

**Author:** D. Esler, P. L. Flint, D. V. Derksen, J.-P. L. Savard, and J. M. Eadie

**Year:** 2015

**Title:** Conclusions, synthesis, and future directions: Understanding sources of population change

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 561-568

**Short Title:** Conclusions, synthesis, and future directions: Understanding sources of population change

**Keywords:** Abundance, Distribution, & Trends; Conservation

**Abstract:** The chapters in this volume of Studies in Avian Biology reflect the burgeoning interest in sea ducks, both as study species with compelling and unique ecological attributes and as taxa of conservation concern. In this review, we provide perspective on the current state of sea duck knowledge by highlighting key findings in the preceding chapters that are of particular value for understanding or influencing population change. We also introduce a conceptual model that characterizes links among topics covered by individual chapters and places them in the context of demographic responses. Last, we offer recommendations for areas of future research that we suggest will have importance for understanding and managing population dynamics of sea ducks.

**Reference Type:**  Journal Article

**Record Number:** 362

**Author:** D. Esler, B. E. Ballachey, K. A. Trust, S. A. Iverson, J. A. Reed, A. K. Miles, J. D. Henderson, B. R. Woodin, J. J. Stegeman, M. McAdie, D. M. Mulcahy and B. W. Wilson

**Year:** 2011

**Title:** Cytochrome P4501A biomarker indication of the timeline of chronic exposure of Barrow's goldeneyes to residual Exxon Valdez oil

**Journal:** Marine Pollution Bulletin

**Volume:** 62

**Issue:** 3

**Pages:** 609-614

**Date:** Mar 2011

**Short Title:** Cytochrome P4501A biomarker indication of the timeline of chronic exposure of Barrow's goldeneyes to residual Exxon Valdez oil

**Accession Number:** BCI:BCI201100269296

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Contaminants; Nonbreeding Seasons;

**Abstract:** We examined hepatic EROD activity, as an indicator of CYP1A induction, in Barrow's goldeneyes captured in areas oiled during the 1989 Exxon Valdez spill and those from nearby unoiled areas. We found that average EROD activity differed between areas during 2005, although the magnitude of the difference was reduced relative to a previous study from 1996/1997, and we found that areas did not differ by 2009. Similarly, we found that the proportion of individuals captured from oiled areas with elevated EROD activity (>= 2 times unoiled average) declined from 41% in winter 1996/1997 to 10% in 2005 and 15% in 2009. This work adds to a body of literature describing the timelines over which vertebrates were exposed to residual Exxon Valdez oil and indicates that, for Barrow's goldeneyes in Prince William Sound, exposure persisted for many years with evidence of substantially reduced exposure by 2 decades after the spill. (C) 2010 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201100269296

**Reference Type:**  Journal Article

**Record Number:** 234

**Author:** D. Esler and J. C. Bond

**Year:** 2010

**Title:** Cross-seasonal dynamics in body mass of male Harlequin Ducks: a strategy for meeting costs of reproduction

**Journal:** Canadian Journal of Zoology

**Volume:** 88

**Issue:** 2

**Pages:** 224-230

**Date:** Feb 2010

**Short Title:** Cross-seasonal dynamics in body mass of male Harlequin Ducks: a strategy for meeting costs of reproduction

**Accession Number:** BCI:BCI201000212497

**Keywords:** Harlequin duck; Histrionicus histrionicus; Energetics and Nutrition; Nonbreeding Seasons; Breeding Season;

**Abstract:** Considerations of acquisition of energy for reproduction by waterfowl have disproportionately focused on females, although males also require energy for reproduction. We quantified variation in body mass of male Harlequin Ducks (Histrionicus histrionicus (L., 1758)) on coastal wintering areas prior to spring migration, as well as on breeding grounds, to determine when and where nutrients were acquired to meet costs of reproduction. Male mass on wintering grounds increased, on average, by 45 g (7%) in the weeks prior to migration. On breeding streams, we inferred that body mass of paired males decreased with the length of time on breeding grounds. Also, on average, male mass was considerably lower on breeding streams than when they departed coastal wintering sites. We conclude that males store nutrients on marine wintering grounds for subsequent use during the breeding season. Male Harlequin Ducks are highly vigilant while on breeding streams and the associated reduction in feeding time presumably requires energy stores. We suggest that males have evolved a strategy that is at least partially "capital" for meeting costs of reproduction, in which they acquire an optimal amount of energy reserves prior to spring migration and subsequently invest them in behaviours that can enhance reproductive success.

**URL:** <Go to ISI>://BCI201000212497

**Reference Type:**  Journal Article

**Record Number:** 324

**Author:** D. Esler, T. D. Bowman, T. A. Dean, C. E. O'Clair, S. C. Jewett and L. L. McDonald

**Year:** 2000

**Title:** Correlates of Harlequin Duck densities during winter in Prince William Sound, Alaska

**Journal:** Condor

**Volume:** 102

**Issue:** 4

**Pages:** 920-926

**Date:** November, 2000

**Short Title:** Correlates of Harlequin Duck densities during winter in Prince William Sound, Alaska

**Accession Number:** BCI:BCI200100002977

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Contaminants; Nonbreeding Seasons;

**Abstract:** We evaluated relationships of Harlequin Duck (Histrionicus histrionicus) densities to habitat attributes, history of habitat contamination by the 1989 Exxon Valdez oil spill, and prey biomass density and abundance during winters 1995-1997 in Prince William Sound, Alaska. Habitat features that explained variation in duck densities included distance to streams and reefs, degree of exposure to wind and wave action, and dominant substrate type. After accounting for these effects, densities were lower in oiled than un-oiled areas, suggesting that population recovery from the oil spill was not complete, due either to lack of recovery from initial oil spill effects or continuing deleterious effects. Prey biomass density and abundance were not strongly related to duck densities after accounting for habitat and area effects. Traits of Harlequin Ducks that reflect their affiliation with naturally predictable winter habitats, such as strong site fidelity and intolerance of increased energy costs, may make their populations particularly vulnerable to chronic oil spill effects and slow to recover from population reductions, which may explain lower densities than expected on oiled areas nearly a decade following the oil spill.

**URL:** <Go to ISI>://BCI200100002977

**Reference Type:**  Journal Article

**Record Number:** 396

**Author:** D. Esler, T. D. Bowman, C. E. O'Clair, T. A. Dean and L. L. McDonald

**Year:** 2000

**Title:** Densities of Barrow's Goldeneyes during winter in Prince William Sound, Alaska in relation to habitat, food and history of oil contamination

**Journal:** Waterbirds

**Volume:** 23

**Issue:** 3

**Pages:** 423-429

**Short Title:** Densities of Barrow's Goldeneyes during winter in Prince William Sound, Alaska in relation to habitat, food and history of oil contamination

**Accession Number:** BCI:BCI200100176063

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Habitat; Contaminants; Nonbreeding Seasons;

**Abstract:** We evaluated variation in densities of Barrow's Goldeneyes (Bucephala islandica) during winter at 214 sites within oiled and unoiled study areas in Prince William Sound, Alaska in relation to physical habitat attributes, prey biomass, and history of habitat contamination by the 1989 Exxon Valdez oil spill. Using general linear model analyses, we found that goldeneye densities were positively associated with occurrence of a stream within 200 m, lack of exposure to wind and waves, and mixed (versus rocky) substrate. We speculate that these associations relate to habitat profitability via selection of beneficial attributes and avoidance of detrimental features. We also determined that biomass of blue mussels (Mytilus trossulus), the primary prey, was not related to Barrow's Goldeneye densities; we suggest that mussel standing stock exceeds predation demands in our study areas and, thus, does not dictate goldeneye distribution. After accounting for habitat effects, we detected no effect of history of oil contamination on Barrow's Goldeneye densities, suggesting that populations have recovered from the oil spill. Although other studies documented hydrocarbon exposure in Barrow's Goldeneyes through at least 1997, either the level of exposure did not affect populations via reductions in survival, or effects of oil exposure were offset by immigration.

**URL:** <Go to ISI>://BCI200100176063

**Reference Type:**  Journal Article

**Record Number:** 305

**Author:** D. Esler, T. D. Bowman, K. A. Trust, B. E. Ballachey, T. A. Dean, S. C. Jewett and C. E. O'Clair

**Year:** 2002

**Title:** Harlequin duck population recovery following the 'Exxon Valdez' oil spill: Progress, process and constraints

**Journal:** Marine Ecology Progress Series

**Volume:** 241

**Pages:** 271-286

**Date:** October 4, 2002

**Short Title:** Harlequin duck population recovery following the 'Exxon Valdez' oil spill: Progress, process and constraints

**Accession Number:** BCI:BCI200300386665

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Population Dynamics; Nonbreeding Seasons;

**Abstract:** Following the 1989 'Exxon Valdez' oil spill in Prince William Sound, Alaska, we studied the status of recovery of harlequin duck Histrionicus histrionicus populations during 1995 to 1998. We evaluated potential constraints on full recovery, including (1) exposure to residual oil; (2) food limitation; and (3) intrinsic demographic limitations on population growth rates. In this paper, we synthesize the findings from our work and incorporate information from other harlequin duck research and monitoring programs to provide a comprehensive evaluation of the response of this species to the 'Exxon Valdez' spill. We conclude that harlequin duck populations had not fully recovered by 1998. Furthermore, adverse effects continued as many as 9 yr after the oil spill, in contrast to the conventional paradigm that oil spill effects on bird populations are short-lived. These conclusions are based on the findings that (1) elevated cytochrome P450 (CYP1A) induction on oiled areas indicated continued exposure to oil in 1998; (2) adult female winter survival was lower on oiled than unoiled areas during 1995 to 1998; (3) fall population surveys by the Alaska Department of Fish and Game indicated numerical declines in oiled areas during 1995 to 1997; and (4) densities on oiled areas in 1996 and 1997 were lower than expected using models that accounted for effects of habitat attributes. Based on hypothesized links between oil contamination and demography, we suggest that harlequin duck population recovery was constrained primarily by continued oil exposure. Full population recovery will also be delayed by the time necessary for intrinsic population growth to allow return to pre-spill numbers following cessation of residual oil spill effects. Although not all wildlife species were affected by the 'Exxon Valdez' oil spill, and some others may have recovered quickly from any effects, harlequin duck life history characteristics and benthic, nearshore feeding habits make them susceptible to both initial and long-term oil spill effects.

**URL:** <Go to ISI>://BCI200300386665

**Reference Type:**  Journal Article

**Record Number:** 235

**Author:** D. Esler and S. A. Iverson

**Year:** 2010

**Title:** Female Harlequin Duck Winter Survival 11 to 14 Years After the Exxon Valdez Oil Spill

**Journal:** Journal of Wildlife Management

**Volume:** 74

**Issue:** 3

**Pages:** 471-478

**Date:** Apr 2010

**Short Title:** Female Harlequin Duck Winter Survival 11 to 14 Years After the Exxon Valdez Oil Spill

**Accession Number:** BCI:BCI201000246319

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Contaminants; Nonbreeding Seasons;

**Abstract:** In the mid-to late 1990s, nearly a decade after the 1989 Exxon Valdez oil spill, female harlequin ducks (Histrionicus histrionicus) suffered reduced winter survival in oiled areas of Prince William Sound, Alaska, USA, relative to unoiled areas. We conducted follow-up studies from winters 2000-2001 to 2002-2003 to determine whether differential survival persisted and to evaluate whether individual-level indices of oil exposure were related to survival. Using radiotelemetry, we tracked 138 female harlequin ducks from November through March over three winters. We analyzed variation in survival in relation to season, area oiling history, age class, body mass, and an index to exposure to residual oil based on cytochrome P4501A (CYP1A) induction. We determined that survival was most strongly related to season and age class, with evidence of higher survival in late winter and after hatch year (AHY) categories, respectively. We estimated cumulative winter survival for AHY females to be 0.837 (+/- 0.064) and 0.834 (+/- 0.065) on unoiled and oiled areas, respectively, and we estimated hatch-year female cumulative winter survival at 0.766 (+/- 0.138) on unoiled areas and 0.758 (+/- 0.152) on oiled areas. Despite persistence of oil in some intertidal areas and evidence of contaminant ingestion by harlequin ducks during and beyond this study, neither area nor CYP1A were strongly related to variation in survival, suggesting that direct effects of the oil spill on harlequin duck demography had largely abated by the winters 2000-2001 to 2002-2003. Our findings offer an unprecedented description of the timeline of effects of exposure to spilled oil and contribute to a body of literature that describe demographic effects of the Exxon Valdez oil spill that persisted over a much longer time than previously assumed. An appreciation for the timescale of chronic effects of oil spills, as well as potential for demographic effects related to much lower concentrations of oil than during the immediate period of acute effects following a spill, will provide wildlife managers with a basis for risk assessment and plans for mitigation when confronted with large spills or chronic pollution.

**URL:** <Go to ISI>://BCI201000246319

**Reference Type:**  Journal Article

**Record Number:** 284

**Author:** D. Esler, S. A. Iverson and D. J. Rizzolo

**Year:** 2006

**Title:** Genetic and demographic criteria for defining population units for conservation: The value of clear messages

**Journal:** Condor

**Volume:** 108

**Issue:** 2

**Pages:** 480-483

**Date:** May 2006

**Short Title:** Genetic and demographic criteria for defining population units for conservation: The value of clear messages

**Accession Number:** BCI:BCI200600484875

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Delineation; Dispersal; Nonbreeding Seasons;

**Abstract:** In a recent paper on Harlequin Duck (Histrionicus histrionicus) interannual site fidelity (Iverson et al. 2004), we concluded that wintering populations were demographically structured at a finer geographic scale than that at which genetic differentiation was observed and that conservation efforts should recognize this degree of demographic independence. In a critique of our study, Pearce and Talbot (2006) contend that our measures of fidelity were not robust and imply that in the face of "mixed messages" we failed to appreciate the role of genetic data in defining population units. We recognize, as we did in our original paper, that our methods for quantifying site fidelity have some limitations; however, the patterns in our data are consistent with a considerable body of literature indicating high winter site fidelity in Harlequin Ducks. Moreover, we do not consider differences in the scales at which genetic and demographic structure are expressed to be "mixed messages," given the different spatial and temporal scales at which genetic and contemporary demographic processes operate. We emphasize that a lack of genetic differentiation does not necessarily preclude the existence of contemporary demographic structure with relevance for conservation.

**URL:** <Go to ISI>://BCI200600484875

**Reference Type:**  Journal Article

**Record Number:** 322

**Author:** D. Esler, D. M. Mulcahy and R. L. Jarvis

**Year:** 2000

**Title:** Testing assumptions for unbiased estimation of survival of radiomarked harlequin ducks

**Journal:** Journal of Wildlife Management

**Volume:** 64

**Issue:** 2

**Pages:** 591-598

**Date:** April, 2000

**Short Title:** Testing assumptions for unbiased estimation of survival of radiomarked harlequin ducks

**Accession Number:** BCI:BCI200000228865

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** Unbiased estimates of survival based on individuals outfitted with radiotransmitters require meeting the assumptions that radios do not affect survival, and animals for which the radio signal is lost have the same survival probability as those for which fate is known. In most survival studies, researchers have made these assumptions without testing their validity. We tested these assumptions by comparing interannual recapture rates (and, by inference, survival) between radioed and unradioed adult female harlequin ducks (Histrionicus histrionicus), and for radioed females, between right-censored birds (i.e., those for which the radio signal was lost during the telemetry monitoring period) and birds with known fates. We found that recapture rates of birds equipped with implanted radiotransmitters (21.6 +- 3.0%; x +- SE) were similar to unradioed birds (21.7 +- 8.6%), suggesting that radios did not affect survival. Recapture rates also were similar between right-censored (20.6 +- 5.1%) and known-fate individuals (22.1 +- 3.8%), suggesting that missing birds were not subject to differential mortality. We also determined that capture and handling resulted in short-term loss of body mass for both radioed and unradioed females and that this effect was more pronounced for radioed birds (the difference between groups was 15.4 +- 7.1 g). However, no difference existed in body mass after recapture 1 year later. Our study suggests that implanted radios are an unbiased method for estimating survival of harlequin ducks and likely other species under similar circumstances.

**URL:** <Go to ISI>://BCI200000228865

**Reference Type:**  Journal Article

**Record Number:** 323

**Author:** D. Esler, J. A. Schmutz, R. L. Jarvis and D. M. Mulcahy

**Year:** 2000

**Title:** Winter survival of adult female harlequin ducks in relation to history of contamination by the Exxon Valdez oil spill

**Journal:** Journal of Wildlife Management

**Volume:** 64

**Issue:** 3

**Pages:** 839-847

**Date:** July, 2000

**Short Title:** Winter survival of adult female harlequin ducks in relation to history of contamination by the Exxon Valdez oil spill

**Accession Number:** BCI:BCI200000370450

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Contaminants; Nonbreeding Seasons;

**Abstract:** Harlequin duck (Histrionicus histrionicus) life-history characteristics make their populations particularly vulnerable to perturbations during nonbreeding periods. The 1989 Exxon Valdez oil spill was a major perturbation to nonbreeding habitats of harlequin ducks in Prince William Sound, Alaska, which resulted in population injury. To assess the status of population recovery from the oil spill and to evaluate factors potentially constraining full recovery, we used radiotelemetry to examine survival of adult female harlequin ducks during winters of 1995-96, 1996-97, and 1997-98. We implanted 294 harlequin ducks (154 and 140 in oiled and unoiled areas, respectively) with transmitters and tracked their signals from aircraft during October through March. We examined variation in survival rates relative to area and season (early, mid, and late winter) through comparisons of models using Akaike's information criterion (AICc) values. The 3 models best supported by the data indicated that survival of birds in oiled areas was lower than in unoiled areas. Inclusion of standardized body mass during wing molt in the 3 best models did not improve their fit, indicating that body mass during wing molt did not affect subsequent winter survival. In the model that best fit our data, survival was high in early winter for both areas, lower during mid and late winter seasons, and lowest in oiled areas during mid winter. Cumulative winter survival estimated from this model was 78.0% (SE = 3.3%) in oiled areas and 83.7% (SE = 2.9%) in unoiled areas. We determined that area differences in survival were more likely related to oiling history than intrinsic geographic differences. Based on a demographic model, area differences in survival offer a likely mechanism for observed declines in populations on oiled areas. Concurrent studies indicated that harlequin ducks continued to be exposed to residual Exxon Valdez oil as much as 9 years after the spill. We suggest that oil exposure, mortality, and population dynamics were linked and conclude that continued effects of the oil spill likely restricted recovery of harlequin duck populations through at least 1998.

**URL:** <Go to ISI>://BCI200000370450

**Reference Type:**  Journal Article

**Record Number:** 236

**Author:** D. Esler, K. A. Trust, B. E. Ballachey, S. A. Iverson, T. L. Lewis, D. J. Rizzolo, D. M. Mulcahy, A. K. Miles, B. R. Woodin, J. J. Stegeman, J. D. Henderson and B. W. Wilson

**Year:** 2010

**Title:** Cytochrome P4501a Biomarker Indication of Oil Exposure in Harlequin Ducks up to 20 Years after the Exxon Valdez Oil Spill

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 29

**Issue:** 5

**Pages:** 1138-1145

**Date:** May 2010

**Short Title:** Cytochrome P4501a Biomarker Indication of Oil Exposure in Harlequin Ducks up to 20 Years after the Exxon Valdez Oil Spill

**Accession Number:** BCI:BCI201000359170

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**Abstract:** Hydrocarbon-inducible cytochrome P4501A (CYP1A) expression was measured, as ethoxyresorufin-O-deethylase (EROD) activity, in livers of wintering harlequin ducks (Histrionicus histrionicus) captured in areas of Prince William Sound, Alaska, USA, oiled by the 1989 Exxon Valdez spill and in birds from nearby unoiled areas, during 2005 to 2009 (up to 20 years following the spill). The present work repeated studies conducted in 1998 that demonstrated that in harlequin ducks using areas that received Exxon Valdez oil, EROD activity was elevated nearly a decade after the spill. The present findings strongly supported the conclusion that average levels of hepatic EROD activity were higher in clucks from oiled areas than those from unoiled areas during 2005 to 2009. This result was consistent across our sampling periods; furthermore, results generated from two independent laboratories using paired liver samples from one of the sampling periods were similar. The EROD activity did not vary in relation to age, sex, or body mass of individuals, nor did it vary strongly by season in birds collected early and late in the winter of 2006 to 2007. indicating that these factors did not confound inferences about observed differences between oiled and unoiled areas. We interpret these results to indicate that harlequin chicks continued to be exposed to residual Exxon Valdez oil up to 20 years after the original spill. This adds to a growing body of literature suggesting that oil spills have the potential to affect wildlife for much longer time frames than previously assumed. Environ. Toxicol. Chem. 2010;29:1138-1145. (C) 2010 SETAC

**URL:** <Go to ISI>://BCI201000359170

**Reference Type:**  Journal Article

**Record Number:** 1374

**Author:** A. L. M. Ethier, B. M. Braune, A. M. Scheuhammer and D. E. Bond

**Year:** 2007

**Title:** Comparison of lead residues among avian bones

**Journal:** Environmental Pollution

**Volume:** 145

**Issue:** 3

**Pages:** 915-919

**Date:** Feb 2007

**Short Title:** Comparison of lead residues among avian bones

**Accession Number:** BCI:BCI200700214836

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** To determine if significant differences exist in lead (Pb) accumulation in different bones, especially those most often used for bone-Pb studies in wildlife, we compared Ph concentrations in radius, ulna, humerus, femur, and tibia of Common Eider (Somateria mollissima); and radius/ulna (combined), femur, and tibia of American Woodcock (Scolopax minor). There were no significant differences in bone-Pb concentrations among woodcock bones over a wide range of Ph concentrations (3-311 mu g/g). In eider, where bone-Pb concentrations were low (< 10 mu g/g), leg bones had significantly higher Ph concentrations (approximately 30-40%) than wing bones from the same individuals. The variation among individual birds was greater than the variation among different bones within a bird. Based on our findings, we conclude that one type of bone may be substituted for another in bone-Pb studies although the same bone type should be analyzed for all birds within a study, whenever possible. Crown Copyright (c) 2006 Published by Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200700214836

**Reference Type:**  Journal Article

**Record Number:** 484

**Author:** D. M. Evans and K. R. Day

**Year:** 2001

**Title:** Does shooting disturbance affect diving ducks wintering on large shallow lakes? A case study on Lough Neagh, Northern Ireland

**Journal:** Biological Conservation

**Volume:** 98

**Issue:** 3

**Pages:** 315-323

**Date:** April, 2001

**Short Title:** Does shooting disturbance affect diving ducks wintering on large shallow lakes? A case study on Lough Neagh, Northern Ireland

**Accession Number:** BCI:BCI200100200599

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Conservation; Nonbreeding Seasons;

**Abstract:** Waterfowl hunting is widespread and common throughout Europe, affecting waterfowl populations directly through the kill and indirectly through disturbance. Freedom from such disturbance is an important part of waterfowl management. However, most studies of the effects of disturbance on duck populations have been site specific with few attempts to synthesis the results of these local studies and use them in management strategies. Lough Neagh has the largest surface area of any freshwater lake in the British Isles. It is also relatively shallow with a mean depth of ca. 9 m. The seasonal effects of shooting disturbance on the daytime distributions and behaviour of wintering Pochard Aythya ferina, Tufted Duck A. fuligula, Scaup A. marila and Goldeneye Bucephala clangula was studied during the winter of 1998/1999. The nocturnal use of shoreline areas was also studied using an image-intensifing telescope. The distributions of wintering Pochard, Tufted duck and Scaup were shown to be affected by shooting disturbance on Lough Neagh. But because they were also shown to predominantly roost during the day, and were not observed to forage in the marginal areas of the Lough throughout the winter period at night, any energetic consequence of shoreline based shooting disturbance is likely to be small. Goldeneye predominantly fed during the day. It would be expected that diurnal feeding Goldeneye would show the biggest response to shooting disturbance during the day, but proportions observed in designated zones during and after the shooting season did not change significantly, confirming the lack of effect. Observation of Pochard and Tufted Duck engaged in various behaviours did show an increase in the proportion of ducks feeding, after the shooting season had closed. The increase was attributed to increased feeding prior to migration as opposed to being the result of the cessation of shooting disturbance. The most important factors to consider when applying conservation measures to diving duck populations wintering on lakes with similar attributes are identified and discussed.

**URL:** <Go to ISI>://BCI200100200599

**Reference Type:**  Journal Article

**Record Number:** 485

**Author:** D. M. Evans and K. R. Day

**Year:** 2001

**Title:** Migration patterns and sex ratios of diving ducks wintering in Northern Ireland with specific reference to Lough Neagh

**Journal:** Ringing and Migration

**Volume:** 20

**Issue:** 4

**Pages:** 358-363

**Date:** November, 2001

**Short Title:** Migration patterns and sex ratios of diving ducks wintering in Northern Ireland with specific reference to Lough Neagh

**Accession Number:** BCI:BCI200200207469

**Keywords:** Common Goldeneye; Bucephala clangula; Migration; Behavior; Nonbreeding Seasons;

**Abstract:** Several duck species exhibit differential migration, whereby females settle further south than males on the winter grounds after the autumn migration. This is most exaggerated in the diving ducks. In Northern Ireland generally, the migration patterns of Common Pochard Aythya ferina, Tufted Duck A. fuligula, Greater Scaup A. marila, and Common Goldeneye Bucephala clangula are similar to those observed in Great Britain. On Lough Neagh in particular, the sex ratios of wintering flocks of diving ducks were observed between the winters of 1996 and 1999. On average, 79% of Common Pochard, 72% of Tufted Duck and 66% of Common Goldeneye wintering on Lough Neagh were male. The possible reasons for differential migration of the sexes include body size dimorphism resulting in different cold temperature tolerances, advantages for males in returning to breeding grounds sooner and intersexual competition excluding the less competitive females to areas further south.

**URL:** <Go to ISI>://BCI200200207469

**Reference Type:**  Journal Article

**Record Number:** 479

**Author:** D. M. Evans and K. R. Day

**Year:** 2002

**Title:** Hunting disturbance on a large shallow lake: The effectiveness of waterfowl refuges

**Journal:** Ibis

**Volume:** 144

**Issue:** 1

**Pages:** 2-8

**Date:** January, 2002

**Short Title:** Hunting disturbance on a large shallow lake: The effectiveness of waterfowl refuges

**Accession Number:** BCI:BCI200200414602

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Conservation; Nonbreeding Seasons;

**Abstract:** Disturbance is most likely to have an impact during those periods of the annual cycle when food is scarce and birds have difficulty in meeting their energy requirements. The provision of disturbance-free refuges has been shown to enhance the abundance and diversity of waterfowl wintering on such sites. Lough Neagh, a large shallow lake in Northern Ireland, hosts internationally important numbers of wintering waterfowl, the most numerous being Common Pochard Aythya ferina, Tufted Duck A. fuligula, Greater Scaup A. marila and Common Goldeneye Bucephala clangula. Hunting is the predominant winter recreational activity. A small number of refuges have been provided to limit the effects of shooting disturbance on the wintering populations. The use of one of these refuges (Doss Bay) was studied during the winter of 1997/8 and compared with a non-refuge site (Brockish Bay) during the winter of 1998/9. Shooting intensity was greater at weekends than midweek, and significantly more birds used the refuge at weekends than midweek during the shooting season. In contrast, significantly fewer birds were observed in Brockish Bay at weekends. This trend ceased when the shooting season closed, suggesting that the effect was due to shooting disturbance. Furthermore, significantly fewer birds used Doss Bay after the shooting season had closed, whereas significantly more birds were observed at Brockish Bay. Shooting disturbance had the greatest impact on dabbling duck species and rails at both sites. Diving ducks moved away from shoreline disturbance to shallow areas where they could still feed. The value of shoreline refuges for waterfowl populations on lakes is discussed.

**URL:** <Go to ISI>://BCI200200414602

**Reference Type:**  Journal Article

**Record Number:** 590

**Author:** M. R. Evans, D. B. Lank, W. S. Boyd and F. Cooke

**Year:** 2002

**Title:** A comparison of the characteristics and fate of Barrow's Goldeneye and Bufflehead nests in nest boxes and natural cavities

**Journal:** Condor

**Volume:** 104

**Issue:** 3

**Pages:** 610-619

**Date:** August, 2002

**Short Title:** A comparison of the characteristics and fate of Barrow's Goldeneye and Bufflehead nests in nest boxes and natural cavities

**Accession Number:** BCI:BCI200200478439

**Keywords:** Bufflehead; Bucephala albeola; Barrow's Goldeneye; Bucephala islandica; Techniques; Habitat; Breeding Season;

**Abstract:** Barrow's Goldeneye (Bucephala islandica) and Bufflehead (B. albeola) are cavity-nesting waterfowl that have received considerable attention in studies using nest boxes, but little is known about their nesting ecology in natural cavities. We found larger clutch size, lower nesting success, and different major predators for Barrow's Goldeneyes nesting in boxes versus those nesting in natural cavities, but few differences for Bufflehead. These differences are attributed to the location and physical differences between Barrow's Goldeneye nest boxes and natural cavities that affect their conspicuousness to predators and conspecific nest-parasitizing females. Goldeneye boxes were concentrated in highly visible locations such as trees at water or forest edge. Natural cavity nests, on the other hand, were often abandoned Pileated Woodpecker (Dryocopus pileatus) cavities, which were more dispersed throughout the forest interior and concealed under dense canopy cover. Bufflehead natural cavity nests were typically closer to edges, which may account for their similarity with boxes. We conclude that in some respects, studies of Barrow's Goldeneye that use nest boxes may not be representative of birds nesting in natural cavities, whereas those of Bufflehead are more likely to be so.

**URL:** <Go to ISI>://BCI200200478439

**Reference Type:**  Journal Article

**Record Number:** 131

**Author:** R. J. Evans

**Year:** 1998

**Title:** Numbers of wintering seaducks, divers and grebes in the Moray Firth, 1977-1995

**Journal:** Scottish Birds

**Volume:** 19

**Issue:** 4

**Pages:** 206-222

**Date:** Summer, 1998

**Short Title:** Numbers of wintering seaducks, divers and grebes in the Moray Firth, 1977-1995

**Accession Number:** BCI:BCI199900209697

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Numbers and distribution of seaducks, divers and grebes in the Moray Firth were monitored for 18 consecutive winters. Most sections within the firth held nationally important concentrations of at least one species. The Moray Firth as a whole held internationally important numbers of Red-breasted Mergansers and Slavonian Grebes and nationally important numbers of Scaup, Eiders, Common and Velvet Scoters, Long-tailed Ducks, Goldeneyes, Goosanders and Red-throated and Black-throated Divers. Peak numbers for individual species occurred in different months from September to April. Numbers of Common and Velvet Scoters and Goosanders declined during the study period and numbers of Goldeneyes, Red-breasted Mergansers and Slavonian Grebes increased. There were changes in the distribution of Eiders and Scaup within the firth. Oil pollution had no obvious effect during the study period, but remains a potential threat. These nationally important concentrations of seaducks, divers and grebes have had no adequate statutory protection to date.

**URL:** <Go to ISI>://BCI199900209697

**Reference Type:**  Journal Article

**Record Number:** 1182

**Author:** R. M. Evans

**Year:** 1970

**Title:** Oldsquaws Nesting in Association with Arctic Terns at Churchill Manitoba

**Journal:** Wilson Bulletin

**Volume:** 82

**Issue:** 4

**Pages:** 383-390

**Short Title:** Oldsquaws Nesting in Association with Arctic Terns at Churchill Manitoba

**Accession Number:** BCI:BCI197152059917

**Keywords:** Long-tailed Duck; Clangula hyemalis; Breeding Season;

**URL:** <Go to ISI>://BCI197152059917

**Reference Type:**  Journal Article

**Record Number:** 2146

**Author:** A. Evenset, I. G. Hallanger, M. Tessmann, N. Warner, A. Ruus, K. Borga, G. W. Gabrielsen, G. Christensen and P. E. Renaud

**Year:** 2016

**Title:** Seasonal variation in accumulation of persistent organic pollutants in an Arctic marine benthic food web

**Journal:** Science of the Total Environment

**Volume:** 542

**Pages:** 108-120

**Date:** Jan

**Short Title:** Seasonal variation in accumulation of persistent organic pollutants in an Arctic marine benthic food web

**ISSN:** 0048-9697

**DOI:** 10.1016/j.scitotenv.2015.10.092

**Accession Number:** WOS:000365602100011

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** The aim of the present study was to investigate seasonal variation in persistent organic pollutant (POP) concentrations, as well as food-web biomagnification, in an Arctic, benthic marine community. Macrozoobenthos, demersal fish and common eiders were collected both inside and outside of Kongsfjorden, Svalbard, during May, July and October 2007. The samples were analysed for a selection of legacy chlorinated POPs. Overall, low levels of POPs were measured in all samples. Although POP levels and accumulation patterns showed some seasonal variation, themagnitude and direction of change was not consistent among species. Overall, seasonality in bioaccumulation in benthic biota was less pronounced than in the pelagic systemin Kongsfjorden. In addition, the results indicate that delta N-15 is not a good predictor for POP-levels in benthic food chains. Other factors, such as feeding strategy (omnivory, necrophagy versus herbivory), degree of contact with the sediment, and a high dependence on particulate organic matter (POM), with low POP-levels and high delta N-15-values (due to bacterial isotope enrichment), seem to govern the uptake of the different POPs and result in loads deviating from what would be expected consulting the trophic position alone. (C) 2015 Elsevier B.V. All rights reserved.

**Notes:** Evenset, A. Hallanger, I. G. Tessmann, M. Warner, N. Ruus, A. Borga, K. Gabrielsen, G. W. Christensen, G. Renaud, P. E.

A

**URL:** <Go to ISI>://WOS:000365602100011

**Reference Type:**  Journal Article

**Record Number:** 602

**Author:** M. J. Ewart and J. D. McLaughlin

**Year:** 1990

**Title:** Retinometra-Albeolae New-Species Cestoda Hymenolepididae from the Bufflehead Duck Bucephala-Albeola L

**Journal:** Canadian Journal of Zoology

**Volume:** 68

**Issue:** 6

**Pages:** 1086-1089

**Short Title:** Retinometra-Albeolae New-Species Cestoda Hymenolepididae from the Bufflehead Duck Bucephala-Albeola L

**Accession Number:** BCI:BCI199090100379

**Keywords:** Bufflehead; Bucephala albeola; Parasites; Breeding Season;

**Abstract:** Retinometra albeolae n. sp. is described from bufflehead ducks (Bucephala albeola L.) from Manitoba, Canada. It is armed with eight skrjabinoid rostellar hooks 69-75 .mu.m long, and has a cirrus sac 240-480 .mu.m long that extends to approximately the midline of mature proglottids, a trilobed ovary, and a lobed vitelline gland. Staphylepis indica and S. meggitti, currently included in the genus Retinometra, are returned to Staphylepis on the basis of proglottid morphology and the apparent lack of a cirrus stylet in both species.

**URL:** <Go to ISI>://BCI199090100379

**Reference Type:**  Journal Article

**Record Number:** 603

**Author:** M. J. Ewart and J. D. McLaughlin

**Year:** 1990

**Title:** Helminths from Spring and Fall Migrant Bufflehead Ducks Bucephala-Albeola at Delta Manitoba Canada

**Journal:** Canadian Journal of Zoology

**Volume:** 68

**Issue:** 10

**Pages:** 2230-2233

**Short Title:** Helminths from Spring and Fall Migrant Bufflehead Ducks Bucephala-Albeola at Delta Manitoba Canada

**Accession Number:** BCI:BCI199191030774

**Keywords:** Bufflehead; Bucephala albeola; Parasites; Nonbreeding Seasons;

**Abstract:** The digestive tracts of one local, eight spring migrant, and 16 fall migrant bufflehead ducks (Bucephala albeola L.) collected at Delta, Manitoba, were examined for helminths. Twenty-five species (5 nematode, 8 trematode, 11 cestode, and 1 acanthocephalan) were found. Thirteen species occurred in both spring and fall migrants, four occurred in spring migrants only, and six were found only in fall migrants. The species composition of the helminth fauna of buffleheads resembles that of lesser scaup more closely than that of any other anatid species studied to date.

**URL:** <Go to ISI>://BCI199191030774

**Reference Type:**  Journal Article

**Record Number:** 1009

**Author:** J. Falandysz

**Year:** 1986

**Title:** Organochlorine Compounds in Tissues of Golden Eye Velvet Scoter Eider and Coot Wintering in Gdansk Bay Poland 1975-1976

**Journal:** Bromatologia i Chemia Toksykologiczna

**Volume:** 19

**Issue:** 1

**Pages:** 55-60

**Short Title:** Organochlorine Compounds in Tissues of Golden Eye Velvet Scoter Eider and Coot Wintering in Gdansk Bay Poland 1975-1976

**Accession Number:** BCI:BCI198783009366

**Keywords:** White-winged Scoter; Melanitta fusca; Contaminants; Nonbreeding Seasons;

**Abstract:** During 1975-1976, a survey was conducted to determine the residues of hexachlorobenzene (HCB), alpha-, beta-, and gamma-hexachlorocyclobexane (.SIGMA. BHC), p, p'-DDE and p, p'-DDT (.SIGMA. DDT), and polychlorinated biphenyls, (PCBs) in breast muscles, liver, and adipose tissue of diving ducks (golden eye - Bucephala clangula, velvet scoter - Melanitta fusca, eider - Somateria mollissima) and coot (Fulica atra) wintering in Gdansk Bay, Baltic Sea. Birds under examination were found dead and were gathered on the beaches around the Bay or taken from fishing nets in nearshore region of the Bay. It was found that healthy ducks taken from fishing nets contained considerably lower levels of HCB, .SIGMA. BHC, .SIGMA. DDT, and PCBs in extractable lipids from breast muscles and liver (maximum 0.19, 0.24, 5.2, 17.0 mg/kg, and 1.8, 1.5, 130.0, and 21.0 mg/kg, respectively) than birds found dead (9.4, 13.9, 250.0, and 890.0 mg/kg, and 16.0, 14.0, 170.0, 250.0 mg/kg, respectively). The mean level of HCB, .SIGMA. BHC, .SIGMA. DDT, and PCBs in lipids extracted from the breast muscles and liver of twelve coots that died probably because of starvation and adverse weather conditions, was 1.5, 0.26, 46.0, 130.0 mg/kg, and 2.3, 0.19, 76.0, 150.0 mg/kg, respectively.

**URL:** <Go to ISI>://BCI198783009366

**Reference Type:**  Journal Article

**Record Number:** 187

**Author:** J. Falandysz and P. Szefer

**Year:** 1982

**Title:** Chlorinated Hydro Carbons in Diving Ducks Wintering in Gdansk Bay Baltic Sea

**Journal:** Science of the Total Environment

**Issue:** 2

**Pages:** 119-128

**Short Title:** Chlorinated Hydro Carbons in Diving Ducks Wintering in Gdansk Bay Baltic Sea

**Accession Number:** BCI:BCI198375007377

**Keywords:** Sea Ducks - General; Contaminants; Nonbreeding Seasons;

**Abstract:** The levels of HCB [hexachlorobenzene fungicide], .alpha.BHC, .gamma.-BHC, DDT (plus analogs) and PCB [polychlorinated biphenyl] were determined in adipose fat from 7 spp. of diving ducks [Aythya fuligula, A. marila, Bucephala clangula, Clangula hyemalis, Melanitta fusca, M. nigra, Somateria mollissima] at their winter quarters in the southern Baltic. PCB, .SIGMA.DDT and HCB were detected in all samples. PCB was highest, followed by .SIGMA.DDT and HCB. Residues of .gamma.-BHC were detected in 4 of 129 samples, but for all samples from the long-tailed duck, only levels of .alpha.-BHC were positive. Differences between HCB, .SIGMA.DDT and PCB residue levels between males and females of the scaup duck were statistically insignificant (P < 0.01).

**URL:** <Go to ISI>://BCI198375007377

**Reference Type:**  Journal Article

**Record Number:** 1105

**Author:** J. Falandysz, S. Taniyasu, N. Yamashita, P. Rostkowski, K. Zalewski and K. Kannan

**Year:** 2007

**Title:** Perfluorinated compounds in some terrestrial and aquatic wildlife species from Poland

**Journal:** Journal of Environmental Science and Health Part A Toxic-Hazardous Substances & Environmental Engineering

**Volume:** 42

**Issue:** 6

**Pages:** 715-719

**Short Title:** Perfluorinated compounds in some terrestrial and aquatic wildlife species from Poland

**Accession Number:** BCI:BCI200700411821

**Keywords:** Common Eider; Somateria mollissima; White-winged Scoter; Melanitta fusca; Long-tailed Duck; Clangula hyemalis; Contaminants;

**Abstract:** Perfluorooctanesulfonate (PFOS) at 1.6 - 39 ng/g ww and 4.8 - 200 pg/mL, respectively, perfluorooctanoate (PFOA) at 0.06 - 0.28 ng/g ww and < 0.05 - 1.8 pg/mL, and perfluorodecanoate (PFDA) at 0.13 - 0.57 ng/g ww and 0.05 - 1.8 pg/mL, were detected in all specimens of European Beaver's (Castor fiber) liver as well as in whole blood of Cod (Gadus morhua), Velvet Scoter (Melanitta fusca), Eider Duck (Sommateria mollisima), Long-tailed Duck (Clangula hyemalis), Razorbill (Alca torda), Red-throated Diver (Gavia stellata) sampled in Poland. At smaller concentrations and at less frequency was perfluorononanoate (PFNA) at 0.05 - 1.4 ng/g ww and < 0.2 - 2 pg/mL, perfluorohexanoate (PFHxA) at 0.03 - 0.23 ng/g ww and < 0.05 - 0.69 pg/mL, while perfluorohexanesulfonate (PFHxS) at 0.05 - 4.3 pg/mL and perfluorooctanesulfonamidoacetate (PFOSA) at 0.1 - 13 pg/mL were also found in Cod as well as in molluscivorous diving-ducks and fish-eating birds but not in Beaver, while perfluoroheptanoate (PFHpA) at < 0.05 - 0.74 pg/mL was found only in Cod.

**URL:** <Go to ISI>://BCI200700411821

**Reference Type:**  Journal Article

**Record Number:** 1747

**Author:** K. Falk, F. Merkel, K. Kampp and S. E. Jamieson

**Year:** 2006

**Title:** Embedded lead shot and infliction rates in common eiders Somateria mollissima and king eiders S. spectabilis wintering in southwest Greenland

**Journal:** Wildlife Biology

**Volume:** 12

**Issue:** 3

**Pages:** 257-265

**Date:** Sep 2006

**Short Title:** Embedded lead shot and infliction rates in common eiders Somateria mollissima and king eiders S. spectabilis wintering in southwest Greenland

**Accession Number:** BCI:BCI200700021403

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Conservation; Nonbreeding Seasons;

**Abstract:** The large numbers of common ciders Somateria mollissima and king ciders S. spectabilis wintering in southwest Greenland are subject to intensive hunting, and in addition to direct harvest an unknown number of birds are wounded and become carriers of embedded lead shot. We conducted the first assessment of the magnitude of this undesirable side effect of hunting in Greenland by X-raying 879 common and 114 king eiders collected by local fishermen and hunters during three winters (2000-2002). On average, 22% of all common eiders carried embedded shot, but proportions were strongly age dependent; of first-winter (1W) birds 13.2%, of immatures (IM) 16.4%, and of adults (AD) 29.1% were carriers. For king eiders the proportions were similar: 11.3, 10 and 20%, respectively, were carriers. Adult common ciders collected in fjord areas were significantly less burdened (24.5%) than birds collected in the more heavily hunted coastal areas (35.0%). Among inflicted birds, 1W birds contained more pellets (mean 2.2) than AD (mean 1.7), despite the adults' longer time to accumulate pellets from multiple inflictions, which suggests that the most burdened juveniles die before entering the older age class. From the proportion of wounded I W birds (13.2%) we modelled the infliction rates, i.e. the proportion of an age class that become pellet carriers each year, for older birds (IM+AD) to be at least 1.8-3%, assuming that annual survival of adult eiders falls within the range 0.8-0.9. Assuming that roughly 35% of the 463,000 common ciders estimated to winter in southwest Greenland are juveniles, 13% are immatures, and 52% adults (fourth winter and older), then each winter up to 30,000 ciders would become new carriers of embedded shot (2 1,000 juveniles, 1,200-1,800 immatures and 4,800-7,300 adults). As wounded birds may risk increased mortality in severe winters and reduced reproductive output, the infliction has implications for the demographic models used to assess sustainable eider harvest levels. There is a need for follow-up studies of regional variation in infliction, and to identify ways to possibly reduce the hunters' unintended impact on their game populations.

**URL:** <Go to ISI>://BCI200700021403

**Reference Type:**  Journal Article

**Record Number:** 1854

**Author:** P. L. F. Fast, M. Fast, A. Mosbech, C. Sonne, H. G. Gilchrist and S. Descamps

**Year:** 2011

**Title:** Effects of Implanted Satellite Transmitters on Behavior and Survival of Female Common Eiders

**Journal:** Journal of Wildlife Management

**Volume:** 75

**Issue:** 7

**Pages:** 1553-1557

**Date:** Sep

**Short Title:** Effects of Implanted Satellite Transmitters on Behavior and Survival of Female Common Eiders

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.220

**Accession Number:** WOS:000294349600003

**Keywords:** common eider; somateria mollissima; survival; Behavior; Techniques; Breeding Season

**Notes:** Times Cited: 1

Fast, Peter L. F. Fast, Marie Mosbech, Anders Sonne, Christian Gilchrist, H. Grant Descamps, Sebastien

Fast, Peter/B-5131-2013; Sonne, Christian/I-7532-2013; Mosbech, Anders/J-6591-2013

Mosbech, Anders/0000-0002-7581-7037

2

**URL:** <Go to ISI>://WOS:000294349600003

**Reference Type:**  Journal Article

**Record Number:** 1373

**Author:** P. L. F. Fast, H. G. Gilchrist and R. G. Clark

**Year:** 2007

**Title:** Experimental evaluation of nest shelter effects on weight loss in incubating common eiders Somateria mollissima

**Journal:** Journal of Avian Biology

**Volume:** 38

**Issue:** 2

**Pages:** 205-213

**Date:** Mar 2007

**Short Title:** Experimental evaluation of nest shelter effects on weight loss in incubating common eiders Somateria mollissima

**Accession Number:** BCI:BCI200700226741

**Keywords:** Common Eider; Somateria mollissima; Habitat; Energetics and Nutrition; Breeding Season;

**Abstract:** Evaluating consequences of habitat selection is an important step in understanding life history strategies and behavioural decisions of animals. Kilpi and Lindstrom (1997) found that incubating common eiders Somateria mollissima on exposed, treeless islands lost weight faster than females nesting on wooded islands and proposed that this difference was due to adverse incubation conditions at exposed nests. Therefore, we tested whether common eiders gained an advantage when nesting in sheltered habitats by placing artificial shelters over randomly-selected females after the onset of incubation within an eider colony in arctic Canada. We predicted that sheltered females would be heavier on completion of incubation than control hens lacking shelters. Females nesting in artificial shelters experienced a more moderate thermal environment at both cold and warm temperature extremes. Eiders nesting in shelters were heavier than control females during mid incubation, consistent with habitat-specific rates of weight loss reported by Kilpi and Lindstrom (1997). Natural overhead cover was available at potential nests but few eiders used those sites. We suspect that microclimatic advantages offered by sheltered sites may be offset by costs of increased female vulnerability to predators. Further work is needed to test this hypothesis, and to determine mechanisms responsible for lower weight loss in eiders attending well concealed nests.

**URL:** <Go to ISI>://BCI200700226741

**Reference Type:**  Journal Article

**Record Number:** 1311

**Author:** P. L. F. Fast, H. G. Gilchrist and R. G. Clark

**Year:** 2010

**Title:** Nest-site materials affect nest-bowl use by Common Eiders (Somateria mollissima)

**Journal:** Canadian Journal of Zoology

**Volume:** 88

**Issue:** 2

**Pages:** 214-218

**Date:** Feb 2010

**Short Title:** Nest-site materials affect nest-bowl use by Common Eiders (Somateria mollissima)

**Accession Number:** BCI:BCI201000212495

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** Nest-site characteristics influence reproductive success in birds. Most studies of nest-site selection evaluate nest characteristics following the commencement of egg-laying, possibly overlooking the importance of pre-existing nest-site features that may be altered during the nesting process. Because Common Eiders (Somateria mollissima (L.,1758)) often lay their eggs in nest bowls created in previous years, we were able to experimentally place moss or feather down in nest bowls prior to nesting. We then quantified whether these materials increased nest establishment or advanced laying dates relative to control nests and nests where material was removed prior to arrival of nesting females. We found no difference in the likelihood of successful nest establishment between groups. However, the onset of incubation occurred 2-3 days earlier in nest bowls that contained feather down versus nest bowls with little or no nesting material. Nest bowls containing feathers or vegetation may be selected first if they increase nest survival, perhaps by enhancing egg concealment during the critical early-laying period. The presence of material for egg concealment may be particularly important in nesting environments where tall or dense vegetation is not available to provide nest cover.

**URL:** <Go to ISI>://BCI201000212495

**Reference Type:**  Journal Article

**Record Number:** 1855

**Author:** R. N. Federer, T. E. Hollmen, D. Esler and M. J. Wooller

**Year:** 2012

**Title:** STABLE CARBON AND NITROGEN ISOTOPE DISCRIMINATION FACTORS FOR QUANTIFYING SPECTACLED EIDER NUTRIENT ALLOCATION TO EGG PRODUCTION

**Journal:** Condor

**Volume:** 114

**Issue:** 4

**Pages:** 726-732

**Date:** Nov

**Short Title:** STABLE CARBON AND NITROGEN ISOTOPE DISCRIMINATION FACTORS FOR QUANTIFYING SPECTACLED EIDER NUTRIENT ALLOCATION TO EGG PRODUCTION

**ISSN:** 0010-5422

**DOI:** 10.1525/cond.2012.110132

**Accession Number:** WOS:000311882700006

**Keywords:** Spectacled Eider; Somateria fischeri; energetics and Nutrition; Techniques; Breeding Season

**Notes:** Times Cited: 0

Federer, Rebekka N. Hollmen, Tuula E. Esler, Daniel Wooller, Matthew J.

0

**URL:** <Go to ISI>://WOS:000311882700006

**Reference Type:**  Journal Article

**Record Number:** 1229

**Author:** R. N. Federer, T. E. Hollmen, D. Esler, M. J. Wooller and S. W. Wang

**Year:** 2010

**Title:** Stable carbon and nitrogen isotope discrimination factors from diet to blood plasma, cellular blood, feathers, and adipose tissue fatty acids in Spectacled Eiders (Somateria fischeri)

**Journal:** Canadian Journal of Zoology

**Volume:** 88

**Issue:** 9

**Pages:** 866-874

**Date:** Sep 2010

**Short Title:** Stable carbon and nitrogen isotope discrimination factors from diet to blood plasma, cellular blood, feathers, and adipose tissue fatty acids in Spectacled Eiders (Somateria fischeri)

**Accession Number:** BCI:BCI201000594772

**Keywords:** Spectacled Eider; Somateria fischeri; Trophic Interactions; Techniques; Energetics and Nutrition;

**Abstract:** Stable isotope analyses of animal tissues can be used to infer diet through application of mixing models. An important component in a mixing model is the incorporation of stable isotope discrimination factors so that isotopic shifts between diet and tissues built from the diet can be accounted for when comparing tissues to potential food sources. We determined the stable carbon and nitrogen isotopic discrimination factors between lipid-free diet and blood plasma, cellular blood, and adult chest contour feathers for captive female Spectacled Eiders (Somateria fischeri (Brandt, 1847)). Mean discrimination factors for blood components and feathers were either similar or slightly larger compared with previously studied species. Additionally, we determined the stable carbon isotope discrimination factors between dietary lipids and adipose tissue fatty acids using three adipose tissue biopsies from captive male Spectacled Eiders that were fed three different diet treatments. Isotopic signatures of adipose tissue fatty acids closely reflected shifts in the diet and were either similar to or increased relative to diet. Our study provides a foundation for research using tissues as end-members in stable isotope nutrient allocation models and foraging ecology studies of Spectacled Eiders, and will provide the most applicable isotope data to date for sea ducks.

**URL:** <Go to ISI>://BCI201000594772

**Reference Type:**  Journal Article

**Record Number:** 853

**Author:** M. J. Feltham

**Year:** 1990

**Title:** The Diet of Red-Breasted Mergansers Mergus-Serrator During the Smolt Run in Northeast Scotland Uk the Importance of Salmon Salmo-Salar Smolts and Parr

**Journal:** Journal of Zoology (London)

**Volume:** 222

**Issue:** 2

**Pages:** 285-292

**Short Title:** The Diet of Red-Breasted Mergansers Mergus-Serrator During the Smolt Run in Northeast Scotland Uk the Importance of Salmon Salmo-Salar Smolts and Parr

**Accession Number:** BCI:BCI199191014411

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions;

**Abstract:** Salmon (Salmo salar) formed the large proportion by mass of fish found in the stomachs of red-breasted mergansers (Mergus serrator) shot during the smolt run in north-east Scotland. Salmon parr represented approximately two-thirds by mass of juvenile salmon eaten, whilst smolts were present in a smaller proportion than previously predicted. The median lengths of parr and smolts eaten were 70 and 115 mm, respectively; the latter being significantly smaller than the smolt population sampled during annual production estimates on the river.

**URL:** <Go to ISI>://BCI199191014411

**Reference Type:**  Journal Article

**Record Number:** 755

**Author:** M. J. Feltham

**Year:** 1995

**Title:** Consumption of Atlantic salmon smolts and parr by goosanders: Estimates from doubly-labelled water measurements of captive birds released on two Scottish rivers

**Journal:** Journal of Fish Biology

**Volume:** 46

**Issue:** 2

**Pages:** 273-281

**Short Title:** Consumption of Atlantic salmon smolts and parr by goosanders: Estimates from doubly-labelled water measurements of captive birds released on two Scottish rivers

**Accession Number:** BCI:BCI199598232650

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Energetics and Nutrition;

**Abstract:** The field metabolic rates (FMRs) of nine captive goosanders, Mergus merganser, released on two Scottish rivers were estimated using the doubly-labelled water (DLW) technique. Mean (+- S.E.) FMR was 2.322 +- 0.239 ml CO-2 g-1 h-1 and daily energy expenditure (DEE) 1939 +- 184 kJ per day. This was significantly greater ( times 1.5) than previous estimates which assumed DEE to be three times the basal metabolic rate (BMR) based on regression equations predicting BMR from body mass. FMR of captives and dietary data from previous studies were used to estimate daily consumption of salmon, Salmo salar, smolts and parr by natural populations of these ducks on the river North Esk, north-east Scotland. Goosanders are likely to consume 480-522 g fish per day of which two-thirds are juvenile salmon: equivalent to a daily intake of 10-11 smolts and 48-52 parr. Annual predation of smolts by goosanders was estimated to be between 8000 and 15 000 or 3 and 16% of annual production.

**URL:** <Go to ISI>://BCI199598232650

**Reference Type:**  Journal Article

**Record Number:** 846

**Author:** M. J. Feltham

**Year:** 1995

**Title:** Predation of Atlantic salmon, Salmo salar L., smolts and parr by red-breasted mergansers, Mergus serrator L., on two Scottish rivers

**Journal:** Fisheries Management and Ecology

**Volume:** 2

**Issue:** 4

**Pages:** 289-298

**Short Title:** Predation of Atlantic salmon, Salmo salar L., smolts and parr by red-breasted mergansers, Mergus serrator L., on two Scottish rivers

**Accession Number:** BCI:BCI199698646731

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions;

**Abstract:** Current models estimating the impact of red-breasted mergansers, Mergus serrator L., on salmon, Salmo salar L., fisheries in Scotland fail to take account of any annual variation in the proportion of the diet that is smolts. During the 1987-1990 smolt runs, the annual variation in the diet of mergansers was estimated from the stomach contents of birds shot on two Scottish rivers. The proportion of salmon in the diet was greatest early in the smolt run (76-91% by weight), and contained proportionately more smolts than later in the run, when coarse fish were more prominent. There was little annual variation in the proportion of the diet that was juvenile salmon. However, the proportion of these fish that were smolts, was twice as great in some years than in others and this appeared to be independent of estimated annual smolt production in the rivers.

**URL:** <Go to ISI>://BCI199698646731

**Reference Type:**  Journal Article

**Record Number:** 843

**Author:** M. J. Feltham and J. C. MacLean

**Year:** 1996

**Title:** Carlin tag recoveries as an indicator of predation on salmon smolts by goosanders and red-breasted mergansers

**Journal:** Journal of Fish Biology

**Volume:** 48

**Issue:** 2

**Pages:** 270-282

**Short Title:** Carlin tag recoveries as an indicator of predation on salmon smolts by goosanders and red-breasted mergansers

**Accession Number:** BCI:BCI199698773680

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Trophic Interactions; Techniques;

**Abstract:** Between 1984 and 1990 a total 221 Carlin tags used to mark salmon Salmo salar smolts in the River North Esk, NE Scotland, were recovered from the stomachs of goosanders Mergus merganser and red-breasted mergansers M. serrator. Both Carlin-tagging and adipose-clipping affected the predation of salmon smolts by sawbill ducks. The mean ( +- S.D.) sizes of tagged smolts taken by both species were similar (117 +- 3 mm) and significantly smaller than the mean sizes of smolts in the river, possibly due to a reduction in the swimming performance of small smolts bearing tags. Large adipose-clipped smolts ( gtoreq mean smolt size) were predated significantly more than unclipped smolts, but no such difference was observed for small smolts ( lt mean smolt size). Data suggested that some ducks cued into smolt release sites where they took a disproportionately high number of tagged smolts on or near the day of release and continued to do so for several days. Although tag recoveries are commonly used to estimate the impact of piscivores on fish stocks, our study suggests that some predators respond to the presence of tagged fish in ways that directly reflect the tagging procedure and that caution should be exercised when extrapolating conclusions based on such data to untagged fish.

**URL:** <Go to ISI>://BCI199698773680

**Reference Type:**  Journal Article

**Record Number:** 680

**Author:** T. T. Fendley

**Year:** 1980

**Title:** Incubating Wood Duck Aix-Sponsa and Hooded Merganser Mergus-Cucullatus Hens Killed by Black Rat Snakes Elaphe-Obsoleta

**Journal:** Wilson Bulletin

**Volume:** 94

**Issue:** 4

**Pages:** 526-527

**Short Title:** Incubating Wood Duck Aix-Sponsa and Hooded Merganser Mergus-Cucullatus Hens Killed by Black Rat Snakes Elaphe-Obsoleta

**Accession Number:** BCI:BCI198121002749

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Trophic Interactions; Breeding Season;

**URL:** <Go to ISI>://BCI198121002749

**Reference Type:**  Journal Article

**Record Number:** 2147

**Author:** A. A. Fenstad, B. M. Jenssen, K. M. Gabrielsen, M. Ouml;st, K. Jaatinen, J. O. Bustnes, S. A. Hanssen, B. Moe, D. Herzke and A. Krokje

**Year:** 2016

**Title:** PERSISTENT ORGANIC POLLUTANT LEVELS AND THE IMPORTANCE OF SOURCE PROXIMITY IN BALTIC AND SVALBARD BREEDING COMMON EIDERS

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 35

**Issue:** 6

**Pages:** 1526-1533

**Date:** Jun

**Short Title:** PERSISTENT ORGANIC POLLUTANT LEVELS AND THE IMPORTANCE OF SOURCE PROXIMITY IN BALTIC AND SVALBARD BREEDING COMMON EIDERS

**ISSN:** 0730-7268

**DOI:** 10.1002/etc.3303

**Accession Number:** WOS:000377031900024

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** The distance to sources and the long-range transport potential of persistent organic pollutants (POPs) are important in understanding the impact of anthropogenic pollution on natural seabird populations. The present study documented blood concentrations of POPs in the Baltic Sea (Tvarminne, Finland) population of common eiders (Somateria mollissima) in 2009 and in 2011 and compared the concentrations with the presumably less exposed Arctic population in Svalbard (Kongsfjorden, Norway). The Baltic population had 26, 10, and 5 times greater concentrations of hexachlorocyclohexane, polychlorinated biphenyls, and p,p'-dichlorodiphenyldichloroethylene than the Svalbard population. Unexpectedly, concentrations of chlordanes were higher in Svalbard eiders, whereas concentrations of hexachlorobenzenes (HCBs) did not differ between the 2 populations. Although the similar HCB levels may partly be explained by the high transport potential of HCBs, unknown factors may have been more important than distance to sources and long-range transport potential for the chlordanes. One plausible explanation may be that the fasting-related redistribution of POPs from fat to blood was greater throughout the incubation in Arctic eiders, causing them to have higher blood levels of these POPs at the end of incubation. The blood concentrations of POPs in Baltic eiders were higher than documented in any other eider population and were comparable to levels in seabirds feeding at higher trophic positions in the food chain. (C) 2015 SETAC

**Notes:** Fenstad, Anette A. Jenssen, Bjorn M. Gabrielsen, Kristin M. Ost, Markus Jaatinen, Kim Bustnes, Jan O. Hanssen, Sveinn A. Moe, Borge Herzke, Dorte Krokje, Ase

**URL:** <Go to ISI>://WOS:000377031900024

**Reference Type:**  Journal Article

**Record Number:** 2148

**Author:** A. A. Fenstad, B. M. Jenssen, B. Moe, S. A. Hanssen, C. Bingham, D. Herzke, J. O. Bustnes and A. Krokje

**Year:** 2014

**Title:** DNA Double-Strand Breaks In Relation To Persistent Organic Pollutants In Fasting Common Eiders (Somateria Molissima)

**Journal:** Mutagenesis

**Volume:** 29

**Issue:** 6

**Pages:** 539-539

**Date:** Nov

**Short Title:** DNA Double-Strand Breaks In Relation To Persistent Organic Pollutants In Fasting Common Eiders (Somateria Molissima)

**ISSN:** 0267-8357

**Accession Number:** WOS:000344624700144

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Notes:** Fenstad, Anette A. Jenssen, Bjorn Munro Moe, Borge Hanssen, Sveinn A. Bingham, Chris Herzke, Dorte Bustnes, Jan O. Krokje, Ase

**URL:** <Go to ISI>://WOS:000344624700144

**Reference Type:**  Journal Article

**Record Number:** 2149

**Author:** A. A. Fenstad, B. M. Jenssen, B. Moe, S. A. Hanssen, C. Bingham, D. Herzke, J. O. Bustnes and A. Krokje

**Year:** 2014

**Title:** DNA double-strand breaks in relation to persistent organic pollutants in a fasting seabird

**Journal:** Ecotoxicology and Environmental Safety

**Volume:** 106

**Pages:** 68-75

**Date:** Aug

**Short Title:** DNA double-strand breaks in relation to persistent organic pollutants in a fasting seabird

**ISSN:** 0147-6513

**DOI:** 10.1016/j.ecoenv.2014.04.020

**Accession Number:** WOS:000337643800011

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** Lipophilic persistent organic pollutants (POPs) are released from fat reserves during fasting, causing increased blood concentrations. Thus, POPs represent a potential anthropogenic stressor during fasting periods. We analysed the blood of female common eiders (Somateria mollissima) by using agarose gel electrophoresis and image data analysis to quantify the DNA-fraction, of total DNA, that migrated into the gel (DNA-FTM) as a relative measure of DNA double strand-breaks (DSBs) during the fasting incubation period in the high arctic. In 2008 and in 2009 blood samples were obtained for analysis of 9 POPs and DNA-FTM at day 5 of the incubation period, and then in the same individuals at day 20. This unique study design gave us the opportunity to analyse the same individuals throughout two points in time, with low and high stress burdens. During the incubation period the body mass (BM) decreased by 21-24%, whereas the POP levels increased by 148-639%. The DNA-FTM increased by 61-67% (being proportional to the increase in DSBs). At day 5, but not day 20, DNA-FTM was positively correlated with most analysed POPs. The increase in DNA-FTM was positively correlated with the decrease in BM (g) during incubation. Thus, we suggest that fasting stress (BM loss) decreases DNA integrity and that stress caused by fasting on BM loss appeared to override the additional stress caused by concurrent increase in levels of the analysed POPs in the eiders. Blood levels of POPs in the eiders in Svalbard were relatively low, and additive and/or synergistic genotoxic effects of fasting stress and POP exposure may occur in populations with higher POP levels. (C) 2014 Elsevier Inc. All rights reserved.

**Notes:** Fenstad, Anette A. Jenssen, Bjorn M. Moe, Borge Hanssen, Sveinn A. Bingham, Chris Herzke, Dorte Bustnes, Jan O. Krokje, Ase

**URL:** <Go to ISI>://WOS:000337643800011

**Reference Type:**  Journal Article

**Record Number:** 2150

**Author:** A. A. Fenstad, A. J. Moody, M. Ost, K. Jaatinen, J. O. Bustnes, B. Moe, S. A. Hanssen, K. M. Gabrielsen, D. Herzke, S. Lierhagen, B. M. Jenssen and A. Krokje

**Year:** 2016

**Title:** Antioxidant Responses in Relation to Persistent Organic Pollutants and Metals in a Low- and a High-Exposure Population of Seabirds

**Journal:** Environmental Science & Technology

**Volume:** 50

**Issue:** 9

**Pages:** 4817-4825

**Date:** May

**Short Title:** Antioxidant Responses in Relation to Persistent Organic Pollutants and Metals in a Low- and a High-Exposure Population of Seabirds

**ISSN:** 0013-936X

**DOI:** 10.1021/acs.est.6b00478

**Accession Number:** WOS:000375521400026

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** Oxidative stress occurs when there is an imbalance between the production of reactive oxygen species (ROS) and antioxidant defense. Exposure to pollutants may increase ROS and affect antioxidant levels, and the resulting oxidative stress may negatively affect both reproduction and survival. We measured concentrations of 18 persistent organic pollutants (POPs) and 9 toxic elements hi blood, as well as total antioxidant capacity (TAC), total glutathione (tGSH), and carotenoids in plasma of Baltic and Arctic female common eiders (Somateria mollissima) (N = 54) at the end of their incubation-related fasting. The more polluted Baltic population had higher TAC and tGSH concentrations compared to the Arctic population. Carotenoid level's did not differ between populations. The effect of mixtures of pollutants on the antioxidants was assessed, and the summed molar blood concentrations of 14 POPs were positively related to TAC. There was no significant relationship between the analyzed pollutants and tGSH concentrations. The adaptive improvement of the antioxidant defense system in the Baltic population, may be a consequence of increased oxidative stress. However, both increased oxidative stress and energy allocation toward antioxidant defense may have adverse consequences for Baltic eiders at the incubation stage, when energy resources reach an annual minimum due to incubation-related fasting.

**Notes:** Fenstad, Anette A. Moody, A. John Ost, Markus Jaatinen, Kim Bustnes, Jan O. Moe, Borge Hanssen, Sveinn A. Gabrielsen, Kristin M. Herzke, Dorte Lierhagen, Syverin Jenssen, Bjorn M. Krokje, Ase

**URL:** <Go to ISI>://WOS:000375521400026

**Reference Type:**  Journal Article

**Record Number:** 941

**Author:** A. Ferguson

**Year:** 1971

**Title:** Notes on the Breeding of the Common Scoter Melanitta-Nigra in Ireland

**Journal:** Irish Naturalists' Journal

**Volume:** 17

**Issue:** 2

**Pages:** 29-31

**Short Title:** Notes on the Breeding of the Common Scoter Melanitta-Nigra in Ireland

**Accession Number:** BCI:BCI197107052338

**Keywords:** Black Scoter; Melanitta nigra; Breeding Season;

**URL:** <Go to ISI>://BCI197107052338

**Reference Type:**  Journal Article

**Record Number:** 2234

**Author:** T. Figarski and L. Kajtoch

**Year:** 2015

**Title:** Alterations of riverine ecosystems adversely affect bird assemblages

**Journal:** Hydrobiologia

**Volume:** 744

**Issue:** 1

**Pages:** 287-296

**Date:** Feb

**Short Title:** Alterations of riverine ecosystems adversely affect bird assemblages

**ISSN:** 0018-8158

**DOI:** 10.1007/s10750-014-2084-1

**Accession Number:** WOS:000346182100020

**Keywords:** Common Merganser; Mergus merganser; Breeding Season; Habitat; Conservation

**Abstract:** The alteration of flow regimes is the most serious threat to the environment and populations of riverine ecosystems. The aim of this study was to verify how newly recovered assemblages of riverine birds react to recent and intensive water control transformations. Data on habitat transformations, breeding bird species and population abundance within submontane river channels in southern Poland were compared before and after river regulation. Regulation works affected approximately one-third of river sections in the drainages studied. Simultaneously, large amounts of gravel, clay and woody debris were removed from river channels, and river channels became overgrown by dense vegetation. Regulation works carried out in river channels, previously restored by severe flood, led to a strong decline in breeding bird assemblages (23% decrease of species richness and 33% decrease of population abundance). These results show that river regulation can significantly alter the structure of breeding bird assemblages, and such change is generally negative for bird diversity (especially for rare and vulnerable species). Riverine habitats are some of the most important biodiversity hotspots and major routes of migration for organisms in Europe, so the degradation of riverine ecosystems can have a catastrophic impact on nature in the entire European Union.

**Notes:** Figarski, Tomasz Kajtoch, Lukasz

**URL:** <Go to ISI>://WOS:000346182100020

**Reference Type:**  Journal Article

**Record Number:** 581

**Author:** J. K. Finley

**Year:** 2007

**Title:** Offshore Flight of Buffleheads, Bucephala albeola, After Twilight in Winter: An Anti-Predation Tactic?

**Journal:** Canadian Field-Naturalist

**Volume:** 121

**Issue:** 4

**Pages:** 375-378

**Date:** Oct-Dec 2007

**Short Title:** Offshore Flight of Buffleheads, Bucephala albeola, After Twilight in Winter: An Anti-Predation Tactic?

**Accession Number:** BCI:BCI200900277814

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Nonbreeding Seasons;

**Abstract:** In winter, oil Vancouver island, Buffleheads depart from coastal marine feeding habitat shortly after the onset of civil twilight. This precisely-timed phenomenon may have evolved in response to predation pressure from Peregrine Falcons, Falco peregrinus. The dual habitat requirements of Buffleheads in Shoal Harbour Migratory Bird Sanctuary (1931) and Sidney Channel Important Bird Area are to be included within the proposed Gulf Islands National Marine Conservation Area.

**URL:** <Go to ISI>://BCI200900277814

**Reference Type:**  Journal Article

**Record Number:** 582

**Author:** J. K. Finley

**Year:** 2007

**Title:** The Punctual Bufflehead, Bucephala albeola: Autumn Arrivals in Shoal Harbour Sanctuary, Vancouver Island, in Relation to Freeze-up

**Journal:** Canadian Field-Naturalist

**Volume:** 121

**Issue:** 4

**Pages:** 370-374

**Date:** Oct-Dec 2007

**Short Title:** The Punctual Bufflehead, Bucephala albeola: Autumn Arrivals in Shoal Harbour Sanctuary, Vancouver Island, in Relation to Freeze-up

**Accession Number:** BCI:BCI200900277813

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Nonbreeding Seasons;

**Abstract:** Buffleheads are punctual in their return to wintering grounds on the Pacific coast. First arrivals appeared in Shoal Harbour Migratory Bird Sanctuary, southeastern Vancouver Island, on the 288(th) day of the year on average (+/- S.D. 2.3; n = 10), that is. 15 October. This vanguard preceded the first peak influx by about 15-20 days, and a second influx by about 24-26 days. First arrivals usually appeared by mid-morning, and included singles (females on two occasions) and small flocks of up to eight. First arrivals may represent a photoperiodic threshold, whereas subsequent peak influxes represent climatic thresholds associated with freeze-up. The phenology of Bufflehead autumn migrations is a good proxy indicator of the advance of the zero degree isotherm, and thus of climatic variability. The timing of their autumn migrations does not appear to have changed in the last half of the twentieth century, consistent with evidence that freeze-up has not advanced. Monitoring of their migrations, in conjunction with shore-based observations of freeze-up, would validate one-dimensional thermodynamic models of freeze-up, and provide a more ecologically meaningful index of climate change, at minimal cost.

**URL:** <Go to ISI>://BCI200900277813

**Reference Type:**  Journal Article

**Record Number:** 321

**Author:** J. B. Fischer and C. R. Griffin

**Year:** 2000

**Title:** Feeding behavior and food habits of wintering Harlequin Ducks at Shemya Island, Alaska

**Journal:** Wilson Bulletin

**Volume:** 112

**Issue:** 3

**Pages:** 318-325

**Date:** September, 2000

**Short Title:** Feeding behavior and food habits of wintering Harlequin Ducks at Shemya Island, Alaska

**Accession Number:** BCI:BCI200000416953

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The foraging ecology of wintering Harlequin Ducks (Histrionicus histrionicus) is poorly understood and information on basic food habits is lacking for this species in the Aleutian Islands of Alaska where the largest winter concentrations occur. We investigated feeding behavior and food habits of wintering Harlequin Ducks in the western Aleutian Islands of Alaska with respect to sex and temporal and environmental variables to document behavioral responses to winter conditions, resource use, and nutritional requirements. We found that on average, Harlequin Ducks spent most of the diurnal period feeding (70% males, 76% females). However, more time was spent feeding during evenings, midwinter, cold weather, and high tides. Gastropods, crustaceans, and diptera larvae made up 83% of the diet, but diet composition changed throughout winter. Despite change in food habits, diet energy density was stable throughout winter.

**URL:** <Go to ISI>://BCI200000416953

**Reference Type:**  Journal Article

**Record Number:** 85

**Author:** J. B. Fischer and W. W. Larned

**Year:** 2004

**Title:** Summer distribution of marine birds in the Western Beaufort Sea

**Journal:** Arctic

**Volume:** 57

**Issue:** 2

**Pages:** 143-159

**Date:** June 2004

**Short Title:** Summer distribution of marine birds in the Western Beaufort Sea

**Accession Number:** BCI:BCI200400413969

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Molt; Migration; Contaminants;

**Abstract:** Proposed expansion of oil and gas development into offshore waters of the Beaufort Sea has raised concerns that marine birds could be affected by disturbance and oil spills. We conducted aerial surveys to determine the composition and distribution of avian species in the western Beaufort Sea. We sampled marine waters up to 100 km from shore, between Cape Halkett and Brownlow Point in June, July, and August of 1999 and 2000 and between Point Barrow and Demarcation Point in July 2001. Approximately 90% of the birds we observed were sea ducks, predominantly long-tailed ducks (Clangula hyematis), king eiders (Somateria spectabilis), and scoters (Melanitta spp.). Densities of most species decreased with distance from shore, although king eider densities were higher in deeper, offshore waters. Densities of long-tailed ducks increased in nearshore coastal lagoons at the onset of post-breeding moult, and densities of eiders increased offshore during their peak moult migration. In general, bird densities were highest in areas with less than 30% ice cover, although high densities of king eiders occurred in areas with 30%-60% ice cover. Our results suggest species-specific uses of the Beaufort Sea in summer for moulting, migration, brood rearing, and foraging. The vulnerability of marine birds to potential oil spills and disturbance will depend on the location of facilities, timing of events, and ice conditions.

**URL:** <Go to ISI>://BCI200400413969

**Reference Type:**  Journal Article

**Record Number:** 1856

**Author:** D. J. Fishman, S. R. Craik, D. Zadworny and R. D. Titman

**Year:** 2011

**Title:** Spatial-genetic structuring in a red-breasted merganser (Mergus serrator) colony in the Canadian Maritimes

**Journal:** Ecology and Evolution

**Volume:** 1

**Issue:** 2

**Pages:** 107-118

**Date:** Oct

**Short Title:** Spatial-genetic structuring in a red-breasted merganser (Mergus serrator) colony in the Canadian Maritimes

**ISSN:** 2045-7758

**DOI:** 10.1002/ece3.10

**Accession Number:** WOS:000312440100001

**Keywords:** Red-breasted merganser; Mergus serrator; Population Delineation; Breeding Season

**Notes:** Times Cited: 0

Fishman, David J. Craik, Shawn R. Zadworny, David Titman, Rodger D.

0

**URL:** <Go to ISI>://WOS:000312440100001

**Reference Type:**  Journal Article

**Record Number:** 1420

**Author:** A. T. Fisk, C. A. de Wit, M. Wayland, Z. Z. Kuzyk, N. Burgess, R. Letcher, B. Braune, R. Norstrom, S. P. Blum, C. Sandau, E. Lie, H. J. S. Larsen, J. U. Skaare and D. C. G. Muir

**Year:** 2005

**Title:** An assessment of the toxicological significance of anthropogenic contaminants in Canadian arctic wildlife

**Journal:** Science of the Total Environment

**Volume:** 351

**Issue:** Sp. Iss. SI

**Pages:** 57-93

**Date:** Dec 1 2005

**Short Title:** An assessment of the toxicological significance of anthropogenic contaminants in Canadian arctic wildlife

**Accession Number:** BCI:BCI200600192601

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** Anthropogenic contaminants have been a concern in the Canadian arctic for over 30 years due to relatively high concentrations of bioaccumulating and biomagnifying organochlorine contaminants (OCs) and toxic metals found in some arctic biota and humans. However, few studies have addressed the potential effects of these contaminants in Canadian arctic wildlife. Prior to 1997, biological effects data were minimal and insufficient at any level of biological organization. The present review summarizes recent studies on biological effects related to contaminant exposure, and compares new tissue concentration data to threshold effects levels. Weak relationships between cadmium, mercury and selenium burdens and health biomarkers in common eider ducks (Somateria mollissima borealis) in Nunavut were found but it was concluded that metals were not influencing the health of these birds. Black guillemots (Cepplius grylle) examined near PCB-contaminated Saglek Bay, Labrador, had enlarged livers, elevated EROD and liver lipid levels and reduced retinol (vitamin A) and retinyl palmitate levels, which correlated to PCB levels in the birds. Circulating levels of thyroid hormones in polar bears (Ursus maritimus) were correlated to PCB and HO-PCB plasma concentrations, but the impact at the population level is unknown. High PCB and organochlorine pesticide concentrations were found to be strongly associated with impaired humoral and cell-mediated immune responses in polar bears, implying an increased infection risk that could impact the population. In beluga whale (Delphinapterus leucas), cytocbromes P450 (phase I) and conjugating (phase II) enzymes have been extensively profiled (immunochemically and catalytically) in liver, demonstrating the importance of contaminants in relation to enzyme induction, metabolism and potential contaminant bioactivation and fate. Concentrations of OCs and metals in arctic terrestrial wildlife, fish and seabirds are generally below effects thresholds, with the possible exception of PCBs in burbot (Lota lota) in some Yukon lakes, Greenland shark (Soniniosus microcephalus), glaucous and great black-backed gulls (Larus hyperboreus and L. marinus), and TEQs of dioxin-like chemicals in seabird eggs. PCB and DDT concentrations in several arctic marine mammal species exceed effects thresholds, although evidence of stress in these populations is lacking. There is little evidence that contaminants are having widespread effects on the health of Canadian arctic organisms, with the possible exception of polar bears. However, further research and better understanding of organolialogen exposure in arctic biota is needed considering factors such as tissue levels that exceed effects thresholds, exposure to "new" organolialogen contaminants of concern, contaminated regions, and climate change. (c) 2005 Published by Elsevier B.V.

**URL:** <Go to ISI>://BCI200600192601

**Reference Type:**  Journal Article

**Record Number:** 392

**Author:** G. Fitzgerald, S. Brodeur and M. Robert

**Year:** 2001

**Title:** Abdominal implantation of transmitters in Harlequin Ducks (Histrionicus histrionicus) and Barrow's Goldeneyes (Bucephala islandica).

**Journal:** Medecin Veterinaire du Quebec

**Volume:** 31

**Issue:** 1

**Pages:** 39-43

**Short Title:** Abdominal implantation of transmitters in Harlequin Ducks (Histrionicus histrionicus) and Barrow's Goldeneyes (Bucephala islandica).

**Accession Number:** BCI:BCI200200178415

**Keywords:** Harlequin duck; Histrionicus histrionicus; Barrow's Goldeneye; Bucephala islandica; Techniques;

**Abstract:** The use of abdominally implanted transmitters with external whip antenna in ducks is relatively new. We describe a study conducted on free-ranging 40 Harlequin Ducks and 21 Barrow's Goldeneyes between 1996 and 2001 in the province of Quebec and in Labrador with emphasis on the surgical technique. Both conventionnal and satellite transmitters were implanted. Isoflurane anesthesia, endotracheal intubation, thermoregulation and careful monitoring were considered relevant to the success of the implantation. Radio extrusion was observed in captivity with the pre-study trial of the surgical technique on two American Black Ducks (Anas rubripes). Two mortalities occurred on identified high risk patients (female in oviposition and male injured during capture), the male during the procedure revealing internal hemorrage, the female during recovery from anesthesia. Three post-release mortalities were suspected to be related to the implantation. The signal was lost for three other birds and the cause was unknown. Two female Harlequin Ducks were found dead by predation one to two months after release. Implanted birds were observed healthy as long as four years later. The study resulted in major discoveries regarding these two duck species, which are considered to be at risk in eastern North America.

**URL:** <Go to ISI>://BCI200200178415

**Reference Type:**  Journal Article

**Record Number:** 1147

**Author:** G. R. Fitzgerald

**Year:** 1991

**Title:** Pleistocene Ducks of the Old Crow Basin Yukon Territory Canada

**Journal:** Canadian Journal of Earth Sciences

**Volume:** 28

**Issue:** 10

**Pages:** 1561-1571

**Short Title:** Pleistocene Ducks of the Old Crow Basin Yukon Territory Canada

**Accession Number:** BCI:BCI199293062336

**Keywords:** Black Scoter; Melanitta nigra; Long-tailed Duck; Clangula hyemalis; Common Eider; Somateria mollissima;

**Abstract:** Thirteen species of ducks, ranging in age from ?latest Illinoian to Holocene, have been identified from the Old Crow Basin. The most common species in the collection is the Oldsquaw (Clangula hyemalis), followed by the White-winged Scoter (Melanitta fusca). The genus Anas (six species) is well represented. The Ring-necked Duck (Aythya collaris) and the Black Scoter (Melanitta nigra) also occupied the area in the past. This shows that good habitat for ducks has existed in the area at times since the ?Illinoian and supports environmental reconstructions for the area suggesting that ?Sangamon conditions were as warm as, or warmer than, today, with ponds and streams and pockets of boreal forest. There is also evidence for inland migration of the Common Eider (Somateria mollissima).

**URL:** <Go to ISI>://BCI199293062336

**Reference Type:**  Journal Article

**Record Number:** 528

**Author:** R. E. Fitzner and R. H. Gray

**Year:** 1994

**Title:** Winter diet and weights of Barrow's and common goldeneye in southcentral Washington

**Journal:** Northwest Science

**Volume:** 68

**Issue:** 3

**Pages:** 172-177

**Short Title:** Winter diet and weights of Barrow's and common goldeneye in southcentral Washington

**Accession Number:** BCI:BCI199598033502

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199598033502

**Reference Type:**  Journal Article

**Record Number:** 162

**Author:** P. E. Fjeld and V. Bakken

**Year:** 1993

**Title:** Vulnerability and conservational value analysis for seabirds in connection with drilling for oil and gas in the northern Barents sea: Suggestion for additional studies

**Journal:** Norsk Polarinstitutt Meddelelser

**Volume:** 0

**Issue:** 123

**Pages:** 1-67

**Short Title:** Vulnerability and conservational value analysis for seabirds in connection with drilling for oil and gas in the northern Barents sea: Suggestion for additional studies

**Accession Number:** BCI:BCI199598279332

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Contaminants; Breeding Season; Nonbreeding Seasons;

**Abstract:** This assessment of the vulnerability in relation to oil and conservational value of seabirds in the northern part of the Barents Sea, is the first part of a total impact analysis for the area. As yet no simulations of oil drift have been undertaken in the assessment area. The vulnerability and conservational values arrived at here are based on the methods described by Anker-Nilssen (1987). 88 bird populations were assessed for the seasons: spring, summer, autumn and winter Of the 88 populations, a total of 64 were classified as highly or partially vulnerable in relation to oil spills. Of the 25 populations defined for the spring, 21 were classified as highly vulnerable. The most vulnerable populations were Common Eider, King Eider and Fulmar. Of the 28 populations defined for the summer season, 22 were classified as highly vulnerable. Ranking highest were the Common Eider, King Eider, Brent Goose populations, and next vulnerable were the Barnacle Goose and some auk species. Of the 26 populations defined for the autumn, 15 were classified as highly vulnerable. For the winter only 9 populations were considered, of which 6 were classified as highly vulnerable. The same 88 populations considered for vulnerability were also assessed to determine their conservational value. 13 populations were defined as having national conservational value, and 43 were defined as having international conservational value. As many of the populations considered are arctic species with limited distributions in the North Atlantic area, it is natural that these receive international protection value classification. The existing data basis was sufficient for carrying out a vulnerability assessment for most of the populations considered in this study. For the future effect analysis, however, more precise descriptions of the distribution and population size of some populations are needed. This especially applies to some rare and vulnerable species such as the King Eider and Brent Goose. Lack of suitable registration methods accounts for the inadequate knowledge of some populations, for example the Little Auk. The projects proposed in this report will provide a more substantial data basis for the final impact analysis of seabirds/oil in the northern Barents Sea area: (1) the registration of breeding and moulting geese and ducks in the Liefdefjorden-Moffen area, (2) the development of census methods for the Little Auk, and (3) the distribution of seabirds in open sea in the breeding period and in ice-covered waters in the spring.

**URL:** <Go to ISI>://BCI199598279332

**Reference Type:**  Journal Article

**Record Number:** 205

**Author:** J. Fjeldsa

**Year:** 1975

**Title:** Recent Changes in Waterfowl Situation in the Lakes Myvatn and Vikingavatn Iceland

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 69

**Issue:** 3-4

**Pages:** 89-102

**Short Title:** Recent Changes in Waterfowl Situation in the Lakes Myvatn and Vikingavatn Iceland

**Accession Number:** BCI:BCI197661059587

**Keywords:** Sea Ducks - General;

**URL:** <Go to ISI>://BCI197661059587

**Reference Type:**  Journal Article

**Record Number:** 57

**Author:** D. M. Fleet

**Year:** 2006

**Title:** A review of beached bird surveys within the Wadden sea trilateral monitoring and assessment program

**Journal:** Marine Ornithology

**Volume:** 34

**Issue:** 2

**Pages:** 129-132

**Short Title:** A review of beached bird surveys within the Wadden sea trilateral monitoring and assessment program

**Accession Number:** BCI:BCI200700608980

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** The Trilateral Monitoring and Assessment Programme (TMAP), established in 1994, is carried out in the framework of the Trilateral Cooperation on the Protection of the Wadden Sea, which includes Denmark, Germany, and the Netherlands. Its objective is integrated monitoring and assessment of the Wadden Sea ecosystem. Beached bird surveys have been carried out on southern North Sea coasts since the 1970s (Netherlands) or the mid-1980s (Germany and Denmark). The surveys use trilateral standardized procedures and are evaluated as part of the TMAP. The results are published at regular intervals in Wadden Sea Quality Status Reports by the Common Wadden Sea Secretariat. The results of the surveys within the Wadden Sea and adjoining regions indicate steady declines in pollution levels since the mid-1980s. For example, oiling rates (the proportion of beached birds that are oiled) of the Common Guillemot Uria aalge declined on German North Sea coasts to 62% in the period 1992/93-1994/95 from 82% (n = 620) during the three winters 1984/85-1986/87 (n = 967) and to 35.5% (n = 1024) in 2001/02-2003/04. The oiling rates of pelagic and offshore species are, however, still high on southern North Sea coasts. In the period 2001/02-2003/04, the oiling rates of the Red-throated Loon Gavia stellata, Common (Black) Scorer Melanitta nigra, and the Black-legged Kittiwake Rissa tridactyla on the German North Sea coast were 80% (n = 54), 50% (n = 357), and 22% (n = 137) respectively. An Ecological Quality Objective (EcoQO), phrased as "proportion of oiled Common Guillemots among those found dead or dying on beaches," has been developed within the OSPAR Convention on the Protection of the Marine Environment of the North East Atlantic and is currently being implemented. Oiling rates for this species in the southern North Sea are currently much higher than the 10% level targeted by the EcoQO.

**URL:** <Go to ISI>://BCI200700608980

**Reference Type:**  Journal Article

**Record Number:** 1857

**Author:** P. L. Flint

**Year:** 2013

**Title:** Changes in size and trends of North American sea duck populations associated with North Pacific oceanic regime shifts

**Journal:** Marine Biology

**Volume:** 160

**Issue:** 1

**Pages:** 59-65

**Date:** Jan

**Short Title:** Changes in size and trends of North American sea duck populations associated with North Pacific oceanic regime shifts

**ISSN:** 0025-3162

**DOI:** 10.1007/s00227-012-2062-y

**Accession Number:** WOS:000313047600006

**Keywords:** Sea Ducks; Population Dynamics

**Notes:** Times Cited: 0

Flint, Paul L.

0

**URL:** <Go to ISI>://WOS:000313047600006

**Reference Type:**  Book

**Record Number:** 2364

**Author:** P. L. Flint

**Year:** 2015

**Title:** Population Dynamics of Sea Ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 63-96

**Short Title:** Population Dynamics of Sea Ducks

**Keywords:** Population Dynamics; Population Model

**Abstract:** In this chapter, I explore population dynamics of sea ducks by developing population models. In determining which life history characteristics had the greatest influence on future population dynamics, adult female survival consistently had the highest sensitivity and elasticity and this result was robust across a wide range of life history parameter values. Conversely, retrospective models consistently found that the majority of annual variation in λ was associated with variation in productivity. Stochastic models that are based on process variation and incorporate correlations among life history parameters are the most useful for visualizing the probability of achieving a desired management outcome. Effective management targets both the mean and the variance of parameters and takes advantage of correlations among life history parameters. Example models demonstrate that sea duck species can achieve equal fitness using a variety of survival and productivity combinations. Sea duck populations will tend to have long time lags in terms of responding to management actions. Understanding the role of density-dependent population regulation is critical for effective sea duck management and conservation.

**Reference Type:**  Journal Article

**Record Number:** 1774

**Author:** P. L. Flint, A. C. Fowler and R. F. Rockwell

**Year:** 1999

**Title:** Modeling bird mortality associated with the M/V Citrus oil spill off St. Paul Island, Alaska

**Journal:** Ecological Modelling

**Volume:** 117

**Issue:** 2-3

**Pages:** 261-267

**Date:** May 17, 1999

**Short Title:** Modeling bird mortality associated with the M/V Citrus oil spill off St. Paul Island, Alaska

**Accession Number:** BCI:BCI199900326308

**Keywords:** King Eider; Somateria spectabilis; Contaminants; Survival; Nonbreeding Seasons;

**Abstract:** We developed a model to estimate the number of bird carcasses that were likely deposited on the beaches of St. Paul Island, Alaska following the M/V Citrus oil spill in February 1996. Most of the islands beaches were searched on an irregular schedule, resulting in the recovery of 876 King Eider carcasses. A sub-sample of beaches were intensively studied to estimate daily persistence rate and detection probability (Fowler, A.C., Flint, P.L., 1997. Marine Pollution Bulletin). Using these data, our model predicted that an additional 733 +- 70 King Eider carcasses were not detected during our searches. Therefore, we estimate that at least 1609 +- 70 King Eider carcasses occurred on beaches as a result of the spill. We lacked sufficient sample size to model losses for other species, thus we applied the estimated recovery rate for King Eiders (54%) to other species and estimate a total combined loss of 1765 birds. In addition, 165 birds were captured alive making the total estimated numberof birds impacted by the M/V Citrus spill 1930. Given that oiled birds occurred in places on the island which could not be systematically searched combined with the fact that it was unlikely that oiled birds that died at sea would have been recovered during our searches (Flint, P.L., Fowler, A.C., 1998. Marine Pollution Bulletin), our estimate of total mortality associated with the spill should be considered a minimum.

**URL:** <Go to ISI>://BCI199900326308

**Reference Type:**  Journal Article

**Record Number:** 1259

**Author:** P. L. Flint and J. B. Grand

**Year:** 1997

**Title:** Survival of spectacled eider adult females and ducklings during brood rearing

**Journal:** Journal of Wildlife Management

**Volume:** 61

**Issue:** 1

**Pages:** 217-221

**Short Title:** Survival of spectacled eider adult females and ducklings during brood rearing

**Accession Number:** BCI:BCI199799470199

**Keywords:** Spectacled Eider; Somateria fischeri; Survival; Contaminants; Breeding Season;

**Abstract:** We studied survival of adult female and duckling spectacled eiders (Somateria fischeri) during brood rearing on the Yukon-Kuskokwim Delta, Alaska from 1993 to 1995. Duckling survival to 30 days of age averaged 34% with a 95% confidence interval from 25 to 47%. Half (49%) of radiomarked adult females had lost all their ducklings by 30 days after hatch. Most (74%) duckling mortality occurred in the first 10 days. Adult female survival during the first 30 days of brood rearing was 93 +- 3% (SE). Females died from lead poisoning, as a result of ingesting lead shot, and predation. Mortality of adult females during brood rearing is probably higher than during other times of the year. Low adult female survival during the breeding season may be contributing to the overall population decline of spectacled eiders.

**URL:** <Go to ISI>://BCI199799470199

**Reference Type:**  Journal Article

**Record Number:** 1253

**Author:** P. L. Flint and J. B. Grand

**Year:** 1999

**Title:** Incubation behavior of Spectacled Eiders on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Condor

**Volume:** 101

**Issue:** 2

**Pages:** 413-416

**Date:** May, 1999

**Short Title:** Incubation behavior of Spectacled Eiders on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI199900246039

**Keywords:** Spectacled Eider; Somateria fischeri; Behavior; Energetics and Nutrition; Breeding Season;

**Abstract:** We studied incubation behavior of Spectacled Eiders (Somateria fischeri) on the Yukon-Kuskokwim Delta in 1996. We trapped 19 females on their nests and weighed them in early incubation and again at hatch. Average daily weight loss for incubating females was 16.6 +- 1.0 g day-1, which resulted in a cumulative loss of 26% of body weight throughout incubation. Nest attendance was monitored for a portion of the incubation period using temperature sensing artificial eggs. Incubation constancy averaged 90 +- 1%. Average recess length was 37.1 +- 0.9 min, and nests cooled an average of 4.2 +- 0.1degreeC during recesses. Recess frequency averaged 2.5 +- 0.1 recesses day-1, and most recesses (70%) occurred between 10:00 and 22:00. Incubation constancy varied among females, but was not related to changes in body weight or incubation period. There was no influence of ambient temperature on incubation recess length, however most recesses were taken during the warmest part of the day. We found considerable variation among females in patterns of daily incubation constancy, nest cooling, recess frequency, and recess length. It is not clear from our results what factors constrain incubation behavior of Spectacled Eiders, but we suggest that individual females respond to a complex suite of variables.

**URL:** <Go to ISI>://BCI199900246039

**Reference Type:**  Journal Article

**Record Number:** 1248

**Author:** P. L. Flint, J. B. Grand, J. A. Morse and T. F. Fondell

**Year:** 2000

**Title:** Late summer survival of adult female and juvenile Spectacled Eiders on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Waterbirds

**Volume:** 23

**Issue:** 2

**Pages:** 292-297

**Short Title:** Late summer survival of adult female and juvenile Spectacled Eiders on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200000522165

**Keywords:** Spectacled Eider; Somateria fischeri; Survival; Contaminants; Breeding Season;

**Abstract:** We used radio-telemetry to examine survival of adult female and juvenile Spectacled Eiders (Somateria fischeri) from 30 days after hatch until departure from the Yukon-Kuskokwim Delta (YKD) during 1997-1999. Juvenile survival was 71.4%; adult female survival was 88.5%. Mink (Mustella vison) were the most common predator identified for both adults and juveniles. Detectable levels of lead were found in bones of 74% of juvenile carcasses recovered and 21% had levels indicative of acute exposure. Average age at departure was 59+-1 days old for juveniles and 56+-1 days after hatch for adults. Most broods (60.5%) departed the YKD synchronously. Overall our data indicate that mortality during the latter half of brood-rearing is higher than previously thought. We conclude that brood rearing is a period of high mortality for brood-rearing females and that lead poisoning is responsible for reductions in juvenile survival to fledging.

**URL:** <Go to ISI>://BCI200000522165

**Reference Type:**  Journal Article

**Record Number:** 1210

**Author:** P. L. Flint and M. P. Herzog

**Year:** 1999

**Title:** Breeding of Steller's Eiders, Polysticta stelleri, on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Canadian Field-Naturalist

**Volume:** 113

**Issue:** 2

**Pages:** 306-308

**Date:** April-June, 1999

**Short Title:** Breeding of Steller's Eiders, Polysticta stelleri, on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI199900343787

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Historically, an unknown number of Steller's Eiders nested along the outer coastal fringe of the Yukon-Kuskokwim Delta, Alaska, but no nests had been found since 1975. We located six nests from 1991-1998 and we conclude that Steller's Eiders are still a regular breeder at low densities on the Yukon-Kuskokwim Delta.

**URL:** <Go to ISI>://BCI199900343787

**Reference Type:**  Journal Article

**Record Number:** 1120

**Author:** P. L. Flint, D. L. Lacroix, J. A. Reed and R. B. Lanctot

**Year:** 2004

**Title:** Movements of flightless long-tailed Ducks during wing molt

**Journal:** Waterbirds

**Volume:** 27

**Issue:** 1

**Pages:** 35-40

**Date:** March 2004

**Short Title:** Movements of flightless long-tailed Ducks during wing molt

**Accession Number:** BCI:BCI200400235983

**Keywords:** Long-tailed Duck; Clangula hyemalis; Dispersal; Molt; Habitat; Nonbreeding Seasons;

**Abstract:** We examined the movements of flightless Long-tailed Ducks (Clangula hyemalis) during the wing molt in the near-shore lagoons of the Beaufort Sea in Alaska. Estimates of site fidelity during the 21-day flightless period ranged from 1-100%, with considerable variation among locations and within locations among years. There was no effect of low-level experimental disturbance or an underwater seismic survey on site fidelity of molting Long-tailed Ducks. Birds molting along a relatively consistent habitat gradient were more likely to move than those molting in a fragmented habitat. While flocks of birds are consistently observed in the same locations, these data suggest considerable turnover within these aggregations. These results, in conjunction with other studies, suggest that forage is relatively uniformly distributed within lagoons. We conclude that habitat selection by molting Long-tailed Ducks is likely influenced by protection from wind and associated waves.

**URL:** <Go to ISI>://BCI200400235983

**Reference Type:**  Journal Article

**Record Number:** 1534

**Author:** P. L. Flint, C. L. Moran and J. L. Schamber

**Year:** 1999

**Title:** Survival of Common Eider Somateria mollissima adult females and ducklings during brood rearing

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 103-109

**Short Title:** Survival of Common Eider Somateria mollissima adult females and ducklings during brood rearing

**Accession Number:** BCI:BCI199900307440

**Keywords:** Common Eider; Somateria mollissima; Survival; Breeding Season;

**Abstract:** We studied survival of adult female and duckling Common Eiders during brood rearing at two sites on the Yukon-Kuskokwim Delta, Alaska, in 1997. Duckling survival to 30 days of age was 19% +- 10% (95% CI). Seventy-three percent of radio-marked adult females had lost all their ducklings by 30 days after hatch. Duckling survival was not related to hatch date. We estimate an average of 0.84 ducklings fledged per adult female radio-marked at hatch. Most broods moved to salt water within 15 days of hatch. Adult female survival during the first 30 days of brood rearing was 96 +- 6% (95% CI). Mortality of adult females during brood rearing is probably higher than during other times of the year.

**URL:** <Go to ISI>://BCI199900307440

**Reference Type:**  Journal Article

**Record Number:** 1234

**Author:** P. L. Flint, J. A. Morse, J. B. Grand and C. L. Moran

**Year:** 2006

**Title:** Correlated growth and survival of juvenile Spectacled Eiders: Evidence of habitat limitation?

**Journal:** Condor

**Volume:** 108

**Issue:** 4

**Pages:** 901-911

**Date:** Nov 2006

**Short Title:** Correlated growth and survival of juvenile Spectacled Eiders: Evidence of habitat limitation?

**Accession Number:** BCI:BCI200700011245

**Keywords:** Spectacled Eider; Somateria fischeri; Physiology; Survival; Productivity; Population Dynamics; Breeding Season;

**Abstract:** We studied the growth and survival of Spectacled Eider (Somateria fischeri) ducklings to 30 days of age along the lower Kashunuk River on the Yukon-Kuskokwim Delta from 1995 to 2000. We replicated this study at a second site, Kigigak Island, in 1999 and 2000. Age-adjusted estimates of duckling mass and survival at 30 days posthatching were highly variable. Duckling survival was consistently higher on Kigigak Island in 1999 and 2000, averaging 67%, while survival on the Kashunuk River averaged 45% during the same time period. Duckling survival was negatively related to hatching date. At the Kashunuk River site our data supported models that indicated age-adjusted mass varied with habitat type and declined with hatching date. Ducklings from Kashunuk River were heavier in 1999, while ducklings from Kigigak Island were heavier in 2000. However, we found a positive correlation between 30-day duckling survival and age-adjusted mass, suggesting a localized environmental effect on both parameters. We conclude that predation may be the proximate mechanism of mortality, but habitat conditions are likely the ultimate factors influencing duckling survival. Geographic variation in rates of duckling survival and apparent growth suggest that spatial heterogeneity in population vital rates is occurring at multiple levels.

**URL:** <Go to ISI>://BCI200700011245

**Reference Type:**  Journal Article

**Record Number:** 1206

**Author:** P. L. Flint, M. R. Petersen, C. P. Dau, J. E. Hines and J. D. Nichols

**Year:** 2000

**Title:** Annual survival and site fidelity of Steller's eiders molting along the Alaska Peninsula

**Journal:** Journal of Wildlife Management

**Volume:** 64

**Issue:** 1

**Pages:** 261-268

**Date:** Jan., 2000

**Short Title:** Annual survival and site fidelity of Steller's eiders molting along the Alaska Peninsula

**Accession Number:** BCI:BCI200000105551

**Keywords:** Steller's eider; Polysticta stelleri; Survival; Dispersal; Molt; Population Dynamics;

**Abstract:** Populations of Steller's eiders (Polysticta stelleri) molting and wintering along the Alaska Peninsula have declined since the 1960's. We captured and marked a large sample of Steller's eiders molting in 2 lagoons along the Alaska Peninsula between 1975-97. We used mark-recapture analysis techniques to estimate annual survival and movement probabilities within and among lagoons for male and female eiders. Estimates of annual survival (+-SE) were 0.899 +- 0.032 for females and 0.765 +- 0.044 for males. Both sexes showed high rates of fidelity to specific molting locations (>95%) within lagoons; yet we found no evidence that annual probability of survival differed among groups molting in different locations either within or among lagoons. We found weak evidence that annual survival decreased between the periods 1975-81 and 1991-97. The lower survival of males compared to females is unusual for waterfowl and may result in a female-biased sex ratio. We conclude that a decrease in adult survival may have initiated the long-term population decline. Further, a shortage of males may be limiting reproductive potential.

**URL:** <Go to ISI>://BCI200000105551

**Reference Type:**  Journal Article

**Record Number:** 1260

**Author:** P. L. Flint, M. R. Petersen and J. B. Grand

**Year:** 1997

**Title:** Exposure of Spectacled Eiders and other diving ducks to lead in western Alaska

**Journal:** Canadian Journal of Zoology

**Volume:** 75

**Issue:** 3

**Pages:** 439-443

**Short Title:** Exposure of Spectacled Eiders and other diving ducks to lead in western Alaska

**Accession Number:** BCI:BCI199799480111

**Keywords:** Spectacled Eider; Somateria fischeri; Contaminants; Breeding Season;

**Abstract:** Lead poisoning, resulting from ingestion of spent shot, has been identified as a cause of mortality in Spectacled Eiders (Somateria fischeri) on the Yukon - Kuskokwim Delta, Alaska. We examined lead-exposure rates of adult and juvenile Spectacled Eiders and other diving ducks, using atomic absorption spectrophotometry of blood samples. Additionally, we X-rayed birds in the field to identify ingested shot. We detected shot in the gizzards of 11.6% of Spectacled Eiders X-rayed. During the period from arrival through incubation, 13.0% of adult females and 6.6% of adult males had elevated blood lead levels when captured. During the brood-rearing period, 35.8% of adult females and 12.2% of ducklings were exposed to lead when captured. There was an increase in the probability of exposure of adult females with date sampled. We predict that 50% of the successfully breeding hens were likely exposed to lead, and 25-37% of the Spectacled Eider breeding population was exposed to lead. The long-term effects of sublethal doses on Spectacled Eiders are unknown; however, exposure of nesting females and young birds to lead may result in reduced over-winter survival and (or) reduced fecundity.

**URL:** <Go to ISI>://BCI199799480111

**Reference Type:**  Journal Article

**Record Number:** 1858

**Author:** P. L. Flint, J. L. Schamber, K. A. Trust, A. K. Miles, J. D. Henderson and B. W. Wilson

**Year:** 2012

**Title:** Chronic hydrocarbon exposure of harlequin ducks in areas affected by the Selendang Ayu oil spill at Unalaska Island, Alaska

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 31

**Issue:** 12

**Pages:** 2828-2831

**Date:** Dec

**Short Title:** Chronic hydrocarbon exposure of harlequin ducks in areas affected by the Selendang Ayu oil spill at Unalaska Island, Alaska

**ISSN:** 0730-7268

**DOI:** 10.1002/etc.1997

**Accession Number:** WOS:000311291200020

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 1

Flint, Paul L. Schamber, Jason L. Trust, Kimberly A. Miles, A. Keith Henderson, John D. Wilson, Barry W.

1

**URL:** <Go to ISI>://WOS:000311291200020

**Reference Type:**  Journal Article

**Record Number:** 1713

**Author:** V. E. Flint

**Year:** 1955

**Title:** A contribution to the biology of the common eider

**Journal:** Biull Moskovskovo Obshchestva Ispytatelei Prirody Biol

**Volume:** 60

**Issue:** (4)

**Pages:** 53-62

**Short Title:** A contribution to the biology of the common eider

**Accession Number:** BCI:BCI19573100026932

**Keywords:** Common Eider; Somateria mollissima;

**URL:** <Go to ISI>://BCI19573100026932

**Reference Type:**  Journal Article

**Record Number:** 598

**Author:** R. E. Foley

**Year:** 1992

**Title:** Organochlorine Residues in New York Waterfowl Harvested by Hunters in 1983-1984

**Journal:** Environmental Monitoring and Assessment

**Volume:** 21

**Issue:** 1

**Pages:** 37-48

**Short Title:** Organochlorine Residues in New York Waterfowl Harvested by Hunters in 1983-1984

**Accession Number:** BCI:BCI199294038097

**Keywords:** Bufflehead; Bucephala albeola; Contaminants; Nonbreeding Seasons;

**Abstract:** Thirteen organochlorine compounds were detected in fat and breast muscle tissues of Canada goose and five species of ducks that were shot by sportsman in New York. Residues of DDE and PCB occurred most frequently and were postively identified along with DDT,hepatochlor epoxide, trans-nonachlor, and hexachlorobenzene. Compounds that were detected but not positively confirmed by mass spectrometry were dieldrin, mirex, heptachlor, chlordane, oxychlordane, and endrin. Wood duck (Aix sponsa) and Canada goose (Branta canadensis) had significantly lower levels of DDE and PCB than black duck (Anas rubripes), mallard (Anas platyrhynchos), scaup (Athys sp.),and bufflehead (Bucephala albeola). Birds collected from Long Island and the Hudson River-Lake Champlain corridor carried highest concentrations.

**URL:** <Go to ISI>://BCI199294038097

**Reference Type:**  Journal Article

**Record Number:** 546

**Author:** R. E. Foley and G. R. Batcheller

**Year:** 1988

**Title:** Organochlorine Contaminants in Common Goldeneye Wintering on the Niagara River New York USA

**Journal:** Journal of Wildlife Management

**Volume:** 52

**Issue:** 3

**Pages:** 441-445

**Short Title:** Organochlorine Contaminants in Common Goldeneye Wintering on the Niagara River New York USA

**Accession Number:** BCI:BCI198886086634

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Nonbreeding Seasons;

**Abstract:** We collected adult male common goldeneye (Bucephala clangula) near their time of arrival on wintering grounds (Nov-Dec) (n = 26) and just prior to spring migration (Feb-Mar) (2 = 24) from the Upper Niagara River (UNR), New York, to identify and measure organochlorine contaminants in fat tissues. Detectable concentrations of polychlorinated biphenyl (PCB), dichlorodiphenyldichloroethylene (DDE), dieldrin, hexachlorobenzene (HCB), oxychlordane, and heptachlor epoxide (HE) were found in all adult birds. Polychlorinated biphenyl, dieldrin, HCB, and HE increased (P < 0.05) in adults between the 2 sample periods. In a group of hatching-year (HY) birds sampled in November-December (n = 27), organochlorine residues were less than those of adults from the same period (P < 0.001). Contaminants known to occur in prey items (e.g., crustaceans, gastropods, insects, pelecypods, fish, and annelids) are probably the major source of exposure for common goldeneye on the Niagara River.

**URL:** <Go to ISI>://BCI198886086634

**Reference Type:**  Journal Article

**Record Number:** 166

**Author:** G. Forbes, K. Robertson, C. Ogilvie and L. Seddon

**Year:** 1992

**Title:** Breeding densities, biogeography, and nest depredation of birds on Igloolik Island, Northwest Territories

**Journal:** Arctic

**Volume:** 45

**Issue:** 3

**Pages:** 295-303

**Short Title:** Breeding densities, biogeography, and nest depredation of birds on Igloolik Island, Northwest Territories

**Accession Number:** BCI:BCI199395013721

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The avifauna of Igloolik Island and immediate vicinity was studied during two breeding seasons in 1985-86. This is the first study to compile an intensive record of avifaunal migration patterns and nesting activity, density and success for Igloolik Island. Data for these years are supplemented by the observations of earlier explorers and researchers. During our two seasons of survey, we rercorded 40 species of birds, of which 25 nested on the island. Combining our records, with previously published data, a total of 48 species have been recorded, with 30 species nesting. Several interspecies mating of gulls and the first confirmed breeding record of purple sandpiper (Calidris maritima) for the Melville Peninsula area were recorded. The density of breeding birds on Igloolik Island (28.5 pairs cntdot km-2) is similar to other eastern high arctic sites at that latitude. Issues realted to the biogeographic comprisons of arctic sites are discussed. In late August, the eastern end of the island acts as a significant staging area for gull species, oldsquaw (Clangula hyemalis) and arctic tern (Sterna paradisaea). A combined average of 58.3% of the nests of six species were depredated. As many as 73% of red-throated loon (Gavia stellata) and 93% of arctic tern nests suffered mainly human-related egg predation.

**URL:** <Go to ISI>://BCI199395013721

**Reference Type:**  Journal Article

**Record Number:** 789

**Author:** L. D. Foreman

**Year:** 1979

**Title:** Flock Size and Density of Common Mergansers Mergus-Merganser in Northwestern California USA

**Journal:** California Fish and Game

**Volume:** 65

**Issue:** 2

**Pages:** 124-127

**Short Title:** Flock Size and Density of Common Mergansers Mergus-Merganser in Northwestern California USA

**Accession Number:** BCI:BCI198018002779

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI198018002779

**Reference Type:**  Journal Article

**Record Number:** 715

**Author:** C. Found, S. M. Webb and M. S. Boyce

**Year:** 2008

**Title:** Selection of lake habitats by waterbirds in the boreal transition zone of northeastern Alberta

**Journal:** Canadian Journal of Zoology

**Volume:** 86

**Issue:** 4

**Pages:** 277-285

**Date:** Apr 2008

**Short Title:** Selection of lake habitats by waterbirds in the boreal transition zone of northeastern Alberta

**Accession Number:** BCI:BCI200800319221

**Keywords:** Common merganser; Mergus merganser; Habitat; Breeding Season;

**Abstract:** We examined habitat characteristics associated with presence or absence of 16 waterbird species on 113 lakes during 2001-2006. We found that piscivorous species such as pelicans, loons, and mergansers were found on fish-bearing lakes, while birds that typically nest in emergent vegetation (e.g., coots, grebes) strongly preferred water bodies with moderate to high levels of emergent macrophytes. The presence of a riparian buffer was important for loons and several species of waterbird that nest on the backshore. Moderate to deep lake depth and high water clarity also were important for some species and likely associated with hunting habits and (or) fish availability. Breeding-occurrence models were developed for a few conspicuous species that could be sampled using aerial surveys. Surprisingly, changes in water levels were not important predictors for most species, and associations between waterbirds and high levels of recreational activity were unexpected. Common Loon (Gavia immer (Brunnich, 1764)) and Great Blue Heron (Ardea herodias L., 1758) were most sensitive to anthropogenic activities, with fewer of these species detected on lakes with more disturbed shorelines.

**URL:** <Go to ISI>://BCI200800319221

**Reference Type:**  Journal Article

**Record Number:** 21

**Author:** C. Fouque, M. Guillemain and V. Schricke

**Year:** 2009

**Title:** Trends in the numbers of Coot Fulica atra and wildfowl Anatidae wintering in France, and their relationship with hunting activity at wetland sites

**Journal:** Wildfowl

**Issue:** Sp. Iss. 2

**Pages:** 42-59

**Short Title:** Trends in the numbers of Coot Fulica atra and wildfowl Anatidae wintering in France, and their relationship with hunting activity at wetland sites

**Accession Number:** BCI:BCI201000087036

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Monitoring numbers of wintering wildfowl Anatidae and Coot Fulica atra is an important tool for their management and conservation. Twenty species of wildfowl and Coot have been counted monthly from December-February over 21 winters (1987-2008) at 88 French wetlands of national and international importance for these birds, covering 597 different count sites. Trends in average winter numbers were positive for 15 species, stable for Smew Mergus albellus, and indicated a decline in numbers for the five remaining species. Models assessing trends over time and also the effect of hunting status at the different sites (with sites grouped according to whether the area was hunted, partly hunted, or protected), found that bird numbers varied between sites of different status for A species except Red-crested Pochard Netta rufina. The immediacy with which hunting status affected local trends was less clear. There was no significant interaction between trends in numbers and the hunting status of the count sites for 10 of the 20 Anatidae species, including four of six species protected from hunting. For two protected species, trends were more favourable at fully hunted than at fully protected sites. Ten of the 14 quarry species did not show more favourable trends in protected than in hunted sites. Hunting activity at sites therefore does not, in itself, seem sufficient to explain differences in local trends in waterbird numbers.

**URL:** <Go to ISI>://BCI201000087036

**Reference Type:**  Journal Article

**Record Number:** 343

**Author:** M. A. Fournier and R. G. Bromley

**Year:** 1996

**Title:** Status of the Harlequin Duck, Histrionicus histrionicus, in the western Northwest Territories

**Journal:** Canadian Field-Naturalist

**Volume:** 110

**Issue:** 4

**Pages:** 638-641

**Short Title:** Status of the Harlequin Duck, Histrionicus histrionicus, in the western Northwest Territories

**Accession Number:** BCI:BCI199799545272

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Details of historic and recent observations of the Harlequin Duck, Histrionicus histrionicus, in the western Northwest Territories including several possible breeding records are summarized. This evidence suggests a widely distributed population in the western Northwest Territories numbering in the hundreds of breeding pairs.

**URL:** <Go to ISI>://BCI199799545272

**Reference Type:**  Journal Article

**Record Number:** 1783

**Author:** M. A. Fournier and J. E. Hines

**Year:** 1994

**Title:** Effects of starvation on muscle and organ mass of King Eiders Somateria spectabilis and the ecological and management implications

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 188-197

**Short Title:** Effects of starvation on muscle and organ mass of King Eiders Somateria spectabilis and the ecological and management implications

**Accession Number:** BCI:BCI201000234408

**Keywords:** King Eider; Somateria spectabilis; Energetics and Nutrition; Physiology; Migration; Nonbreeding Seasons;

**Abstract:** In the spring of 1990 we salvaged 21 carcasses of starved King Eiders from the Tuktoyaktuk and McKinley Bay areas of the Northwest Territories. The carcasses were dissected and muscle and organ mosses were measured for comparison with shot birds obtained from the Inuit hunters of Holman, N.W.T Most muscles and organs were significantly smaller in starved birds. The exception was the gizzard which was larger in starved birds. Average mass loss at death was approximately 45% of estimated initial body mass in males and 53% in females. This was reflected in the percent mass loss of individual muscles and organs. Starved females lost an estimated 4% more supracoracoideus mass, 4% more pectoralis mass, 5% more heart mass, 4% more gonad mass, 4% more liver mass, and 8%, more intestine length than starved males when compared to their shot counterparts. The amounts anti types of materials found in the gizzards of starved eiders varied considerably from that found in the gizzards of shot birds. Periods of starvation, either lethal or sublethal, during spring migration may have a severe impact on King Eider population dynamics.

**URL:** <Go to ISI>://BCI201000234408

**Reference Type:**  Journal Article

**Record Number:** 665

**Author:** M. A. Fournier and J. E. Hines

**Year:** 1996

**Title:** Changed status of the Hooded Merganser, Lophodytes cucullatus, in the Yellowknife area, Northwest Territories

**Journal:** Canadian Field-Naturalist

**Volume:** 110

**Issue:** 4

**Pages:** 713-714

**Short Title:** Changed status of the Hooded Merganser, Lophodytes cucullatus, in the Yellowknife area, Northwest Territories

**Accession Number:** BCI:BCI199799545275

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Increased observations of Hooded Mergansers, Lophodytes cucullatus, have occurred in the Yellowknife area in recent years. These observations indicate that Hooded Mergansers now utilize this region during the post-breeding, moulting, and migration periods. The occurrence of paired birds in spring suggests the possibility of breeding. There are two plausible explanations for this increase, population increase and subsequent range expansion or displacement due to environmental disturbance.

**URL:** <Go to ISI>://BCI199799545275

**Reference Type:**  Journal Article

**Record Number:** 1777

**Author:** A. C. Fowler and P. L. Flint

**Year:** 1997

**Title:** Persistence rates and detection probabilities of oiled king eider carcasses on St. Paul Island, Alaska

**Journal:** Marine Pollution Bulletin

**Volume:** 34

**Issue:** 7

**Pages:** 522-526

**Short Title:** Persistence rates and detection probabilities of oiled king eider carcasses on St. Paul Island, Alaska

**Accession Number:** BCI:BCI199799750957

**Keywords:** King Eider; Somateria spectabilis; Contaminants; Survival; Nonbreeding Seasons;

**Abstract:** Following an off spill off St Paul bland, Alaska in February 1996, persistence rates and detection probabilities of oiled king eider (Somateria spectabilis) carcasses were estimated using the Cormack-Jolly-Seber model. Carcass persistence rates varied by day, beach type and sex, while detection probabilities varied by day and beach type. Scavenging, wave action and weather influenced carcass persistence. The patterns of persistence differed on rock and sand beaches and female carcasses had a different persistence function than males. Weather, primarily snow storms, and degree of carcass scavenging, diminished carcass detectability. Detection probabilities on rock beaches were lower and more variable than on sand beaches. The combination of persistence rates and detection probabilities can be used to improve techniques of estimating total mortality.

**URL:** <Go to ISI>://BCI199799750957

**Reference Type:**  Journal Article

**Record Number:** 985

**Author:** A. D. Fox

**Year:** 2003

**Title:** Diet and habitat use of scoters Melanitta in the Western Palearctic - a brief overview

**Journal:** Wildfowl

**Volume:** 54

**Pages:** 163-182

**Short Title:** Diet and habitat use of scoters Melanitta in the Western Palearctic - a brief overview

**Accession Number:** BCI:BCI200400435140

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** If patterns of scoter distribution and abundance are to be understood, there is a need to know upon which prey items these birds feed, how they obtain these prey items and the habitats from which these food items are most easily harvested. Dietary studies and descriptions of habitats exploited by Common and Velvet Scoter in the non-breeding season are reviewed. The existing literature strongly suggests that, outside of the breeding season, these species forage mainly upon marine bivalve molluscs (especially those less than 4cm long) that live on the surface or within the upper 3cm of clean, coarse, sandy substrates in waters less than 20m deep. Although there is a large energetic cost to diving, handling and crushing such prey prior to digestion, such sedentary prey items often occur in very high densities, offering a locally abundant and predictable feeding resource. Since single species often dominate the diet, but dominant food items differ between feeding areas, it seems likely that scoters simply take whatever prey is locally available in sufficient abundance to fulfil nutritional needs. Large differences in documented prey size frequency distributions suggest that scoters may not select for specific prey size classes below an upper digestive limit. However, in the absence of any precise understanding of how scoters obtain their prey, nor any simultaneous studies of available benthic food abundance and size class distributions in scoter diets, it is not possible to confirm if differences simply reflect differences in profitability between different prey at different sites at different times of the year. There remains a considerable need to study the basic feeding ecology and the behaviour of scoters and their prey if their patterns of distribution and abundance are to be better understood.

**URL:** <Go to ISI>://BCI200400435140

**Reference Type:**  Journal Article

**Record Number:** 918

**Author:** A. D. Fox and M. C. Bell

**Year:** 1994

**Title:** Breeding bird communities and environmental variable correlates of Scottish peatland wetlands

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 297-307

**Short Title:** Breeding bird communities and environmental variable correlates of Scottish peatland wetlands

**Accession Number:** BCI:BCI199497325674

**Keywords:** Black Scoter; Melanitta nigra; Habitat; Breeding Season;

**Abstract:** The majority of lochs and water courses in an area of northern Scotland were visited during July 1988. Breeding waterfowl and details of environmental variables were recorded for each site and subjected to multivariate classification techniques. Non-hierarchical classification identified seven habitat types on the basis of environmental parameters. These corresponded well with, and further sub-divided, categorisation using conventional trophic-level habitat type classifications. A hierarchical approach, using TWIN-SPAN, classified twelve waterfowl groupings based on the presence of indicator species. This approach identified characteristic community types and groupings with high diversity and hence conservation importance. Correspondence between habitat classifications and waterfowl communities was reasonable, but failure to identify key features of wetland complexity was probably the reason for the inability to identify clear relationships. Induction analysis was used to show that waterfowl species with the most restricted distributions characterised the main groupings. with Black-throated Diver and Common Scoter showing preferences for mesotrophic/eutrophic waters with islands, where peaty waters drain onto base-rich sandy substrates. Greylag Geese occurred on large acidic oligotrophic lochs and Wigeon on base-rich streams. The need for catchment-wide site-safeguard and management programmes to safeguard the wetlands of greatest significance is discussed.

**URL:** <Go to ISI>://BCI199497325674

**Reference Type:**  Journal Article

**Record Number:** 891

**Author:** A. D. Fox, P. Hartmann and I. K. Petersen

**Year:** 2008

**Title:** Changes in body mass and organ size during remigial moult in common scoter Melanitta nigra

**Journal:** Journal of Avian Biology

**Volume:** 39

**Issue:** 1

**Pages:** 35-40

**Date:** Jan 2008

**Short Title:** Changes in body mass and organ size during remigial moult in common scoter Melanitta nigra

**Accession Number:** BCI:BCI200800134918

**Keywords:** Black Scoter; Melanitta nigra; Energetics and Nutrition; Physiology; Molt; Nonbreeding Seasons;

**Abstract:** The "cost-benefit" hypothesis states that avian body organs show mass changes consistent with the trade-off between their functional importance and maintenance cost, which may vary throughout the annual cycle. Flightless moulting common scoter Melanitta nigra in Danish marine waters select rich undisturbed offshore feeding areas lacking predators, suggesting active feeding during moult. We tested four predictions relating to organ size during flightlessness in moulting male common scoter under this hypothesis. Namely that (i) pectoral muscles would show atrophy followed by hypertrophy, but that there would be no change in (ii) leg muscles and heart (the locomotory architecture required to sustain diving for food), (iii) digestive organs and liver (required to process food), or (iv) fat deposits (because birds could fulfil daily energy requirements from locally abundant food resources). Dissection of scoters collected at different stages during wing moult south of the Danish island of L ae so provided data on organ size that were consistent with these predictions. Pectoral muscle mass showed a c.23% atrophy during the middle of the flightless period relative to that at the end of moult. There was no significant loss in leg muscle, heart, digestive organs (except gizzard mass), liver, fat reserves or body mass with remigial growth. These findings are consistent with the hypothesis that common scoter moult in a rich feeding area, and rely on their diet to meet the nutritional requirements of remigial moult. These results differ in detail from those of a similar study of terrestrial feeding moulting greylag geese Anser anser, but because of the widely differing ecology of the species concerned, both sets of findings provide strong support for the hypothesis that variations in phenotypic plasticity in size of fat stores, locomotor and digestive organs can be interpreted as evolutionary adaptations to meet the conflicting needs (feather growth, nutritional challenges and predator avoidance) of the flightless moult period in different Anatidae species.

**URL:** <Go to ISI>://BCI200800134918

**Reference Type:**  Journal Article

**Record Number:** 926

**Author:** A. D. Fox, N. Jarrett, H. Gitay and D. Paynter

**Year:** 1989

**Title:** Late Summer Habitat Selection by Breeding Waterfowl in Northern Scotland Uk

**Journal:** Wildfowl

**Issue:** 40

**Pages:** 106-114

**Short Title:** Late Summer Habitat Selection by Breeding Waterfowl in Northern Scotland Uk

**Accession Number:** BCI:BCI199089057176

**Keywords:** Black Scoter; Melanitta nigra; Habitat; Breeding Season;

**Abstract:** The majority of lochs and water courses were visited in an area of northern Scotland during July 1988. The breeding waterfowl of these waters were recorded along with details of environmental parameters at each site, including water quality. In a correspondence analysis, three axes accounted for 72% of the variance, with conductivity, pH and other measures of habitat type all highly represented. Site analysis showed that different species had distinct habitat preferences. Waterfowl of most restricted distribution on the peatlands (namely Black-throated Diver and Common Scoter) showed strong preferences for lochs with islands and with high pH/conductivity, Red-throated Divers tended to occur on midrange water quality lochs, Teal selected acidic, base-poor waters and Mallard showed little selectivity in their use of peatland waters. Some implications of peatland afforestation are discussed with respect to breeding waterfowl communities.

**URL:** <Go to ISI>://BCI199089057176

**Reference Type:**  Journal Article

**Record Number:** 2219

**Author:** A. D. Fox, J. E. Jonsson, T. Aarvak, T. Bregnballe, T. K. Christensen, K. K. Clausen, P. Clausen, L. Dalby, T. E. Holm, D. Pavon-Jordan, K. Laursen, A. Lehikoinen, S. H. Lorentsen, A. P. Moller, M. Nordstrom, M. Ouml;st, P. Soderquist and O. R. Therkildsen

**Year:** 2015

**Title:** Current and potential threats to Nordic duck populations - a horizon scanning exercise

**Journal:** Annales Zoologici Fennici

**Volume:** 52

**Issue:** 4

**Pages:** 193-220

**Date:** Aug

**Short Title:** Current and potential threats to Nordic duck populations - a horizon scanning exercise

**ISSN:** 0003-455X

**Accession Number:** WOS:000359460900001

**Keywords:** Common Eider; Common goldeneye; Somateria mollissima; Bucephala clangula; Conservation

**Abstract:** We review the current and future threats to duck populations that breed, stage, moult and/or winter in the Nordic countries. Migratory duck species are sensitive indicators of their changing environment, and their societal value confirms the need to translate signals from changes in their distribution, status and abundance into a better understanding of changes occurring in their wetland environments. We used expert opinion to highlight 25 major areas of anthropogenic change (and touch briefly on potential mitigation measures through nature restoration and reserve management projects) that we consider key issues likely to influence Nordic duck populations now and in the near future to stimulate debate, discussion and further research. We believe such reviews are essential in contributing to development of successful management policy as well as stimulating specific research to support the maintenance of duck species in favourable future conservation status in the face of multiple population pressures and drivers.

**Notes:** Fox, Anthony D. Jonsson, Jon Einar Aarvak, Tomas Bregnballe, Thomas Christensen, Thomas Kjaer Clausen, Kevin Kuhlmann Clausen, Preben Dalby, Lars Holm, Thomas Eske Pavon-Jordan, Diego Laursen, Karsten Lehikoinen, Aleksi Lorentsen, Svein-Hakon Moller, Anders Pape Nordstrom, Mikael Ost, Markus Soderquist, Par Therkildsen, Ole Roland

**URL:** <Go to ISI>://WOS:000359460900001

**Reference Type:**  Journal Article

**Record Number:** 1212

**Author:** A. D. Fox and C. Mitchell

**Year:** 1997

**Title:** Rafting behaviour and predator disturbance to Steller Eiders Polysticta stelleri in northern Norway

**Journal:** Journal fuer Ornithologie

**Volume:** 138

**Issue:** 1

**Pages:** 103-109

**Short Title:** Rafting behaviour and predator disturbance to Steller Eiders Polysticta stelleri in northern Norway

**Accession Number:** BCI:BCI199799468685

**Keywords:** Steller's eider; Polysticta stelleri; Behavior; Nonbreeding Seasons;

**Abstract:** Steller's Eiders responded to overlying Great Blackbacked Gulls Larus marinus by "spooking" - flushing from feeding and aggregating on open water. Birds did not react at high tide when aggregated into dense roosting flocks. The significant reduction in inter-bird distance associated with this escape behaviour suggests that rafting in this way (and at rest) serves an anti-predator function. In 32% of spooks, up to 56% of the flocks were displaced from feeding sites; even when all birds remained, they took an average of 3.5 minutes for half of the flock to resume feeding, representing a minimum total of 17% loss of feeding time throughout the 24 hour period. At observed rates, the cost of flight behaviour in response to guns was estimated to equate to a minimum of 7.8% of daily existence energy. Hence such predator responses can cost Steller's Eiders loss of access to favoured feeding area, loss of feeding time (already restricted by tidal exposure) and additional energy costs.

**URL:** <Go to ISI>://BCI199799468685

**Reference Type:**  Journal Article

**Record Number:** 1211

**Author:** A. D. Fox, C. Mitchell, G. Henriksen, E. Lund and B. Frantzen

**Year:** 1998

**Title:** The conservation of Steller's Eider Polysticta stelleri in Varangerfjord, Finnmark, Norway

**Journal:** Wildfowl

**Volume:** 48

**Issue:** 0

**Pages:** 156-165

**Date:** 1997 (1998)

**Short Title:** The conservation of Steller's Eider Polysticta stelleri in Varangerfjord, Finnmark, Norway

**Accession Number:** BCI:BCI199800178203

**Keywords:** Steller's eider; Polysticta stelleri; Conservation; Nonbreeding Seasons;

**Abstract:** Declines in the North American segment of the circumpolar Steller's Eider population has emphasised the conservation importance of the 30,000-45,000 birds wintering in the western Palearctic. Analysis of distribution data from the most important wintering area, Varangerfjord in Northern Norway, showed that during early May, Steller's Eiders occurred in larger flocks and a greater proportion occurred within 1 km of harbours than King Eiders or Common Eiders. This close proximity to human activity places them at risk from oil and other pollution, but tighter pollution control in recent years has reduced the likelihood of major incidents. Elders drown in lumpsucker fishing nets, although the numbers involved are unknown. Modification of nets used and regulation of the season could reduce this source of mortality. illegal hunting is thought to have very little impact on the population now, but the apparent low levels of recruitment in the population means that it may be sensitive to small scale changes in adult survival rate. During early May, Steller's Eiders foraged on different food resources at different states of the tide cycle, and foraged for extended periods throughout the 24 hour period. This feeding specificity and duration make them especially sensitive to habitat loss and human disturbance, the long feeding duration allowing little flexibility within the tidal cycle to compensate for lost feeding time. Extension of existing reserves to include inshore areas used by Steller's Eiders would seem to be an important conservation objective. More research is required to understand factors affecting the population outside of the wintering period, and this is being facilitated through newly established collaborative projects with Russian scientists.

**URL:** <Go to ISI>://BCI199800178203

**Reference Type:**  Journal Article

**Record Number:** 1157

**Author:** A. Frank

**Year:** 1986

**Title:** Lead Fragments in Tissues from Wild Birds a Cause of Misleading Analytical Results

**Journal:** Science of the Total Environment

**Volume:** 54

**Pages:** 275-282

**Short Title:** Lead Fragments in Tissues from Wild Birds a Cause of Misleading Analytical Results

**Accession Number:** BCI:BCI198783019426

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Techniques;

**Abstract:** Seriously damaged eider ducks (Somateria mollissima) and long-tailed ducks (Clangula hyemalis) were shot in connection with an oil spill in 1974. Liver and kidney tissues were analyzed for environmental pollutants and lead analysis gave irreproducible results. By means of X-ray photographs, X-ray-dense particles could be observed in the tissues. The foreign particles were extracted by dissolution of the organ tissues in Soluene-350 (Packard Instruments Co. Inc) and then washed with toluene. The insoluble particles consisted of lead and bone splinters of varying size. The form of the former ranged from irregular fragments to dust, and arose by disruption of lead pellets upon collision with bone tissue. Birds shot with lead pellets should not be used for lead determination unless careful X-ray investigations are made prior to the chemical analysis. Determinations should be made on at least two different samples of the tissue examined.

**URL:** <Go to ISI>://BCI198783019426

**Reference Type:**  Journal Article

**Record Number:** 1648

**Author:** A. Frank

**Year:** 1986

**Title:** In Search of Biomonitors for Cadmium Cadmium Content of Wild Swedish Fauna During 1973-1976

**Journal:** Science of the Total Environment

**Volume:** 57

**Pages:** 57-66

**Short Title:** In Search of Biomonitors for Cadmium Cadmium Content of Wild Swedish Fauna During 1973-1976

**Accession Number:** BCI:BCI198783060271

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Forty-five species of birds and 22 species of mammals of the terrestrial and aquatic fauna, herbivores as ell as carnivores, were investigated during the period 1973-1976 for cadmium-accumulating properties in order to find biomonitors for cadmium in the Swedish environment. The herbivores of the terrestrial fauna, birds as well as mammals, are preferred to carnivores, since they demonstrate generally higher renal Cd levels. The moose (Alces alces), roe deer (Capreolus capreolus) and hare (Lepus europaeus and Lepus timidus) were found to be suitable as biomonitors because of their common occurrence and uniform geographical distribution. The eider duck (Somateria mollissima), although a short-distance migrating bird whose diet is composed mainly of mussels and crustaceans, and which lives along a great part of the Swedish coastline, is suggested as a biomonitor of cadmium for the aquatic environment. The accumulation rate of cadmium in the kidneys is rapid. Renal levels of cadmium in the parts per million range are reached 10 weeks after hatching. Juvenile birds should be collected for monitoring purposes before leaving their feeding domains in the end of the summer.

**URL:** <Go to ISI>://BCI198783060271

**Reference Type:**  Book

**Record Number:** 2365

**Author:** J. C. Franson

**Year:** 2015

**Title:** Contaminants in Sea Ducks: Metals, Trace Elements, Petroleum, Organic Pollutants, and Radiation

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 169-240

**Short Title:** Contaminants in Sea Ducks: Metals, Trace Elements, Petroleum, Organic Pollutants, and Radiation

**Keywords:** Contaminants

**Abstract:** Exposure to lead and petroleum has caused deaths of sea ducks, but relatively few contaminants have been shown to cause mortality or be associated with population level effects. This chapter focuses primarily on field reports of contaminant concentrations in tissues of sea ducks in North America and Europe and results of some pertinent experimental studies. Much of the available interpretive data for contaminants in waterfowl come from studies of freshwater species. Limits of available data present a challenge for managers interested in sea ducks because field reports have shown that marine birds may carry greater burdens of some pollutants than freshwater species, particularly metals. It is important, then, to distinguish poisoning due to a particular contaminant as a cause of death in sea ducks versus simple exposure based solely on tissue residues. A comprehensive approach that incorporates information on field circumstances, any observed clinical signs and lesions, and tissue residues is recommended when evaluating contaminant concentrations in sea ducks.

**Reference Type:**  Journal Article

**Record Number:** 1164

**Author:** J. C. Franson and D. V. Derksen

**Year:** 1981

**Title:** Renal Coccidiosis in Oldsquaws Clangula-Hyemalis from Alaska USA

**Journal:** Journal of Wildlife Diseases

**Volume:** 17

**Issue:** 2

**Pages:** 237-240

**Short Title:** Renal Coccidiosis in Oldsquaws Clangula-Hyemalis from Alaska USA

**Accession Number:** BCI:BCI198172040187

**Keywords:** Long-tailed Duck; Clangula hyemalis; Disease; Breeding Season; Nonbreeding Seasons;

**Abstract:** Renal coccidiosis was found in 4 of 12 oldsquaw ducks (C. hyemalis) collected from the north slope of Alaska and Prince William Sound. Numerous 1-2 mm white foci were observed on the kidney surface of 1 bird. Microscopically, there was distention of renal tubules with oocysts, flattening of tubular epithelium and interstitial accumulation of mononuclear cells. Kidneys from several other species of sea ducks from Prince William Sound were not infected.

**URL:** <Go to ISI>://BCI198172040187

**Reference Type:**  Journal Article

**Record Number:** 1094

**Author:** J. C. Franson, D. J. Hoffman and P. L. Flint

**Year:** 2011

**Title:** Selenium Concentrations and Enzyme Activities of Glutathione Metabolism in Wild Long-Tailed Ducks and Common Eiders

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 30

**Issue:** 6

**Pages:** 1479-1481

**Date:** Jun 2011

**Short Title:** Selenium Concentrations and Enzyme Activities of Glutathione Metabolism in Wild Long-Tailed Ducks and Common Eiders

**Accession Number:** BCI:BCI201100379517

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Contaminants; Physiology; Breeding Season;

**Abstract:** The relationships of selenium (Se) concentrations in whole blood with plasma activities of total glutathione peroxidase, Se-dependent glutathione peroxidase, and glutathione reductase were studied in long-tailed ducks (Clangula hyemalis) and common eiders (Somateria mollissima) sampled along the Beaufort Sea coast of Alaska, USA. Blood Se concentrations were >8 mu g/g wet weight in both species. Linear regression revealed that the activities of total and Se-dependent glutathione peroxidase were significantly related to Se concentrations only in long-tailed ducks, raising the possibility that these birds were experiencing early oxidative stress. Environ. Toxicol. Chem. 2011;30:1479-1481. (C) 2011 SETAC

**URL:** <Go to ISI>://BCI201100379517

**Reference Type:**  Journal Article

**Record Number:** 1372

**Author:** J. C. Franson, D. J. Hoffman, A. Wells-Berlin, M. C. Perry, V. Shearn-Bochsler, D. L. Finley, P. L. Flint and T. Hollmen

**Year:** 2007

**Title:** Effects of dietary selenium on tissue concentrations, pathology, oxidative stress, and immune function in common eiders (Somateria mollissima)

**Journal:** Journal of Toxicology and Environmental Health Part A

**Volume:** 70

**Issue:** 9-10

**Pages:** 861-874

**Date:** May 2007

**Short Title:** Effects of dietary selenium on tissue concentrations, pathology, oxidative stress, and immune function in common eiders (Somateria mollissima)

**Accession Number:** BCI:BCI200700371743

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Physiology; SDJV funded

**Abstract:** Common eiders (Somateria mollissima) were fed added Se (as L-selenomethionine) in concentrations increasing from 10 to 80 ppm in a pilot study (Study 1) or 20 (low exposure) and up to 60 (high exposure) ppm Se in Study 2. Body weights of Study I ducks and high-exposure ducks in Study 2 declined rapidly. Mean concentrations of Se in blood reached 32.4 ppm wet weight in Study 1 and 17.5 ppm wet weight in high-exposure birds in Study 2. Mean Se concentrations in liver ranged from 351 (low exposure, Study 2) to 1252 ppm dry weight (Study 1). Oxidative stress was evidenced by Se-associated effects on glutathione metabolism. As Se concentrations in liver increased, Se-dependent glutathione peroxidase activity, glutathione reductase activity, oxidized glutathione levels, and the ratio of hepatic oxidized to reduced glutathione increased. In Study 2, the T-cell-mediated immune response was adversely affected in high-exposure eiders, but ducks in the low-exposure group exhibited evidence of an enhanced antibody-mediated immune response. Gross lesions in high-exposure ducks included emaciation, absence of thymus, and loss of nails from digits. Histologic lesions included severe depletion of lymphoid organs, hepatopathy, and necrosis of feather pulp and feather epithelium. Field studies showed that apparently healthy sea ducks generally have higher levels of Se in liver than healthy fresh-water birds, but lower than concentrations found in our study. Data indicate that common ciders and probably other sea ducks possess a higher threshold, or adverse effect level, for Se in tissues than fresh-water species. However, common eiders developed signs of Se toxicity similar to those seen in fresh-water birds.

**URL:** <Go to ISI>://BCI200700371743

**Reference Type:**  Journal Article

**Record Number:** 1482

**Author:** J. C. Franson, T. Hollmen, M. Hario, M. Kilpi and D. L. Finley

**Year:** 2002

**Title:** Lead and delta-aminolevulinic acid dehydratase in blood of Common Eiders (Somateria mollissima) from the Finnish archipelago

**Journal:** Ornis Fennica

**Volume:** 79

**Issue:** 2

**Pages:** 87-91

**Short Title:** Lead and delta-aminolevulinic acid dehydratase in blood of Common Eiders (Somateria mollissima) from the Finnish archipelago

**Accession Number:** BCI:BCI200200468433

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**URL:** <Go to ISI>://BCI200200468433

**Reference Type:**  Journal Article

**Record Number:** 1520

**Author:** J. C. Franson, T. Hollmen, R. H. Poppenga, M. Hario and M. Kilpi

**Year:** 2000

**Title:** Metals and trace elements in tissues of Common Eiders (Somateria mollissima) from the Finnish archipelago

**Journal:** Ornis Fennica

**Volume:** 77

**Issue:** 2

**Pages:** 57-63

**Short Title:** Metals and trace elements in tissues of Common Eiders (Somateria mollissima) from the Finnish archipelago

**Accession Number:** BCI:BCI200000463809

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season; Nonbreeding Seasons;

**Abstract:** We sampled Common Eiders (Somateria mollissima) at five locations near coastal Finland in 1997 and 1998 for evidence of exposure to arsenic, cadmium, chromium, copper, iron, mercury, magnesium, manganese, molybdenum, lead, selenium, and zinc. Livers and kidneys were collected from adult males and females found dead and hunter-killed males, and livers were collected from ducklings. Two adult females, one of which had an ingested lead shot in its gizzard, were poisoned by lead. The concentrations of metals and trace elements that we found in tissues of eiders, other than the two lead poisoned birds, were not high enough to have independently caused mortality.

**URL:** <Go to ISI>://BCI200000463809

**Reference Type:**  Journal Article

**Record Number:** 1521

**Author:** J. C. Franson, T. Hollmen, R. H. Poppenga, M. Hario, M. Kilpi and M. R. Smith

**Year:** 2000

**Title:** Selected trace elements and organochlorines: Some findings in blood and eggs of nesting common eiders (Somateria mollissima) from Finland

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 19

**Issue:** 5

**Pages:** 1340-1347

**Date:** May, 2000

**Short Title:** Selected trace elements and organochlorines: Some findings in blood and eggs of nesting common eiders (Somateria mollissima) from Finland

**Accession Number:** BCI:BCI200000262344

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** In 1997 and 1998, we collected blood samples from nesting adult female common eiders (Somateria mollissima) at five locations in the Baltic Sea near coastal Finland and analyzed them for lead, selenium, mercury, and arsenic. Eggs were collected from three locations in 1997 for analysis of selenium, mercury, arsenic, and 17 organochlorines (OCs). Mean blood lead concentrations varied by location and year and ranged from 0.02 ppm (residues in blood on wet weight basis) to 0.12 ppm, although one bird had 14.2 ppm lead in its blood. Lead residues in the blood of eiders were positively correlated with the stage of incubation, and lead inhibited the activity of the enzyme delta-aminolevulinic acid dehydratase (ALAD) in the blood. Selenium concentrations in eider blood varied by location, with means of 1.26 to 2.86 ppm. Median residues of selenium and mercury in eider eggs were 0.55 and 0.10 ppm (residues in eggs on fresh weight basis), respectively, and concentrations of both selenium and mercury in eggs were correlated with those in blood. Median concentrations of p,p'-dichlorodiphenyldichloroethylene in eggs ranged from 13.1 to 29.6 ppb, but all other OCs were below detection limits. The residues of contaminants that we found in eggs were below concentrations generally considered to affect avian reproduction. The negative correlation of ALAD activity with blood lead concentrations is evidence of an adverse physiological effect of lead exposure in this population.

**URL:** <Go to ISI>://BCI200000262344

**Reference Type:**  Journal Article

**Record Number:** 1119

**Author:** J. C. Franson, T. E. Hollmen, P. L. Flint, J. B. Grand and R. B. Lanctot

**Year:** 2004

**Title:** Contaminants in molting long-tailed ducks and nesting common eiders in the Beaufort Sea

**Journal:** Marine Pollution Bulletin

**Volume:** 48

**Issue:** 5-6

**Pages:** 504-513

**Date:** March 2004

**Short Title:** Contaminants in molting long-tailed ducks and nesting common eiders in the Beaufort Sea

**Accession Number:** BCI:BCI200400245639

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Contaminants; Molt; Nonbreeding Seasons; Breeding Season;

**Abstract:** In 2000, we collected blood from long-tailed ducks (Clangula hyemalis) and blood and eggs from common eiders (Somateria mollissima) at near-shore islands in the vicinity of Prudhoe Bay, Alaska, and at a reference area east of Prudhoe Bay. Blood was analyzed for trace elements and egg contents were analyzed for trace elements, organochlorine pesticides, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons. Except for Se (mean=36.1 mug/g dry weight (dw) in common eiders and 48.8 mug/g dw in long-tailed ducks), concentrations of trace elements in blood were low and, although several trace elements differed between areas, they were not consistently higher at one location. In long-tailed ducks, Se in blood was positively correlated with activities of two serum enzymes, suggestive of an adverse effect of increasing Se levels on the liver. Although common eiders had high Se concentrations in their blood, Se residues in eggs were low (mean=2.28 mug/g dw). Strontium and Ni were higher in eggs near Prudhoe Bay than at the reference area, but none of the other trace elements or organic contaminants in eggs differed between locations. Concentrations of Ca, Sr, Mg, and Ni differed among eggs having no visible development, early-stage embryos, or late-stage embryos. Residues of 4,4'-DDE, cis-nonachlor, dieldrin, hexachlorobenzene, oxychlordane, and trans-nonachlor were found in 100% of the common eider eggs, but at low concentrations (means of 2.35-7.45 mug/kg wet weight (ww)). The mean total PCB concentration in eggs was 15.12 mug/kg ww. Of PAHs tested for, residues of 1- and 2-methylnaphthalene and naphthalene were found in 100% of the eggs, at mean concentrations of 0.36-0.89 mug/kg ww.

**URL:** <Go to ISI>://BCI200400245639

**Reference Type:**  Journal Article

**Record Number:** 754

**Author:** J. C. Franson, P. S. Koehl, D. V. Derksen, T. C. Rothe, C. M. Bunck and J. F. Moore

**Year:** 1995

**Title:** Heavy metals in seaducks and mussels from Misty Fjords National Monument in southeast Alaska

**Journal:** Environmental Monitoring and Assessment

**Volume:** 36

**Issue:** 2

**Pages:** 149-167

**Short Title:** Heavy metals in seaducks and mussels from Misty Fjords National Monument in southeast Alaska

**Accession Number:** BCI:BCI199598431008

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common merganser; Mergus merganser; Contaminants; Nonbreeding Seasons;

**Abstract:** Quartz Hill, in Misty Fjords National Monument near Ketchikan, Alaska, is the site of a proposed molybdenum-producing mine. To provide baseline data for use in post-development comparisons, we analyzed tissues of Barrow's goldeneyes (Bucephala islandica), common mergansers (Mergus merganser), and blue mussels (Mytilus edulis) for seven heavy metals that could potentially be released into the environment as a result of mining operations. Specimens were collected in 1980, 1981, and 1982 from two fjords likely to be used for discharge of tailings from the proposed mine and from two control fjords. Concentrations of arsenic, cadmium, copper, chromium, molybdenum, lead, and zinc were measured in soft tissues of mussels and in kidney, liver, and muscle of birds. The highest mean concentrations of metals found in bird tissues were 55.7 ppm dry weight cadmium in kidneys and 154 ppm dry weight zinc in livers of Barrow's goldeneyes. Concentrations of several metals in blue mussels differed among seasons and locations, but the most significant finding in mussels was a maximum mean cadmium concentration of 9.6 ppm dry weight, a level higher than normally found in undisturbed areas. With the exception of 104 ppm dry weight cadmium in the kidney of one common merganser and 12.7 ppm dry weight lead in the kidney of another, concentrations of other metals in seaduck and mussel tissues were low, consistent with what would be expected for a pre-development environment. Molybdenum was found in low concentrations ( lt 10 ppm dry weight) in all avian kidney samples and most liver samples, but was not detected in blue mussels.

**URL:** <Go to ISI>://BCI199598431008

**Reference Type:**  Journal Article

**Record Number:** 1256

**Author:** J. C. Franson, M. R. Petersen, L. H. Creekmore, P. L. Flint and M. R. Smith

**Year:** 1998

**Title:** Blood lead concentrations of spectacled eiders near the Kashunuk River, Yukon Delta National Wildlife Refuge, Alaska

**Journal:** Ecotoxicology

**Volume:** 7

**Issue:** 3

**Pages:** 175-181

**Date:** June, 1998

**Short Title:** Blood lead concentrations of spectacled eiders near the Kashunuk River, Yukon Delta National Wildlife Refuge, Alaska

**Accession Number:** BCI:BCI199800326372

**Keywords:** Spectacled Eider; Somateria fischeri; Contaminants; Breeding Season;

**Abstract:** We collected 342 blood samples from spectacled spiders (Somateria fischeri) on their breeding grounds in western Alaska from late May through to early August 1993-1995. Lead concentrations of ltoreq 0.50 p.p.m. wet weight were found in the blood of 20% of the adult female eiders, 2% of the adult males and 6% of the ducklings. Lead was detected 0.02 p.p.m.) more frequently in the blood of adult females than in adult males or ducklings and the maximum concentrations were 14.37, 0.50 and 4.28 p.p.m. wet weight, respectively. In adult females, there was a significant difference in the proportion of detectable blood lead concentrations between three collection times (arrival/nesting, hatch and brood rearing), with the highest proportion (92%) occurring at hatch. Nine hens with blood lead concentrations of ltoreq 0.50 p.p.m. were captured a second time several weeks to 1 year later. In the hens sampled twice at intervals of several weeks, the blood lead concentrations increased and declined at mean daily rates of 1.10 and 0.94, respectively. The lead concentrations in the blood of adults were not correlated with body weights. Radiographs were taken of 119 eiders and corresponding blood samples from 98 of these birds were analysed for lead. Ingested shot was seen in X-rays of 12 adults and three ducklings and, of the 13 blood samples tested, all had detectable lead concentrations. Of the birds without radiographic evidence of ingested shot, 84% of the adult females. 19% of the adult males and 17% of the ducklings had detectable lead concentrations in their blood. Breeding ground exposure of waterfowl to lead shot is unusual and is of particular concern in spectacled eiders because of their threatened status and declining numbers in western Alaska.

**URL:** <Go to ISI>://BCI199800326372

**Reference Type:**  Journal Article

**Record Number:** 1567

**Author:** J. C. Franson, M. R. Petersen, C. U. Meteyer and M. R. Smith

**Year:** 1995

**Title:** Lead poisoning of spectacled Eiders (Somateria fischeri) and of a common Eider (Somateria mollissima) in Alaska

**Journal:** Journal of Wildlife Diseases

**Volume:** 31

**Issue:** 2

**Pages:** 268-271

**Short Title:** Lead poisoning of spectacled Eiders (Somateria fischeri) and of a common Eider (Somateria mollissima) in Alaska

**Accession Number:** BCI:BCI199598289723

**Keywords:** Spectacled Eider; Somateria fischeri; Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Lead poisoning was diagnosed in four spectacled eiders (Somateria fischeri) and one common eider (Somateria mollissima) found dead or moribund at the Yukon Delta National Wildlife Refuge, Alaska (USA) in 1992, 1993, and 1994. Ingested lead shot was found in the lower esophagus of one spectacled eider and in the gizzard of the common eider. Lead concentrations in the livers of the spectacled eiders were 26 to 38 ppm wet weight, and 52 ppm wet weight in the liver of the common eider. A blood sample collected from one of the spectacled eiders before it was euthanized had a lead concentration of 8.5 ppm wet weight. This is the first known report of lead poisoning in the spectacled eider, recently listed as a threatened species by the U.S. Fish and Wildlife Service.

**URL:** <Go to ISI>://BCI199598289723

**Reference Type:**  Journal Article

**Record Number:** 1216

**Author:** B. Frantzen and G. Henriksen

**Year:** 1992

**Title:** The Steller's Eider Polysticta-Stelleri in Finnmark 1985-1992

**Journal:** Fauna (Oslo)

**Volume:** 45

**Issue:** 2

**Pages:** 100-107

**Short Title:** The Steller's Eider Polysticta-Stelleri in Finnmark 1985-1992

**Accession Number:** BCI:BCI199294118703

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** From 1985 to 1992, Steller's eiders in the Varangerfjord in Finnmark county have been counted. The counts indicate a minimum winter population of Steller's eiders between 5,400 and 12,500 individuals, but most likely the total population holds some 10,000-20.000 birds. The Norwegian winter population of this species seems to be stable. The birds do migrate or move within the fjord. The main threats to the Steller's eiders are oil spills and fishing nets, in which the birds fasten and drown. As the total world population of this duck species has decreased dramatically, the management of the Varangerfjord and its winter population of Steller's eiders will have increased imporance in the future. Norwegian authorities thus holds a growing responsibility for the Steller's eider, and should act accordingly.

**URL:** <Go to ISI>://BCI199294118703

**Reference Type:**  Journal Article

**Record Number:** 1860

**Author:** D. Frechette, A. L. Collins, J. T. Harvey, S. A. Hayes, D. D. Huff, A. W. Jones, N. A. Retford, A. E. Langford, J. W. Moore, A. M. K. Osterback, W. H. Satterthwaite and S. A. Shaffer

**Year:** 2013

**Title:** A Bioenergetics Approach to Assessing Potential Impacts of Avian Predation on Juvenile Steelhead during Freshwater Rearing

**Journal:** North American Journal of Fisheries Management

**Volume:** 33

**Issue:** 5

**Pages:** 1024-1038

**Date:** Oct

**Short Title:** A Bioenergetics Approach to Assessing Potential Impacts of Avian Predation on Juvenile Steelhead during Freshwater Rearing

**ISSN:** 0275-5947

**DOI:** 10.1080/02755947.2013.816395

**Accession Number:** WOS:000327867900018

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Breeding Season

**Notes:** Times Cited: 0

Frechette, Danielle Collins, Alison L. Harvey, James T. Hayes, Sean A. Huff, David D. Jones, Andrew W. Retford, Nicolas A. Langford, Alina E. Moore, Jonathan W. Osterback, Ann-Marie K. Satterthwaite, William H. Shaffer, Scott A.

0

**URL:** <Go to ISI>://WOS:000327867900018

**Reference Type:**  Journal Article

**Record Number:** 2344

**Author:** L. H. Fredrickson

**Year:** 2001

**Title:** Steller's Eider (Polysticta stelleri)

**Journal:** The Birds of North America

**Short Title:** Steller's Eider (Polysticta stelleri)

**Keywords:** Steller’s Eider; Polysticta stelleri

**Reference Type:**  Journal Article

**Record Number:** 1667

**Author:** T. W. French

**Year:** 1981

**Title:** Fish Attack on Black Guillemot Cepphus-Grylle and Common Eider Somateria-Mollissima in Maine USA

**Journal:** Wilson Bulletin

**Volume:** 93

**Issue:** 2

**Pages:** 279-280

**Short Title:** Fish Attack on Black Guillemot Cepphus-Grylle and Common Eider Somateria-Mollissima in Maine USA

**Accession Number:** BCI:BCI198222042418

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**URL:** <Go to ISI>://BCI198222042418

**Reference Type:**  Journal Article

**Record Number:** 1481

**Author:** O. Frengen and P. G. Thingstad

**Year:** 2002

**Title:** Mass occurrences of Sandeels (Ammodytes spp.) causing aggregations of diving ducks

**Journal:** Fauna Norvegica

**Volume:** 22

**Pages:** 32-36

**Short Title:** Mass occurrences of Sandeels (Ammodytes spp.) causing aggregations of diving ducks

**Accession Number:** BCI:BCI200300370260

**Keywords:** White-winged Scoter; Melanitta fusca; Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** In autumn 1999, large, compact flocks of foraging diving ducks, particularly Common Eiders Somateria mollissima, were observed within and at the mouth of Trondheimsfjord in Central Norway. Some of these aggregations were at places previously not known as particularly rich feeding grounds. This situation continued through the winter, and still existed in March 2000. Investigations on these feeding grounds showed that the only possible prey species occurring in significant quantities was Sandeel (only Ammodytes tobianus was verified). Although most of the fish were swallowed before the birds reached the surface, some ducks (including Velvet Scoter Melanitta fusca and Goldeneye Bucephala clangula) were observed eating Sandeels. Sandeel populations fluctuate in size annually and shoals are very patchily distributed. Consequently, the very variable occurrence in time and space of this food resource may occasionally bring about unusually dense and patchy aggregations of various species of diving ducks. Due to the specific habitat requirements of the Sandeel, these aggregations may also occur at localities that are not generally preferred feeding grounds for diving ducks, as was the case here. These findings may be relevant for some monitoring projects involving populations of diving ducks in marine environments.

**URL:** <Go to ISI>://BCI200300370260

**Reference Type:**  Journal Article

**Record Number:** 1310

**Author:** A. S. L. Freudendahl, M. M. Nielsen, T. Jensen and K. T. Jensen

**Year:** 2010

**Title:** The introduced clam Ensis americanus in the Wadden Sea: field experiment on impact of bird predation and tidal level on survival and growth

**Journal:** Helgoland Marine Research

**Volume:** 64

**Issue:** 2

**Pages:** 93-100

**Date:** Jun 2010

**Short Title:** The introduced clam Ensis americanus in the Wadden Sea: field experiment on impact of bird predation and tidal level on survival and growth

**Accession Number:** BCI:BCI201000326866

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** In the Danish Wadden Sea the intertidal distribution of the introduced bivalve Ensis americanus (syn. E. directus) is restricted to a narrow zone around the mean low water level. To test the possible impact of birds and submersion time on dynamics and distribution of the clams, adult specimens of E. americanus collected near the low water line were transplanted to two intertidal sites and established in open and net-covered experimental plots for 9 weeks (autumn 2001). The lowest survival of clams was registered at the low-shore-site (LSS) in plots open to bird predators, suggesting that birds such as Common Eider (Somateria mollissima) or Oystercatcher (Haematopus ostralegus) may control the abundance of E. americanus at the lower tidal levels. For clams showing increment in shell length during the study period, the shell growth rates were highest at the LSS and lowest in the open plots at the high-shore-site (HSS). Differences in immersion time and thus food supply may explain this pattern. Body mass index (BMI) of the clams showed basically the same pattern as the survivorship: lowest BMI in open plots at the LSS and highest in the covered plots at this site. Clams from the HSS were intermediate in their BMI. Disturbance by birds in the open plots at the LSS may explain the low BMI. In conclusion birds may be an important factor controlling abundance of E. americanus in the lower intertidal zone.

**URL:** <Go to ISI>://BCI201000326866

**Reference Type:**  Journal Article

**Record Number:** 1586

**Author:** O. Frimer

**Year:** 1993

**Title:** Occurrence and distribution of king eiders Somateria spectabilis and common eiders S. mollissima at Disko, West Greenland

**Journal:** Polar Research

**Volume:** 12

**Issue:** 2

**Pages:** 111-116

**Short Title:** Occurrence and distribution of king eiders Somateria spectabilis and common eiders S. mollissima at Disko, West Greenland

**Accession Number:** BCI:BCI199497220135

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Molt; Migration; Nonbreeding Seasons;

**Abstract:** King eiders and common eiders were recorded at Disko Island, West Greenland, in the period 1989-1993. Both species occur year-round in the area, although in low numbers during the period of extensive ice-cover January-April. In May and the first half of June, large numbers of king and common eiders on spring migration stage along the western coast of Disko. In the autumn (August-October) an estimated 15,400-20,100 king eiders undergo prebasic moult in the area, with the highest concentrations in the fjords and bays of western Disko and along the coast of southeast Disko. This estimate indicates that a recent population decline may have taken place. Only two female common eiders with ducklings were recorded during the study period. In the period July-September an estimated 3,200-4,800 male common eiders undergo prebasic moult in the area, mainly at the archipelago of Kitsissut and in the outer fjords and bays of western Disko Island.

**URL:** <Go to ISI>://BCI199497220135

**Reference Type:**  Journal Article

**Record Number:** 1781

**Author:** O. Frimer

**Year:** 1994

**Title:** Autumn arrival and moult in King Eiders (Somateria spectabilis) at Disko, West Greenland

**Journal:** Arctic

**Volume:** 47

**Issue:** 2

**Pages:** 137-141

**Short Title:** Autumn arrival and moult in King Eiders (Somateria spectabilis) at Disko, West Greenland

**Accession Number:** BCI:BCI199497446506

**Keywords:** King Eider; Somateria spectabilis; Molt; Nonbreeding Seasons;

**Abstract:** Observations of King Eiders and their moult carried out at western Disko Island, West Greenland, July-October 1991 and 1992 showed two waves of immigration. The post-breeding males arrived mainly in early August in advanced body moult and undertook wing moult between mid-August and late September. Females arrived from mid-August and peaked in the second half of August. Females undertook body and wing moult from late August into October. A significant part of the females as well as males from the eastern Canadian Arctic appear to perform a moult migration to central West Greenland.

**URL:** <Go to ISI>://BCI199497446506

**Reference Type:**  Journal Article

**Record Number:** 1782

**Author:** O. Frimer

**Year:** 1994

**Title:** The behaviour of moulting King Eiders Somateria spectabilis

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 176-187

**Short Title:** The behaviour of moulting King Eiders Somateria spectabilis

**Accession Number:** BCI:BCI201000234407

**Keywords:** King Eider; Somateria spectabilis; Behavior; Molt; Nonbreeding Seasons;

**Abstract:** Activity budgets and distribution patterns of King Elders were studied at Disko Island, West Greenland during the moulting season of July to September, and compared with the activity budgets of non-moulting King Eiders. King Elders were generally active in the daylight hours, and spent most of the night and a period at mid-day resting. The feeding intensity peaked early and late in the day, with no marked tidal influence on the feeding pattern. The amount of time devoted to diurnal feeding increased during the moulting period, and was negatively correlated with daylength. There was no evidence of increased feeding intensity by moulting birds compared to non-moulting birds. Moulting King Eiders devoted more time to comfort movements than non-moulting birds. Ice conditions and daylength are suggested to be ultimate factors affecting the timing of moult.

**URL:** <Go to ISI>://BCI201000234407

**Reference Type:**  Journal Article

**Record Number:** 1566

**Author:** O. Frimer

**Year:** 1995

**Title:** Comparative behaviour of sympatric moulting populations of Common Eider Somateria mollissima and King Eider S. spectabilis in central West Greenland

**Journal:** Wildfowl

**Volume:** 46

**Pages:** 129-139

**Short Title:** Comparative behaviour of sympatric moulting populations of Common Eider Somateria mollissima and King Eider S. spectabilis in central West Greenland

**Accession Number:** BCI:BCI201000321356

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Behavior; Abundance, Distribution, and Trends; Molt; Habitat; Nonbreeding Seasons;

**Abstract:** Activity budgets and distribution patterns of Common Eider moulting at Disko Island, West Greenland, were studied and compared to the behaviour of King Eider moulting in the same general area (Frimer 1994b). Both species are diurnal feeders who spend most of the night resting. The daily foraging pattern was essentially similar in the two species, with peak intensity early and late in the day, and there was no significant difference in the amount of time spent foraging. However, while Common Eiders foraged near the rocky shoreline at depths of less than 15 m, King Eiders foraged mainly on silt bottom at depths of 15-25 m. Dabbling comprised between 10.7% and 45.6% of the foraging time in Common Eiders, and less than 1% in King Eiders. The total food niche overlap between the two eider species is estimated to be less than 16%. A low interspecific food competition may be crucial to the survival of the species in the late autumn and winter, when days are short and the birds spend most of the day foraging. Some adaptations of the species to their feeding habitats are discussed.

**URL:** <Go to ISI>://BCI201000321356

**Reference Type:**  Journal Article

**Record Number:** 1779

**Author:** O. Frimer

**Year:** 1995

**Title:** Adaptations by the King Eider Somateria spectabilis to its moulting habitat: Review of a study at Disko, West Greenland

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 89

**Issue:** 3

**Pages:** 135-142

**Short Title:** Adaptations by the King Eider Somateria spectabilis to its moulting habitat: Review of a study at Disko, West Greenland

**Accession Number:** BCI:BCI199598545284

**Keywords:** King Eider; Somateria spectabilis; Molt; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199598545284

**Reference Type:**  Journal Article

**Record Number:** 1776

**Author:** O. Frimer

**Year:** 1997

**Title:** Diet of moulting King Eiders Somateria spectabilis at Disko Island, West Greenland

**Journal:** Ornis Fennica

**Volume:** 74

**Issue:** 4

**Pages:** 187-194

**Short Title:** Diet of moulting King Eiders Somateria spectabilis at Disko Island, West Greenland

**Accession Number:** BCI:BCI199800119094

**Keywords:** King Eider; Somateria spectabilis; Trophic Interactions; Molt; Nonbreeding Seasons;

**Abstract:** During the autumns of 1990-1992, 109 moulting King Eiders Somateria spectabilis were collected at Disko Island, West Greenland, for analysis of stomach contents. All collected birds had food in their stomachs. The mean number of prey items per stomach was 11.1. Moulting King Eiders had a varied diet (minimum 41 prey species), with mollusks comprising the bulk of the food. Bivalves of 21-40 mm length occurred more frequently in the stomachs than did other size categories of bivalves. There was no marked difference in food composition between sex and age classes of eiders, and the diet varied only slightly between the study years. Female eiders depend strongly on a high prey density owing to their late arrival in the area and shorter day lengths.

**URL:** <Go to ISI>://BCI199800119094

**Reference Type:**  Journal Article

**Record Number:** 2152

**Author:** J. Fritt-Rasmussen, J. F. Linnebjerg, M. X. Sorensen, N. L. Brogaard, F. F. Riget, P. Kristensen, G. Jomaas, D. M. Boertmann, S. Wegeberg and K. Gustavson

**Year:** 2016

**Title:** Effects of oil and oil burn residues on seabird feathers

**Journal:** Marine Pollution Bulletin

**Volume:** 109

**Issue:** 1

**Pages:** 446-452

**Date:** Aug

**Short Title:** Effects of oil and oil burn residues on seabird feathers

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2016.05.029

**Accession Number:** WOS:000381650200063

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** It is well known, that in case of oil spill, seabirds are among the groups of animals most vulnerable. Even small amounts of oil can have lethal effects by destroying the waterproofing of their plumage, leading to loss of insulation and buoyancy. In the Arctic these impacts are intensified. To protect seabirds, a rapid removal of oil is crucial and in situ burning could be an efficient method. In the present work exposure effects of oil and burn residue in different doses was studied on seabird feathers from legally hunted Common eider (Somateria mollissima) by examining changes in total weight of the feather and damages on the microstructure (Amalgamation Index) of the feathers before and after exposure. The results of the experiments indicate that burn residues from in situ burning of an oil spill have similar or larger fouling and damaging effects on seabird feathers, as compared to fresh oil. (C) 2016 Elsevier Ltd. All rights reserved.

**Notes:** Fritt-Rasmussen, Janne Linnebjerg, Jannie Fries Sorensen, Martin X. Brogaard, Nicholas L. Riget, Frank F. Kristensen, Paneeraq Jomaas, Grunde Boertmann, David M. Wegeberg, Susse Gustavson, Kim

**URL:** <Go to ISI>://WOS:000381650200063

**Reference Type:**  Journal Article

**Record Number:** 1861

**Author:** C. J. Frost, T. E. Hollmen and J. H. Reynolds

**Year:** 2013

**Title:** Trends in Annual Survival of Steller's Eiders Molting at Izembek Lagoon on the Alaska Peninsula, 1993-2006

**Journal:** Arctic

**Volume:** 66

**Issue:** 2

**Pages:** 173-178

**Date:** Jun

**Short Title:** Trends in Annual Survival of Steller's Eiders Molting at Izembek Lagoon on the Alaska Peninsula, 1993-2006

**ISSN:** 0004-0843

**Accession Number:** WOS:000321092000005

**Keywords:** Steller's eider; Polysticta stelleri; Survival; Molt; Nonbreeding Seasons

**Notes:** Times Cited: 0

Frost, Charles J. Hollmen, Tuula E. Reynolds, Joel H.

0

**URL:** <Go to ISI>://WOS:000321092000005

**Reference Type:**  Journal Article

**Record Number:** 1232

**Author:** T. Fuller, D. P. Morton and S. Sarkar

**Year:** 2008

**Title:** Incorporating uncertainty about species' potential distributions under climate change into the selection of conservation areas with a case study from the Arctic Coastal Plain of Alaska

**Journal:** Biological Conservation

**Volume:** 141

**Issue:** 6

**Pages:** 1547-1559

**Date:** Jun 2008

**Short Title:** Incorporating uncertainty about species' potential distributions under climate change into the selection of conservation areas with a case study from the Arctic Coastal Plain of Alaska

**Accession Number:** BCI:BCI200800568189

**Keywords:** Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Conservation; Habitat; Breeding Season;

**Abstract:** This analysis presents a conservation planning framework for decisions under uncertainty and applies it to the Arctic Coastal Plain of Alaska. Uncertainty arises from variable distributional shifts of species' ranges due to climate change. The planning framework consists of a two-stage optimization model that selects a nominal conservation area network in the first stage and evaluates its performance under the climate scenarios in the second stage. The model is applied to eleven at-risk species in Alaska including the threatened Spectacled Eider and Steller's Eider sea ducks and the polar bear. The 109th United States Congress and 2008 federal budget proposed opening for oil and gas development the "1002 Area" of the Arctic National Wildlife Refuge, which intersects the Plain. This analysis finds that, if Arctic Alaska experiences 1.5 degrees C of warming by 2040 (as predicted by the Intergovernmental Panel on Climate Change's A2 scenario), then potential habitat will decrease significantly for eight of these at-risk species, including the polar bear. This analysis also shows that there is synergism between oil and gas development and climate change. For instance, climate change accompanied by no development of the 1002 Area results in an increase of potential habitat for Steller's Eider. However, if development accompanies climate change, then there is a 20% decrease in that area. Further, this analysis quantifies the tradeoff between development and maintenance of suitable habitat for at-risk species. (c) 2008 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200800568189

**Reference Type:**  Journal Article

**Record Number:** 1862

**Author:** R. W. Furness, H. M. Wade and E. A. Masden

**Year:** 2013

**Title:** Assessing vulnerability of marine bird populations to offshore wind farms

**Journal:** Journal of Environmental Management

**Volume:** 119

**Pages:** 56-66

**Date:** Apr

**Short Title:** Assessing vulnerability of marine bird populations to offshore wind farms

**ISSN:** 0301-4797

**DOI:** 10.1016/j.jenvman.2013.01.025

**Accession Number:** WOS:000317796600007

**Keywords:** Sea ducks; Conservation; Nonbreeding Seasons

**Notes:** Times Cited: 1

Furness, Robert W. Wade, Helen M. Masden, Elizabeth A.

1

**URL:** <Go to ISI>://WOS:000317796600007

**Reference Type:**  Journal Article

**Record Number:** 1610

**Author:** G. W. Gabrielsen, F. Mehlum, H. E. Karlsen, O. Andresen and H. Parker

**Year:** 1991

**Title:** Energy Cost During Incubation and Thermoregulation in the Female Common Eider Somateria-Mollissima

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 51-62

**Short Title:** Energy Cost During Incubation and Thermoregulation in the Female Common Eider Somateria-Mollissima

**Accession Number:** BCI:BCI199192122389

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**Abstract:** Metabolic rate during incubation (IMR) was measured in two wild incubating Eiders at Ny-Alesund, Svalbard (79.degree. N). IMR, measured toward the end of incubation (day 15-20), averaged 0.80 ml O2/g .cntdot. h. The respiratory quotient (RQ) was 0.70, indiating that fat was the major metabolic fuel during this long period of fast. Both birds showed a decrease in mean daily energy expenditure with decreasing body mass but no significant decrease in specific resting metabolic rate. Thermoregulation was studied in 12 non-incubating Eiders in the laboratory. Resting metabolic rate (RMR) averaged 0.86 ml O2/g .cntdot. h, thermal conductance (TC) 0.0240 ml O2/g .cntdot. h .cntdot. .degree. C and deep body temperature 40.1.degree. C. The RMR value of non-incubating Eiders tended to be 7.5% higher than the IMR value of incubating birds (0.05 > p > 0.10, t-test). Both IMR and RMR values were above predicted values based on equations by Lasiewski and Dawson (1967) and Aschoff and Pohl (1970). TC was lower than values predicted from equations of Herreid and Kessel (1967) and higher than those predicted by Aschoff (1981). Calculation of daily energy expenditure (DEE) during incubation (day 20) based on weight loss was 24% and 29% less, respectively, than DEE measurements derived from indirect calorimetry of incubating and non-incubating eiders. Measurements of water influx rate close to hatching suggested that Eiders increased their water consumption then.

**URL:** <Go to ISI>://BCI199192122389

**Reference Type:**  Journal Article

**Record Number:** 353

**Author:** W. L. Gaines and R. E. Fitzner

**Year:** 1987

**Title:** Winter Diet of the Harlequin Duck at Sequim Bay Puget Sound Washington USA

**Journal:** Northwest Science

**Volume:** 61

**Issue:** 4

**Pages:** 213-215

**Short Title:** Winter Diet of the Harlequin Duck at Sequim Bay Puget Sound Washington USA

**Accession Number:** BCI:BCI198885088240

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Little information is available concerning the diet of harlequin ducks (Histrionicus histrionicus), therefore we examined their diet in Sequim Bay, Puget Sound, WA. We analyzed esophagi and gizzard contents of 21 harlequin ducks collected during the winter at the mouth of Sequim Bay. Principal food items were found to be snails, limpets, crabs, and chitons. Most of the prey of the harlequin duck was associated with rocky areas. Results of this study indicate that rocky shoreline areas are very important to harlequin ducks and should be protected.

**URL:** <Go to ISI>://BCI198885088240

**Reference Type:**  Journal Article

**Record Number:** 1565

**Author:** K. Galaktionov and J. O. Bustnes

**Year:** 1995

**Title:** Species composition and prevalence of seabird trematode larvae periwinkles at two littoral sites in North-Norway

**Journal:** Sarsia

**Volume:** 80

**Issue:** 3

**Pages:** 187-191

**Short Title:** Species composition and prevalence of seabird trematode larvae periwinkles at two littoral sites in North-Norway

**Accession Number:** BCI:BCI199698692985

**Keywords:** Common Eider; Somateria mollissima; Parasites; Breeding Season;

**Abstract:** We investigated the species composition and prevalence of seabird (final hosts) trematodes in periwinkles (mainly Littorina saxatilis and L. obtusata; first intermediate hosts) in two different areas near Tromso, North-Norway. The environmental conditions at the two sites were different. The first area was a large sheltered mudflat with high density of common eider Somateria mollissima broods, while the other consisted of exposed rocky shores, with a high density of breeding gulls Larus sp. We found a total of eight species of trematodes. At the first site, the prevalence of trematodes with autonomic life-cycles (microphallids of the pygmaeus group), and with the common eider as the most frequent final host, was significantly higher than in the other study area. There were no significant differences between the areas for most trematodes with two intermediate hosts and one or two free living larval stages, most of which have gulls as final hosts. We argue that for eider trematodes the density of final hosts is probably of importance for the infestation in intermediate hosts, while for species with more complex life-cycles, environmental exposure is probably of more importance for the transmission success.

**URL:** <Go to ISI>://BCI199698692985

**Reference Type:**  Journal Article

**Record Number:** 1309

**Author:** K. V. Galaktionov, K. V. Regel and G. I. Atrashkevich

**Year:** 2010

**Title:** Microphallus Kurilensis Sp Nov., a New Species of Microphallids from the Pygmaeus Species Group (Trematoda, Microphallidae) from the Coastal Areas of Okhotsk and Bering Seas

**Journal:** Parazitologiya (St. Petersburg)

**Volume:** 44

**Issue:** 6

**Pages:** 496-507

**Date:** Nov-Dec 2010

**Short Title:** Microphallus Kurilensis Sp Nov., a New Species of Microphallids from the Pygmaeus Species Group (Trematoda, Microphallidae) from the Coastal Areas of Okhotsk and Bering Seas

**Accession Number:** BCI:BCI201100146599

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** The pygmaeus-species group is composed of close related species from the genus Microphallus in which metacercariae develop inside daughter sporocysts without encystment. Infection of periwinkles Littorina (Neritrema) spp. with intramolluscan stages of a new species of this group (Microphallus kurilensis sp. nov.) was recorded on the coasts of Sakhalin and Kuril islands, north of the Sea of Okhotsk and Chukchi Peninsula (the Bering Sea). Application of molecular methods allowed us to establish that M. kurilensis metacercariae are conspecific with one of the morphotypes of microphallid adults obtained from the intestine of the Pacific common eider (Somateria mollissima v-nigrum), which was shot in the north of the Sea of Okhotsk (Galaktionov, Olson, and Blasco-Costa, in press). The adults of the same morphotype were recorded in the Pacific common eider from the northwestern part of the Bering Sea (Chukchi Peninsula). In the course of experimental infection of the slaty-backed gull Larus schistisagus chicks with metacercariae of M kurilensis, few microphallid adults were obtained. These adults were identical in their morphology with specimens of the microphallid morphotype from the Pacific common eider, which had been identified as M. kurilensis based on molecular data. Morphological description of metacercaria and adult of M. kurilensis and list of their differences from the same developmental stages of other species from pygmaeus-group are provided. It is concluded that M. kurilensis is transmitted in the host system including periwinkle Littorina (Neritrema) and seaducks (predominately, Pacific common eider). Most probably, distribution of M. kurilensis is not limited by the north Asiatic coast but expanded to the North American coast of the Pacific Ocean.

**URL:** <Go to ISI>://BCI201100146599

**Reference Type:**  Journal Article

**Record Number:** 1550

**Author:** A. K. Galkin

**Year:** 1997

**Title:** Reidentification of "Hymenolepis setigera" from eider ducks of the Murman coast

**Journal:** Parazitologiya (St. Petersburg)

**Volume:** 31

**Issue:** 3

**Pages:** 223-230

**Date:** May-June, 1997

**Short Title:** Reidentification of "Hymenolepis setigera" from eider ducks of the Murman coast

**Accession Number:** BCI:BCI199800304542

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** Bielopolskaya (1952) mentions eider duck Somateria mollissima of the Murman Coast as a new host for Hymenolepis setigera (Froelich, 1789) (= Tschertkovilepis setigera). This tapeworm is known as a common parasite of geese. In the Zoological Institute one of Bielopolskaya's slides (N 1631) is presented. It is interesting to compare the morphology of eider duck's parasite with the same of Tsch. setigera from Anser anser. The investigation revealed that it is quite different. The scolex of Tsch. setigera resembles that of Diorchis, with short rostellum and oval suckers. The length of the rostellar hooks is 0.038-0.042 mm. They are of "rostelloid" type as the guard is well-developed but much shorter than the blade. The topography of gonads is rather peculiar. The middle testis is situated antiporally to the median line of the proglottis, the female gonads lie just near the antiporal testis. The similar topography of gonads is in Wardoides nyrocae. Testes are present even in pregravid proglottids. Cirrus is very expressive, 0.3 X 0.045-0.05 in dimensions. The spines in its middle part attain 0.015 in length. The ovarium consists of 5-7 lobes. Uterus is sac-form, with numerous eggs in it. The length of the gravid strobile is more than 200 mm, it consists of several thousands of proglottids. Worms on the slide N 1631 undoubtedly belong to the genus Microsomacanthus as their scoleces have a rostrum. The length of rostellar hooks is 0.045 mm, their guard is rudimental. Gonads are slightly displaced to the antiporal side. Cirrus is 0.12 X 0.012-0.018 in dimensions, the longest spines attaining 0.006 mm are in its middle part. The ovary is small, 3-lobed; two lateral lobes are much more voluminous than the middle one. Testes are resorbed rapidly, so they are absent in the female zone of the strobile. The young uterus is tube-form, curved like a yoke, with its lateral ends turned onward. The number of eggs in it is restricted to about 40. Pregravid strobile consists of 300 proglottids. Material of Bielopolskaya is identical to Microsomacanthus heterospinus Spassky et Jurpalova, 1964. This species described from eider duck of the Bering Sea in morphologically very close to the type species of the genus Microsomacanthus, M. microsoma (Creplin, 1829). However, the precise characteristic of M. microsoma is lacking. So we preliminary redetermine the material from the Barents Sea eider ducks as M. heterospinus. Deep distinctions observed between Tsch. setigera and M. heterospinus do not permit to consider them in the limits of one genus. The diagnosis of the genus Microsomacanthus given by Chaplinski, Vaucher (1994) is too vague. To our opinion, the validity of the genus Tschertkovilepis Spassky et Spasskaja, 1954 with the type species Tsch. setigera is out of question.

**URL:** <Go to ISI>://BCI199800304542

**Reference Type:**  Journal Article

**Record Number:** 1350

**Author:** A. K. Galkin, J. Mariaux, K. V. Regel and K. Skirnisson

**Year:** 2008

**Title:** Redescription and new data on Microsomacanthus diorchis (Fuhrmann, 1913) (Cestoda : Hymenolepididae)

**Journal:** Systematic Parasitology

**Volume:** 70

**Issue:** 2

**Pages:** 119-130

**Date:** Jun 2008

**Short Title:** Redescription and new data on Microsomacanthus diorchis (Fuhrmann, 1913) (Cestoda : Hymenolepididae)

**Accession Number:** BCI:BCI200800382580

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** Microsomacanthus diorchis (Fuhrmann, 1913) is redescribed and illustrated on the basis of the type-material and new findings from common eider Somateria mollissima captured in Iceland and specimens from the same host species from the Barents, White and Bering Seas. A lectotype is designated and an amended diagnosis is provided. The main differentiating features of M. diorchis are the size and shape of rostellar hooks and the cirrus, the well-marked delay in the antiporal testis development and the bow-shaped uterus. This parasite is shown to be specific to S. mollissima for both Atlantic and Pacific populations of the host. Hymenolepis (Microsomacanthus) somateriae of Bishop & Threlfall (1974) [nec M. somateriae Ryzhikov, 1965] is recognised as a synonym of M. diorchis (Fuhrmann, 1913). The taxonomic position of the species described as Aploparaksis murmanica Baylis, 1919 from common eider is discussed.

**URL:** <Go to ISI>://BCI200800382580

**Reference Type:**  Journal Article

**Record Number:** 1749

**Author:** M. Gamberg, B. Braune, E. Davey, B. Elkin, P. F. Hoekstra, D. Kennedy, C. Macdonald, D. Muir, A. Nirwal, M. Wayland and B. Zeeb

**Year:** 2005

**Title:** Spatial and temporal trends of contaminants in terrestrial biota from the Canadian Arctic

**Journal:** Science of the Total Environment

**Volume:** 351

**Issue:** Sp. Iss. SI

**Pages:** 148-164

**Date:** Dec 1 2005

**Short Title:** Spatial and temporal trends of contaminants in terrestrial biota from the Canadian Arctic

**Accession Number:** BCI:BCI200600192603

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Contaminants; Breeding Season;

**Abstract:** Contaminants in the Canadian Arctic have been studied over the last twelve years under the guidance of the Northern Contaminants Program. This paper summarizes results from that program from 1998 to 2003 with respect to terrestrial animals in the Canadian Arctic. The arctic terrestrial environment has few significant contaminant issues, particularly when compared with freshwater and marine environments. Both current and historical industrial activities in the north may have a continuing effect on biota in the immediate area, but effects tend to be localized. An investigation of arctic ground squirrels at a site in the Northwest Territories that had historically received applications of DDT concluded that DDT in arctic ground squirrels livers was the result of contamination and that this is an indication of the continuing effect of a local point source of DDT. Arsenic concentrations were higher in berries collected from areas around gold mines in the Northwest Territories than from control sites, suggesting that gold mining may significantly affect arsenic levels in berries in the Yellowknives Dene traditional territory. Although moose and caribou from the Canadian Arctic generally carry relatively low contaminant burdens, Yukon moose had high renal selenium concentrations, and moose and some woodland caribou from the same area had high renal cadmium levels, which may put some animals at risk of toxicological effects. Low hepatic copper levels in some caribou herds may indicate a shortage of copper for metabolic demands, particularly for females. Similarities in patterns of temporal fluctuations in renal element concentrations for moose and caribou suggest that environmental factors may be a major cause of fluctuations in renal concentrations of some elements. Concentrations of persistent organochlorines and metals in beaver and muskrat from the Northwest Territories, and carnivores from across the Canadian Arctic were very low and considered normal for terrestrial wildlife. Two new classes of persistent fluorinated contaminants, perfluorooctane sulfonate (PFOS) and perfluoroalkyl carboxylates (PFCAs) were found in arctic carnivores and were most abundant in arctic fox and least abundant in mink. Although trace element concentrations in king and common eider ducks were low and not of toxicological concern, the number of nematode parasites in common eiders was positively correlated with total and organic mercury concentrations. Future research should focus on cadmium in moose and caribou, mercury in caribou, and emerging contaminants, with an effort to sample moose and caribou annually where possible to explore the role of naturally occurring cycles in apparent temporal trends. (c) 2005 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200600192603

**Reference Type:**  Journal Article

**Record Number:** 601

**Author:** J. H. Gammonley and M. E. Heitmeyer

**Year:** 1990

**Title:** Behavior Body Condition and Foods of Buffleheads and Lesser Scaups During Spring Migration through the Klamath Basin California USA

**Journal:** Wilson Bulletin

**Volume:** 102

**Issue:** 4

**Pages:** 672-683

**Short Title:** Behavior Body Condition and Foods of Buffleheads and Lesser Scaups During Spring Migration through the Klamath Basin California USA

**Accession Number:** BCI:BCI199191083082

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Behavior, body condition, and food habits of Buffleheads (Bucephala albeola) and Lesser Scaups (Aythya affinis) were studied in the Klamath Basin in northern California in spring 1986 and 1987. Peak Lesser Scaup and Bufflehead numbers were present in early February and and mid-March, respectively. The first spring migrants of both species were mostly paired or courting adults. Buffleheads and Lesser Scaups spent 63-82% and 23-50% of their diurnal activities feeding, respectively. Both species consumed primarily (66-77% volume, 58-72% dry weight) invertebrates. Chironomidae larvae were the most important food consumed by both species. Body and carcass masses of both species were near mid-winter levels but below masses observed upon their arrival at northern breeding areas. Our data indicate that wetland habitats in the Klamath Basin provide important food and resting resources for migrating Buffleheads and Lesser Scaups.

**URL:** <Go to ISI>://BCI199191083082

**Reference Type:**  Journal Article

**Record Number:** 430

**Author:** A. Gardarsson

**Year:** 1978

**Title:** Distribution and Numbers of the Barrows Goldeneye Bucephala-Islandica in Iceland

**Journal:** Natturufraedingurinn

**Volume:** 48

**Issue:** 3-4

**Pages:** 162-191

**Short Title:** Distribution and Numbers of the Barrows Goldeneye Bucephala-Islandica in Iceland

**Accession Number:** BCI:BCI197968052415

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Distribution and numbers were studied during 1975-78. During censuses each bird was sexed and aged with the maximum possible accuracy. A brief review is given of the general distribution of the species with emphasis on the eastern part of the distribution. The breeding range is centered on Lake Myvatn and the uppermost Laxa river which together account for at least 95% of the breeding population. Prior estimates of the Barrow's goldeneye population of the Myvatn region are briefly reviewed. Better estimates are needed of the number of females, the number of breeders and the number of fledged young. Further studies are required to show conclusively whether censuses in Iceland account for the entire Icelandic population or whether there is a non-breeding segment in eastern North America.

**URL:** <Go to ISI>://BCI197968052415

**Reference Type:**  Journal Article

**Record Number:** 382

**Author:** A. Gardarsson

**Year:** 2006

**Title:** Temporal processes and duck populations: examples from Myvatn

**Journal:** Hydrobiologia

**Volume:** 567

**Pages:** 89-100

**Date:** Sep 2006

**Short Title:** Temporal processes and duck populations: examples from Myvatn

**Accession Number:** BCI:BCI200600506819

**Keywords:** Sea Ducks - General; Barrow's Goldeneye; Bucephala islandica; Population Dynamics; Trophic Interactions; Breeding Season;

**Abstract:** Studies of temporal processes at Lake Myvatn, Iceland, on three scales, millennial, centennial and decadal, are reviewed and a summary is presented of the main results of waterfowl population monitoring studies conducted during the past three decades. The characteristics of shallow, subarctic Lake Myvatn and its volcanic environment, are outlined, as well as recent conflicts between development and conservation. Mining of the bottom sediment of Lake Myvatn has been a major agent causing habitat destruction and damage to the food web. Population limitation of waterbirds at Myvatn is discussed, as three research questions and emerging answers: (1) How is reproductive output determined? All species studied showed positive correlations of production of young with levels of aquatic insects, catastrophic weather was rarely important; (2) How is the dispersion of breeding ducks determined? Densities of migratory species are determined mainly by resource levels on the breeding ground in the year before they return to the breeding area; a year-round resident species, Bucephala islandica, adjusts its density to the current availability of insect food in each of two main habitats used; (3) How are flyway populations of ducks determined? For most species, there is not enough information on total numbers and the state of the habitat on a flyway scale. In B. islandica, there are indications that the total population is limited by resources in winter. The Myvatn study area is dominated by a single, shallow and eutrophic lake and for many waterbird species the area seems to form a single functional unit. This leads to significant correlations when comparing demography with environmental conditions, such as food resources.

**URL:** <Go to ISI>://BCI200600506819

**Reference Type:**  Journal Article

**Record Number:** 260

**Author:** A. Gardarsson

**Year:** 2008

**Title:** Harlequin Ducks in Iceland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 8-14

**Short Title:** Harlequin Ducks in Iceland

**Accession Number:** BCI:BCI200900160409

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season; Nonbreeding Seasons; Abundance, Distribution, and Trends;

**Abstract:** In Iceland, the Harlequin Duck (Histrionicus histrionicus) is generally distributed as a breeder oil rapA clear-water streams, from sea level to about 700 in. Densities are generally low, except at the headwaters of streams draining productive lakes where blackflies (Simulium vittalum) are abundant. In northwest, north and cast Iceland, molting Harlequin Ducks are found in similar localities as the wintering birds, but molting birds are largely absent front the southwest coast. During the molt, the birds often stay close to cliffs or rocks and are hard to find. Harlequin Ducks winter oil exposed rocky coasts and densities are correlated with substrate as indicated by shore exposure. In 1998-2001, the total wintering population of Harlequin Ducks in Iceland was estimated at 14,000, with 95% confidence limits of 12,000 to 16,000. Assuming that migration in and out. Of Iceland is insignificant, the total Icelandic breeding Population is 3,000-5,000 females, or three to five females (pairs) 100 km(-2). A decline in wintering numbers was found in southwest Iceland in 1961-2002, but. numbers in the northeast have increased. This may be related to increased temperatures, but changes in exploitation may also have affected the population. The conservation of the Icelandic population of the Harlequin Duck is largely a matter of wise use of the coast and streams Which Should include preemptive measures, such as minimizing pollution and development. Small-scale river-development for power production and salmon fishing pose potential threats to Harlequin Ducks, but direct exploitation Of this population is not likely.

**URL:** <Go to ISI>://BCI200900160409

**Reference Type:**  Journal Article

**Record Number:** 345

**Author:** A. Gardarsson and A. Einarsson

**Year:** 1994

**Title:** Responses of breeding duck populations to changes in food supply

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 15-27

**Short Title:** Responses of breeding duck populations to changes in food supply

**Accession Number:** BCI:BCI199497325648

**Keywords:** Black Scoter; Melanitta nigra; Barrow's Goldeneye; Bucephala islandica; Harlequin duck; Histrionicus histrionicus;Abundance, Distribution, and Trends; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** We describe the main results of a monitoring study at Lake Myvatn, northern Iceland, begun in 1975. The aims were to find factors that limit production of young and cause changes in density of breeding ducks of several species. We estimated numbers of ducks in spring, before nesting, numbers of ducklings produced, and numbers moulting. Chironomid and simuliid dipterans were monitored with window traps. In all duck species studied, production of young was correlated with food abundance. Reproductive performance determined subsequent changes in spring population density of Eurasian Wigeon, Tufted Duck, Greater Scaup, Common Scoter and Harlequin Duck. The spring population of Barrow's Goldeneve apparently did not respond to variation in reproductive success. Moulting numbers of male Tufted Duck were related to chironomid abundance, but not those of Scaup and Barrow's Goldeneye. Moulting numbers were not associated with previous reproductive output.

**URL:** <Go to ISI>://BCI199497325648

**Reference Type:**  Journal Article

**Record Number:** 261

**Author:** A. Gardarsson and A. Einarsson

**Year:** 2008

**Title:** Relationships among Food, Reproductive Success and Density of Harlequin Ducks on the River Laxa at Myvatn, Iceland (1975-2002)

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 84-91

**Short Title:** Relationships among Food, Reproductive Success and Density of Harlequin Ducks on the River Laxa at Myvatn, Iceland (1975-2002)

**Accession Number:** BCI:BCI200900160419

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Population Dynamics; Productivity; Breeding Season;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) and aquatic insects have been monitored oil the River Laxa at Myvatn, from 1975 and 1977, respectively, tip to the present. The area holds the densest breeding population of this species in Iceland. The relationship between food abundance, reproductive success and density of breeding Harlequin Ducks were examined oil three sections (outlet, upper and lowland) of the Laxa. Spring density was highest Oil the lake Outlet (2.1 ha(-1)) and much lower oil the upper (0.3 ha(-1)) and lowland (0.4 ha(-1)) sections. Numbers of Harlequin Ducks on the Laxa increased significantly during the study period, 1975-2002. The trend of increasing numbers could be attributed to either a general, as yet unexplained, increase of Harlequin Ducks in northern and northeastern Iceland, or perhaps to the successful eradication of American Mink (Mustela. vison) breeding at the lake outlet (the main production centre of young Harlequin Ducks). Sex ratio in spring was 41% females at the outlet and oil the upper Laxa but 36% on tire lowland part. Yearling males were about 1% of all males oil the upper river but 6-19% on the lowland part. Most young were produced at the outlet, while few females or broods were found further down the liver. The mean total number of young produced annually at the Outlet was 74 +/- 11 (range = 9,235). Young per female present in spring at the Outlet and upper part was 0.49 +/- 0.09, or if only females at the Outlet in spring are considered, 0.82 +/- 0.17. Annual production of young was positively correlated with total yearly black (IN, abundance. We conclude that food limits the production of young in the Harlequin Duck. Changes in the densities of adults Oil the breeding grounds showed density dependence but were not significantly associated with food resources or previous production Of Voting.

**URL:** <Go to ISI>://BCI200900160419

**Reference Type:**  Book Section

**Record Number:** 55

**Author:** S. Garthe

**Year:** 2006

**Title:** Identification of areas of seabird concentrations in the German North Sea and Baltic Sea using aerial and ship-based surveys

**Book Title:** Progress in Marine Conservation in Europe:NATURA 2000 SITES IN GERMAN OFFSHORE WATERS

**Pages:** 225-238

**Short Title:** Identification of areas of seabird concentrations in the German North Sea and Baltic Sea using aerial and ship-based surveys

**Accession Number:** BCI:BCI200600644799

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI200600644799

**Reference Type:**  Journal Article

**Record Number:** 84

**Author:** S. Garthe and O. Huppop

**Year:** 2004

**Title:** Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index

**Journal:** Journal of Applied Ecology

**Volume:** 41

**Issue:** 4

**Pages:** 724-734

**Date:** August 2004

**Short Title:** Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index

**Accession Number:** BCI:BCI200400354616

**Keywords:** Sea Ducks - General; Conservation;

**Abstract:** 1. Marine wind farms have attracted substantial public interest. The construction of wind facilities offshore may become Europe's most extensive technical development in marine habitats. Due to political pressure to complete construction soon, assessments of possible wind farm locations, for example in the German sectors of the North Sea and Baltic Sea, have to be based on existing knowledge. 2. In this study, we developed a wind farm sensitivity index (WSI) for seabirds. We applied this index to the Exclusive Economic Zone and the national waters of Germany in the North Sea. We chose nine factors, derived from species' attributes, to be included in the WSI: flight manoeuvrability; flight altitude; percentage of time flying; nocturnal flight activity; sensitivity towards disturbance by ship and helicopter traffic; flexibility in habitat use; biogeographical population size; adult survival rate; and European threat and conservation status. Each factor was scored on a 5-point scale from 1 (low vulnerability of seabirds) to 5 (high vulnerability of seabirds). Five of these factors could be dealt with by real data but four could only be assessed by subjective considerations based on at-sea experience; in the latter cases, suggestions of the first author were independently modulated by experts. 3. Species differed greatly in their sensitivity index (SSI). Black-throated diver Gavia arctica and red-throated diver Gavia stellata ranked highest (= most sensitive), followed by velvet scoter Melanitta fusca, sandwich tern Sterna sandvicensis and great cormorant Phalacrocorax carbo. The lowest values were recorded for black-legged kittiwake Rissa tridactyla, black-headed gull Larus ridibundus and northern fulmar Fulmarus glacialis. 4. A WSI score for areas of the North Sea and Baltic Sea was calculated from the species-specific sensitivity index values. Coastal waters in the south-eastern North Sea had values indicating greater vulnerability than waters further offshore throughout the whole year. 5. Derived from the frequency distribution of the WSI, we suggest a 'level of concern' and a 'level of major concern' that are visualized spatially and could act as a basis for the selection of marine wind farm locations. 6. Synthesis and applications. The wind farm sensitivity index might be useful in strategic environmental impact assessments (EIA). Results of small-scale EIA from wind installations should be considered within a more global perspective, provided, for example, by large mapping projects and detailed behavioural studies. This is difficult in normal EIA, particularly in highly dynamic coastal/marine habitats, and the results of this study fill an important gap by providing information on the potential sensitivity of seabirds and the importance of locations of wind installations.

**URL:** <Go to ISI>://BCI200400354616

**Reference Type:**  Journal Article

**Record Number:** 36

**Author:** S. Garthe, N. Sonntag, P. Schwemmer and V. Dierschke

**Year:** 2007

**Title:** Estimation of seabird numbers in the German North Sea throughout the annual cycle and their biogeographic importance

**Journal:** Vogelwelt

**Volume:** 128

**Issue:** 4

**Pages:** 163-178

**Short Title:** Estimation of seabird numbers in the German North Sea throughout the annual cycle and their biogeographic importance

**Accession Number:** BCI:BCI200800471189

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Increasing plans for economic activities at sea have recently led to intensive studies of seabird IV distribution and seabird numbers. However, there are still some temporal gaps concerning seabird numbers, and important up-to-date information is still missing. Thus, the aim of this study is to provide most recent seabird numbers for all seasons and all species that are regularly resting and/or foraging in German waters of the North Sea, split into the politically relevant areas EEZ as well as the 12 nautical miles zones of Niedersachsen and Schleswig-Holstein, respectively.For our analyses at sea, we investigated seabird numbers from the outer Wadden Sea islands to the outer boarders of German waters, using standardised ship-based (years: 1993-2003) and aerial (2002-2006) transect methods. We calculated and applied species-specific correction factors for birds presumably overlooked in the outer transect area. Using grid maps of seabird distribution, geographic units of sinnilar bird densities were designed for each bird species and each season, covering the entire study area. Then, numbers within each unit were calculated by firstly dividing the total number of birds by the total area surveyed and by secondly multiplying this value by the size of the unit. Finally, the total was derived as the sum across all of these units. In addition to the numbers at sea, we included (1) data from regular counts on Helgoland, (2) data from counts along the German Wadden Sea coast and (3) from aerial censuses for sea ducks as well as (4) colony census data.When only considering numbers at sea, between 183,000 (autumn) and 265,000 (winter) birds occur in the German part of the North Sea. The most numerous species are Common I Scoter Melanitta nigra (130,000 ind.; winter), Lesser Black-backed Gull Larus fuscus (45,000 ind.; summer) and Northern Fulmar Fulmarus glacialis (40,000 ind.; summer). Including coastal areas, total numbers range from 463,000 ind. (autumn) to 693,000 ind. (summer). Common Eiders Somateria mollissima are most numerous (180,000 ind.; autumn), followed by Black-headed Gulls Larus ridibundus (170,000 ind.; autumn) and Common Scoters (135,000 ind.; winter). In relation to their biogegographic populations, Common Eiders (23.7%; autumn), Lesser Black- backed Gulls (19.9%; summer) and Sandwich Terns Sterna sandvicensis (12.5%; summer) are most important. From a conservation point of view, summer is the most important time of the year. overall, our results show that 13 species occur in internationally important concentrations in the German North Sea area.

**URL:** <Go to ISI>://BCI200800471189

**Reference Type:**  Journal Article

**Record Number:** 697

**Author:** J. S. Gashwiler

**Year:** 1949

**Title:** The effect of spring muskrat trapping on waterfowl in Maine

**Journal:** Jour Wildlife Management

**Volume:** 13

**Issue:** (2)

**Pages:** 183-188

**Short Title:** The effect of spring muskrat trapping on waterfowl in Maine

**Accession Number:** BCI:BCI19492300022985

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Conservation; Breeding Season;

**Abstract:** A total of 127 ducks caught in spring set muskrat traps was received at the Maine Cooperative Wildlife Research Unit from 1938 to 1947. These consisted of 43% black ducks, 27% wood ducks, 12% green-winged teal, 9% ring-necked ducks, and 8% hooded mergansers; other spp. were of little significance. Quantitative data were obtained on 6 study areas in central and eastern Maine in the spring of 1946 and 1947. In 1946 a ratio of 14.7 muskrats was trapped to each duck[long dash]in 1947 it was 17.7 muskrats per duck. The total kill of ducks in muskrat traps in 1946 for Maine was conservatively estimated as 1945 birds with an additional estimated 2220 ducks trapped and released alive, suffering various degrees of injury. These figures assume greater importance when it is considered that they were birds already in, or approaching, the breeding cycle. As a rule, the surface feeding ducks were most susceptible to muskrat trapping. Spring muskrat trapping seasons are in effect in at least 15 of the 22 states and provinces that constitute the major part of the known black duck breeding range. Waterfowl mortality resulting from spring trapping over this vast area may be of serious concern. ABSTRACT AUTHORS: J. S. Gashwiler

**URL:** <Go to ISI>://BCI19492300022985

**Reference Type:**  Book Section

**Record Number:** 1643

**Author:** A. J. Gaston and F. G. Cooch

**Year:** 1987

**Title:** Observations of Common Eiders in Hudson Strait Canada Aerial Surveys in 1980-83

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 51-54

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Observations of Common Eiders in Hudson Strait Canada Aerial Surveys in 1980-83

**Accession Number:** BCI:BCI198834004261

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI198834004261

**Reference Type:**  Journal Article

**Record Number:** 617

**Author:** G. Gauthier

**Year:** 1986

**Title:** Experimentally-Induced Polygyny in Buffleheads Evidence for a Mixed Reproductive Strategy

**Journal:** Animal Behaviour

**Volume:** 34

**Issue:** 1

**Pages:** 300-302

**Short Title:** Experimentally-Induced Polygyny in Buffleheads Evidence for a Mixed Reproductive Strategy

**Accession Number:** BCI:BCI198630080451

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI198630080451

**Reference Type:**  Journal Article

**Record Number:** 613

**Author:** G. Gauthier

**Year:** 1987

**Title:** Brood Territories in Buffleheads Determinants and Correlates of Territory Size

**Journal:** Canadian Journal of Zoology

**Volume:** 65

**Issue:** 6

**Pages:** 1402-1410

**Short Title:** Brood Territories in Buffleheads Determinants and Correlates of Territory Size

**Accession Number:** BCI:BCI198784096680

**Keywords:** Bufflehead; Bucephala albeola; Productivity; Survival; Habitat; Breeding Season;

**Abstract:** In most species of ducks, only females tend the brood, and they do not defend brood territories. However, in buffleheads (Bucephala albeola), females strongly defend brood territories. I examined factors affecting territory size of broods, and their consequences for growth rate and survival of ducklings. Brood density tended to be higher on ponds with higher food density. Territory size was inversely correlated with both food abundance in the territory and brood density on the pond. The slope of the relationship between territory size and food did not differ significantly from -1, the slope expected if females adjust territory size to maintain a constant food supply. Partial correlation analysis, however, revealed that brood density may be a more important proximate determinant of territory size than food. Growth rates of ducklings were not affected by food density but were depressed at high brood density in one year. Duckling survival increased with food density in the first year but was depressed at high brood density in the next. I suggest that females select a brood territory and that the size of that territory varies according to both food and brood density. This apparently buffers the effects of variation in food and brood density on growth and survival of ducklings.

**URL:** <Go to ISI>://BCI198784096680

**Reference Type:**  Journal Article

**Record Number:** 615

**Author:** G. Gauthier

**Year:** 1987

**Title:** The Adaptive Significance of Territorial Behavior in Breeding Buffleheads a Test of Three Hypotheses

**Journal:** Animal Behaviour

**Volume:** 35

**Issue:** 2

**Pages:** 348-360

**Short Title:** The Adaptive Significance of Territorial Behavior in Breeding Buffleheads a Test of Three Hypotheses

**Accession Number:** BCI:BCI198784021924

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** Waterfowl show considerable variability in their degree of territoriality. In this study, the adaptive significance of territorial behaviour in buffleheads, Bucephala albeola, a highly territorial species, was investigated. The following hypotheses were tested: (1) the territory secures food resources for the laying female (food hypothesis), (2) the territory provides undisturbed feeding time for the female and ensures paternity (mate-guarding hypothesis), (3) the territory protects the nest site (nest site hypothesis). Contrary to predictions of the food hypothesis, territory size was not inversely related to food abundance in the territory, and food was correlated to only two of five measures of reproductive success: females started laying earlier and clutch weight was slightly higher (but only in one year) on territories with more food. When males were removed during the egg-laying period, neighbouring males behaved aggressively toward widowed females and they usually evicted these females from their territory. Widowed females spent less time feeding and more time alert. Females tended to use a territory adjacent to the nest, and those that did not do so suffered a higher rate of nest parasitism. Thus mate guarding may be a major function of territorial behaviour in buffleheads. Protection of the nest site may further explain why bufflehead territories are more site-specific than those of other territorial ducks.

**URL:** <Go to ISI>://BCI198784021924

**Reference Type:**  Journal Article

**Record Number:** 610

**Author:** G. Gauthier

**Year:** 1988

**Title:** Factors Affecting Nest-Box Use by Buffleheads and Other Cavity-Nesting Birds

**Journal:** Wildlife Society Bulletin

**Volume:** 16

**Issue:** 2

**Pages:** 132-141

**Short Title:** Factors Affecting Nest-Box Use by Buffleheads and Other Cavity-Nesting Birds

**Accession Number:** BCI:BCI198835044913

**Keywords:** Bufflehead; Bucephala albeola; Breeding Season;

**URL:** <Go to ISI>://BCI198835044913

**Reference Type:**  Journal Article

**Record Number:** 605

**Author:** G. Gauthier

**Year:** 1989

**Title:** The Effect of Experience and Timing on Reproductive Performance in Buffleheads

**Journal:** Auk

**Volume:** 106

**Issue:** 4

**Pages:** 568-576

**Short Title:** The Effect of Experience and Timing on Reproductive Performance in Buffleheads

**Accession Number:** BCI:BCI199089023701

**Keywords:** Bufflehead; Bucephala albeola; Productivity; Breeding Season;

**Abstract:** I investigated the relationship among breeding experience, timing of reproduction, and reproductive performance in female Buffleheads (Bucephala albeola) over a 5-yr period. There were significant yearly fluctuations in date of nest initiation and in clutch size. On average, first-time breeders began nesting later, had a lower nesting success, fledged less young, and tended to have smaller clutches (although not significantly so) than experienced breeders. Birds that used nest boxes also began to lay later, had lower nesting success, and fledged fewer young than those that used natural cavities. This could not be explained solely by the higher use of nest boxes by first-time breeders. Repeatability was moderate for date of nest initiation and clutch size, but low for the number of young fledged. There was a seasonal decline in clutch size for both first-time and experienced breeders, although the relationship was much stronger for the latter group. Nesting success also decreased throughout the season, but the number of young fledged did not decrease. More early-hatched than late-hatched females were recruited into the breeding population. Early nesting was advantageous for experienced breeders.

**URL:** <Go to ISI>://BCI199089023701

**Reference Type:**  Journal Article

**Record Number:** 600

**Author:** G. Gauthier

**Year:** 1990

**Title:** Philopatry Nest-Site Fidelity and Reproductive Performance in Buffleheads

**Journal:** Auk

**Volume:** 107

**Issue:** 1

**Pages:** 126-132

**Short Title:** Philopatry Nest-Site Fidelity and Reproductive Performance in Buffleheads

**Accession Number:** BCI:BCI199089092016

**Keywords:** Bufflehead; Bucephala albeola; Dispersal; Productivity; Breeding Season;

**Abstract:** I examined the consequences of breeding-site fidelity and natal philopatry on reproductive performance in Buffleheads (Bucephala albeola). Return rates of breeding females averaged 44% over 4 years. Females were twice as likely to return after their second breeding year than after their first. This difference was not associated with a poor reproductive performance in the previous year because birds that failed to return to the study area had a reproductive performance similar to those that returned, irrespective of breeding experience. Probability of return for successful breeders (45%) did not differ significantly (P > 0.1) from failed nesters (29%). However, nest-site fidelity was high (68%) and was associated with nesting success because successful breeders (83%) were much more likely to reuse the same nest site than were failed breeders (29%). Nest-site fidelity provided some benefits to females. Birds who used the same site laid earlier and laid more eggs. The return rate of females banded as ducklings was 13% in the first two years after banding. Natal philopatry was strongly female-biased and no male ducklings were known to have returned to the study area. The average distance of natal dispersal for returning females was 0.99 km. My results supported Rohwer and Anderson's (1988) prediction that female ducks should gain in terms of reproductive success by returning to a familiar area.

**URL:** <Go to ISI>://BCI199089092016

**Reference Type:**  Journal Article

**Record Number:** 597

**Author:** G. Gauthier

**Year:** 1993

**Title:** Bufflehead (Bucephala albeola)

**Journal:** Birds of North America

**Volume:** 0

**Issue:** 67

**Pages:** 1-23

**Short Title:** Bufflehead (Bucephala albeola)

**Accession Number:** BCI:BCI199497168996

**Keywords:** Bufflehead; Bucephala albeola; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199497168996

**Reference Type:**  Journal Article

**Record Number:** 2345

**Author:** G. Gauthier

**Year:** 2014

**Title:** Bufflehead (Bucephala albeola)

**Journal:** The Birds of North America

**Short Title:** Bufflehead (Bucephala albeola)

**Keywords:** Bufflehead; Bucephala albeola

**Reference Type:**  Journal Article

**Record Number:** 614

**Author:** G. Gauthier and J. N. M. Smith

**Year:** 1987

**Title:** Territorial Behavior Nest-Site Availability and Breeding Density in Buffleheads

**Journal:** Journal of Animal Ecology

**Volume:** 56

**Issue:** 1

**Pages:** 171-184

**Short Title:** Territorial Behavior Nest-Site Availability and Breeding Density in Buffleheads

**Accession Number:** BCI:BCI198783084331

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Habitat; Breeding Season;

**Abstract:** (1) Buffleheads (Bucephala albeola) are cavity-nesting ducks that are highly territorial during the nesting period. We tested whether nest-site availability or territorial behaviour limits breeding density. (2) The number of suitable cavities was two to three times higher than the number of breeding pairs during all 4 years. (3) Added next boxes, used increasingly by buffleheads as the study progressed, were compensated for by a concomitant decline in the number of natural cavities used. (4) The number of breeding pairs remained stable throughout the study. There was, however, a surplus of adult males in the population, and possibly also a surplus of adult females. (5) We removed seven territorial males during the nesting season. There were four replacements, three by previously unmated males and one by a new pair. (6) We conclude the nest sites are not limiting for buffheads in the Cariboo Parkland, BC [Canada], but the territorial behaviour may limit breeding density in this population.

**URL:** <Go to ISI>://BCI198783084331

**Reference Type:**  Journal Article

**Record Number:** 1691

**Author:** J. Gauthier and J. Bedard

**Year:** 1976

**Title:** Dispersal of the Common Eider Somateria-Mollissima in the St-Lawrence Estuary Quebec Canada

**Journal:** Naturaliste Canadien (Quebec)

**Volume:** 103

**Issue:** 4

**Pages:** 261-284

**Short Title:** Dispersal of the Common Eider Somateria-Mollissima in the St-Lawrence Estuary Quebec Canada

**Accession Number:** BCI:BCI197764013491

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Molt; Migration; Breeding Season; Nonbreeding Seasons;

**Abstract:** Common Eiders (20,000 pairs) nest on 10 islands scattered amid the 5000 km2 St. Lawrence estuary [Quebec, Canada]. The post-breeding dispersal of 1300 individually tagged females was followed in 1972 and 1973. From 12-15% of these take an active part in the rearing of ducklings. Their dispersal among the islands and along the shores of the estuary is influenced mainly by distance and physical conditions encountered during crossings (surface currents and waves) as well as by duckling vigor and the attraction of species coastal stations upon certain females. Females not accompanying ducklings scatter along the same coastal stretches visited by females accompanying ducklings, but their dispersal to such sites is less strongly affected by factors of distance and weather. By late July, birds which had completed brood-rearing joined non-breeding females and moved eastward for the duration of the molt. About 4000 males had already reached these molting grounds by late June while the remainder of the population, about 16,000, had probably left the estuary prematurely. Males and females were capable of flight (following molt) in mid and late-Sept., respectively. At this time, fall migration really began along 2 major axes. One towards the NE was coastal, bringing the birds around Gaspe Peninsula. The other, towards the SW leading the eiders upriver, around Montmagny at which point they undertook an overland journey towards the coast of Maine [USA]. By late-Nov., the estuary had been practically deserted by the eider. The spring migration occurred during the first weeks of May. About 20% of the marked birds displayed philopatry to either nest sites or rearing sites.

**URL:** <Go to ISI>://BCI197764013491

**Reference Type:**  Journal Article

**Record Number:** 1690

**Author:** J. Gauthier, J. Bedard and A. Reed

**Year:** 1976

**Title:** Overland Migration by Common Eiders of the St-Lawrence Estuary Canada

**Journal:** Wilson Bulletin

**Volume:** 88

**Issue:** 2

**Pages:** 333-344

**Short Title:** Overland Migration by Common Eiders of the St-Lawrence Estuary Canada

**Accession Number:** BCI:BCI197763049613

**Keywords:** Common Eider; Somateria mollissima; Migration; Nonbreeding Seasons;

**Abstract:** Evidence indicating the presence of an overland route, the numbers and status of eiders [Somateria mollissima] undertaking the overland trip, their behavior preparatory to the overland flight and the possible significance of the alternative migration routes were analyzed and discussed.

**URL:** <Go to ISI>://BCI197763049613

**Reference Type:**  Journal Article

**Record Number:** 724

**Author:** B. Gautschi and B. Koller

**Year:** 2005

**Title:** Polymorphic microsatellite markers for the goosander (Mergus merganser)

**Journal:** Molecular Ecology Notes

**Volume:** 5

**Issue:** 1

**Pages:** 133-134

**Date:** Mar 05

**Short Title:** Polymorphic microsatellite markers for the goosander (Mergus merganser)

**Accession Number:** BCI:BCI200510007062

**Keywords:** Common merganser; Mergus merganser; Techniques;

**Abstract:** To investigate the population genetic structure of the goosander (Mergus merganser) in Europe and to identify populations with a significant conservation value, we isolated nine microsatellite loci, and screened them in the subspecies Mergus merganser merganser and Mergus merganser americanus. All markers were polymorphic with two to 15 alleles per locus. Average observed and expected heterozygosity values were 0.422 and 0.624, respectively, for the European and 0.497 and 0.667, respectively, for the North American subspecies. Only one marker departed significantly from Hardy-Weinberg expectations in both subspecies. This marker was highly variable but homozygous in all females, suggesting a sex-linked inheritance.

**URL:** <Go to ISI>://BCI200510007062

**Reference Type:**  Journal Article

**Record Number:** 165

**Author:** M. B. Gebauer, R. Z. Dobos and D. V. Weseloh

**Year:** 1992

**Title:** Waterbird surveys at Hamilton Harbour, Lake Ontario, 1985-1988

**Journal:** Journal of Great Lakes Research

**Volume:** 18

**Issue:** 3

**Pages:** 420-439

**Short Title:** Waterbird surveys at Hamilton Harbour, Lake Ontario, 1985-1988

**Accession Number:** BCI:BCI199395047689

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Waterbird surveys were conducted at Hamilton Harbour and Windermere Basin from 1985-88 to help assess current wildlife usage of Burlington Bay vis-a-vis the Remedial Action Plan (RAP) for Hamilton Harbour. A total of 43 and 32 waterbird species (not including shorebirds) was recorded at Hamilton Harbour and Windermere Basin, respectively. Generally, more species of loons and grebes and aquatic raptors such as osprey and bald eagle were found at Hamilton Harbour than at Windermere Basin. Species such as mallard and Canada goose which key into unnatural food sources at marinas and golf courses, and double-crested cormorants, associated with a growing colony, were present in large numbers at Hamilton Harbour. Large numbers of common mergansers congregated on the harbour in early winter before freeze-up. On average, waterbirds were found in greater numbers at Windermere Basin. The large numbers of scaup and dabbling ducks, such as black duck and mallard, present at Windermere Basin were attracted by the warm water, low disturbance, and abundant available food source. The ice-free conditions at Windermere Basin also attracted regionally rare wintering species such as northern pintail, northern shoveler, ruddy duck, and green-winged teal. Survey results were compared to unpublished survey data from Cootes Paradise and published results of the annual mid-winter waterfowl survey of western Lake Ontario. The importance of Hamilton Harbour and Windermere Basin to migratory waterbirds should be considered regarding future clean-up of Burlington Bay.

**URL:** <Go to ISI>://BCI199395047689

**Reference Type:**  Journal Article

**Record Number:** 2153

**Author:** S. J. Geiseler, S. Ludvigsen and L. P. Folkow

**Year:** 2015

**Title:** K-ATP-CHANNELS PLAY A MINOR ROLE IN THE PROTECTIVE HYPOXIC SHUT-DOWN OF CEREBELLAR ACTIVITY IN EIDER DUCKS (SOMATERIA MOLLISSIMA)

**Journal:** Neuroscience

**Volume:** 284

**Pages:** 751-758

**Date:** Jan

**Short Title:** K-ATP-CHANNELS PLAY A MINOR ROLE IN THE PROTECTIVE HYPOXIC SHUT-DOWN OF CEREBELLAR ACTIVITY IN EIDER DUCKS (SOMATERIA MOLLISSIMA)

**ISSN:** 0306-4522

**DOI:** 10.1016/j.neuroscience.2014.10.046

**Accession Number:** WOS:000346243100067

**Keywords:** Common Eider; Somateria mollissima; Physiology

**Abstract:** Eider duck (Somateria mollissima) cerebellar neurons are highly tolerant toward hypoxia in vitro, which in part is due to a hypoxia-induced depression of their spontaneous activity. We have studied whether this response involves ATP-sensitive potassium (K-ATP) channels, which are known to be involved in the hypoxic/ischemic defense of mammalian neural and muscular tissues, by causing hyperpolarization and reduced ATP demand. Extracellular recordings in the Purkinje layer of isolated normoxic eider duck cerebellar slices showed that their spontaneous neuronal activity decreased significantly compared to in control slices when the K-ATP channel opener diazoxide (600 mu M) was added (F-1,F-70 = 92.781, p < 0.001). Adding the K-ATP channel blocker tolbutamide (400 mu M) 5 min prior to diazoxide completely abolished its effect (F-1,F-55= 39.639, p < 0.001), strongly suggesting that these drugs have a similar mode of action in this avian species as in mammals. The spontaneous activity of slices treated with tolbutamide in combined hypoxia/chemical anoxia (95% N-2-5% CO2 and 2 mu M NaCN) was not significantly different from that of control slices (F-1,F-203 = 0.071, p = 0.791). Recovery from hypoxia/anoxia was, however, slightly but significantly weaker in tolbutamide-treated slices than in control slices (F-1,F-137 = 15.539, p < 0.001). We conclude that K-ATP channels are present in eider duck cerebellar neurons and are activated in hypoxia/anoxia, but that they do not play a key role in the protective shut-down response to hypoxia/anoxia. (C) 2014 IBRO. Published by Elsevier Ltd. All rights reserved.

**Notes:** Geiseler, S. J. Ludvigsen, S. Folkow, L. P.

**URL:** <Go to ISI>://WOS:000346243100067

**Reference Type:**  Journal Article

**Record Number:** 1649

**Author:** R. Gerell

**Year:** 1985

**Title:** Habitat Selection and Nest Predation in a Common Eider Somateria-Mollissima Population in Southern Sweden

**Journal:** Ornis Scandinavica

**Volume:** 16

**Issue:** 2

**Pages:** 129-139

**Short Title:** Habitat Selection and Nest Predation in a Common Eider Somateria-Mollissima Population in Southern Sweden

**Accession Number:** BCI:BCI198681012297

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** The breeding ecology of the Common Eider was studied in an archipelago off S. Sweden in 1972-74. Females showed two different strategies when selecting nest sites. Those who started breeding earliest (mainly experienced females) selected islands containing colonies of Herring Gulls, while later breeding females mainly selected islands with colonies of Common Gulls. Both strategies are assumed to be adaptations to the nest predation pattern that characterizes the area at the onset of the breeding period. Eider nests located within a colony of Herring Gulls survived better than those in the outskirts of the colony. Since the Herring Gull prefers open breeding habitats, less concealed Eider nests were most successful. On islands with colonies of Common Gulls and on those with few or no breeding gulls, nests with a great amount of shelter survived best. The Eiders, especially those with larger clutches, were able to breed successfully in the presence of a stationary mink, whereas nest survival was very low on islands, visited by mink only occasionally. The yearly number of young hatched was about the same during the three years despite varying nest predation rates. This suggests that compensating mechanisms act to regulate the production of young. The greater vulnerability of young females' nests may serve as a buffer which mitigates the predation pressure on the nests of old females.

**URL:** <Go to ISI>://BCI198681012297

**Reference Type:**  Journal Article

**Record Number:** 161

**Author:** J. M. Gerrard, E. Dzus, G. R. Bortolotti and P. N. Gerrard

**Year:** 1993

**Title:** Water-bird population changes in 1976-1990 on Besnard Lake, Saskatchewan: Increases in loons, gulls, and pelicans

**Journal:** Canadian Journal of Zoology

**Volume:** 71

**Issue:** 8

**Pages:** 1681-1686

**Short Title:** Water-bird population changes in 1976-1990 on Besnard Lake, Saskatchewan: Increases in loons, gulls, and pelicans

**Accession Number:** BCI:BCI199396134375

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Declines in Common Loon (Gavia immer) populations associated with increasing human use of lakes have been reported from many areas of North America. In the present report we describe a lake in northern Saskatchewan, Besnard Lake, where there has been a substantial increase in the number of loons, from about 85 in 1976-1979 to about 165 in 1990. A comparison was made with numbers of other birds associated with water. Increases were also seen in American White Pelicans (Pelecanus erythrorhynchos), Osprey (Pandion haliaetus), Great blue Herons (Ardea herodias), Herring Gulls (Larus argentatus), Ring-billed Gulls (L. delawarensis), and Bonaparte's gulls (L. philadelphia). No change was seen in mergansers (Mergus merganser and M. serrator), Bald Eagles (Haliaeetus leucocephalus), or Common Terns (Sterna hirundo). The period 19760-1990 has also seen increased human use on Besnard Lake. The reason for increased loon numbers is uncertain, but could possibly be related to an increase in the numbers of small fish in Besnard Lake as a result of increased fishing pressure disproportionately removing the larger, predatory fish.

**URL:** <Go to ISI>://BCI199396134375

**Reference Type:**  Journal Article

**Record Number:** 1710

**Author:** M. Gershman, J. F. Witter, H. E. Spencer and A. Kalvaitis

**Year:** 1964

**Title:** Case report: Epizootic of fowl cholera in the common eider duck

**Journal:** J Wildl Mgmt

**Volume:** 28

**Issue:** (3)

**Pages:** 587-589

**Short Title:** Case report: Epizootic of fowl cholera in the common eider duck

**Accession Number:** BCI:BCI19644500094385

**Keywords:** Common Eider; Somateria mollissima; Disease; Survival; Breeding Season;

**Abstract:** An epizootic was observed in eider ducks (Somateria mollissima) which were nesting on islands off the Maine coast. On the three islands where losses were observed, over 200 birds died and more than 100 nests were lost. Losses were attributed to infection with Pasteurella multocida, the cause of fowl cholera. An attempt was made to eradicate the disease by removing residual populations; burning carcasses, eggs, and nests; and spraying existing water puddles with a cresylic compound. Inspections 2 weeks later revealed no further mortality. No new outbreaks have been reported to date. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19644500094385

**Reference Type:**  Journal Article

**Record Number:** 83

**Author:** S. L. Gerstenberger

**Year:** 2004

**Title:** Mercury concentrations in migratory waterfowl harvested from Southern Nevada Wildlife Management areas, USA

**Journal:** Environmental Toxicology

**Volume:** 19

**Issue:** 1

**Pages:** 35-44

**Date:** February 2004

**Short Title:** Mercury concentrations in migratory waterfowl harvested from Southern Nevada Wildlife Management areas, USA

**Accession Number:** BCI:BCI200400155244

**Keywords:** Sea Ducks - General; Common merganser; Bufflehead; Contaminants; Nonbreeding Seasons;

**Abstract:** Mercury concentrations were determined in 14 species of migratory waterfowl harvested from Southern Nevada Wildlife Management areas during the 2001-2002 hunting season. Common mergansers (2.61 +- 0.87 ppm liver; 0.22 +- 0.04 ppm muscle), northern shovelers (3.51 +- 3.8 ppm liver; 0.16 +- 0.03 ppm muscle), and bufflehead (2.63 +- 0.24 ppm liver; 0.91 ppm muscle) had the highest concentrations of mercury in the liver and muscle of the species harvested. The relationships between muscle and liver concentrations were also examined. These data indicate that liver tissue can be used with reasonable confidence (r > .80 for most species) to predict mercury concentrations in muscle, the most commonly consumed portion of waterfowl. The mercury concentrations reported here are some of the highest reported in the scientific literature, and they identify certain species, such as the northern shoveler and common merganser, that have accumulated unusually high concentrations of mercury. Evidence for the use of these three species as possible bioindicators for mercury is also presented.

**URL:** <Go to ISI>://BCI200400155244

**Reference Type:**  Journal Article

**Record Number:** 827

**Author:** R. E. Gibbons and K. Withers

**Year:** 2006

**Title:** Habitat preferences of surface-diving waterbirds and American white pelicans wintering in Redfish Bay, Texas

**Journal:** Southwestern Naturalist

**Volume:** 51

**Issue:** 1

**Pages:** 103-107

**Date:** Mar 2006

**Short Title:** Habitat preferences of surface-diving waterbirds and American white pelicans wintering in Redfish Bay, Texas

**Accession Number:** BCI:BCI200600350933

**Keywords:** Red-breasted merganser; Mergus serrator; Habitat; Nonbreeding Seasons;

**Abstract:** Habitat preferences were determined for a guild of surface-diving waterbirds wintering in Redfish Bay, Texas: common loon (Gavia immer), eared grebe (Podiceps nigricollis), pied-billed grebe (Podilymbus podiceps), double-crested cormorant (Phalacrocorax auritus), red-breasted merganser (Merges serrator), and American coot (Fulica americana). American white pelican (Pelecanus erythrorlaynchos) also was included because it occupies habitats similar to those of the surface divers. Between November 2001 and April 2002, the locations of 4,232 surface divers and American white pelicans using aquatic habitats in Redfish Bay were recorded and entered into a GIS that included a National Wetlands Inventory layer. Bird habitat preferences-avoidances were determined using a test based on Bonferroni's inequality. American coots, American white pelicans, and pied-billed grebes preferred shallower estuarine subtidal seagrass beds, whereas common loons, double-crested cormorants, and eared grebes preferred deeper estuarine subtidal unconsolidated bay bottom. Red-breasted mergansers showed no habitat preferences.

**URL:** <Go to ISI>://BCI200600350933

**Reference Type:**  Journal Article

**Record Number:** 73

**Author:** G. Gilchrist, M. Mallory and F. Merkel

**Year:** 2005

**Title:** Can local ecological knowledge contribute to wildlife management? Case studies of migratory birds

**Journal:** Ecology and Society

**Volume:** 10

**Issue:** 1

**Date:** Jun 05

**Short Title:** Can local ecological knowledge contribute to wildlife management? Case studies of migratory birds

**Accession Number:** BCI:BCI200510122169

**Keywords:** Common Eider; Somateria mollissima; Sea Ducks - General; Conservation;

**Abstract:** Sound management of wildlife species, particularly those that are harvested, requires extensive information on their natural history and demography. For many global wildlife populations, however, insufficient scientific information exists, and alternative data sources may need to be considered in management decisions. In some circumstances, local ecological knowledge (LEK) can serve as a useful, complementary data source, and may be particularly valuable when managing wildlife populations that occur in remote locations inhabited by indigenous peoples. Although several published papers discuss the general benefits of LEK, few attempt to examine the reliability of information generated through this approach. We review four case studies of marine birds in which we gathered LEK for each species and then compared this information to empirical data derived from independent scientific studies of the same populations. We then discuss how we attempted to integrate LEK into our own conservation and management efforts of these bird species with variable success. Although LEK proved to be a useful source of information for three of four species, we conclude that management decisions based primarily on LEK, in the absence of scientific scrutiny, should be treated with caution.

**URL:** <Go to ISI>://BCI200510122169

**Reference Type:**  Journal Article

**Record Number:** 1519

**Author:** H. G. Gilchrist and G. J. Robertson

**Year:** 2000

**Title:** Observations of marine birds and mammals wintering at polynyas and ice edges in the Belcher Islands, Nunavut, Canada

**Journal:** Arctic

**Volume:** 53

**Issue:** 1

**Pages:** 61-68

**Date:** March, 2000

**Short Title:** Observations of marine birds and mammals wintering at polynyas and ice edges in the Belcher Islands, Nunavut, Canada

**Accession Number:** BCI:BCI200000249518

**Keywords:** King Eider; Somateria spectabilis; Long-tailed Duck; Clangula hyemalis; Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** In the Belcher Islands, southeast Hudson Bay, Canada, two types of open water exist during winter: 1) large, wind-driven expanses of water along landfast ice edges and 2) recurring polynyas located between small islands (most < 10 ha and < 15 m deep). In severe winters, only polynyas persist. In March 1998 and 1999, we recorded the species and numbers of birds and marine mammals present at ten polynyas and along four landfast ice edges around the Belcher Islands. To help interpret our observations, we also collected traditional ecological knowledge from local Inuit. Large flocks of common eiders Somateria mollissima (200-12 500 birds) were seen along floe edges, and small groups occurred in some polynyas. King eiders S. spectabilis were also observed at several locations, always associated with common eiders. Oldsquaw ducks Clangula hyemalis were common (flocks of 100-500 birds) and occurred primarily at polynyas. Our observations of king eiders represent a significant northern range expansion for this species in Canada during winter. Ravens Corvus corax and snowy owls Nyctea scandiaca were observed along landfast ice edges. Ravens were feeding on the remains of seals killed by Inuit hunters and polar bears Ursus maritimus, and owls apparently hunted sea ducks that were loitering on ice edges at night. We regularly observed bearded seals Erignathus barbatus and ringed seals Phoca hispida at polynyas and floe edges. One beluga whale Delphinapterus leucas was observed by our Inuit guides along a western landfast ice edge, and three walrus Odobenus rosmarus were observed at a floe edge along the southern margin of the Belcher Islands. Clearly, the small recurring polynyas and ice floe edges around the Belcher Islands are important wintering habitat for oldsquaw and common and king eider ducks.

**URL:** <Go to ISI>://BCI200000249518

**Reference Type:**  Journal Article

**Record Number:** 119

**Author:** O. Gilg, R. Sane, D. V. Solovieva, V. I. Pozdnyakov, B. Sabard, D. Tsanos, C. Zockler, E. G. Lappo, E. E. Syroechkovski, Jr. and G. Eichhorn

**Year:** 2000

**Title:** Birds and mammals of the Lena Delta nature reserve, Siberia

**Journal:** Arctic

**Volume:** 53

**Issue:** 2

**Pages:** 118-133

**Date:** June, 2000

**Short Title:** Birds and mammals of the Lena Delta nature reserve, Siberia

**Accession Number:** BCI:BCI200000414859

**Keywords:** Sea Ducks - General; Spectacled Eider; Common Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The Lena Delta is the largest arctic delta covered entirely by tundra. Protected since 1986, it is one of the richest areas in the Arctic north of 71degree N for both species diversity and breeding densities. Between 6 June and 17 August 1997, 16 mammal species and 76 bird species were recorded in the Lena Delta Nature Reserve and the surrounding buffer zone. Several species are new to the region: far-eastern curlew, fieldfare, redwing, arctic warbler, red-breasted flycatcher, and common rat. New breeders are merlin and arctic warbler. These 1997 records, combined with those from earlier studies, give a total of 122 bird species for the region. Of these, 67 have been found breeding at least once. Densities ranging from 245 to 641 birds per km2 were recorded in two restricted study areas. Such densities are unusually high north of 70degree N for non-colonial breeding birds. Lapland longspur (100-300 individuals/km2), red phalarope (up to 200 ind./km2), and several Calidris species were the most common. Ruddy turnstone and dunlin had densities higher than those previously reported from the Lena Delta and other Siberian sites. Among the shorebirds, spotted redshank, pintail snipe, grey plover, dunlin, and curlew sandpiper may have extended their breeding range or increased in population during the last 15 years. But further evidence is still needed to confirm the westward extension of spectacled eider, long-billed dowitcher, and sharp-tailed sandpiper.

**URL:** <Go to ISI>://BCI200000414859

**Reference Type:**  Journal Article

**Record Number:** 1442

**Author:** S. G. Gilliland, C. D. Ankney and P. W. Hicklin

**Year:** 2004

**Title:** Foraging ecology of Great Black-backed Gulls during brood-rearing in the Bay of Fundy, New Brunswick

**Journal:** Canadian Journal of Zoology

**Volume:** 82

**Issue:** 9

**Pages:** 1416-1426

**Date:** September 2004

**Short Title:** Foraging ecology of Great Black-backed Gulls during brood-rearing in the Bay of Fundy, New Brunswick

**Accession Number:** BCI:BCI200500136134

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** We studied nesting ecology of Great Black-backed Gulls (Larus marinus L., 1758) in the Bay of Fundy, New Brunswick, in 1988 and 1989. We documented diet, feeding rate, and meal size for chicks from hatching to fledging. In 1989, colonies consisted of about 350 nests on five islands. Brood size declined with chick age, and by the end of the first week of the nestling period, 11%, 22%, 31%, and 36% of nests consisted of broods of 0, 1, 2, and 3 chicks, respectively. Average meals size increased and feeding frequency declined slightly with chick age. We estimated that 619.6 kg (dry mass) of food was fed to chicks during the nestling period in 1989. The composition of the chicks' diet changed with age and was most varied early in the nestling period, when they were fed relatively equal proportions of major food types. Overall, Atlantic herring (Clupea harengus L., 1758) was the most important prey item and contributed 63% of the energy consumed by chicks during the nestling period. Northern krill (Meganyctiphanes norvegica (M. Sars, 1857); 11.9%), lumpfish (Cyclopterus lumpus L., 1758; 10.4%), and waste (fisheries and domestic; 4.7%) were also important foods. Gull chicks and Common Eider (Somateria mollissima (L., 1758)) ducklings made up 1.9% and 0.8%, respectively, of the chicks' energy budget. We conclude that the primary factor effecting productivity of the Great Black-backed Gull was food availability, and the amount of food available varied little over the nesting period in 1989.

**URL:** <Go to ISI>://BCI200500136134

**Reference Type:**  Journal Article

**Record Number:** 1331

**Author:** S. G. Gilliland, H. G. Gilchrist, R. F. Rockwell, G. J. Robertson, J.-P. L. Savard, F. Merkel and A. Mosbech

**Year:** 2009

**Title:** Evaluating the sustainability of harvest among northern common eiders Somateria mollissima borealis in Greenland and Canada

**Journal:** Wildlife Biology

**Volume:** 15

**Issue:** 1

**Pages:** 24-36

**Date:** Mar 2009

**Short Title:** Evaluating the sustainability of harvest among northern common eiders Somateria mollissima borealis in Greenland and Canada

**Accession Number:** BCI:BCI200900366163

**Keywords:** Common Eider; Somateria mollissima; Conservation; Nonbreeding Seasons; SDJV funded

**Abstract:** Sustainable harvest, the extraction of game without affecting population viability, is a desirable approach to the use of wildlife. However, overharvest has been responsible for the decline of many wildlife populations globally, so there is an urgent need to balance human requirements while avoiding the severe depletion of wild populations. Northern common eiders Somateria mollissima borealis are heavily hunted in Canada and Greenland, but the effect of this intensive harvest has not been examined. We developed a population model to investigate the sustainability of the reported harvest, which consisted of two wintering areas in Greenland and Atlantic Canada and three breeding populations. The model indicated that harvest in Atlantic Canada was sustainable, but a number of conditions could lead to slow declines. In contrast, the annual winter harvest of 55,000-70,000 ciders reported during 1993-2000 in Greenland was not sustainable, and this conclusion held under a wide range of alternate conditions. The model indicated that harvest during late winter may have a greater effect on populations than harvest in early winter. We further refined the model to assume that at some low population level the success of hunters would decline and that harvest became a function of population size (a rate). This scenario had the expected and undesirable result of stabilizing populations at very low levels. Overall, our model suggests that the high harvest reported in Greenland during 1993-2000 endangers the sustainable use of the northern common eider population and that management actions Lire required. Common eider harvest levels in Greenland should be reduced by at least 40% of the 1993-2000 levels to stop projected declines, and allow for recovery of the decimated Greenland breeding population. Encouragingly, new hunting regulations were introduced in Greenland in 2002-2004, and harvest levels appear to be decreasing. If these harvest reductions continue, Our population model Could be used to re-evaluate the status of Populations in the two countries.

**URL:** <Go to ISI>://BCI200900366163

**Reference Type:**  Journal Article

**Record Number:** 1730

**Author:** S. G. Gilliland and G. J. Robertson

**Year:** 2009

**Title:** Composition of Eiders Harvested in Newfoundland

**Journal:** Northeastern Naturalist

**Volume:** 16

**Issue:** 4

**Pages:** 501-518

**Short Title:** Composition of Eiders Harvested in Newfoundland

**Accession Number:** BCI:BCI201000096017

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Conservation; Nonbreeding Seasons;

**Abstract:** Somateria mollissima (Common Eider) is an important game species throughout its circumpolar range, including eastern Canada and northeastern United States. In eastern Canada, the largest harvest of Common Eiders occurs in Newfoundland; however, the age, sex, and subspecific composition (S. m. borealis and dresseri are both present) of this hunted population is not well quantified. The species, subspecies, age, and sex composition of the harvest was determined by examining heads collected from 1672 ciders (including Somateria spectabilis [King Eider]), taken mostly by hunters, from 1980-1996. Band-recovery information for Common Eiders banded in Newfoundland and Labrador were also summarized, including data from a release program of hand-reared ducklings in northern Newfoundland from 1988-1996. The composition of the eider harvest varied across the province. In northern and eastern areas, borealis Common Eiders made up the bulk of the harvest. King Eiders were also taken in these areas. In southern areas, most Common Eiders taken were dresseri. Sex ratios tend to be near 1: 1, and immature birds comprised most of the harvest. Recovery distributions showed that Common Eiders breeding in Newfoundland and Labrador were mainly taken within the province, but also contributed to harvests in Quebec and Nova Scotia, and to a lesser extent, Maine. Hand-reared ducklings had direct recovery rates of 0.047 and were most likely to be recovered within the province in the year of banding, but contributed to harvests in Atlantic Canada and New England as they aged. The harvest of ciders in Newfoundland varies regionally and seasonally; therefore specific harvest regulations could be implemented to manage the variety of populations present in the province throughout the year.

**URL:** <Go to ISI>://BCI201000096017

**Reference Type:**  Journal Article

**Record Number:** 259

**Author:** S. G. Gilliland, G. J. Robertson and G. S. Goodyear

**Year:** 2008

**Title:** Distribution and Abundance of Harlequin Ducks Breeding in Northern Newfoundland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 104-109

**Short Title:** Distribution and Abundance of Harlequin Ducks Breeding in Northern Newfoundland

**Accession Number:** BCI:BCI200900160421

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The number of Harlequin Ducks (Histrionicus histrionicus) wintering in eastern North American is small, and little was known about these birds, especially their breeding distribution. During the breeding period, 990 km of river and streams oil Newfoundland's North Peninsula was surveyed where 69 Harlequin Ducks were sighted. Breeding densities varied among watersheds (range 0-0.090 males/km), were slightly lower than elsewhere in eastern North America, and lower than in western North America and Iceland. A total of 128 +/- 45 males (indicated pairs) or 284 +/- 89 birds (+/-95% CI) was estimated to occur on the North Peninsula during the breeding season. This may represent 20% of Harlequin Ducks wintering in eastern North America and highlights the importance of the Northern Peninsula as a breeding area for this rare duck.

**URL:** <Go to ISI>://BCI200900160421

**Reference Type:**  Journal Article

**Record Number:** 304

**Author:** S. G. Gilliland, G. J. Robertson, M. Robert, J.-P. L. Savard, D. Amirault, P. Laporte and P. Lamothe

**Year:** 2002

**Title:** Abundance and distribution of Harlequin Ducks molting in eastern Canada

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 3

**Pages:** 333-339

**Date:** September, 2002

**Short Title:** Abundance and distribution of Harlequin Ducks molting in eastern Canada

**Accession Number:** BCI:BCI200200566832

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** Until recently, very little was known about the basic ecology of the Harlequin Duck (Histrionicus histrionicus) in eastern North America, including molting locations. A combination of aerial, ground and boat surveys were initiated in 1989 (Quebec) and 1994 (Newfoundland and Labrador), and continued through 1999, to locate their molting areas. Molting Harlequin Ducks were found in Labrador, Newfoundland and the Gaspe Peninsula and Anticosti Island, Quebec. Coastal areas of southern Labrador, Grey Islands, northern Newfoundland, and Bonaventure and Anticosti Islands, southern Quebec, were the most important sites. The tip of northern Labrador and possibly sites along the Quebec North Shore and Greenland are the most likely sites where the rest of the eastern population molts. Molting chronology for the ducks in Quebec is similar to those on the east and west coast of North America. Now that these sites are known, monitoring and, if necessary, protection of these sites can be considered.

**URL:** <Go to ISI>://BCI200200566832

**Reference Type:**  Journal Article

**Record Number:** 422

**Author:** G. M. Gislason and V. Johannsson

**Year:** 1985

**Title:** The Biology of the Blackfly Simulium-Vittatum Diptera Simuliidae in the River Laxa Northern Iceland

**Journal:** Natturufraedingurinn

**Volume:** 55

**Issue:** 4

**Pages:** 175-194

**Short Title:** The Biology of the Blackfly Simulium-Vittatum Diptera Simuliidae in the River Laxa Northern Iceland

**Accession Number:** BCI:BCI198681102871

**Keywords:** Harlequin duck; Histrionicus histrionicus; Barrow's Goldeneye; Bucephala islandica; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** The study focused on the population dynamics of the blackfly S. vittatum, and which factors controlled its density and production. The study area was the upper part of the river, above the Laxarvirkjun hydroelectric power station. Three sampling sites were chosen as representative for the river, Midkvisl, in the outlet, Helluvad, 4 km from the lake, and Thvera, 22 km downstream. S. vittatum dominates the fauns of the Laxa River (Gislason 1985). It belongs to 2 sibling species, IIIL-1 and IS-7 (Klaus Rothfels in lit.). It is about 70-85% of the secondary production in the river. It is partly a univoltine species. In the upper reaches of the river (close to the outlet) each generation was clearly divided into 2 cohorts. One cohort grew very rapidly over the summer, with a life span of about 1-2 months. The other cohort grew more slowly, with a life span of one year. In the lower reaches of the upper part of the river, only the slow-growing cohort existed. The larvae fed on fine particulate organic matter (POM) drifting from Lake Myvatn. There was no difference in the composition of their gut contents and the seston of the river. Usually detritus was not less than 50% of the gut contents. Diatoms accounted for 10-70% of the gut contents in 1977 and 25-45% in 1978. The most frequently ingested species was Fragilaria spp. (mainly F. construens), which is abundant in the bottom sediment of L. Myvatn. Other frequently ingested diatoms were Stephanodiscus hantzschii, Nitzschia spp., Synedra spp. and Rhoicosphenia curvata. In August 1977 the blue-green alga Anabaena flos-aquae was the most frequently ingested alga and it was abundant in the gut contents in July. In 1978 this alga was rarely found. The larvae of S. vittatum is the main food of trout (Salmo trutta L.), harlequin ducks (Histrionicus histrionicus (L.)) and Barrow's goldeneye (Bucephala islandica (Gmelin)) in Laxa. The changes in the population of S. vittatum affected the population of these predators. The annual catch of trout fell from about 3000 to 1000-1500, and other studies have shown that the numbers of harlequin ducklings produced on the first 10 km of the river in the autumn fell from about 120 to 10-60 and the Barrow's goldeneye changed its feeding habits, moving from the river to L. Myvatn. With increasing production of S. vittatum, the number of harlequin ducklings produced on the upper part of the river started to increase, and was 231 in 1984.

**URL:** <Go to ISI>://BCI198681102871

**Reference Type:**  Journal Article

**Record Number:** 2154

**Author:** B. Gjerde

**Year:** 2014

**Title:** Molecular characterisation of Sarcocystis rileyi from a common eider (Somateria mollissima) in Norway

**Journal:** Parasitology Research

**Volume:** 113

**Issue:** 9

**Pages:** 3501-3509

**Date:** Sep

**Short Title:** Molecular characterisation of Sarcocystis rileyi from a common eider (Somateria mollissima) in Norway

**ISSN:** 0932-0113

**DOI:** 10.1007/s00436-014-4062-y

**Accession Number:** WOS:000341186400042

**Keywords:** Common Eider; Somateria mollissima; Parasites

**Abstract:** The breast and leg muscles of a common eider (Somateria mollissima; Anatidae: Anseriformes) from northern Norway contained numerous grossly visible cigar-shaped sarcocysts measuring about 5 x 1 mm. Light microscopic examination of isolated sarcocysts revealed that they were encapsulated by a thin fibrous layer, underneath which there was a thin and fairly smooth cyst wall with no visible protrusions. The cystozoites were straight, spindle-shaped and about 13 mu m long. Genomic DNA was extracted from 12 excised sarcocysts and each DNA isolate was subjected to PCR amplification of one to four loci: the 18S and 28S ribosomal RNA genes (four isolates), the internal transcribed spacer 1 (ITS1) region (six isolates) and the mitochondrial cytochrome c oxidase subunit 1 gene (cox1) (12 isolates). At the three nuclear loci, the new sequences showed 99.9-100 % sequence identity with previous sequences of Sarcocystis rileyi from the mallard duck in Lithuania and USA, and they could therefore be assigned to this species. At cox1, the new sequences of S. rileyi were most similar to Sarcocystis arctica and Sarcocystis neurona, but the most closely related Sarcocystis spp. in birds have not been sequenced at this locus. There was no sequence variation at any locus between the 4-12 examined isolates of S. rileyi. This is the first genetically verified record of S. rileyi in the common eider, as well as in any bird species in Norway. The phylogenetic placement of S. rileyi was inferred separately from 28S rRNA gene and cox1 sequences, and similar results were obtained in both analyses.

**Notes:** Gjerde, Bjorn

**URL:** <Go to ISI>://WOS:000341186400042

**Reference Type:**  Journal Article

**Record Number:** 577

**Author:** B. W. Gladden and A. G. Canaris

**Year:** 2009

**Title:** Helminth Parasites of the Bufflehead Duck, Bucephala Albeola, Wintering in the Chihuahua Desert with a Checklist of Helminth Parasites Reported from This Host

**Journal:** Journal of Parasitology

**Volume:** 95

**Issue:** 1

**Pages:** 129-136

**Date:** Feb 2009

**Short Title:** Helminth Parasites of the Bufflehead Duck, Bucephala Albeola, Wintering in the Chihuahua Desert with a Checklist of Helminth Parasites Reported from This Host

**Accession Number:** BCI:BCI200900229516

**Keywords:** Bufflehead; Bucephala albeola; Parasites; Nonbreeding Seasons;

**Abstract:** The bufflehead duck (Bucephala albeola) (Mergini) ranges from Alaska and Canada to the United States and Mexico. Buffleheads ingest invertebrates as a major component of their food throughout life. Puddle ducks (Anatinae) change mainly to vegetable foods at all early age. Loss of helminth parasite species and abundance in the fall migration has been reported for puddle ducks. This change in food has been hypothesized to cause some of the parasite loss. Nothing was known about helminth community dynamics in wintering buffleheads, including possible loss of helminths evident in puddle ducks. Helminth communities of the buffleheads were compared between wintering localities in the Chihuahua Desert of Texas and Mexico and to results from a nesting locality in Manitoba, Canada. There were no significant differences for average helminth species richness, prevalence, or abundance between the nesting and wintering grounds. Replenishment of helminths occurred in wintering buffleheads, and abundance of some helminth species increased significantly over time. The majority of helminth life cycles were indirect. These results were mostly related to the bufflehead's continued ingestion of invertebrate foods. Seven of the 41 helminth species present in buffleheads were in common to the 3 localities. Helminth community similarities between Manitoba and Texas and Manitoba and Mexico were much lower than similarity between Texas and Mexico. The dissimilarities were mostly attributable to differences in habitats but may also indicate loss of helminth species with subsequent infections with other species. The component community of the bufflehead from the Chihuahua Desert in Texas (n = 41) consisted of 23 species of helminths (10 species of cestodes, 7 trematodes, 4 nematodes, and 2 acanthocephalans) for a total of 4,008 individual specimens. Cestodes accounted for 69% of the total abundance. The component community of B. albeola from the Chihuahua Desert in Mexico (n = 26) consisted of 18 species of helminths (7 species of cestodes, 5 trematodes, 4 nematodes, and 2 acanthocephalans) for a total of 4,345 individual specimens. Cestodes accounted for 83% of the total abundance. The bufflehead shared 10 helminth species with other species of waterfowl utilizing habitats in the Chihuahua Desert. A checklist of all helminth parasites reported for buffleheads includes 27 identified to genera, 40 to species, and 12 species from buffleheads from the Chihuahua Desert in common with buffleheads from other localities.

**URL:** <Go to ISI>://BCI200900229516

**Reference Type:**  Journal Article

**Record Number:** 2013

**Author:** D. Glassom and G. M. Branch

**Year:** 1997

**Title:** Impact of predation by greater flamingos Phoenicopterus ruber on the macrofauna of two southern African lagoons

**Journal:** Marine Ecology Progress Series

**Volume:** 149

**Issue:** 1-3

**Pages:** 1-12

**Date:** Apr

**Short Title:** Impact of predation by greater flamingos Phoenicopterus ruber on the macrofauna of two southern African lagoons

**DOI:** 10.3354/meps149001

**Notes:** Glassom, D Branch, GM

**Reference Type:**  Journal Article

**Record Number:** 179

**Author:** G. Godo

**Year:** 1985

**Title:** Changes in the Size of Seabird Populations in Utvaer Norway

**Journal:** Fauna (Oslo)

**Volume:** 38

**Issue:** 1

**Pages:** 18-26

**Short Title:** Changes in the Size of Seabird Populations in Utvaer Norway

**Accession Number:** BCI:BCI198681110120

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Utvaer (60.degree.2'N and 4.degree.32'E) consists of about 50 islands, islets and skerries. The locality is isolated at the westernmost part of Norway, and is one of the most interesting localities for seabirds in Sogn and Fjordane County. Utvaer was investigated at the end of the last century by Grieg (1889), after the second world war by Willgohs (1951, 1952, 1954, 1955), and during the last few years (1978-1984) by the author. Shag Phalacrocorax aristotelis has increased from 40 pairs in 1949 to 281 nests in 1984. Common eider Somateria mollissima was and still is the most numerous duck in Utvaer. The most numerous of the gulls is the Herring gull Larus argentatus (90 pairs in 1984). The Kittiwake Rissa tridactyla established in Utvaer in 1964. Ten years later 56 nests were recorded, but in 1984 only 25 non-breeding birds were observed. Guillemot Uria aalge and Razorbill Alca torda were more numerous earlier, and after the second world war only a few breeding pairs have been recorded. Puffin Fratercula arctica and Black guillemots Cepphus grylle were the most numerous auks in 1984.

**URL:** <Go to ISI>://BCI198681110120

**Reference Type:**  Journal Article

**Record Number:** 2021

**Author:** T. P. Good

**Year:** 1992

**Title:** EXPERIMENTAL ASSESSMENT OF GULL PREDATION ON THE JONAH CRAB CANCER-BOREALIS (STIMPSON) IN NEW-ENGLAND ROCKY INTERTIDAL AND SHALLOW SUBTIDAL ZONES

**Journal:** Journal of Experimental Marine Biology and Ecology

**Volume:** 157

**Issue:** 2

**Pages:** 275-284

**Short Title:** EXPERIMENTAL ASSESSMENT OF GULL PREDATION ON THE JONAH CRAB CANCER-BOREALIS (STIMPSON) IN NEW-ENGLAND ROCKY INTERTIDAL AND SHALLOW SUBTIDAL ZONES

**DOI:** 10.1016/0022-0981(92)90167-9

**Notes:** GOOD, TP

**Reference Type:**  Journal Article

**Record Number:** 1349

**Author:** M. W. Goodale, D. C. Evers, S. E. Mierzykowski, A. L. Bond, N. M. Burgess, C. I. Otorowski, L. J. Welch, C. S. Hall, J. C. Ellis, R. B. Allen, A. W. Diamond, S. W. Kress and R. J. Taylor

**Year:** 2008

**Title:** Marine Foraging Birds As Bioindicators of Mercury in the Gulf of Maine

**Journal:** EcoHealth

**Volume:** 5

**Issue:** 4

**Pages:** 409-425

**Date:** Dec 2008

**Short Title:** Marine Foraging Birds As Bioindicators of Mercury in the Gulf of Maine

**Accession Number:** BCI:BCI200900369370

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** From existing databases, we compiled and evaluated 604 total mercury (Hg) levels in the eggs and blood of 17 species of marine foraging birds from 35 Gulf of Maine islands to provide baseline data and to determine the best tissue, age class, and species for future biomonitoring. While mean Hg levels in most species did not exceed adverse effects thresholds, levels in some individual eggs did; for all species arithmetic mean egg Hg levels ranged from 0.04 to 0.62 (mu g/g, wet weight). Piscivorous birds had higher Hg levels than invertivores. Leach's storm-petrel (Oceanodroma leucorhoa), razorbill (Alca torda), and black guillemot (Cepphus grylle) adult blood and egg Hg levels were higher than other species. Our results indicate that adult blood is preferable to chick blood for detecting long-term temporal trends because adult levels are higher and not confounded by metabolic effects. However, since we found that eggs and adult blood are comparable indicators of methylmercury bioavailability, we determined that eggs are the preferred tissue for long-term Hg monitoring because the relative ease in collecting eggs ensures consistent and robust datasets. We suggest specific sampling methods, and based on our results demonstrate that common eider (Somateria mollissima), Leach's storm-petrel, double-crested cormorant, and black guillemot are the most effective bioindicators of Hg of the Gulf of Maine.

**URL:** <Go to ISI>://BCI200900369370

**Reference Type:**  Journal Article

**Record Number:** 814

**Author:** A. S. Gordon

**Year:** 1930

**Title:** Some breeding-habits of the Goosander

**Journal:** British Birds

**Volume:** 23

**Issue:** (9)

**Pages:** 245-247

**Short Title:** Some breeding-habits of the Goosander

**Accession Number:** BCI:BCI19320600002903

**Keywords:** Common merganser; Mergus merganser; Breeding Season;

**Abstract:** Observation on a nest in a hollow alder tree in Scotland indicates that the eggs were incubated for at least 31 days before hatching about May 15. The young jumped out of the nest without assistance when about 2 days old, and probably would have remained longer if not disturbed.

**URL:** <Go to ISI>://BCI19320600002903

**Reference Type:**  Journal Article

**Record Number:** 1699

**Author:** M. L. Gorman

**Year:** 1973

**Title:** Pituitary Prolactin Levels in the Common Eider Somateria Mollissima-Mollissima

**Journal:** Ornis Scandinavica

**Volume:** 4

**Issue:** 2

**Pages:** 123-125

**Short Title:** Pituitary Prolactin Levels in the Common Eider Somateria Mollissima-Mollissima

**Accession Number:** BCI:BCI197458013535

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**URL:** <Go to ISI>://BCI197458013535

**Reference Type:**  Journal Article

**Record Number:** 1704

**Author:** M. L. Gorman and H. Milne

**Year:** 1971

**Title:** Seasonal Changes in the Adrenal Steroid Tissue of the Common Eider Somateria-Mollissima and Its Relation to Organic Metabolism in Normal and Oil Polluted Birds

**Journal:** Ibis

**Volume:** 113

**Issue:** 2

**Pages:** 218-228

**Short Title:** Seasonal Changes in the Adrenal Steroid Tissue of the Common Eider Somateria-Mollissima and Its Relation to Organic Metabolism in Normal and Oil Polluted Birds

**Accession Number:** BCI:BCI197152135798

**Keywords:** Common Eider; Somateria mollissima; Physiology; Contaminants;

**URL:** <Go to ISI>://BCI197152135798

**Reference Type:**  Journal Article

**Record Number:** 1701

**Author:** M. L. Gorman and H. Milne

**Year:** 1972

**Title:** Creche Behavior in the Common Eider Somateria-Mollissima-Mollissima

**Journal:** Ornis Scandinavica

**Volume:** 3

**Issue:** 1

**Pages:** 21-26

**Short Title:** Creche Behavior in the Common Eider Somateria-Mollissima-Mollissima

**Accession Number:** BCI:BCI197355001516

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI197355001516

**Reference Type:**  Journal Article

**Record Number:** 1653

**Author:** F. Gotmark and M. Ahlund

**Year:** 1984

**Title:** Do Field Observers Attract Nest Predators and Influence Nesting Success of Common Eiders Somateria-Mollissima

**Journal:** Journal of Wildlife Management

**Volume:** 48

**Issue:** 2

**Pages:** 381-387

**Short Title:** Do Field Observers Attract Nest Predators and Influence Nesting Success of Common Eiders Somateria-Mollissima

**Accession Number:** BCI:BCI198478074211

**Keywords:** Common Eider; Somateria mollissima; Conservation; Productivity; Breeding Season;

**Abstract:** Incubating common eiders (S. mollissima) were flushed to test whether avian predators are attracted to islands in southern Sweden. The abundance of hooded crows (Corvus cornix) was slightly lower after disturbance than before, although many eider nests were exposed after disturbance. Crows did not increase their foraging effort or success in finding nests on the islands following disturbance. Gulls (Larus argentatus, L. marinus) were slightly attracted to the disturbed islands and tended to increase their foraging effort and success. Although more depredations were observed after disturbance than before, clutch size and frequency of robbed nests did not differ (P > 0.10) on disturbed and undisturbed islands. All nests were covered by the observers; this probably protected the nests. Simulated nests with exposed eggs experienced much higher predation than those covered with down.

**URL:** <Go to ISI>://BCI198478074211

**Reference Type:**  Journal Article

**Record Number:** 350

**Author:** R. I. Goudie

**Year:** 1989

**Title:** Historical Status of Harlequin Ducks Wintering in Eastern North America a Reappraisal

**Journal:** Wilson Bulletin

**Volume:** 101

**Issue:** 1

**Pages:** 112-114

**Short Title:** Historical Status of Harlequin Ducks Wintering in Eastern North America a Reappraisal

**Accession Number:** BCI:BCI198937000942

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI198937000942

**Reference Type:**  Journal Article

**Record Number:** 2346

**Author:** R. I. Goudie, Gregory J. Robertson and Austin Reed

**Year:** 2000

**Title:** Common Eider (Somateria mollissima)

**Journal:** The Birds of North America

**Short Title:** Common Eider (Somateria mollissima)

**Keywords:** Common Eider; Somateria mollissima

**Reference Type:**  Journal Article

**Record Number:** 283

**Author:** R. I. Goudie

**Year:** 2006

**Title:** Multivariate behavioural response of harlequin ducks to aircraft disturbance in Labrador

**Journal:** Environmental Conservation

**Volume:** 33

**Issue:** 1

**Pages:** 28-35

**Date:** Mar 2006

**Short Title:** Multivariate behavioural response of harlequin ducks to aircraft disturbance in Labrador

**Accession Number:** BCI:BCI200600607613

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Conservation; Breeding Season;

**Abstract:** The effects of low-level aircraft over-flights on behaviour of harlequin ducks (Histrionicus histrionicus) breeding in central Labrador were quantified during 2000-2002. The Canadian Department of National Defence supports a low-level training programme in the 130 000 km(2) Military Training Area of Labrador involving military jets. The Institute for Environmental Monitoring and Research (IEMR) undertakes scientific research into environmental impacts of low-level military jet over-flights. A suite of 17 behavioural categories of paired male and female harlequin ducks was modelled, and a canonical variable representing alert behaviour, inactivity on the water and decreased inactivity out of water in response to over-flights represented 73.1% of the variance in the data cluster and provided marked separation of disturbed and undisturbed groups. Behavioural responses of harlequin ducks to military jets were 23 times stronger than their responses to floatplanes, helicopters and military cargo planes, and the significant interaction of aircraft type and noise indicated that noise may be the primary stressor affecting behaviour. A quadratic response of the canonical variable to noise generated from aircraft during standardized 30-minute observation periods was defined. The multivariate analyses were more robust because they indicated covariance in behavioural categories associated with disturbance that was not originally detected in univariate analyses, suggesting the importance of integrating behaviours other than overt responses. The significant effects of military jet over-flights on harlequin duck behaviour emphasize the need to evaluate potential population consequences of aircraft disturbance.

**URL:** <Go to ISI>://BCI200600607613

**Reference Type:**  Journal Article

**Record Number:** 929

**Author:** R. I. Goudie and C. D. Ankney

**Year:** 1986

**Title:** Body Size Activity Budgets and Diets of Sea Ducks Wintering in Newfoundland Canada

**Journal:** Ecology (Washington D C)

**Volume:** 67

**Issue:** 6

**Pages:** 1475-1482

**Short Title:** Body Size Activity Budgets and Diets of Sea Ducks Wintering in Newfoundland Canada

**Accession Number:** BCI:BCI198783052723

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Harlequin duck; Histrionicus histrionicus; Black Scoter; Melanitta nigra; Physiology; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** Morphology, diets, and activity budgets of four co-existing sea ducks, Harlequin Ducks, (Histrionicus histrionicus), Oldsquaws (Clangula hyemalis), Black Scoters (Melanitta nigra), and Common Eiders (Somateria mollissima), were studied during the fall and winter of 1983-1984 at Cape St. Mary's, Newfoundland. The diets and behavior of these species were related to body size. The smaller species, H. histrionicus and C. hyemalis, had diets with higher energy densities and spent more time feeding than did the larger M. nigra and S. mollissima. Multiple regression models were used to determine how the proportion of time spent feeding varied with five environmental and two temporal variables; we found that the two smaller species showed little flexibility in adjusting their activity budgets. This could become critical to survival of these diurnal feeders during periods of severe winter weather or ice conditions. As suggested by Bergmann in 1847, closely related species, such as these syntopic sea ducks in a harsh marine environment, adjust their behavior and diets to compensate for the thermodynamic differences associated with body size.

**URL:** <Go to ISI>://BCI198783052723

**Reference Type:**  Journal Article

**Record Number:** 928

**Author:** R. I. Goudie and C. D. Ankney

**Year:** 1988

**Title:** Patterns of Habitat Use by Sea Ducks Wintering in Southeastern Newfoundland Canada

**Journal:** Ornis Scandinavica

**Volume:** 19

**Issue:** 4

**Pages:** 249-256

**Short Title:** Patterns of Habitat Use by Sea Ducks Wintering in Southeastern Newfoundland Canada

**Accession Number:** BCI:BCI198987113671

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Harlequin duck; Histrionicus histrionicus; Black Scoter; Melanitta nigra; Habitat; Nonbreeding Seasons;

**Abstract:** Sea duck use of coastal habitats in southeastern Newfoundland varied by shoreline type and distance from shore. Harlequin Ducks exploited areas relatively close to shore and adjacent to sunkers (skerries) when foraging. Oldsquaws, Black Scoters, and Common Eiders foraged at similar distances from shore, on average, however epiders primarily used areas adjacent to bedrock slabs where water was deeper (> 3 m) than areas off bedrock ledges and cobble beaches where oldsquaws and scoters fed. Substrate studies adjacent to seven defined shoreline classes confirmed that there were regular differences in microhabitat features. We were unable to reject a hypothesis that the sea ducks species similar in morphology would demonstrate greater separation in habitat space than dissimilar species for Harlequin Ducks verus Oldsquaws, whereas, for Common Eiders versus Black Scoters, there was least separation in these species of similar morphology. Food use by eiders and Oldsquaws at Cape Race, where Harlequin Ducks and scoters were virtually absent, suggested that competitive niche shift may be occurring at Cape St. Mary's where all species are syntopic. Habitat use by wintering sea ducks at Cape St. Mary's is in partial agreement with current concepts of interspecific competition although our evidence did not constitute proof that competition was occurring.

**URL:** <Go to ISI>://BCI198987113671

**Reference Type:**  Journal Article

**Record Number:** 159

**Author:** R. I. Goudie, S. Brault, B. Conant, A. V. Kondratyev, M. R. Petersen and K. Vermeer

**Year:** 1994

**Title:** The status of sea duck in the North Pacific rim: Toward their conservation and management

**Journal:** Transactions of the North American Wildlife and Natural Resources Conference

**Volume:** 59

**Pages:** 27-49

**Short Title:** The status of sea duck in the North Pacific rim: Toward their conservation and management

**Accession Number:** BCI:BCI199598016469

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Conservation;

**Notes:** Transactions of the North American Wildlife and Natural Resources Conference

**URL:** <Go to ISI>://BCI199598016469

**Reference Type:**  Journal Article

**Record Number:** 258

**Author:** R. I. Goudie and S. G. Gilliland

**Year:** 2008

**Title:** Aspects of Distribution and Ecology of Harlequin Ducks on the Torrent River, Newfoundland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 92-103

**Short Title:** Aspects of Distribution and Ecology of Harlequin Ducks on the Torrent River, Newfoundland

**Accession Number:** BCI:BCI200900160420

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Breeding Season;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) breeding on the upper Torrent River of the northern peninsula of Newfoundland Were Studied from 1993 to 2002. This reach of the watershed was proposed for hydro-electrical development in the 1990s. Harlequin Ducks arrive oil the Torrent River as soon as ice-out permits in early to late May. Pairs concentrate in the upper watershed that drains the Long Range Barrens ecoregion. Nesting and,, although movements of more than brood rearing appear to take place primarily in proximity to spring-pair activity tell kill were observed. Young remain if] the Upper watershed until fledging in late August to mid-September. Counts of Harlequin Ducks breeding oil the Upper Torrent River increased throughout the 1990s, and the estimated population growth rate for the Torrent River birds was very similar to the growth rate for birds wintering at Cape St. Mary's, Newfoundland (1.14 vs. 1.13) (hiring the same period. Paired females spent similar to 40% of the day in feeding activities whereas paired males allocated less time to feeding (similar to 19%) and more little to alert or vigilant behaviors while females fed. Birds rested for 35-40% of the day. Harlequin Ducks exploited rapids, riffles and runs, and were especially associated with the boulder-strewn inlets; and outlets of ponds. The large quantities Of submerged and semi-submerged angular boulders provide increased surface area for attachments of larval insects, and movement of water through boulders assures high rates of oxygenation important to filter-feeding insects. Broods selected areas with flow rates of 1.27 +/- 0.24 m/s. The family Chironomidae contained the most taxa and was the most numerous invertebrate group found in the Torrent River. Chironomidae may comprise the most important food items for pre-nesting Harlequin Ducks when considering volume of prey types consumed. A high rate of brood production in 1997 and 1998, compared to adjacent watersheds, Suggests the possibility that the Torrent River system may behave as a source population for the general region of northern Newfoundland.

**URL:** <Go to ISI>://BCI200900160420

**Reference Type:**  Journal Article

**Record Number:** 292

**Author:** R. I. Goudie and I. L. Jones

**Year:** 2004

**Title:** Dose-response relationships of harlequin duck behaviour to noise from low-level military jet over-flights in central Labrador

**Journal:** Environmental Conservation

**Volume:** 31

**Issue:** 4

**Pages:** 289-298

**Date:** Dec 04

**Short Title:** Dose-response relationships of harlequin duck behaviour to noise from low-level military jet over-flights in central Labrador

**Accession Number:** BCI:BCI200510067334

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Conservation; Breeding Season;

**Abstract:** Concern for the lack of field studies on the effects of low-level military jet over-flights on wildlife resulted in directed research in the Military Training Area of Labrador, 1999-2002. At Fig River, a tributary of the Lower Churchill River, a before-after-control-impact (BACI) study design quantified effects of aircraft over-flights on behaviour of individual harlequin ducks (Histrionicus histrionicus) in the 130000 km 2 Military Training Area of central Labrador. Noise generated from low-level passes (30-100 m above ground level) by military jets was sudden in onset and high in amplitude (> 100 dBA), substantially above background sound levels both at Fig Lake outlet (40-50 dBA) and rapid sections of Fig River (60-70dBA). Harlequin ducks reacted to noise from military jets with alert behaviour, showing a positive dose-response that especially intensified when noise exceeded 80dBA. Residual effects, in other words, deviations from normal behaviour patterns after initial responses, were decreased courtship behaviour for up to 1.5 h after, and increased agonistic behaviour for up to 2 h after military jet over-flights. Direct behavioural responses to military jet over-flights were of short duration (generally < 1 min), and were unlikely to affect critical behaviours such as feeding and resting in the overall time-activity budgets of breeding pairs. However, the presence of residual effects on behaviour implied whole-body stress responses that were potentially more serious; these require further study because they are potentially more detrimental than immediate responses, and may not be detected in studies that focus on readily observed overt responses. A dose-response curve relating particular behaviours of harlequin ducks to associated noise of over-flights could be a valuable conservation tool for the research and mitigation of environmental impacts of aircraft and other noise.

**URL:** <Go to ISI>://BCI200510067334

**Reference Type:**  Journal Article

**Record Number:** 289

**Author:** R. I. Goudie and I. L. Jones

**Year:** 2005

**Title:** Feeding behavior of harlequin ducks (Histrionicus histrionicus) breeding in Newfoundland and Labrador: A test of the food limitation hypothesis

**Journal:** Bird Behavior

**Volume:** 17

**Issue:** 1

**Pages:** 9-18

**Short Title:** Feeding behavior of harlequin ducks (Histrionicus histrionicus) breeding in Newfoundland and Labrador: A test of the food limitation hypothesis

**Accession Number:** BCI:BCI200600044343

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Productivity; Breeding Season;

**Abstract:** We compared foraging behavior and productivity of harlequin ducks (Histrionicus histrionicus) in Newfoundland in 1997 and 1998, and central Labrador in 1997 to 2002, and tested predictions that productivity of this species is limited by available food. Females without broods were observed early in the nesting cycle (>70% of the local population), and were ascertained to be failed nesters. These adult females without broods were indicative of what previous researchers had defined as "nonbreeders." Productivity of harlequin ducks breeding in central Labrador ranged from 10.0% to 88.9% of females producing broods with 1.00 to 3.38 young per female present, annually. Females spent relatively low proportions of time feeding (mean +/- SD: 0.385 +/- 0.014 of similar to 17 h of daylight), and there was low variability across time and space. Therefore we inferred that foraging behavior was not tracking a variable food resource, and birds could have budgeted considerably more time to feeding if this had been necessary to meet their nutritional requirements. Physical evidence of nesting, including anatomical and radiotelemetry data, indicated that all adult female harlequin ducks in our study area attempted breeding each year. We found no support for the paradigm that females were constrained by lack of sufficient food on their breeding habitat and deferred breeding. We suggest that hypotheses such as food limiting breeding productivity can be tested using behavior that can be readily quantified, and with greater rigor than attempting to measure aquatic epibenthos in fast moving rivers.

**URL:** <Go to ISI>://BCI200600044343

**Reference Type:**  Journal Article

**Record Number:** 2374

**Author:** R. I. Goudie, M. R. Petersen and G. J. Robertson

**Year:** 1999

**Title:** Behaviour and ecology of sea ducks

**Journal:** Occasional paper - Canadian Wildlife Service

**Short Title:** Behaviour and ecology of sea ducks

**Reference Type:**  Journal Article

**Record Number:** 1518

**Author:** R. I. Goudie, G. J. Robertson and A. Reed

**Year:** 2000

**Title:** Common eider: Somateria mollissima

**Journal:** Birds of North America

**Issue:** 546

**Pages:** 1-32

**Short Title:** Common eider: Somateria mollissima

**Accession Number:** BCI:BCI200100242893

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI200100242893

**Reference Type:**  Journal Article

**Record Number:** 923

**Author:** R. I. Goudie and P. C. Ryan

**Year:** 1991

**Title:** Diets and Morphology of Digestive Organs of Five Species of Sea Ducks Wintering in Newfoundland

**Journal:** Journal of the Yamashina Institute for Ornithology

**Volume:** 22

**Issue:** 1

**Pages:** 1-8

**Short Title:** Diets and Morphology of Digestive Organs of Five Species of Sea Ducks Wintering in Newfoundland

**Accession Number:** BCI:BCI199293120488

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Harlequin duck; Histrionicus histrionicus; Black Scoter; Melanitta nigra; Trophic Interactions; Physiology; Nonbreeding Seasons;

**Abstract:** Gizzard weight, small intestine length, and caeca length were measured from specimens of sea ducks collected in coastal Newfoundland during the November to March winter seasons of 1982-88. The diets of Common Eiders (Somateria mollissima) (n = 24), King Eiders (S. spectabilis) (n = 25), Black Scoters (Melanitta nigra) (n = 17), Old-squaws (Clangula hyemalis) (n = 20), and Harlequin Ducks (Histrionicus histrionicus) (n = 27) were entirely animal matter but differed in diversity and shell component. Common Eiders, Kin Eiders, and Black Scoters consumed a high proportion of mollusks and sea urchins, whereas, Oldsquaws and Harlequin Ducks consumed relatively high proportions of isopods and amphipods, respectively. Hinterspecific differences in morphology of digestive organs, not explained by body size, were accounted for by these general differences in diet. The largest gizzards were found in scoters and Common Eiders that had the highest shell component in their diets. The shortest digestive tracts were found in Black Scoters which had the most 'specialized' diet, although there was no significant difference between Black Scoters and Harlequin Ducks. Caeca length was similar between species, except they were exceptionally short in the Black Scoter. We were unable to speculate a functional relationship of the caeca although it may be correlated to the diversity of the diet. These results confirm other findings that morphological differences in digestive organs in waterfowl reflect dietary differences.

**URL:** <Go to ISI>://BCI199293120488

**Reference Type:**  Journal Article

**Record Number:** 2155

**Author:** W. T. Gough, S. C. Farina and F. E. Fish

**Year:** 2015

**Title:** Aquatic burst locomotion by hydroplaning and paddling in common eiders (Somateria mollissima)

**Journal:** Journal of Experimental Biology

**Volume:** 218

**Issue:** 11

**Pages:** 1632-1638

**Date:** Jun

**Short Title:** Aquatic burst locomotion by hydroplaning and paddling in common eiders (Somateria mollissima)

**ISSN:** 0022-0949

**DOI:** 10.1242/jeb.114140

**Accession Number:** WOS:000355602000010

**Keywords:** Common Eider; Somateria mollissima; Behavior

**Abstract:** Common eiders (Somateria mollissima) are heavy sea-ducks that spend a large portion of their time swimming at the water surface. Surface swimming generates a bow and hull wave that can constructively interfere and produce wave drag. The speed at which the wavelengths of these waves equal the waterline length of the swimming animal is the hull speed. To increase surface swimming speed beyond the hull speed, an animal must overtake the bow wave. This study found two distinct behaviors that eider ducks used to exceed the hull speed: (1) 'steaming', which involved rapid oaring with the wings to propel the duck along the surface of the water, and (2) 'paddle-assisted flying', during which the ducks lifted their bodies out of the water and used their feet to paddle against the surface while flapping their wings in the air. An average hull speed (0.732 +/- 0.046 m s(-1)) was calculated for S. mollissima by measuring maximum waterline length from museum specimens. On average, steaming ducks swam 5.5 times faster and paddle-assisted flying ducks moved 6.8 times faster than the hull speed. During steaming, ducks exceeded the hull speed by increasing their body angle and generating dynamic lift to overcome wave drag and hydroplane along the water surface. During paddle-assisted flying, ducks kept their bodies out of the water, thereby avoiding the limitations of wave drag altogether. Both behaviors provided alternatives to flight for these ducks by allowing them to exceed the hull speed while staying at or near the water surface.

**Notes:** Gough, William T. Farina, Stacy C. Fish, Frank E.

**URL:** <Go to ISI>://WOS:000355602000010

**Reference Type:**  Journal Article

**Record Number:** 341

**Author:** B. Gowans, G. J. Robertson and F. Cooke

**Year:** 1998

**Title:** Behaviour and chronology of pair formation by Harlequin Ducks Histrionicus histrionicus

**Journal:** Wildfowl

**Volume:** 48

**Issue:** 0

**Pages:** 135-146

**Date:** 1997 (1998)

**Short Title:** Behaviour and chronology of pair formation by Harlequin Ducks Histrionicus histrionicus

**Accession Number:** BCI:BCI199800174988

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** The chronology of pairing and behaviours associated with pairing were studied on a small population of wintering Harlequin Ducks. Research was carried out on 17 days between 19 September and 21 November 1995 on a 2 km rocky coastline in south-western British Columbia. The behaviours rushing, agonistic pursuits and head-nodding were found to be specific to courtship. Males performed more courtship behaviour than females. Males which had completed their prealternate moult exhibited courtship behaviours more often than moulting males. Pairing began in mid-September and continued to increase steadily to between 44% and 70% of females paired by 21 November Three pairs identified during the 1994-1995 non-breeding season, re-united in the fall of 1995. Harlequin Ducks pair relatively early, probably because many pairs are re-uniting in the fall. The courtship behaviour shown by males is probably mate guarding by paired males and active courtship by bachelor males.

**URL:** <Go to ISI>://BCI199800174988

**Reference Type:**  Journal Article

**Record Number:** 1863

**Author:** M. M. Grabowski, F. I. Doyle, D. G. Reid, D. Mossop and D. Talarico

**Year:** 2013

**Title:** Do Arctic-nesting birds respond to earlier snowmelt? A multi-species study in north Yukon, Canada

**Journal:** Polar Biology

**Volume:** 36

**Issue:** 8

**Pages:** 1097-1105

**Date:** Jul

**Short Title:** Do Arctic-nesting birds respond to earlier snowmelt? A multi-species study in north Yukon, Canada

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-013-1332-6

**Accession Number:** WOS:000321975200003

**Keywords:** Sea Ducks; Breeding Season

**Notes:** Times Cited: 0

Grabowski, Meagan M. Doyle, Frank I. Reid, Donald G. Mossop, Dave Talarico, Darielle

0

**URL:** <Go to ISI>://WOS:000321975200003

**Reference Type:**  Journal Article

**Record Number:** 1258

**Author:** J. B. Grand and P. L. Flint

**Year:** 1997

**Title:** Productivity of nesting spectacled eiders on the lower Kashunuk River, Alaska

**Journal:** Condor

**Volume:** 99

**Issue:** 4

**Pages:** 926-932

**Date:** Nov., 1997

**Short Title:** Productivity of nesting spectacled eiders on the lower Kashunuk River, Alaska

**Accession Number:** BCI:BCI199800003656

**Keywords:** Spectacled Eider; Somateria fischeri; Productivity; Breeding Season;

**Abstract:** We studied the chronology and success of nesting Spectacled Eiders (Somateria fischeri) along the lower Kashunuk River on the Yukon-Kuskokwim Delta from 1991-1995. Nest initiation dates ranged from 16 May-22 June. Median nest initiation dates were correlated with the break-up of ice on the Kashunuk River. Clutch sizes declined seasonally, and mean clutch size varied among years ranging from 4.8-5.6 eggs. The frequency of nests containing inviable eggs (24% of successful nests, x = 0.6 unhatched eggs per successful nest) did not differ among years or nest initiation dates, and may be related to exposure to contaminants. The rate of partial depredation also did not vary among years or initiation dates (23% of nests, x = 0.5 eggs taken/successful nest). We detected no effect of marking or visitation on daily survival rate of nests. Nests initiated early in the year were more successful than late nests; thus, early nesting females laid larger clutches and were more likely to nest successfully than late nesters. Nest success varied among years and declined from 73% in 1991 to 18% in 1994. Nest success increased to 76% in 1995 when we reduced the Mew Gull (Larus canus) population on the study area. While inviability and partial depredation averaged over 1 egg per successful nest, the production lost in nests that were abandoned or completely destroyed by predators was much greater. Our data indicate that Spectacled Eiders nesting on our study area experience relatively high production; however, without information regarding annual survival and recruitment. it is not possible to draw conclusions about population growth rates.

**URL:** <Go to ISI>://BCI199800003656

**Reference Type:**  Journal Article

**Record Number:** 1255

**Author:** J. B. Grand, P. L. Flint, M. R. Petersen and C. L. Moran

**Year:** 1998

**Title:** Effect of lead poisoning on spectacled eider survival rates

**Journal:** Journal of Wildlife Management

**Volume:** 62

**Issue:** 3

**Pages:** 1103-1109

**Date:** July, 1998

**Short Title:** Effect of lead poisoning on spectacled eider survival rates

**Accession Number:** BCI:BCI199800403038

**Keywords:** Spectacled Eider; Somateria fischeri; Survival; Contaminants; Breeding Season;

**Abstract:** Spectacled eider (Somateria fischeri) populations on the Yukon-Kuskokwim Delta (Y-K Delta), Alaska, declined rapidly through the 1980s, and low adult female survival was suggested as the likely cause of the decline. We used mark-resighting techniques to study annual survival rates of adult female spectacled eiders at 2 sites on the Y-K Delta during 1993-96. Our data suggest survival rates may differ among sites. However, a model fit to a subset of data on females for which we knew lead levels in blood suggests lead exposure influences survival. Adult females exposed to lead prior to hatching their eggs survived at a much lower rate (0.44 +- 0.10) each year than females not exposed to lead before hatch (0.78 +- 0.05). We suggest most mortality from lead exposure occurs over winter, and the related reduction in adult survival may be impeding recovery of local populations. We encourage managers to curtail input of lead shot into the environment.

**URL:** <Go to ISI>://BCI199800403038

**Reference Type:**  Journal Article

**Record Number:** 1480

**Author:** J. B. Grand, J. C. Franson, P. L. Flint and M. R. Petersen

**Year:** 2002

**Title:** Concentrations of trace elements in eggs and blood of spectacled and common eiders on the Yukon-Kuskokwim Delta, Alaska, USA

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 21

**Issue:** 8

**Pages:** 1673-1678

**Date:** August, 2002

**Short Title:** Concentrations of trace elements in eggs and blood of spectacled and common eiders on the Yukon-Kuskokwim Delta, Alaska, USA

**Accession Number:** BCI:BCI200200439470

**Keywords:** Spectacled Eider; Somateria fischeri; Common Eider; Somateria mollissima; Contaminants; Productivity; Breeding Season;

**Abstract:** We examined the relations among nesting success, egg viability, and blood and egg concentrations of As, Cd, Pb, Hg, and Se in a threatened population of spectacled eiders (Somateria fischeri) and a sympatric population of common eiders (S. mollissima) on the Yukon-Kuskokwim Delta, Alaska, USA, during 1995 and 1996. During the early breeding season, males and females had mean Se concentrations in their blood of 19.2 mug/g and 12.8 mug/g wet weight, respectively. Blood Se concentrations of females were correlated with egg concentrations. During brood rearing, blood Se levels were higher in adult females than in ducklings. Blood concentrations of Pb in spectacled eider females were higher than in common eider females captured at hatching, but blood concentrations of Se were similar. Trace element concentrations were not related to nest success or egg viability. We submit that nest success and egg viability of spectacled eiders are not related to concentrations of the trace elements we measured. Because blood Se concentrations declined rapidly through the breeding season and were not related to nest success or egg viability, we suggest that spectacled eiders are exposed to high concentrations of Se during winter that pose little threat to this population.

**URL:** <Go to ISI>://BCI200200439470

**Reference Type:**  Journal Article

**Record Number:** 130

**Author:** C. L. Gratto-Trevor, V. H. Johnston and S. T. Pepper

**Year:** 1998

**Title:** Changes in shorebird and eider abundance in the Rasmussen Lowlands, NWT

**Journal:** Wilson Bulletin

**Volume:** 110

**Issue:** 3

**Pages:** 316-325

**Date:** Sept., 1998

**Short Title:** Changes in shorebird and eider abundance in the Rasmussen Lowlands, NWT

**Accession Number:** BCI:BCI199800446261

**Keywords:** Sea Ducks - General; King Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Historical records of population numbers are almost entirely lacking for shorebirds and some species of waterfowl breeding in the Nearctic. In 1975 and 1976, ground surveys of breeding birds were undertaken in the Rasmussen Lowlands, Northwest Territories. We carried out similar censuses in the same area during the summers of 1994 and 1995. Weather conditions and methods were very similar during the two sets of surveys. For all years, we compared densities in different habitat types, as well as estimates for the entire region of total numbers of breeding Red Phalaropes (Phalaropus fulicaria), Pectoral Sandpipers, (Calidris melanotos), White-rumped Sandpipers (C. fuscicollis), Semipalmated Sandpipers (C. pusilla), Black-bellied Plovers (Pluvialis squatarola), American Golden-Plovers (Pluvialis dominica), Dunlin (C. alpina), Baird's Sandpipers (C. bairdii), and King Eiders (Somateria spectabilis). We found that breeding populations of Red Phalaropes, Black-bellied Plovers, American Golden-Plovers, and King Eiders in the 1990s had decreased substantially (76-87%) from their numbers in the 1970s. Numbers of other shorebird species did not decrease significantly (17-48%). Numbers of Black-bellied Plovers have apparently decreased at staging sites on the east coast of the United States and Canada. However, for American Golden-Plovers, there is no evidence of a decline on the east coast or in at least one other area in the eastern Nearctic. No other population information exists for Red Phalaropes breeding in the eastern Nearctic. Eider numbers appear to be decreasing throughout the Arctic. Possible reasons for declines are habitat changes in migratory staging sites and southern wintering areas. We need more consistent monitoring of arctic shorebirds in order to identify species with continual population declines. Further studies should emphasize Nearctic populations of species showing substantial declines in this study, examining consistency of decreases throughout the Nearctic, and reasons for such changes.

**URL:** <Go to ISI>://BCI199800446261

**Reference Type:**  Journal Article

**Record Number:** 1630

**Author:** H. J. Grav, B. Borch-Iohnsen, H. A. Dahl, G. W. Gabrielsen and J. B. Steen

**Year:** 1988

**Title:** Oxidative Capacity of Tissues Contributing to Thermogenesis in Eider Somateria-Mollissima Ducklings Changes Associated with Hatching

**Journal:** Journal of Comparative Physiology B Biochemical Systemic and Environmental Physiology

**Volume:** 158

**Issue:** 5

**Pages:** 513-518

**Short Title:** Oxidative Capacity of Tissues Contributing to Thermogenesis in Eider Somateria-Mollissima Ducklings Changes Associated with Hatching

**Accession Number:** BCI:BCI198987088138

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** 1. The development of liver and skeletal muscle oxidative capacities during hatching of the common eider (Somateria mollissima) in the Arctic has been investigated by monitoring tissue cytochrome c oxidase activity. 2. The specific activity of the liver enzyme did not change as the embryo underwent hatching, nor during subsequent growth of the duckling into adulthood. 3. Thigh muscle enzyme specific activity increased by a factor of 3.4 during the 24 h prehatching period, remained elevated for at least 48 h after hatching, and then returned to the embryonic (.sbd. 24 h) level in adults. 4. Histochemically visualized NADH-tetrzolium reductase of a typical red thigh muscle, M. vastus lateralis, showed a distinct increase in activtiy as the hatching process progressed to completion. 5. Electron microscopy of sectioned M. vastus lateralis revealed a dramatic increase in the density of the myofibrillar structure (number of mitochondrial profiles per unit area), and in the surface area of mitochondrial crista membranes in the course of the 48 h interval from 1 day prehatching to 1 day after hatching. 6. The significance of these changes for the scaling of thermoregulatory heat generation in the newly hatched eider duckling is discussed.

**URL:** <Go to ISI>://BCI198987088138

**Reference Type:**  Journal Article

**Record Number:** 2319

**Author:** J. M. Grebmeier, B. A. Bluhm, L. W. Cooper, S. L. Danielson, K. R. Arrigo, A. L. Blanchard, J. T. Clarke, R. H. Day, K. E. Frey, R. R. Gradinger, M. Kedra, B. Konar, K. J. Kuletz, S. H. Lee, J. R. Lovvorn, B. L. Norcross and S. R. Okkonen

**Year:** 2015

**Title:** Ecosystem characteristics and processes facilitating persistent macrobenthic biomass hotspots and associated benthivory in the Pacific Arctic

**Journal:** Progress in Oceanography

**Volume:** 136

**Pages:** 92-114

**Date:** Aug

**Short Title:** Ecosystem characteristics and processes facilitating persistent macrobenthic biomass hotspots and associated benthivory in the Pacific Arctic

**ISSN:** 0079-6611

**DOI:** 10.1016/j.pocean.2015.05.006

**Accession Number:** WOS:000358626900007

**Keywords:** Long-tailed Duck; Steller’s Eider; Common Eider; King Eider; Spectacled Eider; White-winged Scoter; Surf Scoter; Clangula hyemalis; Polysticta stelleri; Somateria mollissima; Somateria fischeri; Somateria spectabilis; Habitat; Trophic Interactions

**Abstract:** The northern Bering and Chukchi Seas are areas in the Pacific Arctic characterized by high northward advection of Pacific Ocean water, with seasonal variability in sea ice cover, water mass characteristics, and benthic processes. In this review, we evaluate the biological and environmental factors that support communities of benthic prey on the continental shelves, with a focus on four macrofaunal biomass "hotspots." For the purpose of this study, we define hotspots as macrofaunal benthic communities with high biomass that support a corresponding ecological guild of benthivorous seabird and marine mammal populations. These four benthic hotspots are regions within the influence of the St. Lawrence Island Polynya (SLIP), the Chirikov Basin between St. Lawrence Island and Bering Strait (Chirikov), north of Bering Strait in the southeast Chukchi Sea (SECS), and in the northeast Chukchi Sea (NECS). Detailed benthic macrofaunal sampling indicates that these hotspot regions have been persistent over four decades of sampling due to annual reoccurrence of seasonally consistent, moderate-to-high water column production with significant export of carbon to the underlying sediments. We also evaluate the usage of the four benthic hotspot regions by benthic prey consumers to illuminate predator-prey connectivity. In the SLIP hotspot, spectacled eiders and walruses are important winter consumers of infaunal bivalves and polychaetes, along with epibenthic gastropods and crabs. In the Chirikov hotspot, gray whales have historically been the largest summer consumers of benthic macrofauna, primarily feeding on ampeliscid amphipods in the summer, but they are also foraging further northward in the SECS and NECS hotspots. Areas of concentrated walrus foraging occur in the SLIP hotspot in winter and early spring, the NECS hotspot in summer, and the SECS hotspot in fall. Bottom up forcing by hydrography and food supply to the benthos influences persistence and composition of benthic prey that then influences the distributions of benthivorous upper trophic level populations. (C) 2015 Elsevier Ltd. All rights reserved.

**Notes:** Grebmeier, Jacqueline M. Bluhm, Bodil A. Cooper, Lee W. Danielson, Seth L. Arrigo, Kevin R. Blanchard, Arny L. Clarke, Janet T. Day, Robert H. Frey, Karen E. Gradinger, Rolf R. Kedra, Monika Konar, Brenda Kuletz, Kathy J. Lee, Sang H. Lovvorn, James R. Norcross, Brenda L. Okkonen, Stephen R.

Si

**URL:** <Go to ISI>://WOS:000358626900007

**Reference Type:**  Journal Article

**Record Number:** 841

**Author:** R. D. Gregory, S. P. Carter and S. R. Baillie

**Year:** 1997

**Title:** Abundance, distribution and habitat use of breeding goosanders Mergus merganser and red-breasted mergansers Mergus serrator on British rivers

**Journal:** Bird Study

**Volume:** 44

**Issue:** 1

**Pages:** 1-12

**Short Title:** Abundance, distribution and habitat use of breeding goosanders Mergus merganser and red-breasted mergansers Mergus serrator on British rivers

**Accession Number:** BCI:BCI199799500098

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Abundance, Distribution, and Trends; Habitat; Breeding Season;

**Abstract:** The abundance and distribution of breeding Goosanders and Red-breasted Mergansers were surveyed along river habitats throughout Britain in the spring and summer of 1987. Broad-scale habitat information was recorded and a total of around 9300 km of rivers was surveyed. The densities of Goosanders were highest in the Borders and northwest England, and those of Red-breasted Mergansers in the Highlands and western Scotland. The influence of river characteristics, including width, flow type, extent of bankside cover, elevation and gradient on the choice of habitats by sawbills was assessed using logistic regression models. River width had a significant influence on the presence of Goosanders and Mergansers, with wider river sections more likely to hold birds. The probability of recording Goosanders decreased with increasing river gradient while Mergansers preferred slower, smoother river sections. Taking these results into account, regional and national populations of both species were estimated by extrapolation from river sections surveyed to the total extent of river habitat available, as estimated by map measurements. Standing waters, by which both species nest, were not included in this survey. The limitations of this approach are discussed. National populations on river habitats were estimated to be 2600 (95% confidence limits CLs at 2333 and 2890) adult male and 3700 (95% CLs at 3272 and 4072) redhead Goosanders, and 800 (95% CLs at 562 and 1051) adult male and 750 (95% CLs at 562 and 964) redhead Mergansers.

**URL:** <Go to ISI>://BCI199799500098

**Reference Type:**  Journal Article

**Record Number:** 1026

**Author:** P. Grenquist

**Year:** 1952

**Title:** Recent changes in the populations of the eider, Somateria m. mollisima, and the velvet scoter, Melanitta f. fusca, in the Finnish Archipelago

**Journal:** Riistatieteellisia Julkaisuja

**Volume:** 8

**Pages:** 81-100

**Short Title:** Recent changes in the populations of the eider, Somateria m. mollisima, and the velvet scoter, Melanitta f. fusca, in the Finnish Archipelago

**Accession Number:** BCI:BCI19542800000258

**Keywords:** Common Eider; Somateria mollissima; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Reports from the network of Institute observers show an increase in eider ducks since 1947. Velvet scoters have also shown an increase since 1947. Counts of breeding stocks show that waterfowl were most abundant in the 1930s, and that the very severe winters of 1939-42 were disastrous to wintering populations. The recent incr. is attributed to mild winters, an incr. in salinity of the Baltic Sea, which promotes marine fauna, and an incr. in waterfowl preserves. || ABSTRACT AUTHORS: W. Swank

**URL:** <Go to ISI>://BCI19542800000258

**Reference Type:**  Journal Article

**Record Number:** 574

**Author:** P. Grenquist

**Year:** 1963

**Title:** Hatching losses of common goldeneyes, in the Finnish archipelago

**Journal:** Proc Internatl Ornithol Congr

**Volume:** 13

**Pages:** 685-689

**Short Title:** Hatching losses of common goldeneyes, in the Finnish archipelago

**Accession Number:** BCI:BCI19644500039983

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**Abstract:** In 1954-61, 53 clutches of Bucephala clangula averaged 10.3 eggs (CV =8.6%) where brooding was concluded, and the mean size of broods hatched was 9.6 (CV =9.3%). For 1,554 eggs 50.6% hatched, 6.2% had incubation interrupted, 1.9% were not fertilized and 40.4% were unincubated. In this rapidly increasing population of goldeneyes nesting in boxes peaks of hatching success (80 and 75%) in a given year were twice followed by low hatching success 2 years later (33 and 33%). The disturbance caused by several young females laying eggs in the same boxes as older females of their own spp., goosanders and stock doves is thought to be an explanation of the low hatching success in overcrowded nesting areas in the archipelago. || ABSTRACT AUTHORS: P. Grenquist

**URL:** <Go to ISI>://BCI19644500039983

**Reference Type:**  Journal Article

**Record Number:** 716

**Author:** U. Grimm and R. Lentner

**Year:** 2007

**Title:** Cormorant and goosander in Northern Tyrol. Distribution, habitat selection, behaviour and diet during winter. Results of a survey 1999/2000

**Journal:** Berichte des Naturwissenschaftlich-Medizinischen Vereins in Innsbruck

**Volume:** 94

**Pages:** 109-135

**Short Title:** Cormorant and goosander in Northern Tyrol. Distribution, habitat selection, behaviour and diet during winter. Results of a survey 1999/2000

**Accession Number:** BCI:BCI200800458582

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** Synopsis: The study shows a general view of the number, habitat selection, behaviour and the diet of cormorants (Phalacrocorax carbo sinensis) and goosanders (Mergus merganser) during winter 1999/2000 in Northern Tyrol. Cormorants were present only in small numbers with a maximum in January. The maximum number at one count of the 71,6 km of flowing waters was 18 cormorants, countings at the roosts showed a maximum of 25 birds. Cormorants could be observed regularly near the roost at Erl. The maximum number of goosanders at one count of the 71,6 km was 29. The sites preferred by goosanders were at the river Inn (especially the section Kufstein to Erl) and showed large river width and good sight into the water. Analysis of pellets confirm the cormorant as a nutrition generalist.

**URL:** <Go to ISI>://BCI200800458582

**Reference Type:**  Journal Article

**Record Number:** 734

**Author:** A. Gross

**Year:** 2000

**Title:** The distribution of the breeding population of Mergus merganser in southern Bavaria and Austria in relation to the water-transparency of representative rivers in the breeding area

**Journal:** Ornithologischer Anzeiger

**Volume:** 39

**Issue:** 2-3

**Pages:** 97-118

**Date:** September, 2000

**Short Title:** The distribution of the breeding population of Mergus merganser in southern Bavaria and Austria in relation to the water-transparency of representative rivers in the breeding area

**Accession Number:** BCI:BCI200100171094

**Keywords:** Common merganser; Mergus merganser; Habitat; Breeding Season;

**Abstract:** The abundance and distibution of breeding Mergus merganser in southern Bavaria and Austria was analysed. Over the last seven decades the development was correlated with the annual mud content of six representative rivers in the breeding area. It could be shown that the water-transparency has an influence on the breeding population. The number of breeding goosanders increased on four of the analysed rivers in response to an increasing water-transparency after several water-economical impacts. The muddy glacier waters of Inn and Salzach showed almost no changes in their low water-transparency in the last centuries and in fact there was no increase in the anyway very small number of breeding goosanders. The results also showed that a mud content above 180 mg/l seems to be not tolerable for Mergus merganser in the breeding season.

**URL:** <Go to ISI>://BCI200100171094

**Reference Type:**  Journal Article

**Record Number:** 1021

**Author:** T. Grosz and C. F. Yocom

**Year:** 1972

**Title:** Food Habits of the White-Winged Scoter in Northwestern California

**Journal:** Journal of Wildlife Management

**Volume:** 36

**Issue:** 4

**Pages:** 1279-1282

**Short Title:** Food Habits of the White-Winged Scoter in Northwestern California

**Accession Number:** BCI:BCI197355054227

**Keywords:** White-winged Scoter; Melanitta fusca; Trophic Interactions;

**URL:** <Go to ISI>://BCI197355054227

**Reference Type:**  Journal Article

**Record Number:** 801

**Author:** T. C. J. Grubb

**Year:** 1971

**Title:** Bald Eagles Stealing Fish from Common Mergansers

**Journal:** Auk

**Volume:** 88

**Issue:** 4

**Pages:** 928-929

**Short Title:** Bald Eagles Stealing Fish from Common Mergansers

**Accession Number:** BCI:BCI197208008328

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**URL:** <Go to ISI>://BCI197208008328

**Reference Type:**  Journal Article

**Record Number:** 1693

**Author:** T. C. J. Grubb

**Year:** 1975

**Title:** A Shift in Nesting Habitat by a Population of Common Eiders

**Journal:** Wilson Bulletin

**Volume:** 86

**Date:** Unknown

**Short Title:** A Shift in Nesting Habitat by a Population of Common Eiders

**Accession Number:** BCI:BCI197511025579

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI197511025579

**Reference Type:**  Journal Article

**Record Number:** 196

**Author:** F. Gudmundsson

**Year:** 1979

**Title:** The Past Status and Exploitation of the Myvatn Iceland Waterfowl Populations

**Journal:** Oikos

**Volume:** 32

**Issue:** 1-2

**Pages:** 232-249

**Short Title:** The Past Status and Exploitation of the Myvatn Iceland Waterfowl Populations

**Accession Number:** BCI:BCI198069008873

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Conservation; Breeding Season;

**Abstract:** The exceptionally rich waterfowl populations of Myvatn [Iceland] have no doubt been exploited for a very long time although sources of information about the waterfowl of the lake and its exploitation are not available for the time prior to 1712. [The waterfowl species which at present nest or have nested in the Myvatn area are: whooper swan Cygnus cygnus, grey lag goose Anser anser, mallard Anas platyrhynchos, teal A. crecca, gadwall A. strepera, wigeon A. penelope, pintail A. acuta, shoveler A. clypeata, pochard Aythya ferina, tufted duck A. fuligula, scaup A. marila, harlequin duck Histrionicus histrionicus, long-tailed duck Clangula hyemalis, common scoter Melanitta nigra, Barrow's goldeneye Bucephala islandica, red-breasted merganser Mergus serrator, and goosander M. merganser.] At least from then on and up to the present day the exploitation has entirely consisted in the exploitation of eggs while the birds have been protected. A source from the early 19th century indicates that egg harvesting was not carried out indiscriminately as it was subject to certain restrictions. Written records of the annual egg yield since the turn of the present century have been kept on some of the famrs bordering the lake. But annual egg harvest records by species from about 1900-1957 on 1 of the farms (Grimsstadir) have been particularly valuable as with their help it has been possible to reconstruct important population parameters of the various waterfowl species.

**URL:** <Go to ISI>://BCI198069008873

**Reference Type:**  Journal Article

**Record Number:** 106

**Author:** G. A. Gudmundsson, T. Alerstam, M. Green and A. Hedenstrom

**Year:** 2002

**Title:** Radar observations of Arctic bird migration at the Northwest Passage, Canada

**Journal:** Arctic

**Volume:** 55

**Issue:** 1

**Pages:** 21-43

**Date:** March 2002

**Short Title:** Radar observations of Arctic bird migration at the Northwest Passage, Canada

**Accession Number:** BCI:BCI200300563682

**Keywords:** Sea Ducks - General; Common Eider; Migration; Nonbreeding Seasons;

**Abstract:** Bird migration was recorded by tracking radar and visual observation at 23 sites in the region of the Northwest Passage, between Baffin Island and Herschel Island in the Beaufort Sea. The studies took place during a ship-based expedition from 29 June to 3 September 1999. A total of 692 tracks (average duration 160 s) of bird flocks on postbreeding migration were recorded. Eastward migration was widespread, with the highest intensities at three sites in the southeastern Beaufort Sea. Mainly shorebirds were responsible for these movements, migrating along routes similar to great circles towards Nova Scotia and other parts of the Atlantic coast of North America (whence they depart on transoceanic flights towards South America). Some of the birds in this migration system probably originated from Siberia, as indicated by high-altitude eastward migration at a site 100 km north of the coast in the Beaufort Sea. Another category of eastward migrants consisted of jaegers, terns, and red phalaropes traveling towards the Davis Strait region and into the Atlantic Ocean. Southward migration was recorded at Baffin Island. A westward migration was pronounced at King William Island (with simultaneous eastward migration) and Amundsen Gulf, while northward movements were important at Banks Island and Melville Island. Apart from westward molt migration of common eiders at Amundsen Gulf, the westward and northward tracks reflected mainly jaegers, terns, gulls, and red phalaropes. These birds were probably making northward flights to exploit pelagic food resources in waters where the ice had recently broken up before their westward migratory exodus from the Arctic region towards the Pacific Ocean. The mean altitude of migration was 793 m, with 27% of all tracks above 1000 m and a maximum height of 3.95 km. The altitude distribution was clearly lower than those of the corresponding migration in Siberia and the shorebird migration at Nova Scotia. The average ground speed (14.9 m/s) was only slightly faster than the mean air speed (13.8 m/s), and migrants gained in speed from the winds (ground speed exceeding air speed) in only 55% of all cases. This means that wind assistance in the study area was much less pronounced than that documented for the migrants in Siberia and Nova Scotia. Bird migration at the Northwest Passage may be characterized by, on average, lower altitudes, less favorable winds, shorter flight steps, and a more widespread accessibility to stopover sites than migration at the Northeast Passage.

**URL:** <Go to ISI>://BCI200300563682

**Reference Type:**  Journal Article

**Record Number:** 1575

**Author:** M. Guillemette

**Year:** 1994

**Title:** Digestive-rate constraint in wintering common eiders (Somateria mollissima): Implications for flying capabilities

**Journal:** Auk

**Volume:** 111

**Issue:** 4

**Pages:** 900-909

**Short Title:** Digestive-rate constraint in wintering common eiders (Somateria mollissima): Implications for flying capabilities

**Accession Number:** BCI:BCI199598513079

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Physiology; Nonbreeding Seasons;

**Abstract:** Rates of ingestion and digestion for wintering Common Elders (Somateria mollissima) feeding on blue mussels (Mytilus edulis) were estimated using information on average meal size, feeding- and resting-bout durations, and transit time. Rate of ingestion of mussel shells is two times higher than defecation rate; as a consequence, shells accumulate in the gut as ingestion progresses. On average, eiders shot when flying (n = 92) had 1.1% of their body mass as prey compared with 3.7 and 6.4% for eiders foraging in small and large Rocks (n = 77), respectively, suggesting that eiders tend to minimize the transportation of surplus mass when flying. Wing loading of the Common Eider averages 2.0 g cntdot cm-2, which is among the highest values determined for a bird species capable of flight. Maximum gut contents were between 8 and 11% of body mass for eiders foraging in large rafts; such mass of food significantly increases wing loading and is associated with a reluctance or a possible inability to take flight. I hypothesize that meal size in Common Eiders is regulated in response to flight limitations that result from the added mass of a meal.

**URL:** <Go to ISI>://BCI199598513079

**Reference Type:**  Journal Article

**Record Number:** 1543

**Author:** M. Guillemette

**Year:** 1998

**Title:** The effect of time and digestion constraints in Common Eiders while feeding and diving over Blue Mussel beds

**Journal:** Functional Ecology

**Volume:** 12

**Issue:** 1

**Pages:** 123-131

**Date:** Feb., 1998

**Short Title:** The effect of time and digestion constraints in Common Eiders while feeding and diving over Blue Mussel beds

**Accession Number:** BCI:BCI199800208948

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons; Physiology;

**Abstract:** 1. To maintain energy intake Common Eiders (Somateria mollissima) in winter should compensate for reduced day-length by increasing both the proportion of time spent feeding and diving efficiency, defined as the proportional duration of a dive bout within a dive cycle. Common Eiders swallowed Blue Mussel (Mytilus edulis) whole with their shells where any behavioural compensation in relation to short days may be limited by digestive processes. 2. Based on time budget studies conducted from mid-December to the end of April in the Gulf of St. Lawrence, Quebec, Canada, diving and feeding efficiency were compared for three seasonal periods varying in day-length (from 557 to 890 min). 3. Results showed that eiders were compensating for short days by feeding 56% of the time in mid-winter compared with 33% in spring. However, diving efficiency remained constant through the season and apparently no compensation occurred at this level of their foraging behaviour. Despite this, the daily rate of prey ingestion was much higher in mid-winter than in spring. 4. Ingestion rate values for mid-winter individuals approached or even exceeded the rate at which prey items are defecated and it was concluded that shell crushing performed by the muscular gizzard is physiologically more demanding during that period. On this basis, gizzard mass should be larger in winter when ingestion rates are higher. Data presented support that hypothesis and suggest that compensation in relation to short days can be both behavioural and physiological.

**URL:** <Go to ISI>://BCI199800208948

**Reference Type:**  Journal Article

**Record Number:** 1498

**Author:** M. Guillemette

**Year:** 2001

**Title:** Foraging before spring migration and before breeding in Common Eiders: Does hyperphagia occur?

**Journal:** Condor

**Volume:** 103

**Issue:** 3

**Pages:** 633-638

**Date:** August, 2001

**Short Title:** Foraging before spring migration and before breeding in Common Eiders: Does hyperphagia occur?

**Accession Number:** BCI:BCI200100426686

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Foraging performance of Common Eider (Somateria mollissima) was studied to find out if hyperphagia occurs before migration and breeding in this species. Diving efficiency and time spent feeding were quantified concomitantly for two subspecies that differ in the timing of their reproduction and migration. The foraging performance of female S. m. dresseri preparing for breeding and female S. m. borealis preparing for migration were compared with their male counterparts, which are known to achieve energy balance during these periods. Female dresseri spent 41% of their time feeding and made 404 dives daily, for a total of 169 min spent underwater each day. Female dresseri spent more time diving than did males by about one hour each day. There were no detectable differences in the foraging performances of male and female borealis, probably because the body mass of migrating females increased only slightly prior to migration. Hyperphagia in breeding female dresseri appears to be the main cause of increased body mass, although other mechanisms may play a role.

**URL:** <Go to ISI>://BCI200100426686

**Reference Type:**  Journal Article

**Record Number:** 1078

**Author:** M. Guillemette, F. Bolduc and J.-L. Desgranges

**Year:** 1994

**Title:** Stomach contents of diving and dabbling ducks during fall migration in the St. Lawrence River, Quebec, Canada

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 167-175

**Short Title:** Stomach contents of diving and dabbling ducks during fall migration in the St. Lawrence River, Quebec, Canada

**Accession Number:** BCI:BCI201000234406

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Stomach contents of ten duck species feeding on benthos were analysed in the context of new prey species invading the St. Lawrence river, eastern Canada. One hundred and twenty-three stomachs (12.3) belonging to eight species of diving ducks and two species of dabbling ducks were analysed. The amount of food found in the stomachs was low and seems to be related to the fact that the great majority of ducks were collected while flying. A bias in food composition was associated with duck species characterized by residual contents in their gizzard, which were discarded from our analysis. In general, the diet of diving ducks was mainly animal while plant material dominated the diet of dabbling ducks. The most important group of animal prey was the gastropods, two species from Which dominated the diet of diving ducks, namely Bythinya tentaculata and Viviparus sp. These two prey species are European in origin and were apparently introduced in the St. Lawrence several decades ago. This leads as to suggest that the recent introduction of the Zebra Mussel Dreissena polymorpha in the St. Lawrence could significantly alter the diet of diving ducks in the future. Incidently, one specimen of Surf Scoter Melanitto perspicillata had its gizzard filled with this species.

**URL:** <Go to ISI>://BCI201000234406

**Reference Type:**  Journal Article

**Record Number:** 1864

**Author:** M. Guillemette and P. J. Butler

**Year:** 2012

**Title:** Seasonal variation in energy expenditure is not related to activity level or water temperature in a large diving bird

**Journal:** Journal of Experimental Biology

**Volume:** 215

**Issue:** 18

**Pages:** 3161-3168

**Date:** Sep

**Short Title:** Seasonal variation in energy expenditure is not related to activity level or water temperature in a large diving bird

**ISSN:** 0022-0949

**DOI:** 10.1242/jeb.061119

**Accession Number:** WOS:000308041400009

**Keywords:** Common eider; Somateria mollissima; energetics and Nutrition; Nonbreeding Seasons; Breeding Season

**Notes:** Times Cited: 1

Guillemette, Magella Butler, Patrick J.

1

**URL:** <Go to ISI>://WOS:000308041400009

**Reference Type:**  Journal Article

**Record Number:** 1556

**Author:** M. Guillemette and J. H. Himmelman

**Year:** 1996

**Title:** Distribution of wintering common eiders over mussel beds: Does the ideal free distribution apply?

**Journal:** Oikos

**Volume:** 76

**Issue:** 3

**Pages:** 435-442

**Short Title:** Distribution of wintering common eiders over mussel beds: Does the ideal free distribution apply?

**Accession Number:** BCI:BCI199699197695

**Keywords:** Common Eider; Somateria mollissima; Habitat; Trophic Interactions; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The preferred habitat of common eiders (Somateria mollissima) wintering in the Gulf of St. Lawrence, eastern Canada consists of submerged reefs distributed in patches of different sizes which are composed of kelp beds and urchin barrens. In this habitat, the blue mussel (Mytilus edulis), a preferred prey, is found only inside kelp beds and is considered to have a high carrying capacity to be depleted slowly over the course of the winter. We examined the effect of population density on the number of mussel patches simultaneously used by eiders. Our rationale was that if interference competition was occurring, we should observe a "spacing" of eiders and the number of patches used should increase with an increase in population density. We used the number of eiders counted in these patches as an index of density. The data show that the eiders crowd into one or two patches as population density increased. We thus discarded the possibility that interference competition was driving the distribution of wintering eiders. We also hypothesized that prey depletion could influence eider distribution over the winter and we predicted that patch use was correlated with food availability through time and follows a simple ideal free distribution. Our data supported this hypothesis. Although population density and prey depletion act at two different time scales and result in two contrasting distributions, we show that these two factors can play a role in determining eider distribution.

**URL:** <Go to ISI>://BCI199699197695

**Reference Type:**  Journal Article

**Record Number:** 1585

**Author:** M. Guillemette, J. H. Himmelman, C. Barette and A. Reed

**Year:** 1993

**Title:** Habitat selection by common eiders in winter and its interaction with flock size

**Journal:** Canadian Journal of Zoology

**Volume:** 71

**Issue:** 6

**Pages:** 1259-1266

**Short Title:** Habitat selection by common eiders in winter and its interaction with flock size

**Accession Number:** BCI:BCI199396085647

**Keywords:** Common Eider; Somateria mollissima; Habitat; Nonbreeding Seasons;

**Abstract:** We studied habitat selection in relation to prey density and water depth in the common eider, Somateria mollissima L., wintering in the Gulf of St. Lawrence, eastern Canada. In this region, eiders are confronted with low temperatures, ice cover, and reduced day length. We predicted that they should select feeding habitats characterized by high prey density and shallow water to minimize the time and energy spent while diving. About 1000 flocks were localized by triangulation on our study site (20.5 km-2). We inferred the diving depth and the habitat being used from the position of eiders on bathymetric and community maps. The highest density of prey occurred in shallow water reefs where there were patches of blue mussels, Mytilus edulis L., and green sea urchins, Strongylocentrotus droebachienensis (Muller). Despite the fact that eiders can dive to depths as great as 42 m to feed, they strongly aggregate in shallow water, and their distribution closely coincides with the highest density of prey. The degree of selection for the reef habitat varies with seasonal variations in the size of flocks and in the total number of eiders present. Although flocking as an antipredator behaviour cannot be rejected, we interpret the high degree of flocking by eiders in our study area as a strategy to facilitate feeding in winter.

**URL:** <Go to ISI>://BCI199396085647

**Reference Type:**  Journal Article

**Record Number:** 1479

**Author:** M. Guillemette and J. K. Larsen

**Year:** 2002

**Title:** Postdevelopment experiments to detect anthropogenic disturbances: The case of sea ducks and wind parks

**Journal:** Ecological Applications

**Volume:** 12

**Issue:** 3

**Pages:** 868-877

**Date:** June, 2002

**Short Title:** Postdevelopment experiments to detect anthropogenic disturbances: The case of sea ducks and wind parks

**Accession Number:** BCI:BCI200200397985

**Keywords:** Common Eider; Somateria mollissima; Conservation; Abundance, Distribution, and Trends; Behavior; Nonbreeding Seasons;

**Abstract:** Typically, ecological impact assessments (EIA) are conducted under time constraints, making the collection of baseline data and application of Before-After-Control-Impact (BACI) designs difficult. Here we report the results of three "postdevelopment" experiments testing the effects of a small wind park on the abundance, distribution, and behavior of wintering Common Eiders (Somateria mollissima), a large sea duck. Our approach was based on the rationale that the probability of detecting an impact should increase with decreasing distances from the wind park. Because prey abundance is likely to drive the distribution of wintering eiders, we removed that confounding variable by (1) randomizing its effect over the study area, and (2) incorporating the variable into the analysis. In the first experiment, we compared the abundance and distribution of eiders when wind turbines were switched on and off. This was complemented by investigating the escape behavior of flocks when wind turbines were switched on after they had been off for one full day. In a second experiment, we tested for any departure from the habitat-matching rule, which states that the proportion of eiders and the proportion of food should be equal at different distances from the park. In a third experiment, the flying behavior of eiders in relation to the wind park was analyzed by measuring the landing and flying rates for patches of decoys located at 100, 300, and 500 m from the wind park. We found little evidence for negative impacts, because we could not detect any effect in three tests out of four. Only in the decoy experiment did we observe eiders reducing their landing and flying near (100 m from) the wind park. We conclude, for the conditions under which our experiments were performed, that the wind park did not substantially affect wintering Common Eiders. However, many aspects of the potential impacts of offshore wind parks on sea ducks have not been covered by our study and, therefore, cannot be generalized to other species or other phases of the annual cycle. Nevertheless, we argue that the use of multiple postdevelopment experiments based on a gradient approach is a helpful complement to BACI studies.

**URL:** <Go to ISI>://BCI200200397985

**Reference Type:**  Journal Article

**Record Number:** 1416

**Author:** M. Guillemette and J.-F. Ouellet

**Year:** 2005

**Title:** Temporary flightlessness in pre-laying Common Eiders Somateria mollissima: are females constrained by excessive wing-loading or by minimal flight muscle ratio?

**Journal:** Ibis

**Volume:** 147

**Issue:** 2

**Pages:** 293-300

**Date:** Apr 05

**Short Title:** Temporary flightlessness in pre-laying Common Eiders Somateria mollissima: are females constrained by excessive wing-loading or by minimal flight muscle ratio?

**Accession Number:** BCI:BCI200510028983

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Physiology; Nonbreeding Seasons;

**Abstract:** Large body size, small wings and relatively low flight muscle mass are general attributes of flightlessness in birds, but a general analysis is lacking when considering these factors simultaneously. Common Eiders Somateria mollissima are large sea ducks characterized by short, pointed wings of low surface area. Because females fast throughout incubation, they need to accumulate large body reserves prior to laying. During this pre-laying period, many females cannot take off, and dive when approached under still-air conditions, whereas males take off readily when disturbed. In this paper, we examine how pre-laying female Common Eiders fit the maximum wing-loading ratio of Meunier, the marginal flight muscle ratio (FMR) of Marden and predictions of a general model of take-off performance (also by Marden). Wing morphology was recorded and flight muscles were dissected from specimens collected during the pre-laying period near one breeding colony. In addition, take-off ability, as observed during collection, was compared with the proposed thresholds for flightlessness and outputs from the general model of take-off performance. The results indicated that half of the pre-laying females exceeded the wing-loading ratio of Meunier, although all females had values above 0.160, the flight muscle ratio below which take-off would be impossible. We suggest that wing-loading and flight muscle ratio interact in Eiders, with higher FMR compensating for excessive wing-loading. Nevertheless, the model of take-off performance predicted, with reasonable accuracy, the behavioural observations under still-air conditions. Indeed, females that were predicted to be temporarily flightless could produce a specific lift of 8.8 N/kg on average (less than the 9.8 N/kg required to overcome gravity). In contrast, the average specific lift predicted for males capable of flight was estimated to be 11.4 N/kg. These results agree with our observations that female Common Eiders are at the limit of flight capability in vertebrates.

**URL:** <Go to ISI>://BCI200510028983

**Reference Type:**  Journal Article

**Record Number:** 1417

**Author:** M. Guillemette and J.-F. Ouellet

**Year:** 2005

**Title:** Temporary flightlessness as a potential cost of reproduction in pre-laying Common Eiders Somateria mollissima

**Journal:** Ibis

**Volume:** 147

**Issue:** 2

**Pages:** 301-306

**Date:** Apr 05

**Short Title:** Temporary flightlessness as a potential cost of reproduction in pre-laying Common Eiders Somateria mollissima

**Accession Number:** BCI:BCI200510028984

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Physiology; Survival; Breeding Season;

**Abstract:** The rapid growth and reabsorption of the avian ovary is thought to be adaptive, as it reduces predation risk and the metabolic cost of flight. In this paper, we use an extreme case of parental investment to show how the survival of gravid birds may be impaired by reduced take-off ability. In still air, temporary flightlessness is regularly observed in female Common Eiders Somateria mollissima preparing for breeding. From a sample of pre-laying females collected in the Baltic Sea, we quantified the relationships among body reserves, organ mass and take-off ability using a general model of take-off performance. Average body mass at the beginning and end of follicular growth was, respectively, 32% and 43% higher than winter body mass. Wing-loading increased significantly during ovary development whereas the relative mass of flight muscles decreased. In contrast, organ mass and somatic body mass were constant from early follicular growth until laying, indicating that the observed increase in body mass was caused by ovary growth. The average specific lift production of individuals collected at the beginning of follicular growth was 9.7 N/kg, which is similar to the lift required to become airborne (9.8 N/kg). As ovary mass increased, lift production decreased to 9.2 N/kg at the onset of laying. These results indicate that temporary flightlessness results from the accumulation of large body reserves and subsequent ovarian growth. Predators of Common Eiders are diverse and may come from air, water and land. We suggest that temporary flightlessness may decrease adult survival through predation, and may represent an important cost of reproduction.

**URL:** <Go to ISI>://BCI200510028984

**Reference Type:**  Journal Article

**Record Number:** 1371

**Author:** M. Guillemette, D. Pelletier, J.-M. Grandbois and P. J. Butler

**Year:** 2007

**Title:** Flightlessness and the energetic cost of wing molt in a large sea duck

**Journal:** Ecology (Washington D C)

**Volume:** 88

**Issue:** 11

**Pages:** 2936-2945

**Date:** Nov 2007

**Short Title:** Flightlessness and the energetic cost of wing molt in a large sea duck

**Accession Number:** BCI:BCI200800056690

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Molt; Nonbreeding Seasons;

**Abstract:** Although the replacement of feathers apparently represents the major event of somatic production in the annual cycle of wild birds, knowledge about the energetics of molt has always been hampered by logistical and technical difficulties, which are exacerbated by the fact that birds are able to compensate behaviorally to buffer any variation in energy demand. During wing molt, sea ducks (Mergini) and other diving birds lose all of their wing feathers at once, leading to a period of temporary flightlessness of variable duration, a condition that considerably restricts their movements and increases the probability of predation. In the present study, we present the first results aimed at quantifying the duration of flightlessness, energy expenditure, and foraging effort during molt of a wing-propelled diving bird, the Common Eider (Somateria mollissima). Data loggers were implanted in the body cavity of 13 females to record heart rate and hydrostatic pressure (depth) every two seconds for a period of 220 days. Flight frequency and duration were assessed from elevated and constant heart rate, and the absence of. light was used to quantify the duration of flightlessness, which lasted, on average, 36 +/- 8 days ( mean +/- SD). Using a period of four weeks before and four weeks after the flightless period, we found that dive depth (ranging from 1 to 2 m, on average) and daily diving time did not vary during the course of the study. Daily metabolic rate increased by 9%, and resting metabolic rate by 12% from the pre-molt period to the flightless period and remained high during the post-molt period. This study indicates that the energetic costs of replacing flight remiges in female eiders are substantial, although this is not associated with any change in foraging effort, which suggests that female Common Eiders lose mass during wing molt. Finally, estimates of energy savings associated with the total absence of. flights during wing molt represent 6% of daily metabolic rate or 14% of resting metabolic rate. This. finding contrasts with the classical view that little or no benefit is associated with a flightless condition. We suggest that such energy savings may have favored the evolution of temporary flightlessness in diving birds.

**URL:** <Go to ISI>://BCI200800056690

**Reference Type:**  Journal Article

**Record Number:** 1557

**Author:** M. Guillemette, A. Reed and J. H. Himmelman

**Year:** 1996

**Title:** Availability and consumption of food by common eiders wintering in the Gulf of St. Lawrence: Evidence of prey depletion

**Journal:** Canadian Journal of Zoology

**Volume:** 74

**Issue:** 1

**Pages:** 32-38

**Short Title:** Availability and consumption of food by common eiders wintering in the Gulf of St. Lawrence: Evidence of prey depletion

**Accession Number:** BCI:BCI199698741211

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Habitat; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** To quantify the influence of common ciders (Somateria mollissima) on their food supply in the Gulf of St. Lawrence, eastern Canada, we measured prey availability and patch utilization during two consecutive winters. In this region, ciders fed predominantly near submerged reefs where large populations of blue mussels (Mytilus edulis) and green sea urchins (Strongylocentrotus droebachienensis) were present. Density and biomass of mussels and urchins were estimated for two reefs at the beginning of the winter of 1985-1986 using SCUBA and quadrat sampling. Prey selection was assessed by comparing the size of prey from stomach contents of shot eiders with that of prey found in the habitat. Patch use was quantified from elevated blinds by regularly counting eiders from December to April. Mussels in the habitat were small (mean length 6.5 mm) and formed dense beds (mean density 25398 individuals/m-2), whereas urchins were large (mean diameter 35 mm) and occurred at lower densities (114 individuals/m-2). However, the average biomass for these two prey species was similar, 2.8 and 3.1 kg wet mass/m-2 for mussels and urchins, respectively. The mussels eaten by common eiders tended to be larger than the average size of those available. In contrast, urchins eaten were smaller than the average size present in the habitat. Depending on the reef, consumption of food by eiders ranged from 48 to 69% of the biomass for eiders feeding on mussels and from 3 to 6% of the biomass for urchins. We compared these estimates with those from similar studies and concluded that eiders substantially deplete mussel beds in winter, which in turn seems to affect their distribution.

**URL:** <Go to ISI>://BCI199698741211

**Reference Type:**  Journal Article

**Record Number:** 1865

**Author:** M. Guillemette, S. E. Richman, S. J. Portugal and P. J. Butler

**Year:** 2012

**Title:** Behavioural compensation reduces energy expenditure during migration hyperphagia in a large bird

**Journal:** Functional Ecology

**Volume:** 26

**Issue:** 4

**Pages:** 876-883

**Date:** Aug

**Short Title:** Behavioural compensation reduces energy expenditure during migration hyperphagia in a large bird

**ISSN:** 0269-8463

**DOI:** 10.1111/j.1365-2435.2012.01993.x

**Accession Number:** WOS:000306404100014

**Keywords:** Common eider; somateria mollissima; energetics and Nutrition; Behavior; Migration; Nonbreeding Seasons

**Notes:** Times Cited: 2

Guillemette, Magella Richman, Samantha E. Portugal, Steven J. Butler, Patrick J.

2

**URL:** <Go to ISI>://WOS:000306404100014

**Reference Type:**  Journal Article

**Record Number:** 1478

**Author:** M. Guillemette, A. J. Woakes, A. Flagstad and P. J. Butler

**Year:** 2002

**Title:** Effects of data-loggers implanted for a full year in female Common Eiders

**Journal:** Condor

**Volume:** 104

**Issue:** 2

**Pages:** 448-452

**Date:** May, 2002

**Short Title:** Effects of data-loggers implanted for a full year in female Common Eiders

**Accession Number:** BCI:BCI200200326500

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** Data-loggers can be implanted into the body cavities of birds to monitor their physiology and behavior. This technology opens the potential for year-round monitoring, as long as data-loggers can be retrieved one year later and the implantation does not alter the bird's health or behavior. We tested the impact of carrying data-loggers on reproductive parameters of nine female Common Eiders breeding in the Baltic Sea. We minimized disturbance and maximized return rates of experimental females by implanting data-loggers during the second half of the incubation period and by choosing early breeders, which were presumably high quality individuals. All experimental females came back to the study plot the year following implantation. Using a before-after approach applied to an experimental and a control group, we found no evidence that carrying data-loggers had any harmful effect on laying dates, clutch sizes, or hatching success of experimental females. It appears that data-loggers implanted in the body cavities of female Common Eiders do not interfere with their reproductive activities. Explanations for this result are that data-loggers are small compared to body mass (<1%), and their implantation into the body cavity does not alter the hydrodynamic or aerodynamic properties of these diving birds.

**URL:** <Go to ISI>://BCI200200326500

**Reference Type:**  Journal Article

**Record Number:** 1441

**Author:** M. Guillemette, A. J. Woakes, V. Henaux, J.-M. Grandbois and P. J. Butler

**Year:** 2004

**Title:** The effect of depth on the diving behaviour of common eiders

**Journal:** Canadian Journal of Zoology

**Volume:** 82

**Issue:** 11

**Pages:** 1818-1826

**Date:** Nov 04

**Short Title:** The effect of depth on the diving behaviour of common eiders

**Accession Number:** BCI:BCI200510002325

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season; Nonbreeding Seasons;

**Abstract:** Diving in endotherms is largely constrained by the depth of the foraging area, as they withstand long periods without breathing. Foraging theory predicts that all phases of a dive cycle, including travel, bottom, and surface durations, are positively correlated with depth. With continued increase in depth, bottom duration should level off and then decline. We tested these qualitative predictions with common eiders (Somateria mollissima (L., 1758)), a sea duck foraging routinely on the bottom. Using data loggers implanted in the body cavity of four females for I year, we showed that average diving depth over the summer and winter was distinct for each female. When averaged for each female, the data were qualitatively similar to theoretical predictions since travel, bottom, and surface durations all increased with depth. However, within individual females, the data only supported the theory partially because some relationships between depth and phases of a dive cycle were not significant. In particular, bottom duration failed to increase with depth for two individual females during the summer. In addition, significant relationships differed substantially among individual females and even within individual females when summer and winter seasons were compared. We suggest that the large variation observed in the diving behaviour of female ciders reflects individual female diving capability, which is probably related to their physiological states.

**URL:** <Go to ISI>://BCI200510002325

**Reference Type:**  Journal Article

**Record Number:** 2157

**Author:** M. Guillemette, A. J. Woakes, J. Larochelle, E. T. Polymeropoulos, J. M. Granbois, P. J. Butler, D. Pelletier, P. B. Frappell and S. J. Portugal

**Year:** 2016

**Title:** Does hyperthermia constrain flight duration in a short-distance migrant?

**Journal:** Philosophical Transactions of the Royal Society B-Biological Sciences

**Volume:** 371

**Issue:** 1704

**Date:** Sep

**Short Title:** Does hyperthermia constrain flight duration in a short-distance migrant?

**ISSN:** 0962-8436

**DOI:** 10.1098/rstb.2015.0386

**Article Number:** 20150386

**Accession Number:** WOS:000383111900005

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Migration; Physiology

**Abstract:** While some migratory birds perform non-stop flights of over 11 000 km, many species only spend around 15% of the day in flight during migration, posing a question as to why flight times for many species are so short. Here, we test the idea that hyperthermia might constrain flight duration (FD) in a short-distance migrant using remote biologging technology to measure heart rate, hydrostatic pressure and body temperature in 19 migrating eider ducks (Somateria mollissima), a short-distance migrant. Our results reveal a stop-and-go migration strategy where migratory flights were frequent (14 flights day(-1)) and short (15.7 min), together with the fact that body temperature increases by 1 degrees C, on average, during such flights, which equates to a rate of heat storage index (HSI) of 4 degrees C h(-1). Furthermore, we could not find any evidence that short flights were limited by heart rate, together with the fact that the numerous stops could not be explained by the need to feed, as the frequency of dives and the time spent feeding were comparatively small during the migratory period. We thus conclude that hyperthermia appears to be the predominant determinant of the observed migration strategy, and suggest that such a physiological limitation to FD may also occur in other species. This article is part of the themed issue 'Moving in a moving medium: new perspectives on flight'.

**Notes:** Guillennette, Magella Woakes, Anthony J. Larochelle, Jacques Polymeropoulos, Elias T. Granbois, Jean-Marc Butler, Patrick J. Pelletier, David Frappell, Peter B. Portugal, Steven J.

**URL:** <Go to ISI>://WOS:000383111900005

**Reference Type:**  Journal Article

**Record Number:** 1597

**Author:** M. Guillemette, R. C. Ydenberg and J. H. Himmelman

**Year:** 1992

**Title:** The role of energy intake rate in prey and habitat selection of common eiders Somateria mollissima in winter: A risk-sensitive interpretation

**Journal:** Journal of Animal Ecology

**Volume:** 61

**Issue:** 3

**Pages:** 599-610

**Short Title:** The role of energy intake rate in prey and habitat selection of common eiders Somateria mollissima in winter: A risk-sensitive interpretation

**Accession Number:** BCI:BCI199395025835

**Keywords:** Common Eider; Somateria mollissima; Habitat; Trophic Interactions; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** 1. We measured prey selection and habitat profitability of common eiders Somateria mollissima L. wintering in the Gulf of St. Lawerence, Quebec, Canada. Prey selection was evaluated by comparing the frequency of prey in stomachs of shot eiders with their frequency in the sublittoral zone. Habitat profitability was estimated using information on time spent feeding, foraging success, diving durations and energy content of the prey. 2. In this region, eiders forage on a variety of prey types from several distinct habitats, kelp beds, urchin barrens and beds of the phaeophyte Agarum cribrosum (Mert.). In kelp beds eiders feed mostly on small blue mussels Mytilus edulis L. Over barrens they capture green sea urchins Strongylocentrotus droebachiensis (Muller), and over Agarum beds they feed on both spider crabs Hyas araneus (L.) and urchins. 3. Flock size also varies with habitat type: all sizes of flocks feed in the kelp beds, whereas mostly small flocks feed in the barrens and Agarum beds. Small-flock individuals strongly select mussels and crabs whereas urchins are non-preferred prey. 4. Dive and foraging cycles differ significantly according to the above three habitats. Although, the size, density and energy content of prey differ markedly between kelp and Agarum beds, these two habitats offer an even energy return. However, the variance in energy return in these two habitats differs strikingly, being greater in the latter. We hypothesized, in the context of risk foraging theory, that this was related to flock sizes and body condition. As predicted, individuals feeding in small flocks were in bad condition compared to individuals feeding in large flocks. This suggests that small-flock individuals are seeking the habitat offering a variable intake to improve their survival probability.

**URL:** <Go to ISI>://BCI199395025835

**Reference Type:**  Journal Article

**Record Number:** 2023

**Author:** M. Guillennette, A. J. Woakes, J. Larochelle, E. T. Polymeropoulos, J. M. Granbois, P. J. Butler, D. Pelletier, P. B. Frappell and S. J. Portugal

**Year:** 2016

**Title:** Does hyperthermia constrain flight duration in a short-distance migrant?

**Journal:** Philosophical Transactions of the Royal Society B-Biological Sciences

**Volume:** 371

**Issue:** 1704

**Date:** Sep

**Short Title:** Does hyperthermia constrain flight duration in a short-distance migrant?

**ISSN:** 0962-8436

**DOI:** 10.1098/rstb.2015.0386

**Article Number:** 20150386

**Accession Number:** WOS:000383111900005

**Keywords:** Common eider; Somateria mollissima; Migration; Physiology

**Abstract:** While some migratory birds perform non-stop flights of over 11 000 km, many species only spend around 15% of the day in flight during migration, posing a question as to why flight times for many species are so short. Here, we test the idea that hyperthermia might constrain flight duration (FD) in a short-distance migrant using remote biologging technology to measure heart rate, hydrostatic pressure and body temperature in 19 migrating eider ducks (Somateria mollissima), a short-distance migrant. Our results reveal a stop-and-go migration strategy where migratory flights were frequent (14 flights day(-1)) and short (15.7 min), together with the fact that body temperature increases by 1 degrees C, on average, during such flights, which equates to a rate of heat storage index (HSI) of 4 degrees C h(-1). Furthermore, we could not find any evidence that short flights were limited by heart rate, together with the fact that the numerous stops could not be explained by the need to feed, as the frequency of dives and the time spent feeding were comparatively small during the migratory period. We thus conclude that hyperthermia appears to be the predominant determinant of the observed migration strategy, and suggest that such a physiological limitation to FD may also occur in other species. This article is part of the themed issue 'Moving in a moving medium: new perspectives on flight'.

**Notes:** Guillennette, Magella Woakes, Anthony J. Larochelle, Jacques Polymeropoulos, Elias T. Granbois, Jean-Marc Butler, Patrick J. Pelletier, David Frappell, Peter B. Portugal, Steven J.

**URL:** <Go to ISI>://WOS:000383111900005

**Reference Type:**  Journal Article

**Record Number:** 1866

**Author:** S. Guindre-Parker, H. G. Gilchrist, S. Baldo, S. M. Doucet and O. P. Love

**Year:** 2013

**Title:** Multiple achromatic plumage ornaments signal to multiple receivers

**Journal:** Behavioral Ecology

**Volume:** 24

**Issue:** 3

**Pages:** 672-682

**Date:** May-Jun

**Short Title:** Multiple achromatic plumage ornaments signal to multiple receivers

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/ars215

**Accession Number:** WOS:000317320100017

**Keywords:** Common eider; Somateria mollissima; behavior; Breeding Season

**Notes:** Times Cited: 0

Guindre-Parker, Sarah Gilchrist, H. Grant Baldo, Sarah Doucet, Stephanie M. Love, Oliver P.

0

**URL:** <Go to ISI>://WOS:000317320100017

**Reference Type:**  Journal Article

**Record Number:** 949

**Author:** D. Gunn

**Year:** 1927

**Title:** The courtship of the common scoter

**Journal:** British Birds

**Volume:** 20

**Issue:** (8)

**Pages:** 193-197

**Short Title:** The courtship of the common scoter

**Accession Number:** BCI:BCI19330700009968

**Keywords:** Black Scoter; Melanitta nigra; Behavior;

**Abstract:** [long dash]Apparently the first account of the various phases in the courtship display of Oidemia n. nigra\*.

**URL:** <Go to ISI>://BCI19330700009968

**Reference Type:**  Journal Article

**Record Number:** 1867

**Author:** G. Gunnarsson, J. Elmberg, H. Poysa, P. Nummi, K. Sjoberg, L. Dessborn and C. Arzel

**Year:** 2013

**Title:** Density dependence in ducks: a review of the evidence

**Journal:** European Journal of Wildlife Research

**Volume:** 59

**Issue:** 3

**Pages:** 305-321

**Date:** Jun

**Short Title:** Density dependence in ducks: a review of the evidence

**ISSN:** 1612-4642

**DOI:** 10.1007/s10344-013-0716-9

**Accession Number:** WOS:000321866400001

**Keywords:** Sea ducks; Population Dynamics

**Notes:** Times Cited: 0

Gunnarsson, Gunnar Elmberg, Johan Poysa, Hannu Nummi, Petri Sjoberg, Kjell Dessborn, Lisa Arzel, Celine

0

**URL:** <Go to ISI>://WOS:000321866400001

**Reference Type:**  Journal Article

**Record Number:** 3

**Author:** G. Gunnarsson, J. Elmberg and J. Waldenstrom

**Year:** 2011

**Title:** Trends in Body Mass of Ducks over Time: The Hypotheses in Guillemain et al. Revisited

**Journal:** Ambio

**Volume:** 40

**Issue:** 3

**Pages:** 338-340

**Date:** May 2011

**Short Title:** Trends in Body Mass of Ducks over Time: The Hypotheses in Guillemain et al. Revisited

**Accession Number:** BCI:BCI201100256196

**Keywords:** Sea Ducks - General; Energetics and Nutrition;

**URL:** <Go to ISI>://BCI201100256196

**Reference Type:**  Journal Article

**Record Number:** 2320

**Author:** K. E. B. Gurney, C. J. Wood, R. T. Alisauskas, M. Wayland, J. M. A. DeVink and S. M. Slattery

**Year:** 2014

**Title:** Identifying carry-over effects of wintering area on reproductive parameters in White-winged Scoters: An isotopic approach

**Journal:** Condor

**Volume:** 116

**Issue:** 2

**Pages:** 251-264

**Date:** May

**Short Title:** Identifying carry-over effects of wintering area on reproductive parameters in White-winged Scoters: An isotopic approach

**ISSN:** 0010-5422

**DOI:** 10.1650/condor-13-082.1

**Accession Number:** WOS:000338095200010

**Keywords:** White-winged Scoter; Melanitta fusca; Breeding Season; Migration;Contaminants; Productivity; SDJV funded

**Abstract:** Events during one stage of the annual life cycle of migratory birds can have lasting (i.e. carry-over) effects that influence demographic parameters in subsequent seasons. We studied migratory connectivity and potential carry-over effects in a declining population of sea ducks. We measured stable isotope values of carbon (delta C-13) and nitrogen (delta N-15) in head feathers to assign breeding White-winged Scoters (Melanitta fusca; hereafter scoters) to either Atlantic or Pacific winter populations. The discriminant function for delta C-13 and delta N-15 correctly classified 93% of scoters sampled from these 2 winter areas. We then applied this classification scheme to head feathers of females breeding at Redberry Lake, Saskatchewan, and Cardinal Lake, Northwest Territories, to stratify each breeding population by winter provenance. We evaluated carry-over effects associated with winter location of females breeding in Saskatchewan by testing for differences in (1) nesting phenology, (2) clutch size, (3) mid-incubation body mass, (4) nest success, and (5) concentrations of trace elements contaminants of cadmium (Cd), mercury (Hg), selenium (Se), and lead (Pb) in blood, between strata of putative winter origin. Breeding females from the Atlantic coast had later dates of nest initiation, greater mid-incubation body mass, and also had higher concentrations of Cd (one year only), Pb, and Se, relative to birds from the Pacific. Neither nest initiation date nor mid-incubation body mass, however, were related to contaminant concentrations in blood. We found no differences in clutch size or nest success between putative winter strata. Our study detected carry-over effects in the Saskatchewan population that merit further attention.

**Notes:** Gurney, Kirsty E. B. Wood, Cindy J. Alisauskas, Ray T. Wayland, Mark DeVink, Jean-Michel A. Slattery, Stuart M.

**URL:** <Go to ISI>://WOS:000338095200010

**Reference Type:**  Journal Article

**Record Number:** 118

**Author:** B. Haelterlein, P. Suedbeck, W. Knief and U. Koeppen

**Year:** 2000

**Title:** Population trends of coastal breeding birds of the German North and Baltic Sea coasts

**Journal:** Vogelwelt

**Volume:** 121

**Issue:** 5-6

**Pages:** 241-267

**Short Title:** Population trends of coastal breeding birds of the German North and Baltic Sea coasts

**Accession Number:** BCI:BCI200100240901

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The German coasts of the North and the Baltic Sea represent important breeding grounds for several bird species with high proportions of the NW European populations. For at least 12 species Germany has a special conservation responsibility on the European level due to large fractions of the total biogeographic populations breeding here (e.g. Avocet, Kentish Plover, Gull-billed Tern, Little Tern). This paper describes the population sizes and trends for typical coastal birds in the 1990s. Coastal birds are defined as species which are closely related to coastal habitats and/or have a substantial proportion of their German populations in coastal regions. Standardised breeding bird surveys have been conducted annually since 1990 and allow reliable trend estimates, except for ducks in which estimates are less reliable due to methodological problems. In 1997, a total of 271.000 pairs of coastal birds were counted along the North and Baltic Sea coasts, most of them at the Wadden Sea (southern North Sea, 87%). Gulls represented about two third of the total on both coasts, terns and waders were significantly scarcer (9 % North Sea / 6 % Baltic Sea, resp. 24 / 5 %). The commonest species was Black-headed Gull (about 87.000 breeding pairs), followed by Herring Gull and Oystercatcher. On the Baltic Sea, Cormorant was the second most numerous species. In the 1990s, coastal birds overall and the majority of species showed increasing trends on the North Sea and decreasing trends on the Baltic Sea in Germany. The populations of meadow birds (waders) and terns declined on both coasts, coastal waders and gulls are still increasing at the North Sea. Cormorant, Red-breasted Merganser, Hen Harrier, Lesser Black-backed Gull and Common Gull strongly increased at the North Sea, whereas the Herring Gull remained stable overall, but in recent years decreased in the big colonies on the East Frisian islands. This may be related to competition with Lesser Black-backed Galls. The small populations of Mediterranean and Great Black-backed Gull are also increasing at the North Sea. Since 1995 the Spoonbill has established itself as a new breeding species in the German Wadden Sea. Ringed Plover, Lapwing, Ruff, Snipe and Common Tern showed significant negative trends. Populations of Kentish Plover and Gull-billed Tern have decreased drastically in recent years and have now reached critical levels. At the Baltic Sea coast only Cormorant and Herring Gull have definitely increased, while most species are in decline, some at an alarming rate. Especially the Dunlin as a typical breeding bird of saltmarshes is threatened by extinction. Conditions at the Baltic Sea are quite different from those at the North Sea coast: there is much less coastal habitat area, and disturbance by human activities (tourism, agriculture) and predation, particularly during the last ten years, have led to a strong concentration of coastal birds in a few small reserves.

**URL:** <Go to ISI>://BCI200100240901

**Reference Type:**  Journal Article

**Record Number:** 82

**Author:** J. Haelters, L. Vigin, E. W. M. Stienen, S. Scory, E. Kuijken and T. G. Jacques

**Year:** 2004

**Title:** Ornithological importance of Belgian marine areas: Identification of areas qualifying as Special Protection Areas under the European Birds Directive

**Journal:** Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Biologie

**Volume:** 74

**Pages:** 7

**Date:** 04

**Short Title:** Ornithological importance of Belgian marine areas: Identification of areas qualifying as Special Protection Areas under the European Birds Directive

**Accession Number:** BCI:BCI200510026925

**Keywords:** Sea Ducks - General; Black Scoter; Abundance, Distribution, and Trends;

**Abstract:** Under the 1979 European Birds Directive, Member States of the European Union have to strictly protect certain bird species (those from Annex I). For those species, and for other, migrating species, the areas most suitable for their protection have to be classified as Special Protection Areas (SPA's). For the classification of areas as SPAs, only scientific criteria can be applied.In 2001, a Royal Decree was issued in Belgium, which legally protects all birds in Belgian marine waters. Thus far however, the articles in the Birds Directive concerning the classification of areas as SPA's have not been implemented in these areas, although they are considered internationally important for some bird species for foraging, migration or breeding, during certain periods of the year.This study investigates for which bird species it would be appropriate to select important areas as SPA's in Belgian marine waters. In first instance, these are birds listed in Annex I of the Birds Directive that occur in this area regularly and in sufficient numbers: the sandwich tern Sterna sandvicensis, the common tern Sterna hirundo and the little tern Sterna albifrons. A further selection was made of migrating species, not listed in Annex I, for which it would also be appropriate to investigate if certain areas classify as SPA's. In order to qualify, these species need to occur regularly and need to have a certain protection status under other international Conventions or Agreements. Their numbers in Belgian marine waters need to have attained or exceeded 1.0% of the biogeographic population within the considered period (1992-2002). These species are the great crested grebe Podiceps cristatus, the common scoter Melanitta nigra, the little gull Larus minutus and the great skua Stercorarius skua.For these seven species the study examines the extent to which a protection of their habitats in Belgian marine waters is meaningful. Their sensitivity for human activities and their distribution was investigated. For determining the distribution, a large number of seabird counts, performed by the Institute of Nature Conservation between 1992 and 2002, were processed in a geographical information system (GIS). It was investigated whether the selected species concentrated in certain areas. With this analysis, it was not possible to identify most suitable territories for the great skua and the little tern. For the remaining five species however, areas could be identified which are relatively important during certain periods of the year.For the conservation of each of these five species, the most suitable territories in number and size were selected. In bringing together these territories, three areas are identified. The first area is situated off the coastal towns of Koksijde and De Panne. It is the most important area for the sandwich tern, and it has some importance for the great crested grebe. The second area, off the constal towns from Middelkerke to Bredene, is the most important area for the great crested grebe and the common scoter, and it has some importance for the common tern and the sandwich tern. Both areas extend from the low water mark up to 6 miles offshore. The third area is situated around the harbour of Zeebrugge, and is the most important area for the common tern. Within the last two areas, two small areas with the highest densities of the little gull are also located. Within the last area, the most important foraging area for the little tern is situated, as identified during land-based research.The study concludes that the three areas thus identified classify as most suitable territories for the conservation of bird species foreseen in the Birds Directive. It is recommended to proceed to a practical delimitation of these areas, and to classify them as SPA's. In this manner the specific requirements in the Birds Directive can be met. Given the fact that the selected areas can be practically delimited in a large number of different ways, a more definite proposal does not belong to this study.

**URL:** <Go to ISI>://BCI200510026925

**Reference Type:**  Journal Article

**Record Number:** 822

**Author:** A. Haland

**Year:** 2008

**Title:** Wintering Red-breasted Merganser Mergus serrator preying on pipefish in coastal Western Norway

**Journal:** Ornis Norvegica

**Volume:** 31

**Issue:** 2

**Pages:** 189-190

**Short Title:** Wintering Red-breasted Merganser Mergus serrator preying on pipefish in coastal Western Norway

**Accession Number:** BCI:BCI200900158420

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200900158420

**Reference Type:**  Journal Article

**Record Number:** 20

**Author:** B. D. Hall, L. A. Baron and C. M. Somers

**Year:** 2009

**Title:** Mercury Concentrations in Surface Water and Harvested Waterfowl from the Prairie Pothole Region of Saskatchewan

**Journal:** Environmental Science & Technology

**Volume:** 43

**Issue:** 23

**Pages:** 8759-8766

**Date:** Dec 1 2009

**Short Title:** Mercury Concentrations in Surface Water and Harvested Waterfowl from the Prairie Pothole Region of Saskatchewan

**Accession Number:** BCI:BCI201000040920

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Mercury cycling in prairie ecosystems is poorly understood. We examined methylmercury (MeHg) concentrations in whole water from 49 diverse prairie wetlands and lakes in Saskatchewan. We also determined total Hg (THg) concentrations in waterfowl harvested by hunters for consumption. Average whole water MeHg concentrations ranged from 0.02 to over 4 ng L-1 and were higher in water from wetland ponds compared to those in lakes. High MeHg concentrations in prairie wetlands present the possibility of increased Hg concentrations in biota inhabiting these and other similar systems. We therefore measured THg in 72 birds representing 13 species of waterfowl that commonly use prairie aquatic habitats. A large range in THg concentrations was observed among individual birds, with values ranging from below the detection limit to over 435 ng g(-1). When waterfowl were classified according to diet we observed clear evidence of THg biomagnification with increasing proportion of animal prey consumed. THg concentrations in waterfowl collected by hunters did not exceed consumption guidelines of 0.5 mg kg(-1) developed for fish. This is the first study that has reported MeHg concentrations in water from the prairie pothole region of southern Saskatchewan.

**URL:** <Go to ISI>://BCI201000040920

**Reference Type:**  Journal Article

**Record Number:** 2321

**Author:** J. S. Hall, R. E. Russell, J. C. Franson, C. Soos, R. J. Dusek, R. B. Allen, S. W. Nashold, J. L. TeSlaa, J. E. Jonsson, J. R. Ballard, N. J. Harms and J. D. Brown

**Year:** 2015

**Title:** Avian Influenza Ecology in North Atlantic Sea Ducks: Not All Ducks Are Created Equal

**Journal:** Plos One

**Volume:** 10

**Issue:** 12

**Date:** Dec

**Short Title:** Avian Influenza Ecology in North Atlantic Sea Ducks: Not All Ducks Are Created Equal

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0144524

**Article Number:** e0144524

**Accession Number:** WOS:000366723400017

**Keywords:** Common Eider; Long-tailed Duck; Surf Scoter; White-winged Scoter; Black Scoter; King Eider; Somateria mollissima; Clangula hyemalis; Melanitta perspicillata; Melanitta fusca; Melanitta americana; Somateria spectabilis; Disease

**Abstract:** Wild waterfowl are primary reservoirs of avian influenza viruses (AIV). However the role of sea ducks in the ecology of avian influenza, and how that role differs from freshwater ducks, has not been examined. We obtained and analyzed sera from North Atlantic sea ducks and determined the seroprevalence in those populations. We also tested swab samples from North Atlantic sea ducks for the presence of AIV. We found relatively high serological prevalence (61%) in these sea duck populations but low virus prevalence (0.3%). Using these data we estimated that an antibody half-life of 141 weeks (3.2 years) would be required to attain these prevalences. These findings are much different than what is known in freshwater waterfowl and have implications for surveillance efforts, AIV in marine environments, and the roles of sea ducks and other long-lived waterfowl in avian influenza ecology.

**Notes:** Hall, Jeffrey S. Russell, Robin E. Franson, J. Christian Soos, Catherine Dusek, Robert J. Allen, R. Bradford Nashold, Sean W. TeSlaa, Joshua L. Jonsson, Jon Einar Ballard, Jennifer R. Harms, Naomi Jane Brown, Justin D.

**URL:** <Go to ISI>://WOS:000366723400017

**Reference Type:**  Journal Article

**Record Number:** 1517

**Author:** D. J. Hamilton

**Year:** 2000

**Title:** Direct and indirect effects of predation by Common Eiders and abiotic disturbance in an intertidal community

**Journal:** Ecological Monographs

**Volume:** 70

**Issue:** 1

**Pages:** 21-43

**Date:** Feb., 2000

**Short Title:** Direct and indirect effects of predation by Common Eiders and abiotic disturbance in an intertidal community

**Accession Number:** BCI:BCI200000156004

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** Predation and disturbance have been well studied in intertidal communities. However, the impact of vertebrate predators, particularly waterfowl, has been only infrequently determined in long-term intertidal studies. Using predator exclusion cages and simulated abiotic disturbance, I studied the direct and indirect effects of predation by Common Eiders (Somateria mollissima) on an intertidal mussel bed community in Passamaquoddy Bay, New Brunswick, Canada. Eiders fed heavily on blue mussels (Mytilus edulis), the dominant invertebrate present, reducing their abundance in "+duck" (exposed to predation) relative to "-duck" (exclosure) plots by nearly 50% within eight months of initiation of the experiment. Based on counts and estimated consumption rates, eiders appeared to be responsible for most predation observed in this system. Although ducks fed heavily on the dominant intertidal invertebrate, they had little effect on species diversity or richness in the community. However, relative abundance of the most common invertebrates did vary. In particular, exclusion of eiders led to an increase in abundance of dogwhelks (Nucella lapillus) one year into the experiment. Whelks, in turn, fed heavily on mussels under cages and obscured the longer-term effect of ducks in the system. This indirect effect appears to be an example of asymmetric exploitation competition, with ducks influencing the food supply of whelks, but whelks having little effect on ducks. When ducks were excluded, whelks were released from this competition and acted as compensating predators. No other indirect effects developed following duck exclusion, presumably due to the increased whelk effect. Disturbance, in contrast, did lead to an increase in species diversity, which later returned to predisturbance levels as the community recovered. Predation delayed the recovery of disturbed sites, because ducks began feeding in these plots before mussel abundance had completely rebounded. Disturbance, while initially deterring predation somewhat, ultimately allowed the effects of predators to persist longer. This interaction of predation and disturbance resulted from compensatory growth of mussels under exclosures in disturbed sites. Mussels protected from eider predation grew quickly after disturbance and rapidly became larger than the preferred prey for whelks. As a consequence, whelks did not feed as heavily on mussels in disturbed sites as in undisturbed sites, where more mussels were of the preferred size, and the observed effect of ducks on mussel biomass persisted. This experiment demonstrates that eiders were significant, and, probably, keystone predators in this system. Eiders directly reduced abundance of mussels, thereby indirectly increasing whelk density in plots where ducks were excluded. Compensatory predation by whelks following duck exclusion blocked other potential indirect effects, thus preventing eiders from having more widespread effects in the system. Such compensatory predation may act to stabilize communities and evidently can occur in relatively simple systems as well as the more species-rich communities with which it is usually associated.

**URL:** <Go to ISI>://BCI200000156004

**Reference Type:**  Journal Article

**Record Number:** 1497

**Author:** D. J. Hamilton

**Year:** 2001

**Title:** Feeding behavior of Common Eider ducklings in relation to availability of rockweed habitat and duckling age

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 2

**Pages:** 233-241

**Date:** August, 2001

**Short Title:** Feeding behavior of Common Eider ducklings in relation to availability of rockweed habitat and duckling age

**Accession Number:** BCI:BCI200100408128

**Keywords:** Common Eider; Somateria mollissima; Behavior; Trophic Interactions; Conservation; Breeding Season;

**Abstract:** Common Eider (Somateria mollissima) ducklings and associated females in the Bay of Fundy feed extensively on invertebrates found in association with Knotted Wrack (Ascophyllum nodosum), commonly referred to as rockweed. To assess whether commercial harvest of rockweed, which is occurring in New Brunswick, might adversely affect ducklings, I examined their feeding behavior in relation to rockweed availability and duckling age. Ducklings fed in rockweed whenever it was available. Young ducklings (less than 3 weeks old) spent more time dabbling for invertebrates in the floating rockweed canopy and less time diving than did older birds. Young ducklings fed when rockweed was most available at the surface, whereas rockweed availability had no effect on the feeding rate of older ducklings. When rockweed was unavailable, older ducklings dove for food, while younger birds still attempted some dabbling. These results suggest that if rockweed harvest lowers the canopy height and reduces the time during each tidal cycle that algae floats at the surface, it might adversely affect Common Eider ducklings during the first weeks of life, when they are less able to dive for food. Consequently, in areas where ducklings feed regularly, care should be taken during harvesting to avoid changing the height and structure of the rockweed canopy. Similarly, harvesters should avoid disturbing foraging ducklings, because it could increase the already high predation risk that these birds face in their first few weeks of life.

**URL:** <Go to ISI>://BCI200100408128

**Reference Type:**  Journal Article

**Record Number:** 2017

**Author:** D. J. Hamilton, C. D. Ankney and R. C. Bailey

**Year:** 1994

**Title:** PREDATION OF ZEBRA MUSSELS BY DIVING DUCKS - AN EXCLOSURE STUDY

**Journal:** Ecology

**Volume:** 75

**Issue:** 2

**Pages:** 521-531

**Date:** Mar

**Short Title:** PREDATION OF ZEBRA MUSSELS BY DIVING DUCKS - AN EXCLOSURE STUDY

**DOI:** 10.2307/1939555

**Notes:** HAMILTON, DJ ANKNEY, CD BAILEY, RC

**Reference Type:**  Journal Article

**Record Number:** 2000

**Author:** D. J. Hamilton, A. W. Diamond and P. G. Wells

**Year:** 2006

**Title:** Shorebirds, snails, and the amphipod (Corophium volutator) in the upper Bay of Fundy: top-down vs. bottom-up factors, and the influence of compensatory interactions on mudflat ecology

**Journal:** Hydrobiologia

**Volume:** 567

**Pages:** 285-306

**Date:** Sep

**Short Title:** Shorebirds, snails, and the amphipod (Corophium volutator) in the upper Bay of Fundy: top-down vs. bottom-up factors, and the influence of compensatory interactions on mudflat ecology

**DOI:** 10.1007/s10750-006-0062-y

**Notes:** Hamilton, Diana J. Diamond, Antony W. Wells, Peter G.

**Reference Type:**  Journal Article

**Record Number:** 1555

**Author:** D. J. Hamilton and T. D. Nudds

**Year:** 1996

**Title:** Predation by Common Elders on intertidal invertebrates: Community consequences

**Journal:** Bulletin of the Ecological Society of America

**Volume:** 77

**Issue:** 3 SUPPL. PART 2

**Pages:** 180

**Short Title:** Predation by Common Elders on intertidal invertebrates: Community consequences

**Accession Number:** BCI:BCI199699165602

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**URL:** <Go to ISI>://BCI199699165602

**Reference Type:**  Journal Article

**Record Number:** 1459

**Author:** D. J. Hamilton and T. D. Nudds

**Year:** 2003

**Title:** Effects of predation by common eiders (Somateria mollissima) in an intertidal rockweed bed relative to an adjacent mussel bed

**Journal:** Marine Biology (Berlin)

**Volume:** 142

**Issue:** 1

**Pages:** 1-12

**Date:** January 2003

**Short Title:** Effects of predation by common eiders (Somateria mollissima) in an intertidal rockweed bed relative to an adjacent mussel bed

**Accession Number:** BCI:BCI200300364653

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** Little is known about the effect of commercial rockweed (Ascophyllum nodosum) harvest on intertidal community structure, and on interactions among species. Using predator-exclusion cages and by simulating rockweed harvest, we studied the combined effects of predation by common eiders (Somateria mollissima) and harvest on an intertidal invertebrate community associated with rockweed. Predation had no effect on invertebrate species richness, and only a short-term (< 1 year) negative effect on total invertebrate biomass. Most of this was due to a decline in common periwinkle abundance in controls relative to exclosures. Eiders had no clear effect on blue mussels (Mytilus edulis), their preferred prey, probably because predation by dogwhelks (Nucella lapillus), which were likely the more important predator in this system, more than compensated for the absence of duck predation. Rockweed harvest had no overall effect on the invertebrate community, but did reduce the effectiveness of ducks as predators during summer, when ducklings and associated females fed on invertebrates at the top of the rockweed canopy. We conclude, by comparing results with a similar experiment conducted in the adjacent mussel bed, that both ducks and whelks are major predators of blue mussels, but that their relative importance differs in the two areas, probably as a result of differences in habitat dimensionality and heterogeneity.

**URL:** <Go to ISI>://BCI200300364653

**Reference Type:**  Journal Article

**Record Number:** 1533

**Author:** D. J. Hamilton, T. D. Nudds and J. Neate

**Year:** 1999

**Title:** Size-selective predation of blue mussels (Mytilus edulis) by Common Eiders (Somateria mollissima) under controlled field conditions

**Journal:** Auk

**Volume:** 116

**Issue:** 2

**Pages:** 403-416

**Date:** April, 1999

**Short Title:** Size-selective predation of blue mussels (Mytilus edulis) by Common Eiders (Somateria mollissima) under controlled field conditions

**Accession Number:** BCI:BCI199900246041

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** We studied size-selective predation by Common Eiders (Somateria mollissima) feeding on blue mussels (Mytilus edulis). Selection varied with location, season, and prey availability, and for the most part ducks preferred smaller mussels than those that would have been the most energetically profitable on a per prey basis. We tested predictions from two related hypotheses concerning optimal prey selection: (1) the shell-mass minimization hypothesis, which states that predators select food that minimizes shell ingestion, as opposed to maximizing energy intake per prey item; and (2) the risk-averse foraging hypothesis, which, assuming large prey are not preferred (because of high shell content, low energy value, or some other reason), states that predators feed on smaller prey when the risk of mistakenly taking large prey increases. We found support for both hypotheses, although the risk-averse foraging hypothesis should be tested further due to conflicting results and small sample sizes. During most of the year, Common Eiders selected relatively small mussels that minimized shell ingestion, even though larger available prey would have provided higher net energy gain per prey item. In winter, differences among length classes in shell ingestion became small, and birds switched to feeding on larger prey that provided more energy per unit work and probably were more profitable. During times when small and mid-sized prey were preferred, ducks foraging where large mussels were abundant usually selected smaller length classes of prey than did those feeding where large mussels were less common. Birds avoided the risk of inadvertently ingesting large prey by selecting smaller mussels. Our results provide insight into the mechanisms of prey selection by Common Eiders and may also help explain some of the discrepancies reported in previous studies of prey-size selection in this species.

**URL:** <Go to ISI>://BCI199900246041

**Reference Type:**  Journal Article

**Record Number:** 596

**Author:** D. L. Hamilton and D. Ankney

**Year:** 1994

**Title:** Consumption of Zebra Mussels Dreissena polymorpha by diving ducks in Lakes Erie and St. Clair

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 159-166

**Short Title:** Consumption of Zebra Mussels Dreissena polymorpha by diving ducks in Lakes Erie and St. Clair

**Accession Number:** BCI:BCI201000234405

**Keywords:** Long-tailed Duck; Clangula hyemalis; White-winged Scoter; Melanitta fusca; Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Zebra Mussels are a novel and abundant prey item for diving ducks in the Laurentian Great Lakes region. We investigated use of Zebra Mussels as food by several species of diving ducks (Greater and Lesser Scaup, Common Goldeneye, Bufflehead, White-winged Scoter and Old-squaw) in Lakes Erie and St. Clair in 1990 and 1991. We examined 135 gizzards from ducks shot by hunters (tall) and ducks drowned in fishing nets (spring). We noted presence or absence of Zebra Mussels, and estimated lengths of mussels consumed. Mussels were eaten by all species examined and were consumed by ducks at each location. Overall, 52% of gizzards contained Zebra Mussels, including oil those from Point Pelee, Ontario Larger duck species tended to consume larger mussels, but prey sizes taken varied widely among locations. Although diving ducks probably were size-selective predators, they ate mussels from a wide size range. This suggests that at Most locations where Zebra Mussels occur, some mussels of (in acceptable size will always be present for ducks.

**URL:** <Go to ISI>://BCI201000234405

**Reference Type:**  Journal Article

**Record Number:** 1126

**Author:** G. E. Hannett, W. Stone, D. Bopp, W. Culligan, S. Davis and J. Okoniewski

**Year:** 2003

**Title:** Genetically distinct isloates of Clostridium botulinum toxin type E associated with a large outbreak of botulism in birds and fish from Lake Erie

**Journal:** Abstracts of the General Meeting of the American Society for Microbiology

**Volume:** 103

**Pages:** Z-033

**Short Title:** Genetically distinct isloates of Clostridium botulinum toxin type E associated with a large outbreak of botulism in birds and fish from Lake Erie

**Accession Number:** BCI:BCI200300557045

**Keywords:** Red-breasted merganser; Mergus serrator; Long-tailed Duck; Clangula hyemalis; Disease;Nonbreeding Seasons;

**Abstract:** From November 2000, to November 2002, a large outbreak of botulism among aquatic birds occurred in eastern Lake Erie. Approximately 7,000 bird deaths in New York State in 2002 have been attributed to this outbreak of botulism. Species of birds affected include Common Loons, Horned Grebes, Red-Breasted Mergansers, Long-Tailed Ducks, Ring-Billed Gulls, Herring Gulls, Bald Eagles, and Greater Black-Backed Gulls. Most outbreaks of avian botulism are caused by type C botulism, but this outbreak was caused by type E botulism. Type E botulism toxin was detected by mouse toxin neutralization tests in 13 samples from 4 different species of birds, and 2 samples from different species of fish. Sediment samples taken from Lake Erie in 2001 (depth range of 6 to 100 feet) were also examined for the presence of Clostridium botulinum as determined by toxin detection in broth cultures with mouse toxin neutralization assay and PCR: 9 of 10 sediment samples were positive for type E botulism toxin by both a mouse toxin neutralization assay and PCR. Nineteen isolates of Clostridium botulinum were cultured from the birds and fish. Fourteen of these isolates produced type E toxin, as determined by mouse toxin neutralization. Five isolates were not toxic for mice, and PCR analysis of these isolates revealed they were negative for the type E botulism toxin gene. Fourteen isolates were typed by pulsed field gel electrophoresis and this analysis showed 12 different DNA patterns that had greater than 3 band differences, and 3 isolates that differed by 3 or fewer bands. This study shows that type E Clostridium botulinum is present in the sediments of Lake Erie, large numbers of different bird and fish species are involved in this outbreak, and multiple genetically distinct strains of Clostridium botulinum are involved.

**URL:** <Go to ISI>://BCI200300557045

**Reference Type:**  Journal Article

**Record Number:** 793

**Author:** S. G. Hansen

**Year:** 1977

**Title:** Color Marking of Goosanders Mergus-Merganser at the Danish Breeding Grounds

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 71

**Issue:** 1-2

**Pages:** 65-69

**Short Title:** Color Marking of Goosanders Mergus-Merganser at the Danish Breeding Grounds

**Accession Number:** BCI:BCI197865032801

**Keywords:** Common merganser; Mergus merganser; Techniques; Breeding Season;

**Abstract:** Marking of 3 breeding female goosanders by placing color rings on the legs was made for the 1st time in Denmark in the summer of 1976. Previously used marking methods are discussed. By marking the birds with colored leg rings made of colored slips of semi-rigid Darvic plastic it was possible to recognize the ring in daylight and identify the perching bird at a distance up to 400 m using a telescope (25.times.). The minimum distance one is able to approach the bird at Danish breeding grounds is 300-400 m. The colors used were yellow, blue, light green and red. The 1st 3 are more appropriate since red is difficult to recognize on the bird's red leg. The rings did not bother the bird. After ringing the females returned to the nest and completed breeding. The method may be applicable only in areas with a low population density, because the number of combinations of color and right/left leg is limited. Where the population density is higher, wing tags have been used.

**URL:** <Go to ISI>://BCI197865032801

**Reference Type:**  Journal Article

**Record Number:** 787

**Author:** S. G. Hansen and I. Kraul

**Year:** 1981

**Title:** Shell Thickness and Residues of Dieldrin Dde and Poly Chlorinated Bi Phenyl in Eggs of Danish Goosanders Mergus-Merganser

**Journal:** Ornis Scandinavica

**Volume:** 12

**Issue:** 2

**Pages:** 160-165

**Short Title:** Shell Thickness and Residues of Dieldrin Dde and Poly Chlorinated Bi Phenyl in Eggs of Danish Goosanders Mergus-Merganser

**Accession Number:** BCI:BCI198273035486

**Keywords:** Common merganser; Mergus merganser; Contaminants; Breeding Season;

**Abstract:** Eggs of Danish goosanders (44) collected from 1973-1976 were examined for shell thickness and residues of the persistent organochlorines: dieldrin, DDE and PCB [polychlorinated biphenyl]. A thinning of .apprx. 22% of the shell thicknes of eggs from 1973-1976 compared to eggs from 1870-1933 occurred and the following levels of the quantitated chemicals were found (arithmetic means and ranges in mg kg-1 on wet weight basis): dieldrin 0.12 (not detectable-0.48), DDE 3.9 (0.8-8.6) and PCB 13.5 (4.0-22.2). Both the shell thickness and the residues show a tendency of decrease (1973-1976). No significant correlations between the chemical residues and the shell thickness could be found. It is suggested that the actual registrated amounts of organochlorinated hydrocarbons are too small to affect the shell thickness and by this way of no influence on the size of the breeding population. The possibility of a correlation between these residues and the decreased breeding population observed during the years from 1938 to 1973-1976 is discussed.

**URL:** <Go to ISI>://BCI198273035486

**Reference Type:**  Journal Article

**Record Number:** 2244

**Author:** W. K. Hansen, L. J. Bate, O. Chastel and C. W. Breuner

**Year:** 2014

**Title:** Stress and Reproduction in Harlequin Ducks

**Journal:** Integrative and Comparative Biology

**Volume:** 54

**Pages:** E283-E283

**Short Title:** Stress and Reproduction in Harlequin Ducks

**ISSN:** 1540-7063

**Accession Number:** WOS:000333049502196

**Notes:** Hansen, W. K. Bate, L. J. Chastel, O. Breuner, C. W.

Annual Meeting of the Society-for-Integrative-and-Comparative-Biology

Jan 03-07, 2014

Austin, TX

Soc Integrat & Comparat Biol

1

**URL:** <Go to ISI>://WOS:000333049502196

**Reference Type:**  Journal Article

**Record Number:** 2245

**Author:** W. K. Hansen, L. J. Bate, D. W. Landry, O. Chastel, C. Parenteau and C. W. Breuner

**Year:** 2016

**Title:** Feather and faecal corticosterone concentrations predict future reproductive decisions in harlequin ducks (Histrionicus histrionicus)

**Journal:** Conservation Physiology

**Volume:** 4

**Date:** Jun

**Short Title:** Feather and faecal corticosterone concentrations predict future reproductive decisions in harlequin ducks (Histrionicus histrionicus)

**ISSN:** 2051-1434

**DOI:** 10.1093/conphys/cow015

**Article Number:** cow015

**Accession Number:** WOS:000383835300001

**Keywords:** Harlequin Duck; Histrionicus histrionicus; Breeding Season; Behavior; Physiology

**Abstract:** Understanding sources of reproductive variation can inform management and conservation decisions, population ecology and life-history theory. Annual reproductive variation can drive population growth rate and can be influenced by factors from across the annual cycle (known as carry-over effects). The majority of studies, however, focus solely on the role of current environmental events. Past events often influence future reproductive decisions and success but can be logistically difficult to collect and quantify, especially in migratory species. Recent work indicates that glucocorticoids may prove good indicators to evaluate carry-over effects across life-history transitions. Here, we evaluated three different measures of glucocorticoid physiology (feathers, faeces and plasma) to evaluate the predictability of future breeding decision in the harlequin duck (Histrionicus histrionicus). We collected tail and back feathers, plasma and faeces for glucocorticoid analysis, and fitted female harlequin ducks with very high-frequency transmitters to track their breeding decisions. Both back feathers (moulted immediately before the current season) and faecal glucocorticoid metabolites were identified as important predictive factors of reproductive decisions; high concentrations of glucocorticoid metabolites in back feathers and faeces predicted a higher likelihood of reproductive deferral for the year. Although back and tail feather corticosterone concentrations were correlated, tail feathers (moulted at the end of the previous breeding season) did not predict breeding decisions. Plasma corticosterone concentrations were collected over too broad a time range after capture to be useful in this study. This study demonstrates the utility of non-invasive corticosterone metrics in predicting breeding decisions and supports the use of feathers to measure carry-over effects in migratory birds. With this technique, we identified the prenuptial moult as an important life-history phase that contributes to reproductive decisions. Identification of critical life-history phases is paramount to efficient management of species.

**Notes:** Hansen, Warren K. Bate, Lisa J. Landry, Devin W. Chastel, Olivier Parenteau, Charline Breuner, Creagh W.

**URL:** <Go to ISI>://WOS:000383835300001

**Reference Type:**  Journal Article

**Record Number:** 225

**Author:** H. C. Hanson, M. Rogers and E. S. Rogers

**Year:** 1949

**Title:** Water-fowl of the forested portions of the Canadian Pre-Cambrian Shield and the Palaeozoic basin

**Journal:** Canadian Field Nat

**Volume:** 63

**Issue:** (5)

**Pages:** 183-204

**Short Title:** Water-fowl of the forested portions of the Canadian Pre-Cambrian Shield and the Palaeozoic basin

**Accession Number:** BCI:BCI19502400008688

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Field studies of the populations of mallard, black duck, gadwall, baldpate, blue-winged teal, green-winged teal, shoveller, wood duck, red head, canvasback, ring-necked duck, greater scaup, lesser scaup, white-winged scoter and ruddy duck were made in 1946, 1947 and 1948 in the areas of the Pre-Cambrian Shield and Palaeozoic basin in Ontario and Quebec. Data are presented showing the number of individual birds per 100 miles traveled. The literature on duck populations in other sections of the shield and basin is reviewed. Relatively large numbers of game ducks breed on or just adjacent to the periphery of the Palaeozoic basin and Pre-Cambrian Shield. However, it appears that the major part of the interior of an area of Canada bounded on the north by the limit of trees and on the east, south and west by the perimeter of the Pre-Cambrian Shield must, with the exception of the black duck and in a few places the mallard, be considered an area relatively unproductive of game ducks. || ABSTRACT AUTHORS: H. A. Senn

**URL:** <Go to ISI>://BCI19502400008688

**Reference Type:**  Journal Article

**Record Number:** 1677

**Author:** O. J. Hanssen

**Year:** 1979

**Title:** The Breeding Population of the Common Eider Somateria-Mollissima in Ostfold County Norway

**Journal:** Fauna (Oslo)

**Volume:** 32

**Issue:** 1

**Pages:** 14-18

**Short Title:** The Breeding Population of the Common Eider Somateria-Mollissima in Ostfold County Norway

**Accession Number:** BCI:BCI197968072497

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** In a census of the population of the common eider in Ostfold, southern Norway (May 1978), 1868 individuals were counted. The highest density was in the outer archipelago, where the eiders breed on islands with Calluna vulgaris and low, creeping shrubs of Juniperus communis. To escape predation from the mink Lutreola lutreola and the fox Vulpes vulpes, they prefer to breed in the colonies of herring gulls, Larus argentatus. The census was made before the males leave the breeding places and migrate out to the open sea (according to weekly counts at Akeroya Bird Observatory). The estimate of the breeding population was established on the basis of observed males. The countings at Akeroya also showed that many of the males observed in the outer archipelago were non-breeding individuals. A correction coefficient (0.5) was used in some areas. The breeding population of the common eider on the Ostfold coast was estimated at slightly over 700 pairs.

**URL:** <Go to ISI>://BCI197968072497

**Reference Type:**  Journal Article

**Record Number:** 1671

**Author:** O. J. Hanssen

**Year:** 1980

**Title:** Changes in the Abundance of Common Eiders Somateria-Mollissima in Ostfold Southeastern Norway During the Last 20 Years

**Journal:** Fauna (Oslo)

**Volume:** 33

**Issue:** 4

**Pages:** 140-143

**Short Title:** Changes in the Abundance of Common Eiders Somateria-Mollissima in Ostfold Southeastern Norway During the Last 20 Years

**Accession Number:** BCI:BCI198172001718

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The mean numbers of common eiders observed at Akeroya, Ostfold, southeastern Norway, from April 15th to May 1st are estimated for the 8 yr period 1963-1980. A regression analysis of the means indicates that the population has increased by 8.2%/yr since 1963. Published estimates of the breeding population of common eider on Akeroya in 1963, 1965, 1974 and 1977-1980 only indicate a slight increase in population size in the same period. Regression analysis gives the best prediction of increase in population size. Three possible reasons for the increase in eider population are briefly discussed. More effective protection and increase in food abundance may be the most important factors.

**URL:** <Go to ISI>://BCI198172001718

**Reference Type:**  Journal Article

**Record Number:** 1666

**Author:** O. J. Hanssen

**Year:** 1981

**Title:** Seasonal Variations in the Occurrence of Common Eider Somateria-Mollissima at Akeroya Ostfold Southeast Norway

**Journal:** Fauna Norvegica Series C Cinclus

**Volume:** 4

**Issue:** 2

**Pages:** 49-55

**Short Title:** Seasonal Variations in the Occurrence of Common Eider Somateria-Mollissima at Akeroya Ostfold Southeast Norway

**Accession Number:** BCI:BCI198274074984

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** The seasonal variations in the occurrence of common eider at Akeroya were studied in the years 1978-1980, and the most important differences between the various sex and age categories are discussed. Only a few 2nd-yr males are observed at the Ostfold coast inthe breding season while a significant number of 2nd-yr females probably function as aunts in the protection of the ducklings. This may be a valuable adaption, as the juvenile males to not use the food resources on the breeding grounds, and the juvenile females gain experience in protecting the young. As the autumn and winter population on the Ostfold coast seems to consist chiefly of adult females, autumn shooting may have serious consequences for the local breeding population. Shooting should thus not be permitted before ringing and migration studies have been conducted.

**URL:** <Go to ISI>://BCI198274074984

**Reference Type:**  Journal Article

**Record Number:** 1401

**Author:** S. A. Hanssen

**Year:** 2006

**Title:** Costs of an immune challenge and terminal investment in a long-lived bird

**Journal:** Ecology (Washington D C)

**Volume:** 87

**Issue:** 10

**Pages:** 2440-2446

**Date:** Oct 2006

**Short Title:** Costs of an immune challenge and terminal investment in a long-lived bird

**Accession Number:** BCI:BCI200600629354

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** An induced immune challenge can have two counteracting effects on an individual's reproductive investment. (1) The resource demand could increase to "fuel" the immunologic reaction, which in turn can lead to an adaptive decrease in investment in resource-costly activities, such as reproduction. One the other hand, (2) the individual could assume that the immune activity it experiences is indicative of a serious infection. The latter can lead to an adaptive increase in reproductive investment in response to the reduced prospects of survival and future reproduction, so called "terminal investment." To measure such life-history-related consequences of increased immune activity, one group of incubating female Common Eiders (Somateria mollissima) was injected with a nonpathogenic antigen (sheep red blood cells, SRBC) while controls were injected with sterile saline. The eider is a long-lived sea-duck. Females, who incubate the eggs and care for young without assistance from the male, engage in facultative anorexia during incubation leading to a large reduction in body mass. Eiders can abandon their young to other females at the cost of reduced young survival. The immune challenge resulted in a larger mass loss, a prolonged incubation period, and reduced return rate, demonstrating both short- and long-term costs of immune challenge. Additionally, in response to what might have been interpreted as reduced survival chances in immune-challenged females, these females more often tended their own brood after hatching, despite having suffered higher costs during incubation.

**URL:** <Go to ISI>://BCI200600629354

**Reference Type:**  Journal Article

**Record Number:** 1477

**Author:** S. A. Hanssen, H. Engebretsen and K. E. Erikstad

**Year:** 2002

**Title:** Incubation start and egg size in relation to body reserves in the common eider

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 52

**Issue:** 4

**Pages:** 282-288

**Date:** September, 2002

**Short Title:** Incubation start and egg size in relation to body reserves in the common eider

**Accession Number:** BCI:BCI200200561307

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Productivity; Breeding Season;

**Abstract:** Avian incubation is often initiated before all eggs are laid. In altricial birds this has been proposed to facilitate brood reduction through asynchronous hatching. However, in precocial birds eggs normally hatch synchronously even if incubation has started before all eggs are laid. Patterns of incubation start may be the adaptive trait selected for both in altricial and precocial species. Several hypotheses have been proposed to explain the timing of incubation start in birds. Decreasing egg-size after incubation start may be adaptively related to an early incubation start, either to ensure synchronous hatching or to decrease fitness cost of late hatched eggs. We have measured individual body condition, egg size and start of incubation in common eider Somateria mollissima, a precocial sea-duck which does not feed during the incubation period. Females in poor body condition start to incubate earlier in the laying sequence than those in good body condition. Furthermore females in poor body condition lay smaller final eggs than females in good body condition. The laying of smaller eggs late in the sequence is therefore probably related to energetic or nutritional state. We propose that females in poor body condition start to incubate early to shorten the nest period in order to reduce their mass loss, but at the cost of reduced size and growth of the ducklings from the eggs laid after incubation start. Females in good body condition on the other hand postpone incubation start at the cost of a longer incubation period and a higher mass loss to the benefit of synchronized hatching and a higher survival of ducklings.

**URL:** <Go to ISI>://BCI200200561307

**Reference Type:**  Journal Article

**Record Number:** 1868

**Author:** S. A. Hanssen and K. E. Erikstad

**Year:** 2013

**Title:** The long-term consequences of egg predation

**Journal:** Behavioral Ecology

**Volume:** 24

**Issue:** 2

**Pages:** 564-569

**Date:** Mar-Apr

**Short Title:** The long-term consequences of egg predation

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/ars198

**Accession Number:** WOS:000317472000036

**Keywords:** Common eider; Somateria mollissima; Productivity; Breeding Season; Behavior

**Notes:** Times Cited: 1

Hanssen, Sveinn Are Erikstad, Kjell Einar

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**URL:** <Go to ISI>://WOS:000317472000036

**Reference Type:**  Journal Article

**Record Number:** 1457

**Author:** S. A. Hanssen, K. E. Erikstad, V. Johnsen and J. O. Bustnes

**Year:** 2003

**Title:** Differential investment and costs during avian incubation determined by individual quality: An experimental study of the common eider (Somateria mollissima)

**Journal:** Proceedings of the Royal Society Biological Sciences Series B

**Volume:** 270

**Issue:** 1514

**Pages:** 531-537

**Date:** 7 March 2003

**Short Title:** Differential investment and costs during avian incubation determined by individual quality: An experimental study of the common eider (Somateria mollissima)

**Accession Number:** BCI:BCI200300376361

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** Individuals of different quality may have different investment strategies, shaping responses to experimental manipulations, thereby rendering the detection of such patterns difficult. However, previous clutch-size manipulation studies have infrequently incorporated individual differences in quality. To examine costs of incubation and reproductive investment in relation to changes in clutch size, we enlarged and reduced natural clutch sizes of four and five eggs by one egg early in the incubation period in female common eiders (Somateria mollissima), a sea duck with an anorectic incubation period. Females that had produced four eggs (lower quality) responded to clutch reductions by deserting the nest more frequently but did not increase incubation effort in response to clutch enlargement, at the cost of reduced hatch success of eggs. Among birds with an original clutch size of five (higher quality), reducing and enlarging clutch size reduced and increased relative body mass loss respectively without affecting hatch success. In common eiders many females abandon their own ducklings to the care of other females. Enlarging five-egg clutches led to increased brood care rate despite the higher effort spent incubating these clutches, indicating that the higher fitness value of a large brood is increasing adult brood investment. This study shows that the ability to respond to clutch-size manipulations depends on original clutch size, reflecting differences in female quality. Females of low quality were reluctant to increase investment at the cost of lower hatch success, whereas females of higher quality apparently have a larger capacity both to increase incubation effort and brood care investment.

**URL:** <Go to ISI>://BCI200300376361

**Reference Type:**  Journal Article

**Record Number:** 1458

**Author:** S. A. Hanssen, I. Folstad and K. E. Erikstad

**Year:** 2003

**Title:** Reduced immunocompetence and cost of reproduction in common eiders

**Journal:** Oecologia (Berlin)

**Volume:** 136

**Issue:** 3

**Pages:** 457-464

**Date:** August 2003

**Short Title:** Reduced immunocompetence and cost of reproduction in common eiders

**Accession Number:** BCI:BCI200300505086

**Keywords:** Common Eider; Somateria mollissima; Physiology; Productivity; Breeding Season;

**Abstract:** Immunocompetence may be especially important in long-lived species where infectious organisms may have detrimental effects upon future reproductive value of hosts. The resource demand for immunocompetence may reduce resource availability for reproduction and a tradeoff between these traits has therefore been proposed. Capital breeders, such as the common eider (Somateria mollissima), rely upon accumulated body reserves during reproduction. Eiders lose more than 40% of pre-breeding body mass during egglaying and incubation and many females abandon their ducklings to other females after hatching. Results from our observational study show that levels of leukocytes (i.e., lymphocytes, heterophils and heterophil/lymphocyte ratio) are not related to body mass early in the incubation period. However, eider females with low initial body mass showed signs of immunosuppression (i.e., decreased late levels of lymphocytes) and increased response towards stressors (i.e., increased heterophil/lymphocyte ratio) later in the incubation period. Moreover, females with low lymphocyte levels more frequently abandoned their brood, and females abandoning young had an increased return rate to the next breeding season. However, among brood abandoning females return rate was lower for the females with low lymphocyte levels. These results suggest that immunosuppression, as indicated by low lymphocyte levels, is a reproductive cost that may be partly compensated for by abandoning young.

**URL:** <Go to ISI>://BCI200300505086

**Reference Type:**  Journal Article

**Record Number:** 1400

**Author:** S. A. Hanssen, I. Folstad and K. E. Erikstad

**Year:** 2006

**Title:** White plumage reflects individual quality in female eiders

**Journal:** Animal Behaviour

**Volume:** 71

**Issue:** Part 2

**Pages:** 337-343

**Date:** Feb 2006

**Short Title:** White plumage reflects individual quality in female eiders

**Accession Number:** BCI:BCI200600280710

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Sexual selection predicts that males should signal their viability and health and this is often achieved with elaborate ornaments. However, females' phenotypic and genotypic quality may also be related to ornamental expression. We investigated the association between a female ornamental trait (white wing plumage) and female quality in the common eider, Somateria mollissima. Only females incubate and care for young, so male parental effort did not influence the females' condition, and the ornament is expressed only in females, so it is not a neutral correlated response to selection of the same ornament in males. We recorded the expression of this ornament in relation to the number of eggs laid and to mass loss and immunological status during incubation. Females that experienced a large mass loss and/or a reduction in immune cell levels (immunosuppression) had less white in the new wing bands produced after breeding. These results are the first to show a correlation between tolerance of reproductive costs and the expression of a strictly female ornament in a species with conventional sex roles. (c) 2005 The Association for the Study of Animal Behaviour. Published by Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200600280710

**Reference Type:**  Journal Article

**Record Number:** 1456

**Author:** S. A. Hanssen, I. Folstad, K. E. Erikstad and A. Oksanen

**Year:** 2003

**Title:** Costs of parasites in common eiders: Effects of antiparasite treatment

**Journal:** Oikos

**Volume:** 100

**Issue:** 1

**Pages:** 105-111

**Date:** January 2003

**Short Title:** Costs of parasites in common eiders: Effects of antiparasite treatment

**Accession Number:** BCI:BCI200300257822

**Keywords:** Common Eider; Somateria mollissima; Parasites; Productivity; Breeding Season;

**Abstract:** Parasites are exploiting their host for the resources required for the parasite's reproduction and survival. The effects of antiparasitic treatment during incubation on body mass and return rate in female common eiders Somateria mollissima were examined in a two year study (1998 and 1999). There was no effect of treatment on nest success, but unsuccessful females had lower body mass. Treatment had no effect on incubation time, mass-loss during incubation or return rate among successful birds. However, treatment lead to higher return rate among unsuccessful birds (treated = 69%, n = 13; controls = 18%, n = 11). This pattern remained significant also after including the birds that returned two years after the experiment. We suggest that the unsuccessful females are of lower quality and had higher costs from parasite infections than birds which completed incubation, and that the higher return rate for treated unsuccessful females may mean that costs of parasites are substantial, and that the potential fitness gain from investment in parasite defense and avoidance is large.

**URL:** <Go to ISI>://BCI200300257822

**Reference Type:**  Journal Article

**Record Number:** 1440

**Author:** S. A. Hanssen, D. Hasselquist, I. Folstad and K. E. Erikstad

**Year:** 2004

**Title:** Costs of immunity: immune responsiveness reduces survival in a vertebrate

**Journal:** Proceedings of the Royal Society Biological Sciences Series B

**Volume:** 271

**Issue:** 1542

**Pages:** 925-930

**Date:** May 7, 2004

**Short Title:** Costs of immunity: immune responsiveness reduces survival in a vertebrate

**Accession Number:** BCI:BCI200400294681

**Keywords:** Common Eider; Somateria mollissima; Physiology; Survival; Breeding Season;

**Abstract:** Immune defences are undoubtedly of great benefit to the host, reducing the impact of infectious organisms. However, mounting immune responses also entails costs, which may be measured by inducing immune responses against artificial infections. We injected common eider (Somateria mollissima) females with three different non-pathogenic antigens, sheep red blood cells (SRBC), diphtheria toxoid and tetanus toxoid, early in their incubation period. In the group of females that mounted a humoral immune response against SRBC, the return rate was only 27%, whereas the group of females that did not mount a response against SRBC had a return rate of 72%. Moreover, responding against diphtheria toxoid when also responding against SRBC led to a further reduction in return rate. These results are repeatable, as the same effect occurred independently in two study years. The severely reduced return rate of females producing antibodies against SRBC and diphtheria toxoid implies that these birds experienced considerably impaired long-term survival. This study thus documents severe costs of mounting humoral immune responses in a vertebrate. Such costs may explain why many organisms suppress immunity when under stress or when malnourished, and why infections may sometimes be tolerated without eliciting immune responses.

**URL:** <Go to ISI>://BCI200400294681

**Reference Type:**  Journal Article

**Record Number:** 1415

**Author:** S. A. Hanssen, D. Hasselquist, I. Folstad and K. E. Erikstad

**Year:** 2005

**Title:** Cost of reproduction in a long-lived bird: incubation effort reduces immune function and future reproduction

**Journal:** Proceedings of the Royal Society Biological Sciences Series B

**Volume:** 272

**Issue:** 1567

**Pages:** 1039-1046

**Date:** May 22 2005

**Short Title:** Cost of reproduction in a long-lived bird: incubation effort reduces immune function and future reproduction

**Accession Number:** BCI:BCI200510181234

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Physiology; Productivity; Breeding Season;

**Abstract:** Life-history theory predicts that increased current reproductive effort should lead to a fitness cost. This cost of reproduction may be observed as reduced survival or future reproduction, and may be caused by temporal suppression of immune function in stressed or hard-working individuals. In birds, consideration of the costs of incubating eggs has largely been neglected in favour of the costs of brood rearing. We manipulated incubation demand in two breeding seasons (2000 and 2001) in female common eiders (Somateria mollissima) by creating clutches of three and six eggs (natural range 3-6 eggs). The common eider is a long-lived sea-duck where females do not eat during the incubation period. Mass loss increased and immune function (lymphocyte levels and specific antibody response to the non-pathogenic antigens diphtheria and tetanus toxoid) was reduced in females incubating large clutches. The increased incubation effort among females assigned to large incubation demand did not lead to adverse effects on current reproduction or return rate in the next breeding season. However, large incubation demand resulted in long-term fitness costs through reduced fecundity the year after manipulation. Our data show that in eiders, a long-lived species, the cost of high incubation demand is paid in the currency of reduced future fecundity, possibly mediated by reduced immune function.

**URL:** <Go to ISI>://BCI200510181234

**Reference Type:**  Journal Article

**Record Number:** 1869

**Author:** S. A. Hanssen, B. Moe, B. J. Bardsen, F. Hanssen and G. W. Gabrielsen

**Year:** 2013

**Title:** A natural antipredation experiment: predator control and reduced sea ice increases colony size in a long-lived duck

**Journal:** Ecology and Evolution

**Volume:** 3

**Issue:** 10

**Pages:** 3554-3564

**Date:** Sep

**Short Title:** A natural antipredation experiment: predator control and reduced sea ice increases colony size in a long-lived duck

**ISSN:** 2045-7758

**DOI:** 10.1002/ece3.735

**Accession Number:** WOS:000324932600030

**Keywords:** Common eider; Somateria mollissima; Behavior; Abundance, Distribution, and Trends; Breeding Season

**Notes:** Times Cited: 0

Hanssen, Sveinn A. Moe, Borge Bardsen, Bard-Jorgen Hanssen, Frank Gabrielsen, Geir W.

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**URL:** <Go to ISI>://WOS:000324932600030

**Reference Type:**  Journal Article

**Record Number:** 1439

**Author:** M. Hario and T. E. Hollmen

**Year:** 2004

**Title:** The role of male mate-guarding in pre-laying Common Eiders Somateria m. mollissima in the northern Baltic Sea

**Journal:** Ornis Fennica

**Volume:** 81

**Issue:** 3

**Pages:** 119-127

**Short Title:** The role of male mate-guarding in pre-laying Common Eiders Somateria m. mollissima in the northern Baltic Sea

**Accession Number:** BCI:BCI200500094172

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** During the two weeks prior to laying on the Finnish breeding grounds in the central Gulf of Finland, Baltic Common Eider males escorted their females constantly Towards the start of laying, males increased their vigilance by reducing their feeding rate from 70% to 0%. Concurrently, they lost weight. During the same time period, females kept their feeding rate constant at around 75%. Upon laying start, the initially even sex ratio of the population temporarily became male-biased when females disappeared to nests and emancipated males were still around. Yet, experimentally widowed females, feeding alone at this stage, were not harassed by the emancipated males and kept their clutch size and body weight similar to those of their previous nesting years. However, the hatching rate of the widows showed progressive decrease with the number of days from mate loss to laying. The viability of their mates' sperm varied from 1 to at least 20 days and this correlated with the proportion of viable eggs in their clutches. We suggest that male mate guarding is for fertilization assurance rather than for female protection during the pre-laying period at northern breeding grounds. - We did not observe any instance of paired males actively pursuing extra-pair copulations (EPC). We suggest that an inter-sexual conflict over copulations exists in our study population. Females may need repeated copulations because of variation in the duration of sperm viability. Males apparently rely on intense mate guarding as a means to safeguard paternity, resulting in a high rate of male refusals over mate solicitations (40%).

**URL:** <Go to ISI>://BCI200500094172

**Reference Type:**  Journal Article

**Record Number:** 1476

**Author:** M. Hario, T. E. Hollmen, T. L. Morelli and K. T. Scribner

**Year:** 2002

**Title:** Effects of mate removal on the fecundity of common eider Somateria mollissima females

**Journal:** Wildlife Biology

**Volume:** 8

**Issue:** 3

**Pages:** 161-168

**Date:** September, 2002

**Short Title:** Effects of mate removal on the fecundity of common eider Somateria mollissima females

**Accession Number:** BCI:BCI200200587506

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** Behavioural observations, measurements of male and female reproductive success, and DNA microsatellite loci were used to investigate parentage of common eider Somateria mollissima clutches and productivity of widowed females in Finland. In an experimental study simulating spring harvest of male eiders, a total of 20 males were shot while attending 16 females (four males after rematings, 16 initial males) during the pre-laying and laying period in 1994. Of the 16 widowed females, 11 nested and five did not. Mean clutch size of breeding widows (4.55) did not differ from that of control females in the same year (4.47; N=32). However, the hatching success of widows was significantly lower than that of control females (53 vs 81%) because of a greater proportion of addled eggs and dead embryos (38% vs 11%). Male removal also appeared to change male and female behaviours resulting in higher incidence of intra-specific brood parasitism and mate replacement. Occurrence of foreign eggs averaged 9.5% during the treatment year but was not observed during a year without disturbance during mating and egg laying (1997). Behaviours of widowed females related to remating attempts varied from active seeking of new mates to total rejection of courting males. Rematings did not lead to full clutch fertilisation among widowed females. Neither did we observe evidence of immigration of new males into the hunting area to court the widows. Male removal clearly lowered the fecundity of eider females, reducing nesting success by 35% of long-term averages. The potential for remating appears to be reduced by the female-biased sex ratio caused by simulated male-only harvest.

**URL:** <Go to ISI>://BCI200200587506

**Reference Type:**  Journal Article

**Record Number:** 1870

**Author:** M. Hario, M. L. Koljonen and J. Rintala

**Year:** 2012

**Title:** Kin structure and choice of brood care in a Common Eider (Somateria m. mollissima) population

**Journal:** Journal of Ornithology

**Volume:** 153

**Issue:** 3

**Pages:** 963-973

**Date:** Jul

**Short Title:** Kin structure and choice of brood care in a Common Eider (Somateria m. mollissima) population

**ISSN:** 0021-8375

**DOI:** 10.1007/s10336-012-0825-3

**Accession Number:** WOS:000305232700035

**Keywords:** Common eider; Somateria mollissima; Behavior; Breeding Season

**Notes:** Times Cited: 0

Hario, Martti Koljonen, Marja-Liisa Rintala, Jukka

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**URL:** <Go to ISI>://WOS:000305232700035

**Reference Type:**  Journal Article

**Record Number:** 1329

**Author:** M. Hario, M. J. Mazerolle and P. Saurola

**Year:** 2009

**Title:** Survival of female common eiders Somateria m. mollissima in a declining population of the northern Baltic Sea

**Journal:** Oecologia (Berlin)

**Volume:** 159

**Issue:** 4

**Pages:** 747-756

**Date:** Apr 2009

**Short Title:** Survival of female common eiders Somateria m. mollissima in a declining population of the northern Baltic Sea

**Accession Number:** BCI:BCI200900250466

**Keywords:** Common Eider; Somateria mollissima; Survival; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** In long-lived species, adult survival is the population parameter having the highest elasticity, and therefore, it can be expected to be least affected by climatic variations. We studied the dynamics and survival of breeding female common eiders Somateria mollissima mollissima in the Baltic Sea from 1960 to 2007. Using nest censuses and capture-recapture methods, we investigated: (1) the annual apparent survival (phi) of breeding females, (2) the survival-mediated population fluctuation, (3) weather effects on survival, and (4) long-term population trends. Based on capture histories of 6,393 females, average phi was 0.882 (95% confidence interval 0.864, 0.899). We found no relationship between population growth rate and survival. Furthermore, the highest ranking models, based on Akaike's information criterion, indicated no effect of the North Atlantic Oscillation index on the phi of eider females. Population size, assessed from nest counts, has been steadily declining since 1985. Despite the long time series (48 years), the overall variation in the phi rates remained comparatively narrow, at maximum ranging only 10% between 2 consecutive years. Results imply that declining female survival is not the driving force behind the population decline, and we hypothesize that the overall poor fledging success and the consequent low recruitment explain the decreasing trend of nest densities since 1985.

**URL:** <Go to ISI>://BCI200900250466

**Reference Type:**  Journal Article

**Record Number:** 1475

**Author:** M. Hario and M. Ost

**Year:** 2002

**Title:** Does heavy investment in foraging implicate low food acquisition for female Common Eiders Somateria mollissima?

**Journal:** Ornis Fennica

**Volume:** 79

**Issue:** 3

**Pages:** 111-120

**Short Title:** Does heavy investment in foraging implicate low food acquisition for female Common Eiders Somateria mollissima?

**Accession Number:** BCI:BCI200300063421

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** In the northern Baltic Sea, Common Eiders Somateria mollissima feed mainly on mussels, taken exclusively by diving. By comparing the rate at which food is ingested (prey mass taken per time unit) with the rate of digestion (gut contents divided by known transit time), we found that the digestion rate was the major constraint on energy assimilation of female Common Eiders in the western Gulf of Finland (Tvarminne), whereas in the central Gulf of Finland (Soderskar), the limiting factor was the ingestion rate. This indicates that females at Soderskar had to work harder to secure one meal. The density of Blue Mussels Mytilus edulis of suitable size for Common Eiders was significantly lower at Soderskar compared to Tvarminne and likely the main cause for the difference. We conclude that hyperphagia at the breeding grounds was possible among females at Tvarminne, but not among females at Soderskar. Nevertheless, these differences in feeding behaviour did not translate into differences in body weights at incubation onset or clutch size. This may be due to the insensitiveness of these parameters to the ambient conditions measured, or to the fact that 1997 was in fact a benign feeding year at Soderskar. Our results suggest that females of a migratory Common Eider population to a great extent rely on reserves accumulated on the wintering grounds, but that nutrients derived from the breeding grounds may be important for maintenance of body condition and for the overall health status of a laying female.

**URL:** <Go to ISI>://BCI200300063421

**Reference Type:**  Journal Article

**Record Number:** 1399

**Author:** M. Hario and J. Rintala

**Year:** 2006

**Title:** Fledgling production and population trends in Finnish common eiders (Somateria mollissima mollissima) - evidence for density dependence

**Journal:** Canadian Journal of Zoology

**Volume:** 84

**Issue:** 7

**Pages:** 1038-1046

**Date:** Jul 2006

**Short Title:** Fledgling production and population trends in Finnish common eiders (Somateria mollissima mollissima) - evidence for density dependence

**Accession Number:** BCI:BCI200600587720

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Population Dynamics; Productivity; Breeding Season;

**Abstract:** We present a 57-year time series of a common eider, Somateria mollissima mollissima (L., 1758), population from one of the core monitoring areas in the Baltic Sea, the Soderskar bird sanctuary, Gulf of Finland. We applied permutation tests to inspect the relationships between breeding parameters and population density. Of the parameters studied, only fledging rate (during a 34-year period) showed a significant negative relationship with population size, indicating density dependence. Furthermore, the fledging rate responded strongly to the population growth rate and to the rate of recruitment. Clutch size and duckling (downy young entering the water) rate did not show negative density dependence. Thus, losses during brood rearing seem to be the regulatory factor. The population decline at Soderskar is similar to those recorded in many other monitoring sites around the southern coast of Finland. Compared with data from more productive sea districts in northwestern Europe (Dutch Wadden Sea and Scottish North Sea), the Finnish fledging rates do not seem excessively bad. There are indications of viral infections playing an increasingly central role in duckling mortality, whereas adult female mortality has not been affected.

**URL:** <Go to ISI>://BCI200600587720

**Reference Type:**  Journal Article

**Record Number:** 1328

**Author:** M. Hario and J. Rintala

**Year:** 2009

**Title:** Age of first breeding in the Common Eider Somateria m. mollissima population in the northern Baltic Sea

**Journal:** Ornis Fennica

**Volume:** 86

**Issue:** 3

**Pages:** 81-88

**Short Title:** Age of first breeding in the Common Eider Somateria m. mollissima population in the northern Baltic Sea

**Accession Number:** BCI:BCI201000015760

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** The Baltic/Wadden Sea Common Eider (Somateria m. mollissima) population may have declined by one-third between 1991 and 2000, based on counts carried out on the species wintering grounds, Denmark in particular. However, less drastic reductions have been reported from the breeding grounds, mainly in Finland and Estonia. It has been hypothesized that this discrepancy might arise from an earlier debut breeding attempt of subadult individuals. An increase in adult mortality may allow a larger proportion of subadult individuals to start breeding and arrive to the breeding grounds at a younger age than before. Consequently, their numbers might mask the decline of the adult population. Accordingly, the decline of the entire population would then be discernable only on the joint wintering grounds in the south, where all age classes occur together. Yet this study found no tendency towards earlier debut breeding in a declining Eider population in the Gulf of Finland. On the contrary, debut breeding was delayed as the population declined and the adult mortality increased. Later debut breeding and diminished population size were both related to poor fledging success three years earlier (i.e., the mean maturation age), which in turn was an outcome of mass mortality among ducklings. Debutants originating from small year classes (resulting from heavy duckling losses) took more time to become mature and made a smaller contribution to the population growth rate than recruits of large year classes. Environmental conditions (e.g., food, pathogens) might affect the development of an individual, with late debutants having lower fitness than early debutants. The discrepancy between the size of the wintering stock and that of the breeding stock of Baltic/Wadden Sea Eiders might result from a decreasing fledging rate in the north and, to a lesser extent, from increased adult mortality.

**URL:** <Go to ISI>://BCI201000015760

**Reference Type:**  Journal Article

**Record Number:** 1629

**Author:** M. Hario and K. Selin

**Year:** 1988

**Title:** Thirty-Year Trends in an Eider Population Timing of Breeding Clutch Size and Nest Site Preferences

**Journal:** Finnish Game Research

**Issue:** 45

**Pages:** 3-10

**Short Title:** Thirty-Year Trends in an Eider Population Timing of Breeding Clutch Size and Nest Site Preferences

**Accession Number:** BCI:BCI198988072106

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Productivity; Habitat; Breeding Season;

**Abstract:** The local common eider population (Somateria mollissinima) in the Soderskar archiopelago, Gulf of Finland, increased ten-fold during 1949-85. A particularly steep increase occurred during 1975-85, when the annual growth rate averaged 10%. The population growth seemed to cease by 1986. Concurrent with the steep population growth, there was a marked increase in mean clutch size with significantly less year-to-year variation than before. These changes have taken place partly in parallel with the slow changes in the timing of breeding. Breeding now starts two weeks earlir than it did 30 years ago. The changes in mean clutch size during different population phases are discussed. Preferences for open skerries vs. wooded islets as breeding sites have changed slightly in that the proportion of nests on open skerries increased during the steep population growth, whereas than on wooded islets decreased. No direct evidence for predation-induced selection towards any of the habitat types could be discussed.

**URL:** <Go to ISI>://BCI198988072106

**Reference Type:**  Journal Article

**Record Number:** 1871

**Author:** N. J. Harms

**Year:** 2011

**Title:** Avian Cholera in the Eastern Canadian Arctic: Investigating Disease Origins and Reservoirs

**Journal:** Arctic

**Volume:** 64

**Issue:** 4

**Pages:** 501-505

**Date:** Dec

**Short Title:** Avian Cholera in the Eastern Canadian Arctic: Investigating Disease Origins and Reservoirs

**ISSN:** 0004-0843

**Accession Number:** WOS:000298208600012

**Keywords:** Common eider; somateria mollissima; Disease; Breeding Season

**Notes:** Times Cited: 0

Harms, N. Jane

0

**URL:** <Go to ISI>://WOS:000298208600012

**Reference Type:**  Journal Article

**Record Number:** 1872

**Author:** N. J. Harms

**Year:** 2012

**Title:** Exploring Health and Disease in Northern Common Eiders in the Canadian Arctic

**Journal:** Arctic

**Volume:** 65

**Issue:** 4

**Pages:** 495-499

**Date:** Dec

**Short Title:** Exploring Health and Disease in Northern Common Eiders in the Canadian Arctic

**ISSN:** 0004-0843

**Accession Number:** WOS:000313598700015

**Keywords:** Common eider; somateria mollissima; Disease; Breeding Season

**Notes:** Times Cited: 0

Harms, N. Jane

0

**URL:** <Go to ISI>://WOS:000313598700015

**Reference Type:**  Journal Article

**Record Number:** 821

**Author:** C. M. Harris, J. R. Calladine, C. V. Wernham and K. J. Park

**Year:** 2008

**Title:** Impacts of piscivorous birds on salmonid populations and game fisheries in Scotland: a review

**Journal:** Wildlife Biology

**Volume:** 14

**Issue:** 4

**Pages:** 395-411

**Date:** Dec 2008

**Short Title:** Impacts of piscivorous birds on salmonid populations and game fisheries in Scotland: a review

**Accession Number:** BCI:BCI200900189981

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Trophic Interactions; Conservation;

**Abstract:** The Scottish populations of salmonids are important both ecologically and economically. Game fisheries for Atlantic salmon Salmo salar, sea trout Salmo trutta trutta and brown trout Salmo trutta fari are all highly acclaimed and generate substantial levels of income for Scotland, but many populations are in decline and efforts are being made to ensure the future sustainability of these species. These declines have led to a focus On the impact of piscivorous bird predation on fish populations. The purpose of our review was to assess the evidence for population-level impacts on salmonid populations, and/or economic impacts on Scottish game fisheries of predation by the four primary UK freshwater piscivorous bird species: cormorant Phalacrocorax carbo, goosander Mergus merganser, red-breasted merganser Mergus serrator and grey heron Ardea cinerea. There is evidence that these birds can, in some situations, remove large numbers of fish from stocked and natural fisheries. However, a lack of information on fish population levels, the numbers and species composition of feeding birds, and robust calculations of fish consumption has hampered the conversion of the results of the existing studies into useful quantitative measures of impact. As a consequence, few studies have demonstrated any reductions in numbers of breeding fish or fish productivity due to predation by piscivorous birds, or direct economic loss to fisheries in Scotland. We support a previous recommendation for a reiterative procedure of modelling, experimentation and remodelling to assess the impacts of piscivorous birds on fisheries. Wide-scale Studies of the movements of piscivorous birds, their feeding locations in relation to river characteristics, and the factors that make fish particularly vulnerable to predation are seen as important areas for future research.

**URL:** <Go to ISI>://BCI200900189981

**Reference Type:**  Journal Article

**Record Number:** 1055

**Author:** M. L. Harris, L. K. Wilson, S. F. Trudeau and J. E. Elliott

**Year:** 2007

**Title:** Vitamin A and contaminant concentrations in surf scoters (Melanitta perspicillata) wintering on the Pacific coast of British Columbia, Canada

**Journal:** Science of the Total Environment

**Volume:** 378

**Issue:** 3

**Pages:** 366-375

**Date:** Jun 1 2007

**Short Title:** Vitamin A and contaminant concentrations in surf scoters (Melanitta perspicillata) wintering on the Pacific coast of British Columbia, Canada

**Accession Number:** BCI:BCI200700441435

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Surf scoters are part of a community of sea ducks on the western coast of North America that have shown signs of long-term, unexplained declines in breeding bird numbers. Substantial numbers of scoters; winter in the major harbours on the west coast, after breeding in the west-central northern boreal forest. To address the potential for contaminants to impact the health and survival of those birds, we investigated the condition and contamination of surf scoters during the winters of 1998-2001 at four foraging locations in the Strait of Georgia region of the Pacific coast of Canada. Vitamin A status was evaluated in liver and plasma samples collected from adults and juveniles, as part of a larger assessment of tissue contamination, body condition and biomarker responses. Individuals collected from a relatively contaminated site, Howe Sound, showed consistently low hepatic concentrations of retinol and retinyl palmitate forms of vitamin A, and gender-specific associations of retinyl palmitate with hepatic EROD activity. The relationship of hepatic retinol to retinyl palmitate was not constant across geographic locations, and a clear, linear relationship between the two fortris of vitamin A was only evident in birds from the relatively uncontaminated site. This study also identified strong positive relationships between vitamin A and tissue burdens of cadmium and zinc. The positive association between hepatic retinyl palmitate and renal cadmium is similar to one observed in laboratory rats, in which a mechanism of interference with the controlled release of retinol from the liver was suggested. Published by Elsevier B.V.

**URL:** <Go to ISI>://BCI200700441435

**Reference Type:**  Journal Article

**Record Number:** 186

**Author:** C. S. Harrison

**Year:** 1982

**Title:** Spring Distribution of Marine Birds in the Gulf of Alaska USA

**Journal:** Condor

**Volume:** 84

**Issue:** 3

**Pages:** 245-254

**Short Title:** Spring Distribution of Marine Birds in the Gulf of Alaska USA

**Accession Number:** BCI:BCI198375047430

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Aerial surveys of marine birds were conducted in the Gulf of Alaska from March through June 1977. The surveys provide synoptic information on the relative seasonal abundance of seabirds and their use of the continental shelf and slope and deep oceanic areas. Northern fulmars (Fulmarus glacialis), sooty and short-tailed shearwaters (Puffinus griseus and P. tenuirostris), fork-tailed storm-petrels (Oceanodroma furcata), sea ducks, black-legged kittiwakes (Rissa tridactyla), murres (Uria spp.) and tufted puffins (Lunda cirrhata) were the most common of the 35 spp. observed in the Gulf. Most seabirds were found over the continental slope and oceanic waters in March. Densities, especially of shearwaters, increased as birds moved into waters over the continental shelf from April to June. Most species were associated with at least one other, and 11 statistically significant associations (P < 0.05) were found between the 8 most common species. Tufted puffins, Arctic terns and shearwaters were highly associated.

**URL:** <Go to ISI>://BCI198375047430

**Reference Type:**  Journal Article

**Record Number:** 436

**Author:** J. G. Harrison and P. Wayre

**Year:** 1956

**Title:** A case of congenital muscular hemiatrophy in a barrow's goldeneye

**Journal:** Bull Brit Ornithol Club

**Volume:** 76

**Issue:** (3)

**Pages:** 129-130

**Short Title:** A case of congenital muscular hemiatrophy in a barrow's goldeneye

**Accession Number:** BCI:BCI19573100011206

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Disease;

**Abstract:** A juvenile goldeneye was seen to have a pronounced limp, and on dissection it was discovered that it was suffering from underdevelopment of the muscles of the right side of the body, presumably due. to a congenital defect. || ABSTRACT AUTHORS: B. L. Sage

**URL:** <Go to ISI>://BCI19573100011206

**Reference Type:**  Journal Article

**Record Number:** 1873

**Author:** G. Hartman, A. Kolzsch, K. Larsson, M. Nordberg and J. Hoglund

**Year:** 2013

**Title:** Trends and population dynamics of a Velvet Scoter (Melanitta fusca) population: influence of density dependence and winter climate

**Journal:** Journal of Ornithology

**Volume:** 154

**Issue:** 3

**Pages:** 837-847

**Date:** Jul

**Short Title:** Trends and population dynamics of a Velvet Scoter (Melanitta fusca) population: influence of density dependence and winter climate

**ISSN:** 0021-8375

**DOI:** 10.1007/s10336-013-0950-7

**Accession Number:** WOS:000323930500023

**Keywords:** white-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Population Dynamics; Nonbreeding Seasons

**Notes:** Times Cited: 0

Hartman, Goran Kolzsch, Andrea Larsson, Karl Nordberg, Marcus Hoglund, Jacob

0

**URL:** <Go to ISI>://WOS:000323930500023

**Reference Type:**  Journal Article

**Record Number:** 1874

**Author:** M. A. Harwell, J. H. Gentile, K. R. Parker, S. M. Murphy, R. H. Day, A. E. Bence, J. M. Neff and J. A. Wiens

**Year:** 2012

**Title:** Quantitative Assessment of Current Risks to Harlequin Ducks in Prince William Sound, Alaska, from the Exxon Valdez Oil Spill

**Journal:** Human and Ecological Risk Assessment

**Volume:** 18

**Issue:** 2

**Pages:** 261-328

**Short Title:** Quantitative Assessment of Current Risks to Harlequin Ducks in Prince William Sound, Alaska, from the Exxon Valdez Oil Spill

**ISSN:** 1080-7039

**DOI:** 10.1080/10807039.2012.650582

**Accession Number:** WOS:000304326400003

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 2

Harwell, Mark A. Gentile, John H. Parker, Keith R. Murphy, Stephen M. Day, Robert H. Bence, A. Edward Neff, Jerry M. Wiens, John A.

2

**URL:** <Go to ISI>://WOS:000304326400003

**Reference Type:**  Journal Article

**Record Number:** 863

**Author:** S. D. Haseltine, G. H. Heinz, W. L. Reichel and J. F. Moore

**Year:** 1981

**Title:** Organo Chlorine and Metal Residues in Eggs of Waterfowl Nesting on Islands in Lake Michigan Off Door County Wisconsin USA 1977-78

**Journal:** Pesticides Monitoring Journal

**Volume:** 15

**Issue:** 2

**Pages:** 90-97

**Short Title:** Organo Chlorine and Metal Residues in Eggs of Waterfowl Nesting on Islands in Lake Michigan Off Door County Wisconsin USA 1977-78

**Accession Number:** BCI:BCI198273087020

**Keywords:** Red-breasted merganser; Mergus serrator; Contaminants; Breeding Season;

**Abstract:** One egg from each of 114 red-breasted merganser (Mergus serrator) nests in 1977 and 92 nests in 1978 was collected and later analyzed for organochlorines, polybrominated biphenyls (PBB), polychlorinated styrenes (PCS) and metals. One egg was also collected from each of the dabbling duck nests located. Egg (29) were analyzed for organochlorines and metals in 1977; 10 eggs were analyzed in 1978. All merganser eggs contained DDE, polychlorinated biphenyls (PCB) and dieldrin; all but 1 egg collected in 1978 contained DDT. DDE and PCB levels had declined since 1975 to a geometric mean of 7.4 ppm DDE and 20 ppm PCB in 1977 and 7.6 ppm DDE and 19 ppm PCB in 1978. Dieldrin residues in eggs had not declined from 1975 levels; the geometric mean was 0.78 ppm in 1977 and 0.76 ppm in 1978. Other organochlorines were present at low levels. Hg residues averaged > 0.50 ppm in merganser eggs and had not declined since 1975. Other metals were present at low levels. Dabbling ducks had lower organochlorine and Hg residues than mergansers; DDE and PCB were the only organochlorines present in the majority of eggs. Geometric means of PCB and DDT in dabbling duck eggs did not exceed 2.0 and 1.0 ppm, respectively. PBB and PCS were detected only in a few merganser eggs at low levels. Eggshell thickness for red-breasted merganser eggs averaged 0.359 mm in 1977 and 0.355 mm in 1978, which was 2-3% below pre-1946 thicknesses. Mallard (Anas platyrhynchos) eggshell thicknesses averaged 0.331 mm in 1977 and 0.337 mm in 1978.

**URL:** <Go to ISI>://BCI198273087020

**Reference Type:**  Journal Article

**Record Number:** 972

**Author:** S. Haszard and R. G. Clark

**Year:** 2007

**Title:** Wetland use by white-winged scoters (Melanitta fusca) in the Mackenzie Delta region

**Journal:** Wetlands

**Volume:** 27

**Issue:** 4

**Pages:** 855-863

**Date:** Dec 2007

**Short Title:** Wetland use by white-winged scoters (Melanitta fusca) in the Mackenzie Delta region

**Accession Number:** BCI:BCI200800076986

**Keywords:** White-winged Scoter; Melanitta fusca; Habitat; Breeding Season;

**Abstract:** Reasons for apparent declines in populations of white-winged scoters (Melanitta fusca) in the northern boreal forest are not well understood, but some evidence suggests factors associated with the breeding grounds may be responsible. Climate warming or increased forest fire frequency could adversely affect upland or wetland breeding habitats or key food sources for breeding females or ducklings, which in turn may lower productivity. However, very little is known about wetland habitat preferences of scoters. Determining what habitat features scoters need to breed successfully and whether changes in boreal forest breeding habitat affect scoter productivity are important steps towards understanding their ecology and developing appropriate conservation initiatives. Thus, our overall goal was to characterize features of wetlands used by scoter pairs and broods. Additionally, we compared features of wetlands surrounded by recently burned versus unburned forest to investigate whether fire-induced changes in wetland productivity, water chemistry, or amphipod abundance could affect patterns of scoter habitat use. Scoter pairs and broods used wetlands with more abundant amphipods, a finding that is consistent with other waterfowl studies. However, unlike some previous waterfowl studies, we did not find consistent positive correlations between total phosphorus levels and amphipod abundance or wetland use by scoters. We did not detect differences in our measured water chemistry variables, indices of wetland productivity, or amphipod abundance between wetlands surrounded by burned versus unburned forest.

**URL:** <Go to ISI>://BCI200800076986

**Reference Type:**  Journal Article

**Record Number:** 725

**Author:** P. L. Hatton and M. Marquiss

**Year:** 2004

**Title:** The origins of moulting Goosanders on the Eden estuary

**Journal:** Ringing & Migration

**Volume:** 22

**Issue:** Part 2

**Pages:** 70-74

**Date:** December 2004

**Short Title:** The origins of moulting Goosanders on the Eden estuary

**Accession Number:** BCI:BCI200500107453

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Population Delineation; Molt; Nonbreeding Seasons;

**Abstract:** Moulting Goosanders were counted on the Eden estuary, Fife, UK from 1979 to 1994, and some of these birds were caught and wing-tagged from 1992 to 1994. This paper documents changes in numbers of moulting birds, and their provenance, as determined from subsequent sightings. Goosanders only started to moult on the Eden estuary in the 1980s and their numbers have increased since the late 1980s. This increase also occurred elsewhere on other, geographically similar, Scottish east-coast estuaries. The birds are adult females, and many, though not all, seem faithful to their moult site. Moulting flocks persist from June to October, with a turnover of birds occurring during this period. The moulting birds are drawn primarily from wintering and breeding areas to the south and west of the Eden estuary, in southwest Scotland, England and Wales.

**URL:** <Go to ISI>://BCI200500107453

**Reference Type:**  Journal Article

**Record Number:** 1327

**Author:** M. Haukas, K. Hylland, J. A. Berge, T. Nygard and E. Mariussen

**Year:** 2009

**Title:** Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord

**Journal:** Science of the Total Environment

**Volume:** 407

**Issue:** 22

**Pages:** 5907-5913

**Date:** Nov 1 2009

**Short Title:** Spatial diastereomer patterns of hexabromocyclododecane (HBCD) in a Norwegian fjord

**Accession Number:** BCI:BCI200900647512

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** Hexabromocyclododecane (HBCD) is the third most used brominated flame retardant globally, and has been found widely distributed in the environment. The present study reports concentrations and spatial patterns of alpha, beta and gamma-HBCD in a contaminated Norwegian fjord. Intertidal surface sediment and selected species from the marine food web were sampled at five locations in increasing distance from a known point source of HBCD. All sediment and biota samples were analyzed for the three HBCD diastereomers by liquid chromatography and mass spectrometry (LC/MS). The results demonstrated a HBCD gradient with decreasing concentrations at increasing distance from the point source in sediment and sedentary species, but less so in the species with large feeding ranges. Mean concentrations of Sigma HBCD at the closest/most remote locations relative to the point source were 9000/300 ng g(-1) TOC in sediment and 150/90 ng g(-1) lw in the species with largest feeding range (great black-backed gull). The HBCD diastereomer patterns were similar for each of the matrices (sediment, organisms) independent of distance from the source, indicating no difference in environmental partitioning between the diastereomers. However, the concentration ratio of diastereomers in each matrix ranged from 3:1:10 (alpha:beta:gamma) in the sediments to 55:1 (alpha:gamma) in the highest trophic level species, suggesting diastereomer-specific bioaccumulation in the organisms. (C) 2009 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200900647512

**Reference Type:**  Journal Article

**Record Number:** 1875

**Author:** G. L. Hawkins

**Year:** 2011

**Title:** Molts and Plumages of Ducks (Anatinae): An Evaluation of Pyle (2005)

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 4

**Pages:** 481-494

**Date:** Dec

**Short Title:** Molts and Plumages of Ducks (Anatinae): An Evaluation of Pyle (2005)

**ISSN:** 1524-4695

**Accession Number:** WOS:000299458500011

**Keywords:** Sea Ducks; Molt

**Notes:** Times Cited: 2

Hawkins, Gerard L.

2

**URL:** <Go to ISI>://WOS:000299458500011

**Reference Type:**  Journal Article

**Record Number:** 1532

**Author:** P. A. J. Hawkins, P. J. Butler and A. J. Woakes

**Year:** 1999

**Title:** Growth and morphology of captive female Common Eider Somateria mollissima ducklings

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 92-102

**Short Title:** Growth and morphology of captive female Common Eider Somateria mollissima ducklings

**Accession Number:** BCI:BCI199900301163

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Five female Common Eider ducklings taken under licence from a population at the Isle of May, Firth of Forth, Scotland, were reared from eggs. Weekly measurements were made of the tibiotarsus, ulna, head, ninth primary, body mass, wing and foot area. The body components attained adult size in the following order: tibiotarsus (six weeks), ulna (seven weeks), foot area (eight weeks), body mass and head (nine weeks), wing area and wing loading (ten weeks) and ninth primary (eleven weeks). Paddle index (the ratio of foot area to body mass) remained relatively constant throughout development. Up to and including seven weeks old, body mass could be used as an estimate of age according to the relationship A = 0.005 MB + 0.015, where A = age (weeks) and MB = body mass (g) (R2 = 0.98). 'Feathering up' began by the second week and was completed during weeks seven to eight. There was no noticeable trough in the body mass curve when the ducks fledged at nine to 10 weeks.

**URL:** <Go to ISI>://BCI199900301163

**Reference Type:**  Journal Article

**Record Number:** 1516

**Author:** P. A. J. Hawkins, P. J. Butler, A. J. Woakes and J. R. Speakman

**Year:** 2000

**Title:** Estimation of the rate of oxygen consumption of the common eider duck (Somateria mollissima), with some measurements of heart rate during voluntary dives

**Journal:** Journal of Experimental Biology

**Volume:** 203

**Issue:** 18

**Pages:** 2819-2832

**Date:** September, 2000

**Short Title:** Estimation of the rate of oxygen consumption of the common eider duck (Somateria mollissima), with some measurements of heart rate during voluntary dives

**Accession Number:** BCI:BCI200100163037

**Keywords:** Common Eider; Somateria mollissima; Physiology; Energetics and Nutrition;

**Abstract:** The relationship between heart rate (fH) and rate of oxygen consumption (VO2) was established for a marine diving bird, the common eider duck (Somateria mollissima), during steady-state swimming and running exercise. Both variables increased exponentially with speed during swimming and in a linear fashion during running. Eleven linear regressions of VO2 (ml kg-1 min-1) on fH (beats min-1) were obtained: five by swimming and six by running the birds. The common regression was described by VO2=10.1+0.15fH (r2=0.46, N=272, P<0.0001). The accuracy of this relationship for predicting mean VO2 was determined for a group of six birds by recording fH continuously over a 2-day period and comparing estimated VO2 obtained using the common regression with (i) VO2 estimated using the doubly labelled water technique (DLW) and (ii) VO2 measured using respirometry. A two-pool model produced the most accurate estimated VO2 using DLW. Because of individual variability within mean values of VO2 estimated using both techniques, there was no significant difference between mean VO2 estimated using fH or DLW and measured VO2 values (P>0.2), although individual errors were substantially less when fH was used rather than DLW to estimate VO2. Both techniques are, however, only suitable for estimating mean VO2 for a group of animals, not for individuals. Heart rate and behaviour were monitored during a bout of 63 voluntary dives by one female bird in an indoor tank 1.7 m deep. Tachycardia occurred both in anticipation of and following each dive. Heart rate decreased before submersion but was above resting values for the whole of the dive cycle. Mean fH at mean dive duration was significantly greater than fH while swimming at maximum sustainable surface speeds. Heart rate was used to estimate mean VO2 during the dive cycle and to predict aerobic dive limit (ADL) for shallow dives.

**URL:** <Go to ISI>://BCI200100163037

**Reference Type:**  Journal Article

**Record Number:** 185

**Author:** G. T. Haymes and R. W. Sheehan

**Year:** 1982

**Title:** Winter Waterfowl around Pickering Nuclear Generating Station Ontario Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 96

**Issue:** 2

**Pages:** 172-175

**Short Title:** Winter Waterfowl around Pickering Nuclear Generating Station Ontario Canada

**Accession Number:** BCI:BCI198375079237

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The distribution of waterfowl in the area of Pickering Nuclear Generating Station [Ontario, Canada] was studied between 17 Sept. 1979 and 16 April 1980. Dabbling ducks were most abundant in shoreline marshes when these were ice-free. Large concentrations of mallards, Anas platyrhynchos, black ducks, A. rubripes, common mergansers, Mergus serrator, greater scaup, Aythya marila and redheads, A. americana, were present around the station when the marshes were frozen. The station offers warmer water, protection from wind, and food for the waterfowl wintering in the area.

**URL:** <Go to ISI>://BCI198375079237

**Reference Type:**  Journal Article

**Record Number:** 375

**Author:** D. J. Heard, D. M. Mulcahy, S. A. Iverson, D. J. Rizzolo, E. C. Greiner, J. Hall, H. Ip and D. Esler

**Year:** 2008

**Title:** A blood survey of elements, viral antibodies, and hemoparasites in wintering Harlequin Ducks (Histrionicus histrionicus) and Barrow's Goldeneyes (Bucephala islandica)

**Journal:** Journal of Wildlife Diseases

**Volume:** 44

**Issue:** 2

**Pages:** 486-493

**Date:** Apr 2008

**Short Title:** A blood survey of elements, viral antibodies, and hemoparasites in wintering Harlequin Ducks (Histrionicus histrionicus) and Barrow's Goldeneyes (Bucephala islandica)

**Accession Number:** BCI:BCI200800371156

**Keywords:** Harlequin duck; Histrionicus histrionicus; Barrow's Goldeneye; Bucephala islandica; Disease; Parasites; Nonbreeding Seasons;

**Abstract:** Twenty-eight Harlequin Ducks (Histrionicus histrionicus) and 26 Barrow's Goldeneyes (Bucephala islandica) were captured in Prince William Sound, Alaska, between 1 and 15 March 2005. Blood was collected for quantification of element concentrations, prevalence of antibodies to several viruses, and hemoparasite prevalence and identification. Although we found selenium concentrations that have been associated with selenosis in some birds (>= 2.0 ppm ww), our findings contribute to a growing literature describing relatively high selenium in apparently healthy birds in marine environments. Avian influenza virus antibodies were detected in the plasma of 28% of the ducks. No antibodies against adenovirus, reovirus, or paramyxovirus 1 were detected. Several hemoparasite species were identified in 7% of ducks. Our findings are similar to those in other free-living marine waterfowl and do not indicate unusual concerns for the health of these species in this area in late winter.

**URL:** <Go to ISI>://BCI200800371156

**Reference Type:**  Journal Article

**Record Number:** 254

**Author:** J. P. Heath

**Year:** 2008

**Title:** Presence of a Harlequin Duck Drake During Brood Rearing in Northern Labrador

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 81-83

**Short Title:** Presence of a Harlequin Duck Drake During Brood Rearing in Northern Labrador

**Accession Number:** BCI:BCI200900160418

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season;

**Abstract:** Female Harlequin Ducks (Histrionicus histrionicus) incubate eggs and rear broods, while males normally depart the breeding grounds at the onset of incubation. On 27 July 2000, a male Harlequin Duck was observed in association with a female and brood of five ducklings on the Ikadlivik River in northern Labrador. The male maintained some distance (similar to 100 m) from the female and brood; however, upon appearance of a researcher, the group amalgamated and the male appeared to influence the behavior of the female and brood. Possible explanations for earl), male departure and this exception are discussed.

**URL:** <Go to ISI>://BCI200900160418

**Reference Type:**  Journal Article

**Record Number:** 1308

**Author:** J. P. Heath and H. G. Gilchrist

**Year:** 2010

**Title:** When foraging becomes unprofitable: energetics of diving in tidal currents by common eiders wintering in the Arctic

**Journal:** Marine Ecology Progress Series

**Volume:** 403

**Pages:** 279-290

**Short Title:** When foraging becomes unprofitable: energetics of diving in tidal currents by common eiders wintering in the Arctic

**Accession Number:** BCI:BCI201000282105

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** A variety of ecological, physiological and environmental factors influence the energy budgets of diving animals. For common eiders Somateria mollissima sedentaria wintering in sea ice habitats in the Canadian Arctic, time and energy costs of diving increase exponentially with tidal current speed. Here we use literature estimates of diving energetics and underwater dive data to quantitatively model net energy gain per dive cycle as a function of current speed. The model indicates a strong non-linear decrease in the profitability of diving with increasing currents, predicting that net energy gain per dive cycle will reach zero and become unprofitable at 1.21 m s(-1) (at 11.3 m depth using baseline parameters from our study). As currents increase travel time, foraging time at the bottom decreases non-linearly, reaching a point where intake is inadequate to balance increasing diving and surface swimming costs. Sensitivity analysis indicates that this threshold is robust over a range of energy expenditure rates and is influenced most by energy intake rate, emphasising the importance of ecological factors such as prey abundance and quality. Eiders stop foraging and rest on the ice well below this threshold in weaker current regimes (similar to 0.8 m s(-1)), at about the point when profitability begins to decelerate. Behavioural time series of diving under constraints of strong tidal current regimes indicate that these eiders do occasionally dive in currents up to similar to 1.2 m s(-1), providing support for the energetic model. Eiders did not dive in faster currents, which could also be influenced by a physiological limit to swimming speed. We conclude that ocean currents can cause a non-linear decrease in net energy balance and are therefore an important and understudied consideration for diving animals. Many functional aspects of diving (e.g. locomotor costs or convective heat loss) have non-linear characteristics; these diminishing returns can be expected to play an important role in the dynamics of behavioural routines and the ability of organisms to respond to environmental variation.

**URL:** <Go to ISI>://BCI201000282105

**Reference Type:**  Journal Article

**Record Number:** 1398

**Author:** J. P. Heath, H. G. Gilchrist and R. C. Ydenberg

**Year:** 2006

**Title:** Regulation of stroke pattern and swim speed across a range of current velocities: diving by common eiders wintering in polynyas in the Canadian Arctic

**Journal:** Journal of Experimental Biology

**Volume:** 209

**Issue:** 20

**Pages:** 3974-3983

**Date:** Oct 15 2006

**Short Title:** Regulation of stroke pattern and swim speed across a range of current velocities: diving by common eiders wintering in polynyas in the Canadian Arctic

**Accession Number:** BCI:BCI200700015439

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** Swim speed during diving has important energetic consequences. Not only do costs increase as drag rises non-linearly with increasing speed, but speed also affects travel time to foraging patches and therefore time and energy budgets over the entire dive cycle. However, diving behaviour has rarely been considered in relation to current velocity. Strong tidal currents around the Belcher Islands, Nunavut, Canada, produce polynyas, persistent areas of open water in the sea ice which are important habitats for wildlife wintering in Hudson Bay. Some populations of common eiders Somateria mollissima sedentaria remain in polynyas through the winter where they dive to forage on benthic invertebrates. Strong tidal currents keep polynyas from freezing, but current velocity can exceed 1.5 m s(-1) and could influence time and energy costs of diving and foraging. Polynyas therefore provide naturally occurring flume tanks allowing investigation of diving strategies of free ranging birds in relation to current velocity. We used a custom designed sub-sea ice camera to non-invasively investigate over 150 dives to a depth of 11.3 m by a population of approximately 100 common eiders at Ulutsatuq polynya during February and March of 2002 and 2003. Current speed during recorded dives ranged from 0 to 1 m s(-1). As currents increased, vertical descent speed of eiders decreased, while descent duration and the number of wing strokes and foot strokes during descent to the bottom increased. However, nearly simultaneous strokes of wings and feet, and swim speed relative to the moving water, were maintained within a narrow range (2.28 +/- 0.23 Hz; 1.25 +/- 0.14 m s(-1), respectively). This close regulation of swim speed over a range in current speed of 1.0 m s(-1) might correspond to efficient muscle contraction rates, and probably reduces work rates by avoiding rapidly increasing drag at greater speeds; however, it also increases travel time to benthic foraging patches. Despite regulation of average swim speed, high instantaneous speeds during oscillatory stroking can increase dive costs due to drag. While most diving birds have been considered either foot or wing propelled, eider ducks used both wing and foot propulsion during descent. Our observations indicate that the power phase of foot strokes coincides with the transition between upstroke and downstroke of the wings, when drag is greatest. Coordinated timing between foot and wing propulsion could therefore serve to maintain a steadier speed during descent and decrease the costs of diving. Despite tight regulation of stroke and swim speed patterns, descent duration and total number of foot and wing strokes during descent increase non-linearly with increasing current velocity, suggesting an increase in energetic costs of diving.

**URL:** <Go to ISI>://BCI200700015439

**Reference Type:**  Journal Article

**Record Number:** 1370

**Author:** J. P. Heath, H. G. Gilchrist and R. C. Ydenberg

**Year:** 2007

**Title:** Can dive cycle models predict patterns of foraging behaviour? Diving by common eiders in an Arctic polynya

**Journal:** Animal Behaviour

**Volume:** 73

**Issue:** Part 5

**Pages:** 877-884

**Date:** May 2007

**Short Title:** Can dive cycle models predict patterns of foraging behaviour? Diving by common eiders in an Arctic polynya

**Accession Number:** BCI:BCI200700416772

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** There has been wide empirical and theoretical interest in how diving animals allocate time between obtaining oxygen at the surface and foraging at depth. Assuming diminishing returns in oxygen gain at the surface, classic diving models predict that time on the surface should increase, while time spent foraging at depth should first increase and then decrease as travel time increases. Controlled laboratory experiments have indicated partial support for predictions of diving models; however, their usefulness in understanding patterns of diving behaviour in the wild is still in question. We assessed the applicability of diving models to foraging patterns of common elders, Somateria mollissima sedentaria, wintering in the Canadian Arctic. Underwater footage was used to quantify time foraging at depth and duration of surface pauses in relation to changes in travel time induced by strong tidal currents. Consistent with predictions of diving models, bottom foraging time decreased with increasing travel time, while total dive duration was relatively constant at 58.47 +/- 5.32 s, close to the estimated aerobic dive limit for this species. However, durations of surface pauses were not associated with diving parameters, as anticipated from diving models. Durations of surface pauses were highly variable (183.05 +/- 158.06 s) and often considerably longer than necessary to replenish oxygen stores. While the duration of surface pauses predicted by diving models in relation to travel time may be an optimal strategy when obtaining oxygen at the surface is the predominant constraint to foraging, a variety of processes operating at different timescales can influence behavioural patterns in the wild. Preliminary analysis considering the rate of digestive processing suggests that foraging patterns of eiders could be simultaneously influenced by several different rate constraints. Therefore, while static modelling approaches are an important heuristic tool for elucidating mechanisms underlying diving behaviour, dynamic approaches, which can incorporate variables concerning multiple physiological and environmental states, will probably be required to fully understand complex foraging patterns observed in the wild. 2007 The Association for the study of Animal Behaviour. Published by Elsevier Ltd.

**URL:** <Go to ISI>://BCI200700416772

**Reference Type:**  Journal Article

**Record Number:** 312

**Author:** J. P. Heath, G. Goodyear and J. Brazil

**Year:** 2001

**Title:** Observation of a Golden Eagle, Aquila chrysaetos, attack on a Harlequin Duck, Histrionicus histrionicus, in northern Labrador

**Journal:** Canadian Field-Naturalist

**Volume:** 115

**Issue:** 3

**Pages:** 515-516

**Date:** July-September, 2001

**Short Title:** Observation of a Golden Eagle, Aquila chrysaetos, attack on a Harlequin Duck, Histrionicus histrionicus, in northern Labrador

**Accession Number:** BCI:BCI200200336686

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Breeding Season;

**Abstract:** During an aerial survey on the Kingurutik River, northern Labrador, a Golden Eagle (Aquila chrysaetos) was observed attacking a female Harlequin Duck (Histrionicus histrionicus). Although the attack ended unsuccessfully, we believe this was only a result of disturbance by the presence of the helicopter. We overview previous reports of predation on Harlequin Ducks, and emphasize the need for further research investigating the importance of the influence of predators on populations of Harlequin Ducks.

**URL:** <Go to ISI>://BCI200200336686

**Reference Type:**  Journal Article

**Record Number:** 256

**Author:** J. P. Heath and W. A. Montevecchi

**Year:** 2008

**Title:** Differential use of similar habitat by Harlequin Ducks: trade-offs and implications for identifying critical habitat

**Journal:** Canadian Journal of Zoology

**Volume:** 86

**Issue:** 5

**Pages:** 419-426

**Date:** May 2008

**Short Title:** Differential use of similar habitat by Harlequin Ducks: trade-offs and implications for identifying critical habitat

**Accession Number:** BCI:BCI200800494419

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Habitat; Dispersal; Breeding Season;

**Abstract:** Interactions between ecological processes operating at different scales are critical aspects of habitat suitability requiring careful consideration in conservation planning. Our previous research indicated that local abundance and demographics of subpopulations of Harlequin Ducks (Histrionicus histrionicus (L., 1758)), structured in 11 river canyons in northern Labrador, were influenced by predation risk from nest-site-limited raptors. At demographic extremes, where raptors were absent, Harlequin Ducks were stable at high densities, with positive-projected growth, suggesting that they were at carrying capacity and a Source of emigrants. In contrast, where raptors were abundant, low density, highly variable populations of ducks approached local extinction in some years, with subsequent increases suggestive of immigration rescue effects. A comparison of resources for Harlequin Ducks indicated no differences in habitat availability among these putative "source" and "sink" Subpopulations. In the present study, we used multivariate analysis to identify habitat characteristics important for home-range use within these river canyons and to develop habitat suitability indices (HSI). Despite similar habitat availability, different characteristics were locally important. In a sink where predation risk was high, only danger-reducing habitat characteristics (i.e., overhang vegetation) were identified as important, whereas invertebrates was a predominant characteristic of the source HSI. Despite similar habitat availability, HSI developed in source and sink habitats would, respectively, over- and under-estimate regional habitat availability. Informed conservation and management strategies will therefore require integrating individual trade-offs about predation risk and resources into a multiscale context.

**URL:** <Go to ISI>://BCI200800494419

**Reference Type:**  Journal Article

**Record Number:** 255

**Author:** J. P. Heath, W. A. Montevecchi and G. J. Robertson

**Year:** 2008

**Title:** Allocating Foraging Effort Across Multiple Time Scales: Behavioral Responses to Environmental Conditions by Harlequin Ducks Wintering at Cape St. Mary's, Newfoundland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 71-80

**Short Title:** Allocating Foraging Effort Across Multiple Time Scales: Behavioral Responses to Environmental Conditions by Harlequin Ducks Wintering at Cape St. Mary's, Newfoundland

**Accession Number:** BCI:BCI200900160417

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Foraging behavior of Harlequin Ducks (Histrionicus histrionicus) and its response to changing environmental conditions during winter was investigated at Cape St. Mary's, Newfoundland. Behavioral synchrony among individuals permitted continuous observations of flocks to be conducted, sometimes over entire (lays. Overall foraging effort of Harlequin Ducks was examined at two organizational levels: dive cycles (dive and Surface pause) and foraging cycles (foraging bout and rest bout). Overall foraging effort decreased at greater tide depths as Harlequin Ducks decreased the duration of foraging])out:. Dive:pause ratios did not change Within these shorter foraging bouts at high tides, however the duration of dives, pauses, and the total (live cycle all increased. Overall foraging effort decreased in response to increased wind/wave exposure due to a decrease in dive duration. Overall foraging effort did not change in response to decreasing ambient temperature; however the frequency of (live cycles decreased which Could decrease energy expenditure associated with post-dive thermoregulatory Costs. Overall foraging effort increased throughout the day, particularly ill the last foraging bout before the overnight fasting period. Interestingly, this strategy was accomplished by decreasing dive durations but increasing foraging bout duration. These opposite results across levels of behavioral organization are interpreted in the context of intermittent exercise and locomotion whereby decreasing effort at one level of energy expenditure could allow for increased effort at another. Therefore, different (and sometimes opposite) responses to environmental conditions can occur at different levels of behavioral organization. Even when overall foraging effort remains unchanged, the strategy employed can differ in its temporal allocation or frequency, which Could be important in balancing energy budgets tinder increased energetic costs and/or time constraints. These results, have particularly important implications for interpreting behavioral responses investigated at only a single level of behavior, extrapolating data front brief observation periods to longer time scales, and foraging models which only consider single levels of behavior such as the dive cycle.

**URL:** <Go to ISI>://BCI200900160417

**Reference Type:**  Journal Article

**Record Number:** 282

**Author:** J. P. Heath, G. J. Robertson and W. A. Montevecchi

**Year:** 2006

**Title:** Population structure of breeding Harlequin Ducks and the influence of predation risk

**Journal:** Canadian Journal of Zoology

**Volume:** 84

**Issue:** 6

**Pages:** 855-864

**Date:** Jun 2006

**Short Title:** Population structure of breeding Harlequin Ducks and the influence of predation risk

**Accession Number:** BCI:BCI200600587735

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Dispersal; Habitat; Breeding Season;

**Abstract:** Landscape features can have an important influence on the characteristics of populations, often resulting in heterogeneity in demographic processes. Therefore, local measurements of population parameters may not reflect regional characteristics. We studied populations of Harlequin Ducks (Histrionicus histrionicus L., 1758) breeding in 11 river canyons in northern Labrador in relation to biophysical habitat characteristics and abundance of avian predators. Density and stability of Harlequin Duck populations varied among river canyons and were positively related (mean of 4.7 survey years per river). Both density and stability were negatively related to densities of raptorial birds. Raptor density was related to availability of suitable cliff ledges for nesting. Comparison of rivers with stable, high-density Harlequin Duck populations and those with variable, low-density populations revealed no detectable differences in habitat or prey availability. In a high-density population, observed stability but positive projected growth suggested the system was at carrying capacity and a source of emigrants. In contrast, unstable, low-density populations approached local extinction in some years, while large increases in subsequent years were suggestive of immigration. These findings demonstrate that breeding aggregations in different river canyons could represent an important unit of demographic structure. The abundance of raptors appears to be an important factor influencing local characteristics of Harlequin Duck populations. We discuss the potential influence of local demographic differences on regional population dynamics and their importance for conservation management strategies for migratory species.

**URL:** <Go to ISI>://BCI200600587735

**Reference Type:**  Journal Article

**Record Number:** 730

**Author:** C. E. Hebert and H. A. Morrison

**Year:** 2003

**Title:** Consumption of fish and other prey items by Lake Erie waterbirds

**Journal:** Journal of Great Lakes Research

**Volume:** 29

**Issue:** 2

**Pages:** 213-227

**Short Title:** Consumption of fish and other prey items by Lake Erie waterbirds

**Accession Number:** BCI:BCI200300395431

**Keywords:** Red-breasted merganser; Mergus serrator; Common merganser; Mergus merganser; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Lake Erie provides valuable habitat for large populations of waterbirds that rely on fish and other aquatic biota for food. To better understand the relationship between waterbirds and their prey, it is important to quantify the role of waterbirds in the food web. Field observations of their population sizes and diet preferences were applied to a bioenergetics model to estimate consumption of fish and other items by waterbird species occupying the three basins of Lake Erie in the late 1990s. The total quantity of fishes consumed annually by resident and migrating birds on Lake Erie was 18,776 metric tons. Fish consumption by nesting and migrant waterbirds was greatest in the western basin of Lake Erie (14,784 metric tons/yr) followed by the eastern (2,078 metric tons/yr) and central (1,914 metric tons/yr) basins. Migrant populations of red-breasted mergansers consumed the most fish (6,612 metric tons/yr). These diving ducks consumed approximately 35% of the total amount of fish consumed by waterbirds on the lake. Nesting populations of double-crested cormorants (5,857 metric tons/yr), nesting populations of herring gulls (1,597 metric tons/yr), and migrant common mergansers (1,149 metric tons/yr), were the second, third, and fourth largest consumers of fish from Lake Erie, respectively. Waterbirds consume approximately four times more fish by weight than were harvested by Ontario's commercial fishery in 2000; however, in general, the species of fishes most often consumed by waterbirds are not of economic importance. However, there may be exceptions to this rule.

**URL:** <Go to ISI>://BCI200300395431

**Reference Type:**  Journal Article

**Record Number:** 1474

**Author:** A. Hedenstrom, T. Alerstam, M. Green and G. A. Gudmundsson

**Year:** 2002

**Title:** Adaptive variation of airspeed in relation to wind, altitude and climb rate by migrating birds in the Arctic

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 52

**Issue:** 4

**Pages:** 308-317

**Date:** September, 2002

**Short Title:** Adaptive variation of airspeed in relation to wind, altitude and climb rate by migrating birds in the Arctic

**Accession Number:** BCI:BCI200200561311

**Keywords:** Common Eider; Somateria mollissima; Behavior; Migration; Nonbreeding Seasons;

**Abstract:** The power expenditure of flapping flight in birds is characterised by a U-shaped function of speed through the air. From this relationship and the assumption of limited power available from flight muscles, it is possible to predict changes in the birds' airspeed in relation to external factors such as wind. These predictions are derived from flight mechanical theory and optimality criteria concerning migration or transport flight economy. Using tracking radar we measured flight speeds of migrating birds at 12 sites along the Northwest Passage in arctic Canada. We analysed variation in airspeed (Va) in relation to the wind effect (Vg-Va, where Vg is the groundspeed), vertical speed (Vz), altitude (z) and the compensation for the amount of side wind (1/cosalpha, where alpha is the angle between track and heading). We found significant effects on the variation in Va for all four variables, revealed by multiple regression analysis, but the total variation explained was relatively small suggesting that other factors might be involved. The signs of the regression coefficients were as predicted, except for the effect of side wind where we found a negative relationship between Va and 1/cosalpha, possibly because our sample included an unknown mixture of bird species. We also compiled information from the literature from studies reporting analyses of the effects of the four variables on Va. Adjustment of Va in relation to the wind effect seems nearly omnipresent among birds, while the effects of vertical speed and altitude have been reported surprisingly few times. An increased Va with increasing alpha (and 1/cosalpha) has not been found yet, perhaps due to the lack of critical observation conditions.

**URL:** <Go to ISI>://BCI200200561311

**Reference Type:**  Journal Article

**Record Number:** 708

**Author:** B. Hefti-Gautschi, M. Pfunder, L. Jenni, V. Keller and H. Ellegren

**Year:** 2009

**Title:** Identification of conservation units in the European Mergus merganser based on nuclear and mitochondrial DNA markers

**Journal:** Conservation Genetics

**Volume:** 10

**Issue:** 1

**Pages:** 87-99

**Date:** Feb 2009

**Short Title:** Identification of conservation units in the European Mergus merganser based on nuclear and mitochondrial DNA markers

**Accession Number:** BCI:BCI200900223741

**Keywords:** Common merganser; Mergus merganser; Population Delineation; Dispersal; Breeding Season;

**Abstract:** The conservation status of small breeding areas of the Goosander (Mergus merganser merganser) in Central Europe is unclear. Geographic isolation of these areas suggests restricted gene flow to and from large North-European populations. On the other hand, migrating Goosanders from northern Europe join the Central European breeding population for wintering. To evaluate the conservation status of the small breeding areas we assessed the genetic structure of M. merganser populations in Europe by examining two nuclear marker systems (microsatellites and Single Nucleotide Polymorphisms, SNP) and mitochondrial (mtDNA) control region sequence variation for Goosanders in 11 sampling areas representing three of five distinct breeding areas and two subspecies (M. m. merganser and M. m. americanus). Overall population differentiation estimates including both subspecies were high, both based on mtDNA (Phi(ST) = 0.899; P < 0.0001) and nuclear markers (theta(ST) = 0.219; 95% CI 0.088-0.398, SNP and microsatellites combined). Within Europe, mtDNA revealed a strong overall (Phi(ST) = 0.426; P < 0.0001) and significant pairwise population differentiation between almost all comparisons. In contrast, both nuclear marker systems combined revealed only a small overall genetic differentiation (theta(ST) = 0.022; 95% CI 0.003-0.041). The strong genetic differentiation based on female-inherited mtDNA but not on biparentally inherited nuclear markers can be explained by sex-biased dispersal and strong female philopatry. Therefore, small breeding areas in Europe are endangered despite large male-mediated gene-flow, because when these populations decline, only males-but due to strong philopatry not females-can be efficiently supplemented by migration from the large North European populations. We therefore propose to manage the small breeding areas independently and to strengthen conservation efforts for this species in Central Europe.

**URL:** <Go to ISI>://BCI200900223741

**Reference Type:**  Journal Article

**Record Number:** 1876

**Author:** S. Heinanen, J. Erola and M. von Numers

**Year:** 2012

**Title:** High resolution species distribution models of two nesting water bird species: a study of transferability and predictive performance

**Journal:** Landscape Ecology

**Volume:** 27

**Issue:** 4

**Pages:** 545-555

**Date:** Apr

**Short Title:** High resolution species distribution models of two nesting water bird species: a study of transferability and predictive performance

**ISSN:** 0921-2973

**DOI:** 10.1007/s10980-012-9705-8

**Accession Number:** WOS:000302346900006

**Notes:** Times Cited: 0

Heinanen, Stefan Erola, Johnny von Numers, Mikael

0

**URL:** <Go to ISI>://WOS:000302346900006

**Reference Type:**  Journal Article

**Record Number:** 573

**Author:** D. S. Heintzelman

**Year:** 1963

**Title:** Diving times of a common goldeneye

**Journal:** Wilson Bull

**Volume:** 75

**Issue:** (1)

**Pages:** 91

**Short Title:** Diving times of a common goldeneye

**Accession Number:** BCI:BCI19644500004137

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior;

**Abstract:** The common goldeneye dove, on the average, for 14.15 seconds but there was a wide range of diving times exhibited. || ABSTRACT AUTHORS: T. W. Porter

**URL:** <Go to ISI>://BCI19644500004137

**Reference Type:**  Journal Article

**Record Number:** 862

**Author:** G. H. Heinz, S. D. Haseltine, W. L. Reichel and G. L. Hensler

**Year:** 1983

**Title:** Relationships of Environmental Contaminants to Reproductive Success in Red-Breasted Mergansers Mergus-Serrator from Lake Michigan USA

**Journal:** Environmental Pollution Series A Ecological and Biological

**Volume:** 32

**Issue:** 3

**Pages:** 211-232

**Short Title:** Relationships of Environmental Contaminants to Reproductive Success in Red-Breasted Mergansers Mergus-Serrator from Lake Michigan USA

**Accession Number:** BCI:BCI198477047856

**Keywords:** Red-breasted merganser; Mergus serrator; Contaminants; Productivity; Breeding Season;

**Abstract:** In 1977 and 1978, red-breasted mergansers M. serrator nesting on islands in northwestern Lake Michigan were studied to determine whether environmental contaminants had effected reproduction. Contaminants (17) were measured in randomly chosen eggs from 206 nests. A variety of statistical approaches were used to study the effects of individual contaminants and combinations of contaminants on reproductive measurements such as nest desertion, failure of eggs to hatch, death of newly hatched ducklings, percentage hatching success, number of ducklings leaving the nest and eggshell thickness. Relationships between the levels of some contaminants in blood samples of 39 incubating females and reproductive success were also determined. A small degree of eggshell thinning was attributed to DDE and a few other statistical tests were significant, but no contaminant or combination of contaminants seemed to have had a pronounced effect on reproduction.

**URL:** <Go to ISI>://BCI198477047856

**Reference Type:**  Journal Article

**Record Number:** 640

**Author:** G. H. Heinz, D. J. Hoffman, J. D. Klimstra, K. R. Stebbins, S. L. Kondrad and C. A. Erwin

**Year:** 2009

**Title:** Species Differences in the Sensitivity of Avian Embryos to Methylmercury

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 56

**Issue:** 1

**Pages:** 129-138

**Date:** Jan 2009

**Short Title:** Species Differences in the Sensitivity of Avian Embryos to Methylmercury

**Accession Number:** BCI:BCI200900070207

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Contaminants;

**Abstract:** We injected doses of methylmercury into the air cells of eggs of 26 species of birds and examined the dose-response curves of embryo survival. For 23 species we had adequate data to calculate the median lethal concentration (LC50). Based on the dose-response curves and LC(50)s, we ranked species according to their sensitivity to injected methylmercury. Although the previously published embryotoxic threshold of mercury in game farm mallards (Anas platyrhynchos) has been used as a default value to protect wild species of birds, we found that, relative to other species, mallard embryos are not very sensitive to injected methylmercury; their LC50 was 1.79 mu g/g mercury on a wet-weight basis. Other species we categorized as also exhibiting relatively low sensitivity to injected methylmercury (their LC(50)s were 1 mu g/g mercury or higher) were the hooded merganser (Lophodytes cucullatus), lesser scaup (Aythya affinis), Canada goose (Branta canadensis), double-crested cormorant (Phalacrocorax auritus), and laughing gull (Larus atricilla). Species we categorized as having medium sensitivity (their LC(50)s were greater than 0.25 mu g/g mercury but less than 1 mu g/g mercury) were the clapper rail (Rallus longirostris), sandhill crane (Grus canadensis), ring-necked pheasant (Phasianus colchicus), chicken (Gallus gallus), common grackle (Quiscalus quiscula), tree swallow (Tachycineta bicolor), herring gull (Larus argentatus), common tern (Sterna hirundo), royal tern (Sterna maxima), Caspian tern (Sterna caspia), great egret (Ardea alba), brown pelican (Pelecanus occidentalis), and anhinga (Anhinga anhinga). Species we categorized as exhibiting high sensitivity (their LC(50)s were less than 0.25 mu g/g mercury) were the American kestrel (Falco sparverius), osprey (Pandion haliaetus), white ibis (Eudocimus albus), snowy egret (Egretta thula), and tri-colored heron (Egretta tricolor). For mallards, chickens, and ring-necked pheasants (all species for which we could compare the toxicity of our injected methylmercury with that of published reports where methylmercury was fed to breeding adults and was deposited into the egg by the mother), we found the injected mercury to be more toxic than the same amount of mercury deposited naturally by the mother. The rank order of sensitivity of these same three species to methylmercury was, however, the same whether the methylmercury was injected or maternally deposited in the egg (i.e., the ring-necked pheasant was more sensitive than the chicken, which was more sensitive than the mallard). It is important to note that the dose-response curves and LC(50)s derived from our egg injections are useful for ranking the sensitivities of various species but are not identical to the LC(50)s that would be observed if the mother bird had put the same concentrations of mercury into her eggs; the LC(50)s of maternally deposited methylmercury would be higher.

**URL:** <Go to ISI>://BCI200900070207

**Reference Type:**  Journal Article

**Record Number:** 848

**Author:** G. H. Heinz, D. S. Miller, B. J. Ebert and K. L. Stromborg

**Year:** 1994

**Title:** Declines in organochlorines in eggs of red-breasted mergansers from Lake Michigan, 1977-1978 versus 1990

**Journal:** Environmental Monitoring and Assessment

**Volume:** 33

**Issue:** 3

**Pages:** 175-182

**Short Title:** Declines in organochlorines in eggs of red-breasted mergansers from Lake Michigan, 1977-1978 versus 1990

**Accession Number:** BCI:BCI199598226725

**Keywords:** Red-breasted merganser; Mergus serrator; Contaminants; Breeding Season;

**Abstract:** From 1977-1978 to 1990, concentrations of polychlorinated biphenyls (PCBs) and most organochlorine pesticides declined in eggs of red-breasted mergansers (Mergus serrator) nesting on islands in northwestern Lake Michigan. Total PCBs decreased 60% (from 21 ppm in 1977-1978 to 8.5 ppm in 1990) and p,p'-DDE decreased 66% (from 6.5 to 2.2 ppm). Dieldrin decreased only 16% (from 0.82 to 0.69 ppm). In 1990, 79.1% of incubated eggs hatched, which was not significantly different from the 83.5% that hatched in 1977-1978.

**URL:** <Go to ISI>://BCI199598226725

**Reference Type:**  Journal Article

**Record Number:** 817

**Author:** G. H. Heinz and K. L. Stromborg

**Year:** 2009

**Title:** Further declines in organochlorines in eggs of red-breasted mergansers from Lake Michigan, 1977-1978 versus 1990 versus 2002

**Journal:** Environmental Monitoring and Assessment

**Volume:** 159

**Issue:** 1-4

**Pages:** 163-168

**Date:** Dec 2009

**Short Title:** Further declines in organochlorines in eggs of red-breasted mergansers from Lake Michigan, 1977-1978 versus 1990 versus 2002

**Accession Number:** BCI:BCI201000009436

**Keywords:** Red-breasted merganser; Mergus serrator; Contaminants; Breeding Season;

**Abstract:** From 1977-1978 to 1990, concentrations of polychlorinated biphenyls (PCBs) and most organochlorine pesticides declined in eggs of red-breasted mergansers (Mergus serrator) nesting on islands in northwestern Lake Michigan. Further declines took place between 1990 and 2002. Between 1977-1978 and 1990 total PCBs decreased 60% (from 21 to 8.5 mu g/g, wet weight). An additional decline of 46% took place between 1990 and 2002 (8.5 to 4.6 mu g/g). Between 1977-1978 and 1990 p,p (')-DDE decreased 66% (from 6.5 to 2.2 mu g/g), and from 1990 to 2002 an additional decline of 36% took place (from 2.2 to 1.4 mu g/g). Between 1977-1978 and 1990 dieldrin decreased only 16% (from 0.82 to 0.69 mu g/g), but from 1990 to 2002 a 96% decrease occurred (from 0.69 to 0.03 mu g/g).

**URL:** <Go to ISI>://BCI201000009436

**Reference Type:**  Journal Article

**Record Number:** 182

**Author:** M. E. Heitmeyer and P. A. J. Vohs

**Year:** 1984

**Title:** Distribution and Habitat Use of Waterfowl Wintering in Oklahoma USA

**Journal:** Journal of Wildlife Management

**Volume:** 48

**Issue:** 1

**Pages:** 51-62

**Short Title:** Distribution and Habitat Use of Waterfowl Wintering in Oklahoma USA

**Accession Number:** BCI:BCI198478026279

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** The distribution and habitats of waterfowl were studied in Oklahoma during winters 1978-1979 and 1979-1980. A stratified random sample of quarter sections of land area was used to sample wetland habitats and waterfowl wintering on small scattered wetlands in Oklahoma. Aerial and ground counts of waterfowl on large reservoirs and national wildlife refuges provided a perspective of the statewide role of smaller water basins in maintaining wintering waterfowl populations. Dabbling ducks preferred natural wetlands over man-made impoundments. Most common mergansers (Mergus merganser) wintered on reservoirs and most geese (Chen caerulescens, Branta canadensis) wintered on national wildlife refuges associated with large reservoirs. Numbers of dabbling ducks decreased on reservoirs during late winter and simultaneously increased on small natural wetlands. Small wetlands were differentially selected by paired and female mallards (Anas platyrhynchos) and were used primarily as feeding habitats. Dabbling ducks used palustrine wetlands more in 1979-1980 than in 1978-1979, apparently because of increased wetland numbers, hectares of surface water, diversity of wetland types, and emergent vegetation-open water interspersion of palustrine basins during 1979-1980. Protection of natural wetlands and unaltered rivers appears more ecologically beneficial to dabbling ducks wintering in Oklahoma than enhancing areas associated with large reservoirs and/or construction of farm ponds.

**URL:** <Go to ISI>://BCI198478026279

**Reference Type:**  Journal Article

**Record Number:** 2

**Author:** I. Helle, T. Lecklin, A. Jolma and S. Kuikka

**Year:** 2011

**Title:** Modeling the effectiveness of oil combating from an ecological perspective - A Bayesian network for the Gulf of Finland; the Baltic Sea

**Journal:** Journal of Hazardous Materials

**Volume:** 185

**Issue:** 1

**Pages:** 182-192

**Date:** Jan 15 2011

**Short Title:** Modeling the effectiveness of oil combating from an ecological perspective - A Bayesian network for the Gulf of Finland; the Baltic Sea

**Accession Number:** BCI:BCI201100328247

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Maritime traffic poses a major threat to marine ecosystems in the form of oil spills. The Gulf of Finland, the easternmost part of the Baltic Sea, has witnessed a rapid increase in oil transportation during the last 15 years. Should a spill occur, the negative ecological impacts may be reduced by oil combating, the effectiveness of which is, however, strongly dependent on prevailing environmental conditions and available technical resources. This poses increased uncertainty related to ecological consequences of future spills. We developed a probabilistic Bayesian network model that can be used to assess the effectiveness of different oil combating strategies in minimizing the negative effects of oil on six species living in the Gulf of Finland. The model can be used for creating different accident scenarios and assessing the performance of various oil combating actions under uncertainty, which enables its use as a supportive tool in decision-making. While the model is confined to the western Gulf of Finland, the methodology is adaptable to other marine areas facing similar risks and challenges related to oil spills. (C) 2010 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI201100328247

**Reference Type:**  Journal Article

**Record Number:** 1877

**Author:** H. L. Hennin, J. Bety, H. G. Gilchrist and O. P. Love

**Year:** 2012

**Title:** Do state-mediated hormones predict reproductive decisions in Arctic-nesting common eiders?

**Journal:** Integrative and Comparative Biology

**Volume:** 52

**Pages:** E76-E76

**Date:** Apr

**Short Title:** Do state-mediated hormones predict reproductive decisions in Arctic-nesting common eiders?

**ISSN:** 1540-7063

**Accession Number:** WOS:000303165000305

**Keywords:** Common eider; somateria mollissima; Physiology; Breeding Season

**Notes:** Times Cited: 0

Hennin, H. L. Bety, J. Gilchrist, H. G. Love, O. P.

Annual Meeting of the Society-for-Integrative-and-Comparative-Biology (SICB)

JAN 03-07, 2012

Charleston, SC

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**URL:** <Go to ISI>://WOS:000303165000305

**Reference Type:**  Journal Article

**Record Number:** 2159

**Author:** H. L. Hennin, J. Bety, P. Legagneux, H. G. Gilchrist, T. D. Williams and O. P. Love

**Year:** 2016

**Title:** Energetic Physiology Mediates Individual Optimization of Breeding Phenology in a Migratory Arctic Seabird

**Journal:** American Naturalist

**Volume:** 188

**Issue:** 4

**Pages:** 434-445

**Date:** Oct

**Short Title:** Energetic Physiology Mediates Individual Optimization of Breeding Phenology in a Migratory Arctic Seabird

**ISSN:** 0003-0147

**DOI:** 10.1086/688044

**Accession Number:** WOS:000383774400008

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Physiology; Energetics and Nutrition

**Abstract:** The influence of variation in individual state on key reproductive decisions impacting fitness is well appreciated in evolutionary ecology. Rowe et al. (1994) developed a condition-dependent individual optimization model predicting that three key factors impact the ability of migratory female birds to individually optimize breeding phenology to maximize fitness in seasonal environments: arrival condition, arrival date, and ability to gain in condition on the breeding grounds. While empirical studies have confirmed that greater arrival body mass and earlier arrival dates result in earlier laying, no study has assessed whether individual variation in energetic management of condition gain effects this key fitness-related decision. Using an 8-year data set from over 350 prebreeding female Arctic common eiders (Somateria mollissima), we tested this component of the model by examining whether individual variation in two physiological traits influencing energetic management (plasma triglycerides: physiological fattening rate; baseline corticosterone: energetic demand) predicted individual variation in breeding phenology after controlling for arrival date and body mass. As predicted by the optimization model, individuals with higher fattening rates and lower energetic demand had the earliest breeding phenology (shortest delays between arrival and laying; earliest laying dates). Our results are the first to empirically determine that individual flexibility in prebreeding energetic management influences key fitness-related reproductive decisions, suggesting that individuals have the capacity to optimally manage reproductive investment.

**Notes:** Hennin, Holly L. Bety, Joel Legagneux, Pierre Gilchrist, H. Grant Williams, Tony D. Love, Oliver P.

**URL:** <Go to ISI>://WOS:000383774400008

**Reference Type:**  Journal Article

**Record Number:** 2160

**Author:** H. L. Hennin, P. Legagneux, J. Bety, T. D. Williams, H. G. Gilchrist, T. M. Baker and O. P. Love

**Year:** 2015

**Title:** Pre-breeding energetic management in a mixed-strategy breeder

**Journal:** Oecologia

**Volume:** 177

**Issue:** 1

**Pages:** 235-243

**Date:** Jan

**Short Title:** Pre-breeding energetic management in a mixed-strategy breeder

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-014-3145-x

**Accession Number:** WOS:000347406500022

**Keywords:** Common Eider; Common Eider; Breeding Season; Energetics and Nutrition; Physiology

**Abstract:** Integrative biologists have long appreciated that the effective acquisition and management of energy prior to breeding should strongly influence fitness-related reproductive decisions (timing of breeding and reproductive investment). However, because of the difficulty in capturing pre-breeding individuals, and the tendency towards abandonment of reproduction after capture, we know little about the underlying mechanisms of these life-history decisions. Over 10 years, we captured free-living, arctic-breeding common eiders (Somateria mollissima) up to 3 weeks before investment in reproduction. We examined and characterized physiological parameters predicted to influence energetic management by sampling baseline plasma glucocorticoids (i.e., corticosterone), very-low-density lipoprotein (VLDL), and vitellogenin (VTG) for their respective roles in mediating energetic balance, rate of condition gain (physiological fattening rate) and reproductive investment. Baseline corticosterone increased significantly from arrival to the initiation of reproductive investment (period of rapid follicular growth; RFG), and showed a positive relationship with body mass, indicating that this hormone may stimulate foraging behaviour to facilitate both fat deposition and investment in egg production. In support of this, we found that VLDL increased throughout the pre-breeding period, peaking as predicted during RFG. Female eiders exhibited unprecedentedly high levels of VTG well before their theoretical RFG period, a potential strategy for pre-emptively depositing available protein stores into follicles while females are simultaneously fattening. This study provides some of the first data examining the temporal dynamics and interaction of the energetic mechanisms thought to be at the heart of individual variation in reproductive decisions and success in many vertebrate species.

**Notes:** Hennin, Holly L. Legagneux, Pierre Bety, Joel Williams, Tony D. Gilchrist, H. Grant Baker, Tyne M. Love, Oliver P.

**URL:** <Go to ISI>://WOS:000347406500022

**Reference Type:**  Journal Article

**Record Number:** 2161

**Author:** H. L. Hennin, P. Legagneux, J. Bety, T. D. Williams, H. G. Gilchrist, T. M. Baker and O. P. Love

**Year:** 2015

**Title:** Preparatory energetic management in a pre-breeding seaduck

**Journal:** Integrative and Comparative Biology

**Volume:** 55

**Pages:** E273-E273

**Date:** Apr

**Short Title:** Preparatory energetic management in a pre-breeding seaduck

**ISSN:** 1540-7063

**Accession Number:** WOS:000352658401371

**Abstract:** Common Eider; Somateria mollissima; Breeding Season; Energetics and Nutrition; Physiology

**Notes:** Hennin, H. L. Legagneux, P. Bety, J. Williams, T. D. Gilchrist, H. G. Baker, T. M. Love, O. P.

Annual Meeting of the Society-for-Integrative-and-Comparative-Biology (SICB)

Jan 03-07, 2015

West Palm Beach, FL

Soc Integrat & Comparat Biol

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**URL:** <Go to ISI>://WOS:000352658401371

**Reference Type:**  Journal Article

**Record Number:** 2322

**Author:** H. L. Hennin, A. M. Wells-Berlin and O. P. Love

**Year:** 2016

**Title:** Baseline glucocorticoids are drivers of body mass gain in a diving seabird

**Journal:** Ecology and Evolution

**Volume:** 6

**Issue:** 6

**Pages:** 1702-1711

**Date:** Mar

**Short Title:** Baseline glucocorticoids are drivers of body mass gain in a diving seabird

**ISSN:** 2045-7758

**DOI:** 10.1002/ece3.1999

**Accession Number:** WOS:000372488300012

**Keywords:** White-winged Scoter; Melanitta fusca; Physiology

**Abstract:** Life-history trade-offs are influenced by variation in individual state, with individuals in better condition often completing life-history stages with greater success. Although resource accrual significantly impacts key life-history decisions such as the timing of reproduction, little is known about the underlying mechanisms driving resource accumulation. Baseline corticosterone (CORT, the primary avian glucocorticoid) mediates daily and seasonal energetics, responds to changes in food availability, and has been linked to foraging behavior, making it a strong potential driver of individual variation in resource accrual and deposition. Working with a captive colony of white-winged scoters (Melanitta fusca deglandi), we aimed to causally determine whether variation in baseline CORT drives individual body mass gains mediated through fattening rate (plasma triglycerides corrected for body mass). We implanted individuals with each of three treatment pellets to elevate CORT within a baseline range in a randomized order: control, low dose of CORT, high dose of CORT, then blood sampled and recorded body mass over a two-week period to track changes in baseline CORT, body mass, and fattening rates. The high CORT treatment significantly elevated levels of plasma hormone for a short period of time within the biologically relevant, baseline range for this species, but importantly did not inhibit the function of the HPA (hypothalamic-pituitary-adrenal) axis. Furthermore, an elevation in baseline CORT resulted in a consistent increase in body mass throughout the trial period compared to controls. This is some of the first empirical evidence demonstrating that elevations of baseline CORT within a biologically relevant range have a causal, direct, and positive influence on changes in body mass.

**Notes:** Hennin, Holly L. Wells-Berlin, Alicia M. Love, Oliver P.

**URL:** <Go to ISI>://WOS:000372488300012

**Reference Type:**  Journal Article

**Record Number:** 152

**Author:** C. J. Henny, D. D. Rudis, T. J. Roffe and E. Robinson-Wilson

**Year:** 1995

**Title:** Contaminants and Sea Ducks in Alaska and the Circumpolar Region

**Journal:** Environmental Health Perspectives

**Volume:** 103

**Issue:** SUPPL. 4

**Pages:** 41-49

**Short Title:** Contaminants and Sea Ducks in Alaska and the Circumpolar Region

**Accession Number:** BCI:BCI199598432732

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI199598432732

**Reference Type:**  Journal Article

**Record Number:** 1214

**Author:** G. Henriksen and E. Lund

**Year:** 1994

**Title:** Migration times, local movements, biometric parameters and the size and composition of the population of Steller's Eider Polysticta stelleri in Varangerfjord in Finnmark, Northern Norway

**Journal:** Fauna Norvegica Series C Cinclus

**Volume:** 17

**Issue:** 2

**Pages:** 95-106

**Short Title:** Migration times, local movements, biometric parameters and the size and composition of the population of Steller's Eider Polysticta stelleri in Varangerfjord in Finnmark, Northern Norway

**Accession Number:** BCI:BCI199598326485

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Dispersal; Physiology; Nonbreeding Seasons;

**Abstract:** This study had several aims: a) to use radio transmitter techniques to see if Steller's Eiders Polysticta stelleri make local movements in Varangerfjord, b) to find out when the birds arrive from their breeding ground and when they leave in the spring, c) to estimate the size and composition of both the winter and the summer population and finally, d) to obtain data on biometric parameters. We found that the Steller's Eiders start to arrive at their winter area in Varangerfjord in the second week of October, and leave during the first three weeks of May. Birds in the area after 1 June are likely to stay throughout the summer. The size of the winter population is estimated at about 15000 birds with a sex ratio close to 50:50, and the size of the summer population is estimated at about 1000 individuals, most of them being young females and subadult males. Data from birds with radio transmitters and other observations suggest that the Steller's Eiders during their winter stay move to a considerable extent within Varangerfjord. 46 Steller's Eiders were ringed, and at the same time we obtained biometrical measurements. Some of the data differ considerably from those obtained elsewhere in the world.

**URL:** <Go to ISI>://BCI199598326485

**Reference Type:**  Journal Article

**Record Number:** 925

**Author:** D. R. Herter, S. M. Jonston and A. P. Woodman

**Year:** 1989

**Title:** Molt Migration of Scoters at Cape Pierce Alaska USA

**Journal:** Arctic

**Volume:** 42

**Issue:** 3

**Pages:** 248-252

**Short Title:** Molt Migration of Scoters at Cape Pierce Alaska USA

**Accession Number:** BCI:BCI199089000405

**Keywords:** Surf Scoter; Melanitta perspicillata; White-winged Scoter; Melanitta fusca; Black Scoter; Melanitta nigra; Migration; Molt; Nonbreeding Seasons;

**Abstract:** There is presently little specific information on the molt migrations of scoters in the Nearctic. We conducted migration watches from 21 June to 31 July 1984 (total of 96 h) and from 5 to 15 July 1985 (total of 36 h) during daylight hours to estimate abundance and species composition of scoters engaged in a molt migrations at Cape Peirce, southeast Bering Sea, Alaska. We counted 22897 scoters moving west past the observation site in 1984, the year in which we probably made observations over most of the migration period. Allowing for daylight hours without watches, an estimated 66500 scoters passed in 1984. Peak passage occurred on 11 July in both years. Species composition of migrants in 1984 was approximately 77% white-winged scoters (Melanitta fusca), 12% surf scoters (M. perspicillata) and 11% black scoters (M. nigra). Most of the migrants were adult males, probably migrating from breeding grounds in Interior Alaska. Our findings suggest that a large and presently undescribed molting area of white-winged scoters exists somewhere in the waters of western Alaska or eastern Siberia.

**URL:** <Go to ISI>://BCI199089000405

**Reference Type:**  Journal Article

**Record Number:** 1326

**Author:** D. Herzke, T. Nygard, U. Berger, S. Huber and N. Rov

**Year:** 2009

**Title:** Perfluorinated and other persistent halogenated organic compounds in European shag (Phalacrocorax aristotelis) and common eider (Somateria mollissima) from Norway: A suburban to remote pollutant gradient

**Journal:** Science of the Total Environment

**Volume:** 408

**Issue:** 2

**Pages:** 340-348

**Date:** Dec 20 2009

**Short Title:** Perfluorinated and other persistent halogenated organic compounds in European shag (Phalacrocorax aristotelis) and common eider (Somateria mollissima) from Norway: A suburban to remote pollutant gradient

**Accession Number:** BCI:BCI201000037617

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Samples of two marine bird species, European shag (Phalacrocorax aristotelis) and common eider (Somateria mollissima) sampled at a remote coastal site in Norway were analysed for POPs and PFCs. Additionally samples of common eider were analysed from two other locations in Norway, representing a gradient from "densely populated" to "remote". The variety, concentration and distribution of lipophilic POPs in comparison to PFCs were investigated. PCBs were the dominating group of contaminants in the analysed egg samples. Shag eggs had median sum PCBs levels of 4580 ng/g l.w. in 2004. Six different PBDE congeners could be detected in the shag eggs. BDE 47 and 100 were the main contributors with 24 and 27 ng/g l.w. respectively, sum PBDEs was 90 ng/g l.w. Relatively high concentrations of chlordanes were found witha total sum of 903 ng/g l.w. Of other OCs, toxaphene 26 and 52 together (sum 657 ng/g l.w.) and HCB (165 ng/g l.w.) were contributing majorly to the egg burden. Sum HCHs were low; only 54 ng/g l.w. PFOS was the main PFC in egg, plasma and liver samples. Similar median levels of 29,32 and 27 ng/g w.w. were observed. PFOSA, PFHxS, and PFDcA were observed additionally in all shag samples at minor concentrations with the exception of elevated levels observed in liver for PFOSA and PFDcA with median levels of 7.6 and 7.9 ng/g w.w., respectively. In common eider eggs, the POP concentrations decreased up to 1/8th along the sampled spatial gradient from suburban to remote. of the 9 detected PFCs, PFOS dominated all samples by one order of magnitude, followed by PFOA. Sum PFC concentrations were twice as high at the two fjord sites compared to the remote site. Shorter chained PFCAs like PFOA and PFNA could be detected in the eider eggs whilst being absent in shag eggs. (C) 2009 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI201000037617

**Reference Type:**  Journal Article

**Record Number:** 54

**Author:** M. Heubeck

**Year:** 2006

**Title:** The Shetland beached bird survey, 1979-2004

**Journal:** Marine Ornithology

**Volume:** 34

**Issue:** 2

**Pages:** 123-127

**Short Title:** The Shetland beached bird survey, 1979-2004

**Accession Number:** BCI:BCI200700608979

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Results of monthly beached bird surveys in Shetland over a 26-year period are summarised. After initial high oiling rates in 1979, the incidence of oiled birds dropped to lower levels by winter 1980/81. Operational controls at the Sullom Voe Terminal to prevent deballasting at sea by visiting tankers almost certainly contributed to the reduction. Since then some periods of relatively high oiling rates have occurred, interspersed with increasingly longer periods of lower oiling rates. At all times since 1979, oiling rates compared favourably with those recorded from long-term beached bird surveys in the southern North Sea, particularly during 1999-2004. Recent analyses of oil samples from beaches and birds indicate that fuel oils predominate, whereas a majority of samples during 1979/80 were of crudes or crude sludges. In view of recent changes in crude oil throughput at the Sullom Voe Terminal, beached bird surveys remain an important tool for monitoring chronic oil pollution around the islands.

**URL:** <Go to ISI>://BCI200700608979

**Reference Type:**  Journal Article

**Record Number:** 652

**Author:** H. W. Heusmann, T. J. Early and B. J. Nikula

**Year:** 2000

**Title:** Evidence of an increasing Hooded Merganser population in Massachusetts

**Journal:** Wilson Bulletin

**Volume:** 112

**Issue:** 3

**Pages:** 413-415

**Date:** September, 2000

**Short Title:** Evidence of an increasing Hooded Merganser population in Massachusetts

**Accession Number:** BCI:BCI200000427153

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The number of Hooded Merganser (Lophodytes cucullatus) broods hatching in nest houses on 53 study areas in Massachusetts increased by 289% from 1979-1983 to 1994-1998 and the number of areas used increased from 9 of 53 in 1979 to 26 of 53 by 1998. The number of Hooded Mergansers counted on 21 Massachusetts Christmas Bird Count circles from 1979-1983 to 1994-1998 increased by 225%. The increasing trend lines did not match; suggesting different populations. This appears to support reports of increasing Hooded Merganser populations by other northeastern state waterfowl biologists.

**URL:** <Go to ISI>://BCI200000427153

**Reference Type:**  Journal Article

**Record Number:** 1067

**Author:** P. Hicklin and K. Bunker-Popma

**Year:** 2001

**Title:** The spring and fall migrations of scoters, Melanitta spp., at Confederation Bridge in the Northumberland Strait between New Brunswick and Prince Edward Island

**Journal:** Canadian Field-Naturalist

**Volume:** 115

**Issue:** 3

**Pages:** 436-445

**Date:** July-September, 2001

**Short Title:** The spring and fall migrations of scoters, Melanitta spp., at Confederation Bridge in the Northumberland Strait between New Brunswick and Prince Edward Island

**Accession Number:** BCI:BCI200200336668

**Keywords:** White-winged Scoter; Melanitta fusca; Black Scoter; Melanitta nigra; Surf Scoter; Melanitta perspicillata; Migration; Conservation; Nonbreeding Seasons;

**Abstract:** With assistance from volunteer observers on both sides of the Confederation Bridge, we counted and identified the three species of scoters migrating through the Northumberland Strait between New Brunswick and Prince Edward Island in spring and fall in order to assess whether the presence of Confederation Bridge affected the migration of scoters through the Strait. The numbers of scoters using Northumberland Strait during migration were three times greater in spring than fall. In both spring and fall, Surf Scoters were the most abundant species followed by Black and White-winged scoters. Only 13% of the scoters flew across Confederation Bridge in spring, and 22% in the fall. It is assumed that the remainder of the birds flew either (1) around Prince Edward Island in order to reach the Gulf of St. Lawrence in spring and the Strait of Canso in the fall or (2) high above Confederation Bridge and were not seen by the observers.

**URL:** <Go to ISI>://BCI200200336668

**Reference Type:**  Journal Article

**Record Number:** 1438

**Author:** P. W. Hicklin and W. R. Barrow

**Year:** 2004

**Title:** The incidence of embedded shot in waterfowl in Atlantic Canada and Hudson Strait

**Journal:** Waterbirds

**Volume:** 27

**Issue:** 1

**Pages:** 41-45

**Date:** March 2004

**Short Title:** The incidence of embedded shot in waterfowl in Atlantic Canada and Hudson Strait

**Accession Number:** BCI:BCI200400235984

**Keywords:** Common Eider; Somateria mollissima; Conservation; Breeding Season;

**Abstract:** From 1989-1998, in Canada's Atlantic Provinces and eastern sub-arctic region, migrant Canada Geese (Branta canadensis), wintering American Black Duck (Anas rubripes), Mallard (A. platyrhynchos) and incubating Common Eider (Somateria mollissima) were captured and examined with a fluoroscope to determine if shotgun pellets were embedded in their tissues. Of 1,624 birds examined, 25% carried embedded shotgun pellets. The highest proportion of birds carrying pellets was recorded in the sample of female Common Eider captured on nests in Labrador, followed by female eiders nesting in Newfoundland, Quebec and Nova Scotia and migrant Canada Geese in spring in Prince Edward Island.

**URL:** <Go to ISI>://BCI200400235984

**Reference Type:**  Journal Article

**Record Number:** 253

**Author:** P. W. Hicklin and W. R. Barrow

**Year:** 2008

**Title:** Wintering Harlequin Ducks on the Wolves Archipelago, Bay of Fundy

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 130-132

**Short Title:** Wintering Harlequin Ducks on the Wolves Archipelago, Bay of Fundy

**Accession Number:** BCI:BCI200900160424

**Keywords:** Harlequin duck; Histrionicus histrionicus; Nonbreeding Seasons; Abundance, Distribution, and Trends;

**Abstract:** Between November 1994 and November 1995, regular boat surveys for Harlequin Ducks (Histrionicus histrionicus) were conducted on The Wolves archipelago in New Brunswick, Bay of Fundy. The birds arrived in early November and departed by mid-May, reaching a peak of 38 birds in March. Sex ratios tended to be close to unity, consistent with observations in Maine in the mid-1990s. Juvenile age ratios were noticeably higher than those observed at other wintering sites, suggesting that the juvenile birds may prefer The Wolves archipelago as a wintering site. Overall, these surveys confirm the importance of The Wolves archipelago as a non-breeding area for this species.

**URL:** <Go to ISI>://BCI200900160424

**Reference Type:**  Journal Article

**Record Number:** 2162

**Author:** C. H. Hilde, C. Pelabon, L. Guery, G. W. Gabrielsen and S. Descamps

**Year:** 2016

**Title:** Mind the wind: microclimate effects on incubation effort of an arctic seabird

**Journal:** Ecology and Evolution

**Volume:** 6

**Issue:** 7

**Pages:** 1914-1921

**Date:** Apr

**Short Title:** Mind the wind: microclimate effects on incubation effort of an arctic seabird

**ISSN:** 2045-7758

**DOI:** 10.1002/ece3.1988

**Accession Number:** WOS:000374052000002

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** The energetic costs of reproduction in birds strongly depend on the climate experienced during incubation. Climate change and increasing frequency of extreme weather events may severely affect these costs, especially for species incubating in extreme environments. In this 3-year study, we used an experimental approach to investigate the effects of microclimate and nest shelter on the incubation effort of female common eiders (Somateria mollissima) in a wild Arctic population. We added artificial shelters to a random selection of nesting females, and compared incubation effort, measured as body mass loss during incubation, between females with and without shelter. Nonsheltered females had a higher incubation effort than females with artificial shelters. In nonsheltered females, higher wind speeds increased the incubation effort, while artificially sheltered females experienced no effect of wind. Although increasing ambient temperatures tended to decrease incubation effort, this effect was negligible in the absence of wind. Humidity had no marked effect on incubation effort. This study clearly displays the direct effect of a climatic variable on an important aspect of avian life-history. By showing that increasing wind speed counteracts the energetic benefits of a rising ambient temperature, we were able to demonstrate that a climatic variable other than temperature may also affect wild populations and need to be taken into account when predicting the effects of climate change.

**Notes:** Hilde, Christoffer Hoyvik Pelabon, Christophe Guery, Lorelei Gabrielsen, Geir Wing Descamps, Sebastien

**URL:** <Go to ISI>://WOS:000374052000002

**Reference Type:**  Journal Article

**Record Number:** 1473

**Author:** G. Hilgerloh and D. Pfeifer

**Year:** 2002

**Title:** Size selection and competition for mussels, Mytilus edulis, by oystercatchers, Haematopus ostralegus, herring gulls, Larus argentatus, and common eiders, Somateria mollissima

**Journal:** Ophelia

**Volume:** 56

**Issue:** 1

**Pages:** 43-54

**Date:** June, 2002

**Short Title:** Size selection and competition for mussels, Mytilus edulis, by oystercatchers, Haematopus ostralegus, herring gulls, Larus argentatus, and common eiders, Somateria mollissima

**Accession Number:** BCI:BCI200200447828

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** Investigations on size selection of blue mussels, Mytilus edulis, and exploitation competition by ventral hammering oystercatchers, Haematopus ostralegus, herring gulls, Larus argentatus, and common eiders, Somateria mollissima, were carried out on various blue mussel beds on the tidal flats of Spiekeroog (Niedersachsen/Germany). The size-class was considered to be the ideal one, which would be selected if all size-classes were available. On one mussel bed the mussel sizes selected by oystercatchers were the most abundant mussel sizes, the median being 51 mm. It was concluded that the most abundant size-class corresponded to the ideal size-class which was much bigger than predicted for ventral hammering oystercatchers. If all mussels available were smaller than the ideal size, they selected the largest ones. Unlike oystercatchers, eiders did not select the largest mussels present when they were all smaller than the ideal size. Instead, they selected mussels that were only slightly longer than the median of the available mussels. As eiders dive for several mussels when they are feeding on small mussels, they are time-restricted and less selective than if diving for single large mussels. For herring gulls, the ideal mussel size seemed to be 20 mm. Mussel sizes selected by different bird species on the same mussel bed differed significantly. Each species chose other size-classes if the ideal size was not available. The species never competed for the same size-class on a mussel bed.

**URL:** <Go to ISI>://BCI200200447828

**Reference Type:**  Journal Article

**Record Number:** 14

**Author:** N. J. Hill, J. Y. Takekawa, C. J. Cardona, J. T. Ackerman, A. K. Schultz, K. A. Spragens and W. M. Boyce

**Year:** 2010

**Title:** Waterfowl Ecology and Avian Influenza in California: Do Host Traits Inform Us About Viral Occurrence?

**Journal:** Avian Diseases

**Volume:** 54

**Issue:** 1, Suppl. S

**Pages:** 426-432

**Date:** Mar 2010

**Short Title:** Waterfowl Ecology and Avian Influenza in California: Do Host Traits Inform Us About Viral Occurrence?

**Accession Number:** BCI:BCI201000310168

**Keywords:** Sea Ducks - General; Disease; Nonbreeding Seasons;

**Abstract:** We examined whether host traits influenced the occurrence of avian influenza virus (AIV) in Anatidae (ducks, geese, swans) at wintering sites in California's Central Valley. In total, 3487 individuals were sampled at Sacramento National Wildlife Refuge and Conaway Ranch Duck Club during the hunting season of 2007-08. Of the 19 Anatidae species sampled, prevalence was highest in the northern shoveler (5.09%), followed by the ring-necked duck (2.63%), American wigeon (2.57%), bufflehead (2.50%), greater white-fronted goose (2.44%), and cinnamon teal (1.72%). Among host traits, density of lamellae (filtering plates) of dabbling ducks was significantly associated with AIV prevalence and the number of subtypes shed by the host, suggesting that feeding methods may influence exposure to viral particles.

**URL:** <Go to ISI>://BCI201000310168

**Reference Type:**  Journal Article

**Record Number:** 135

**Author:** W. Hiller

**Year:** 1997

**Title:** Waterfowl dynamics at Lake Tegernsee (upper Bavaria) from 1973 to 1997

**Journal:** Ornithologischer Anzeiger

**Volume:** 36

**Issue:** 2-3

**Pages:** 143-158

**Date:** Sept., 1997

**Short Title:** Waterfowl dynamics at Lake Tegernsee (upper Bavaria) from 1973 to 1997

**Accession Number:** BCI:BCI199800003826

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Abundance, Distribution, and Trends;

**Abstract:** At Lake Tegernsee, yearly numbers per counting period changed from 6900 individuals in 1973/74 to 11500 in 1990/91 and 6300 in 1996/97. The most important local reason for the varying numbers is the change in water quality. The decrease in numbers of the more adapted species (Mute Swan, Mallard, Coot) is due to the improvement of the sewage situation, together with the nutrient deposition and a "no feeding" campaign. However, mudfauna feeders (Tufted Duck, Pochard, Goldeneye) have increased since a stronger reproduction of Zebra Mussel Dreissena polymorpha at Lake Tegernsee in 1980. A considerable increase is to be noted with species catching fish (Great Crested Grebe, Red-necked Grebe, Black-necked Grebe, Goosander, Cormorant). There are enough small fish suitable for food and because of a higher visibility in the water they are easy to reach. The monthly distribution of the individuals shows that Lake Tegernsee is a stretch of water used by waterfowl especially for resting and spending the winter. The take rarely freezes and if it does so with delay and only for a short time. Setting up six quiet zones since 1985 seems to have had an extremely positive effect to the Great Crested Grebe as a breeding bird. Because of various leisure activities in summer, the number of other breeding waterfowl is relatively small.

**URL:** <Go to ISI>://BCI199800003826

**Reference Type:**  Journal Article

**Record Number:** 1878

**Author:** M. Hilli-Lukkarinen, M. Kuitunen and J. Suhonen

**Year:** 2011

**Title:** The effect of changes in land use on waterfowl species turnover in Finnish boreal lakes

**Journal:** Ornis Fennica

**Volume:** 88

**Issue:** 4

**Pages:** 185-194

**Short Title:** The effect of changes in land use on waterfowl species turnover in Finnish boreal lakes

**ISSN:** 0030-5685

**Accession Number:** WOS:000298893000001

**Keywords:** Common Goldeneye; bucephala clangula; habitat; Breeding Season

**Notes:** Times Cited: 1

Hilli-Lukkarinen, Milla Kuitunen, Markku Suhonen, Jukka

1

**URL:** <Go to ISI>://WOS:000298893000001

**Reference Type:**  Journal Article

**Record Number:** 94

**Author:** J. E. Hines, M. F. Kay and M. O. Wiebe

**Year:** 2003

**Title:** Aerial surveys of Greater White-fronted Geese Anser albifrons frontalis and other waterfowl in the Rasmussen Lowlands of the Central Canadian Arctic

**Journal:** Wildfowl

**Volume:** 54

**Pages:** 185-201

**Short Title:** Aerial surveys of Greater White-fronted Geese Anser albifrons frontalis and other waterfowl in the Rasmussen Lowlands of the Central Canadian Arctic

**Accession Number:** BCI:BCI200400435141

**Keywords:** Sea Ducks - General; Long-tailed Duck; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Helicopter surveys were carried out in June 1994-95 to determine the numbers and distribution of Greater White-fronted Geese Anser albifrons frontalis and other waterfowl in the Rasmussen Lowlands of the Central Canadian Arctic. The results provide information needed for the management of Greater White-fronted Geese as well as for evaluating the biological importance of the Rasmussen Lowlands as a potential protected area. Estimated numbers of waterfowl in the 6,265km2 survey area were 42,041 Lesser Snow Geese Anser caerulescens caerulescens, 23,516 Greater White-fronted Geese, 13,690 King Eiders Somateria spectabilis, 6,412 Canada Geese Branta canadensis hutchinsii, 5,427 Long-tailed Ducks Clangula hyemalis and 3,822 Tundra Swans Cygnus columbianus. Smaller numbers of several other species of aquatic and terrestrial birds were observed and minimum population estimates are reported for those species as well. Numbers of Lesser Snow, Greater White-fronted and Canada Geese have increased substantially in the Rasmussen Lowlands since the mid-1970s, but King Eiders and Long-tailed Ducks have declined markedly. The results support previous findings that the Rasmussen Lowlands is a critical breeding and summer area for Greater White-fronted Geese and other arctic-nesting waterfowl, and further strengthen the recommendations that this site should be protected.

**URL:** <Go to ISI>://BCI200400435141

**Reference Type:**  Journal Article

**Record Number:** 1472

**Author:** J. M. Hipfner, H. G. Gilchrist, A. J. Gaston and D. K. Cairns

**Year:** 2002

**Title:** Status of Common Eiders, Somateria mollissima, nesting in the Digges Sound region, Nunavut

**Journal:** Canadian Field-Naturalist

**Volume:** 116

**Issue:** 1

**Pages:** 22-25

**Date:** January-March 2002

**Short Title:** Status of Common Eiders, Somateria mollissima, nesting in the Digges Sound region, Nunavut

**Accession Number:** BCI:BCI200300093705

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** There is little information available on status of Common Eider, Somateria mollissima, populations nesting in Arctic Canada. We surveyed Common Eiders in the Digges Sound region, Nunavut, on 19-20 July 1999, for comparison with similar surveys in 1980-1983. On six islands for which data were available in both periods, there were 4-5 times as many nests in 1999 as in the early 1980s. The mean clutch size late in incubation in 1999 (3.3 eggs per nest) was similar to that in 1983 (3.2 eggs), but lower than in 1982 (3.9 eggs); timing of hatching was similar in the two periods. All three females caught during incubation were of the subspecies S. m. borealis. In contrast to Common Eiders S. m. sedentaria nesting in the Belcher Islands, Common Eiders nesting in the Digges Sound region appear to be faring well.

**URL:** <Go to ISI>://BCI200300093705

**Reference Type:**  Journal Article

**Record Number:** 2163

**Author:** K. A. Hobson, K. Jaatinen and M. Ost

**Year:** 2015

**Title:** Differential contributions of endogenous and exogenous nutrients to egg components in wild Baltic Common Eiders (Somateria mollissima): A test of alternative stable isotope approaches

**Journal:** Auk

**Volume:** 132

**Issue:** 3

**Pages:** 624-633

**Date:** Jul

**Short Title:** Differential contributions of endogenous and exogenous nutrients to egg components in wild Baltic Common Eiders (Somateria mollissima): A test of alternative stable isotope approaches

**ISSN:** 0004-8038

**DOI:** 10.1642/auk-14-294.1

**Accession Number:** WOS:000358289000011

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Energetics and Nutrition

**Abstract:** The relative importance of nutrients derived from feeding on breeding vs. nonbreeding grounds to the formation of eggs is crucial for predicting how the breeding success of migrating birds responds to changes in food availability during any part of their annual cycle. Eiders have been considered a classical capital breeder, but this assumption has rarely been tested. The measurement of naturally occurring stable isotopes in egg components, together with those in endogenous and exogenous nutrient endpoints, allow the estimation of the relative sources of nutrients to eggs, but these mixing models rely critically on appropriate isotopic discrimination factors that link egg isotope values with their source. A recent captive study using Spectacled Eiders (Somateria fischeri) provided estimates of these isotopic discrimination factors for income breeding. We applied these discrimination factors for investigating nutrient allocation strategies in Common Eiders (Somateria mollisima) breeding in the northern Baltic (Tvarminne, Finland) and wintering in Danish waters, sourced during 2009-2012. Our overall estimates of protein sources using isotopic mixing models were mixed for egg yolk (median: 44.5-56.5% endogenous) and overwhelmingly exogenous for egg albumen (0.4-0.7%). We tested our conclusions also with a single (delta N-15) model and with a more parsimonious delta C-13 discrimination factor between diet and egg albumen, and both supported little to no endogenous reserves being used for egg albumen. A strong positive correlation between egg lipid delta C-13 and lipid-free yolk delta C-13 suggests similar metabolic pathways between diet sources and these egg macromolecules. The applicability of isotope discrimination factors used in nutrient allocation studies derived from captive populations needs to be tested in wild populations. Our results support the idea that potential food limitation not only at the wintering areas, but also at the breeding grounds, can limit breeding success of Baltic Common Eiders, which are currently declining.

**Notes:** Hobson, Keith A. Jaatinen, Kim Ost, Markus

**URL:** <Go to ISI>://WOS:000358289000011

**Reference Type:**  Journal Article

**Record Number:** 385

**Author:** K. A. Hobson, J. E. Thompson, M. R. Evans and S. Boyd

**Year:** 2005

**Title:** Tracing nutrient allocation to reproduction in Barrow's goldeneye

**Journal:** Journal of Wildlife Management

**Volume:** 69

**Issue:** 3

**Pages:** 1221-1228

**Date:** Jul 2005

**Short Title:** Tracing nutrient allocation to reproduction in Barrow's goldeneye

**Accession Number:** BCI:BCI200600097377

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Energetics and Nutrition; Breeding Season; Nonbreeding Seasons;

**Abstract:** Naturally occurring stable isotopes in foodwebs can be used to determine the relative contributions of endogenous and exogenous nutrients to avian eggs in cases where birds move between isotopically distinct biomes or habitats to breed. We measured delta C-13 and delta N-15 values in somatic muscle tissues and eggs of Barrow's goldeneye (Bucephala islandica) together with those isotope values in amphipods from wetlands used by birds breeding on the Chilcotin Plateau in central British Columbia, Canada. Females that had recently arrived on the breeding grounds had muscle tissue isotope values similar to those found in coastal wintering birds and were considerably more enriched in C-13 than were samples from local foodwebs. However, delta N-15 values of amphipods were highly variable among wetlands, resulting in a nondistinct exogenous delta N-15 endpoint: for our dual-isotope mixing model. Therefore, we only used the model based on delta C-13 values to estimate nutrient sources to eggs. In 2000, first-laid eggs were more enriched in both isotopes than fourth- or eighth-laid eggs. Considerable endogenous protein input to egg yolk and albumen was detected for the first laid egg (yolk: range = 0-92.7%, median = 23.7%; albumen: range = 0-78.6%, median = 28.7%) with less endogenous contribution of somatic lipids (first egg: range = 0-100%, median = 4.9%). Using archived tissue samples of muscle and developing ovarian follicles from birds collected in 1993-1994, we found no delta C-13 isotopic evidence for endogenous protein contribution to egg yolk. Our results demonstrate the utility of the stable isotope approach in cases where isotopic endpoints are well established. Barrow's goldeneye showed a mixed strategy of endogenous vs. exogenous nutrient allocation to reproduction that varied by individual females, laying order, and year. We encourage managers to use this approach to quantify nutrient allocations from various biomes to reproduction in waterfowl to better understand the importance of wintering sites to reproduction.

**URL:** <Go to ISI>://BCI200600097377

**Reference Type:**  Journal Article

**Record Number:** 1244

**Author:** J. I. Hodges and W. D. Eldridge

**Year:** 2001

**Title:** Aerial surveys of eiders and other waterbirds on the eastern Arctic coast of Russia

**Journal:** Wildfowl

**Volume:** 52

**Pages:** 127-142

**Short Title:** Aerial surveys of eiders and other waterbirds on the eastern Arctic coast of Russia

**Accession Number:** BCI:BCI200300547803

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Eiders and other waterbirds were surveyed between 1993-1995 along the eastern Arctic coast of Russia by fixed-wing aircraft to obtain baseline information on size and distribution of breeding populations. Population estimates were obtained for segments of the coast stretching from Kolyunchin Bay to the Lena River delta, a distance of 2,340 kms. The Spectacled Eider was the most abundant waterbird (146,245) with 46,276 (32%) recorded on the Indigirka River delta. Steller's Eiders were the second most abundant waterbird (128,760) with 60% recorded from the Indigirka River delta to the Yana River delta. King Eiders numbered 55,800 and were widely distributed. Common Eiders numbered 15,515 and were restricted to the eastern survey area. Population estimates for all waterbirds observed are presented. Numbers presented are not corrected for visibility bias of birds present but not seen. This survey, the first widespread systematic survey of the region, provided new information on Eider distribution and abundance, and provided baseline population data for future monitoring.

**URL:** <Go to ISI>://BCI200300547803

**Reference Type:**  Journal Article

**Record Number:** 1181

**Author:** K. Hodson and M. Grimble

**Year:** 1970

**Title:** Parasites from Common Goldeneye Greater Scaup and Oldsquaw Collected on Boundary Bay British-Columbia February 1970

**Journal:** Blue Jay

**Volume:** 28

**Issue:** 3

**Pages:** 125-126

**Short Title:** Parasites from Common Goldeneye Greater Scaup and Oldsquaw Collected on Boundary Bay British-Columbia February 1970

**Accession Number:** BCI:BCI197107000516

**Keywords:** Common Goldeneye; Bucephala clangula; Long-tailed Duck; Clangula hyemalis; Parasites; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197107000516

**Reference Type:**  Journal Article

**Record Number:** 1020

**Author:** J. G. Hoff

**Year:** 1977

**Title:** Slipper Shells a Major Food Item for White-Winged Scoters

**Journal:** Wilson Bulletin

**Volume:** 89

**Issue:** 2

**Pages:** 331

**Short Title:** Slipper Shells a Major Food Item for White-Winged Scoters

**Accession Number:** BCI:BCI197713083919

**Keywords:** White-winged Scoter; Melanitta fusca; Trophic Interactions;

**URL:** <Go to ISI>://BCI197713083919

**Reference Type:**  Journal Article

**Record Number:** 1071

**Author:** D. J. Hoffman, H. M. Ohlendorf, C. M. Marn and G. W. Pendleton

**Year:** 1998

**Title:** Association of mercury and selenium with altered glutathione metabolism and oxidative stress in diving ducks from the San Francisco Bay region, USA

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 17

**Issue:** 2

**Pages:** 167-172

**Date:** Feb., 1998

**Short Title:** Association of mercury and selenium with altered glutathione metabolism and oxidative stress in diving ducks from the San Francisco Bay region, USA

**Accession Number:** BCI:BCI199800128954

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Adult male greater scaup (Aythya marila), surf scoters (Melanitta perspicillata), and ruddy ducks (Oxyura jamaicensis) were collected from Suisun Bay and coastal Tomales Bay in the greater San Francisco Bay area to assess exposure to inorganic contaminants. Hepatic Se concentrations were highest in greater scaup (geometric mean = 67 ppm dry weight) and surf scoters (119 ppm) in Suisun Bay, whereas hepatic Hg was highest (19 ppm) in greater scaup and surf scoters from Tomales Bay. Hepatic Se and Hg were lower in ruddy ducks and did not differ between locations. Hepatic supernatants were assayed for enzymes related to glutathione metabolism and antioxidant activity, including glucose-6-phosphate dehydrogenase (G-6-PDH), glutathione peroxidase (GSH peroxidase), glutathione reductase (GSSG reductase), and glutathione-S-transferase (GSH transferase). Glutathione peroxidase activity was higher in surf scoters and ruddy ducks, and G-6-PDH was higher in greater scaup and surf scoters from Suisun Bay than Tomales Bay. Glutathione reductase (GSSG) was higher in SS from Suisun Bay. The ratio of oxidized glutathione (GSSG) to reduced glutathione (GSH) was greater in all species from Tomales Bay. The following significant relationships were found in one or more species with increasing hepatic Hg concentration: lower body, liver, and heart weights; decreased hepatic GSH concentration and G-6-PDH and GSH peroxidase activities; increased ratio of GSSG to GSH; and increased GSSG reductase activity. With increasing hepatic Se concentration, GSH peroxidase increased, but GSH decreased. It is concluded that measurement of associated enzymes in conjunction with thiol status may be a useful bioindicator to discriminate between Hg and Se effects. Concentrations of Hg and Se and the above variables affected have been associated with adverse effects on reproduction and neurological function in experimental studies with mallards.

**URL:** <Go to ISI>://BCI199800128954

**Reference Type:**  Journal Article

**Record Number:** 931

**Author:** W. Hoffman and G. T. Bancroft

**Year:** 1984

**Title:** Molt in Vagrant Black Scoters Melanitta-Nigra Wintering in Peninsular Florida USA

**Journal:** Wilson Bulletin

**Volume:** 96

**Issue:** 3

**Pages:** 499-504

**Short Title:** Molt in Vagrant Black Scoters Melanitta-Nigra Wintering in Peninsular Florida USA

**Accession Number:** BCI:BCI198528046413

**Keywords:** Black Scoter; Melanitta nigra; Molt; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI198528046413

**Reference Type:**  Journal Article

**Record Number:** 1879

**Author:** D. Hogan, D. Esler and J. E. Thompson

**Year:** 2013

**Title:** DURATION AND PHENOLOGY OF REMIGIAL MOLT OF BARROW'S GOLDENEYE

**Journal:** Condor

**Volume:** 115

**Issue:** 4

**Pages:** 762-768

**Date:** Nov

**Short Title:** DURATION AND PHENOLOGY OF REMIGIAL MOLT OF BARROW'S GOLDENEYE

**ISSN:** 0010-5422

**DOI:** 10.1525/cond.2013.120175

**Accession Number:** WOS:000328295800007

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Molt; Nonbreeding Seasons

**Notes:** Times Cited: 0

Hogan, Danica Esler, Daniel Thompson, Jonathan E.

0

**URL:** <Go to ISI>://WOS:000328295800007

**Reference Type:**  Journal Article

**Record Number:** 1880

**Author:** D. Hogan, D. Esler and J. E. Thompson

**Year:** 2013

**Title:** VARIATION IN BODY MASS AND FORAGING EFFORT OF BARROW'S GOLDENEYES (BUCEPHALA ISLANDICA) DURING REMIGIAL MOLT

**Journal:** Auk

**Volume:** 130

**Issue:** 2

**Pages:** 313-322

**Date:** Apr

**Short Title:** VARIATION IN BODY MASS AND FORAGING EFFORT OF BARROW'S GOLDENEYES (BUCEPHALA ISLANDICA) DURING REMIGIAL MOLT

**ISSN:** 0004-8038

**DOI:** 10.1525/auk.2013.12048

**Accession Number:** WOS:000319895900013

**Keywords:** Barrow's Goldeneye; Bucephala islandica; energetics and Nutrition; Behavior; Molt; Nonbreeding Seasons

**Notes:** Times Cited: 1

Hogan, Danica Esler, Daniel Thompson, Jonathan E.

1

**URL:** <Go to ISI>://WOS:000319895900013

**Reference Type:**  Journal Article

**Record Number:** 1881

**Author:** D. Hogan, J. E. Thompson and D. Esler

**Year:** 2013

**Title:** Survival of Barrow's goldeneyes during remigial molt and fall staging

**Journal:** Journal of Wildlife Management

**Volume:** 77

**Issue:** 4

**Pages:** 701-706

**Date:** May

**Short Title:** Survival of Barrow's goldeneyes during remigial molt and fall staging

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.507

**Accession Number:** WOS:000318028100006

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Survival; Molt; Nonbreeding Seasons

**Notes:** Times Cited: 2

Hogan, Danica Thompson, Jonathan E. Esler, Daniel

2

**URL:** <Go to ISI>://WOS:000318028100006

**Reference Type:**  Journal Article

**Record Number:** 1882

**Author:** D. Hogan, J. E. Thompson, D. Esler and W. S. Boyd

**Year:** 2011

**Title:** Discovery of Important Postbreeding Sites for Barrow's Goldeneye in the Boreal Transition Zone of Alberta

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 3

**Pages:** 261-268

**Date:** Sep

**Short Title:** Discovery of Important Postbreeding Sites for Barrow's Goldeneye in the Boreal Transition Zone of Alberta

**ISSN:** 1524-4695

**Accession Number:** WOS:000294592900001

**Keywords:** Barrow's Goldeneye; Bucephala islandica; habitat; molt; Abundance, Distribution, and Trends; Nonbreeding Seasons; SDJV funded

**Notes:** Times Cited: 4

Hogan, Danica Thompson, Jonathan E. Esler, Daniel Boyd, W. Sean

4

**URL:** <Go to ISI>://WOS:000294592900001

**Reference Type:**  Journal Article

**Record Number:** 1455

**Author:** O. Hogstad, T. Nygard, P. Gatzschmann, S. Lierhagen and P. G. Thingstad

**Year:** 2003

**Title:** Bird skins in museum collections: Are they suitable as indicators of environmental metal load after conservation procedures?

**Journal:** Environmental Monitoring and Assessment

**Volume:** 87

**Issue:** 1

**Pages:** 47-56

**Date:** September 2003

**Short Title:** Bird skins in museum collections: Are they suitable as indicators of environmental metal load after conservation procedures?

**Accession Number:** BCI:BCI200300408063

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Techniques;

**Abstract:** To find out whether modern conservation treatments alter the level of metals in feathers, we analysed the content of 10 metals in feathers before and after skins were washed with detergent and treated with Eulan U-33 (a commonly used preservative at museums). Feathers of 31 birds of Goshawk Accipiter gentilis, Eagle Owl Bubo bubo, Feral Pigeon Columba livia domest and Common Eider Somateria mollissima were analysed. We found that in most cases metals were partly washed out of the feathers, but the effects were related to species and type of feather. The value of bird skins as indicators of environmental metal load is therefore affected by this treatment. It is recommended that the conservation techniques used at museums should be reconsidered if skins are intended for specimen banking for future reference in environmental monitoring schemes and research.

**URL:** <Go to ISI>://BCI200300408063

**Reference Type:**  Journal Article

**Record Number:** 1220

**Author:** S. Hogstrom

**Year:** 1977

**Title:** Winter Behavior of the Stellers Eider Polysticta-Stelleri

**Journal:** Var Fagelvarld

**Volume:** 36

**Issue:** 3/4

**Pages:** 250-259

**Short Title:** Winter Behavior of the Stellers Eider Polysticta-Stelleri

**Accession Number:** BCI:BCI197814047513

**Keywords:** Steller's eider; Polysticta stelleri; Behavior; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197814047513

**Reference Type:**  Journal Article

**Record Number:** 1796

**Author:** E. O. Hohn

**Year:** 1957

**Title:** Observations on display and other forms of behaviour of certain Arctic birds

**Journal:** Auk

**Volume:** 74

**Issue:** (2)

**Pages:** 203-214

**Short Title:** Observations on display and other forms of behaviour of certain Arctic birds

**Accession Number:** BCI:BCI19573100037035

**Keywords:** King Eider; Somateria spectabilis; Behavior; Breeding Season;

**Abstract:** Observations based on a 2-1/2-month stay on Bank's Island, Canadian Arctic. Descriptions of behavior include coitus in Lesser Snow Goose (Chen hyperborea), and courtship in King Eider (Semateria spectabilis), Little Brown Crane (Grus canadensis), Baird's Sandpiper (Erolia bairdii), Buff-Breasted Sandpiper (Tryrgites subruficollis), Sanderling (Crocethia alba). Simple behavior tests show e.g. that the male Rock Ptarmigan (Lagopus mutus) displays to the corpse of a female just shot. An incubating Black-bellied Plover (Squatarola squatarola) with an incubation period of 24 days, when its clutch was displaced was more attracted to nest scrape than to eggs and when immediate surroundings were changed seemed to locate scrape by its visual bearings of distant objects. || ABSTRACT AUTHORS: E. O. Hohn

**URL:** <Go to ISI>://BCI19573100037035

**Reference Type:**  Journal Article

**Record Number:** 1515

**Author:** T. Hollmen, J. C. Franson, D. E. Docherty, M. Kilpi, M. Hario, L. H. Creekmore and M. R. Petersen

**Year:** 2000

**Title:** Infectious bursal disease virus antibodies in Eider ducks and Herring Gulls

**Journal:** Condor

**Volume:** 102

**Issue:** 3

**Pages:** 688-691

**Date:** August, 2000

**Short Title:** Infectious bursal disease virus antibodies in Eider ducks and Herring Gulls

**Accession Number:** BCI:BCI200000448443

**Keywords:** Spectacled Eider; Somateria fischeri; Common Eider; Somateria mollissima; Disease; Breeding Season;

**Abstract:** We measured antibodies to infectious bursal disease virus (IBDV) in blood of nesting Common Eider (Somateria mollissima) females and immature Herring Gulls (Larus argentatus) in the Baltic Sea, and in blood of Spectacled Eider (Somateria fischeri) females nesting in a remote area of western Alaska. Positive (gtoreq 1:16) IBDV titers occurred in 75% of the eiders and 45% of the Herring Gull chicks. In eiders, the prevalence of positive titers differed among locations. We found no evidence that IBDV exposure impaired the immune function of Herring Gull chicks, based on their response to inoculation of sheep red blood cells. We suggest that eider ducks and Herring Gulls have been exposed to IBDV, even in locations where contact with poultry is unlikely. The presence of this virus in wild bird populations is of concern because it causes mortality of up to 30% in susceptible poultry.

**URL:** <Go to ISI>://BCI200000448443

**Reference Type:**  Journal Article

**Record Number:** 1495

**Author:** T. Hollmen, J. C. Franson, M. Hario, S. Sankari, M. Kilpi and K. Lindstrom

**Year:** 2001

**Title:** Use of serum biochemistry to evaluate nutritional status and health of incubating common eiders (Somateria mollissima) in Finland

**Journal:** Physiological and Biochemical Zoology

**Volume:** 74

**Issue:** 3

**Pages:** 333-342

**Date:** May-June, 2001

**Short Title:** Use of serum biochemistry to evaluate nutritional status and health of incubating common eiders (Somateria mollissima) in Finland

**Accession Number:** BCI:BCI200100323893

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** During 1997-1999, we collected serum samples from 156 common eider (Somateria mollissima) females incubating eggs in the Finnish archipelago of the Baltic Sea. We used serum chemistry profiles to evaluate metabolic changes in eiders during incubation and to compare the health and nutritional status of birds nesting at a breeding area where the eider population has declined by over 50% during the past decade, with bird, nesting at two areas with stable populations. Several change, in serum chemistries were observed during incubation, including (1) decreases in serum glucose, total protein, albumin beta-globulin, and gamma-globulin concentrations and (2) increases in serum uric acid, creatine kinase, and beta-hydroxybutyrate concentrations. However, these changes were not consistent throughout the 3-yr period, suggesting differences among years in the rate of carbohydrate, lipid, and protein utilization during incubation. The mean serum concentrations of free fatty acids, glycerol, and albumin were lowest and the serum alpha- and gamma-globulin levels were highest in the area where the eider population has declined, suggesting a role for nutrition and diseases in the population dynamics of Baltic eiders.

**URL:** <Go to ISI>://BCI200100323893

**Reference Type:**  Journal Article

**Record Number:** 1471

**Author:** T. Hollmen, J. C. Franson, M. Kilpi, D. E. Docherty, W. R. Hansen and M. Hario

**Year:** 2002

**Title:** Isolation and characterization of a reovirus from common eiders (Somateria mollissima) from Finland

**Journal:** Avian Diseases

**Volume:** 46

**Issue:** 2

**Pages:** 478-484

**Date:** April-June, 2002

**Short Title:** Isolation and characterization of a reovirus from common eiders (Somateria mollissima) from Finland

**Accession Number:** BCI:BCI200200428379

**Keywords:** Common Eider; Somateria mollissima; Disease; Breeding Season;

**Abstract:** Samples of brain, intestine, liver, lung, spleen, and bursa of Fabricius were collected from five common eider (Somateria mollissima) duckling carcasses during a die-off in the western Gulf of Finland (59degree50'N, 23degree15'E) in June 1996. No viral activity was observed in specific-pathogen-free chicken embryos inoculated with tissue suspensions, but samples of bursa of Fabricius from three birds were positive when inoculated into Muscovy duck (Cairina moschata) embryo fibroblasts. The isolates were characterized as nonenveloped RNA viruses and possessed several characteristics of the genus Orthoreovirus. Virus particles were icosahedral with a mean diameter of 72 nm and were stable at pH 3.0; their genome was separated into 10 segments by polyacrylamide gel electrophoresis. Mallard (Anas platyrhynchos) ducklings experimentally infected with the eider reovirus showed elevated serum activities of aspartate aminotransferase, creatine kinase, and lactate dehydrogenase enzymes and focal hemorrhages in the liver, spleen, and bursa of Fabricius. During 1997-99, the prevalence of neutralizing antibodies to the isolated virus ranged from 0 to 86% in 302 serum samples collected from incubating eider hens at three nesting areas along coastal Finland. The highest seroprevalence was found in Hanko in 1999, just weeks before reports of an uninvestigated mortality event resulting in the death of an estimated 98% of ducklings at that location. These findings raise the question of potential involvement of the virus in poor duckling survival and eider population declines observed in several breeding areas along coastal Finland since the mid-1980s.

**URL:** <Go to ISI>://BCI200200428379

**Reference Type:**  Journal Article

**Record Number:** 1542

**Author:** T. Hollmen, J. C. Franson, R. H. Poppenga, M. Hario and M. Kilpi

**Year:** 1998

**Title:** Lead poisoning and trace elements in common eiders Somateria mollissima from Finland

**Journal:** Wildlife Biology

**Volume:** 4

**Issue:** 4

**Pages:** 193-203

**Date:** Dec., 1998

**Short Title:** Lead poisoning and trace elements in common eiders Somateria mollissima from Finland

**Accession Number:** BCI:BCI199900036740

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** We collected carcasses of 52 common eider Somateria mollissima adults and ducklings and blood samples from 11 nesting eider hens in the Gulf of Finland near Helsinki in 1994, 1995 and 1996. Samples of liver tissue were analysed for arsenic, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, molybdenum, selenium and zinc. Blood was analysed for lead, mercury and selenium. Most of the 21 adults examined at necropsy were emaciated with empty gizzards, and no ingested shotgun pellets or other metal were found in any of the birds. Three adult females had a combination of lesions and tissue lead residues characteristic of lead poisoning. Two of these birds had acid-fast intranuclear inclusion bodies in renal epithelial cells and high concentrations of lead (73.4 and 73.3 ppm; all liver residues reported on dry weight basis) in their livers. The third was emaciated with a liver lead concentration of 47.9 ppm. An adult male had a liver lead concentration of 81.7 ppm, which is consistent with severe clinical poisoning. Two other adults, one male and one female, had liver lead concentrations of 14.2 and 8.03 ppm, respectively. Lead concentrations in the blood of hens ranged from 0.11 to 0.63 ppm wet weight. Selenium residues of gtoreq60 ppm were found in the livers of five adult males. Selenium concentrations in the blood of hens ranged from 1.18 to 3.39 ppm wet weight. Arsenic concentrations of 27.5-38.5 ppm were detected in the livers of four adult females. Detectable concentrations of selenium, mercury and molybdenum were found more frequently in the livers of adult males arriving on the breeding grounds than in incubating females, while the reverse was true for arsenic, lead and chromium. Mean concentrations of selenium, copper and molybdenum were higher in the livers of arriving males than in the livers of incubating hens, but hens had greater concentrations of iron and magnesium. Concentrations of trace elements were lower in the livers of ducklings than in the livers of adults.

**URL:** <Go to ISI>://BCI199900036740

**Reference Type:**  Journal Article

**Record Number:** 1531

**Author:** T. Hollmen, J. T. Lehtonen, S. Sankari, T. Soveri and M. Hario

**Year:** 1999

**Title:** An experimental study on the effects of polymorphiasis in common eider ducklings

**Journal:** Journal of Wildlife Diseases

**Volume:** 35

**Issue:** 3

**Pages:** 466-473

**Date:** July, 1999

**Short Title:** An experimental study on the effects of polymorphiasis in common eider ducklings

**Accession Number:** BCI:BCI199900382598

**Keywords:** Common Eider; Somateria mollissima; Parasites; Physiology; Breeding Season;

**Abstract:** Eight common eider (Somateria mollissima) ducklings were experimentally infected from 1 June through 13 June, 1995 with acanthocephalans (Polymorphus minutus) by allowing the birds to feed on Gammarus spp. (Gammarus oceanicus, G. salinus, G. zaddachi, and G. lacustris) containing acanthocephalan cystacanths. Uninfected Gammarus spp. were fed to a control group of seven ducklings. No mortality of ducklings occurred during the experiment. However, the infected ducklings gained weight more slowly than the control birds. After the 2 wk study period, the mean serum concentrations of total protein, albumin, beta-globulin, gamma-globulin, fructosamine and creatine kinase were lower in the infected group than in the controls. The mean (+-SE) number of acanthocephalans in the intestine of the infected ducklings was 21 (+-4). The parasites were attached to the mucosa of the posterior small intestine of the infected ducklings with a mixed inflammatory reaction consisting of heterophils and mononuclear lymphocytes surrounding the attachment sites.

**URL:** <Go to ISI>://BCI199900382598

**Reference Type:**  Journal Article

**Record Number:** 1185

**Author:** T. E. Hollmen, C. DebRoy, P. L. Flint, D. E. Safine, J. L. Schamber, A. E. Riddle and K. A. Trust

**Year:** 2011

**Title:** Molecular typing of Escherichia coli strains associated with threatened sea ducks and near-shore marine habitats of south-west Alaska

**Journal:** Environmental Microbiology Reports

**Volume:** 3

**Issue:** 2

**Pages:** 262-269

**Date:** Apr 2011

**Short Title:** Molecular typing of Escherichia coli strains associated with threatened sea ducks and near-shore marine habitats of south-west Alaska

**Accession Number:** BCI:BCI201100204087

**Keywords:** Harlequin duck; Histrionicus histrionicus; Steller's eider; Polysticta stelleri; Disease; Conservation; Nonbreeding Seasons;

**Abstract:** P>In Alaska, sea ducks winter in coastal habitats at remote, non-industrialized areas, as well as in proximity to human communities and industrial activity. We evaluated prevalence and characteristics of Escherichia coli strains in faecal samples of Steller's eiders (Polysticta stelleri; n = 122) and harlequin ducks (Histrionicus histrionicus; n = 21) at an industrialized site and Steller's eiders (n = 48) at a reference site, and compared these strains with those isolated from water samples from near-shore habitats of ducks. The overall prevalence of E. coli was 16% and 67% in Steller's eiders and harlequin ducks, respectively, at the industrialized study site, and 2% in Steller's eiders at the reference site. Based on O and H antigen subtyping and genetic characterization by enterobacterial repetitive intergenic consensus polymerase chain reaction and pulsed-field gel electrophoresis, we found evidence of avian pathogenic E. coli (APEC) strains associated with both species and detected E. coli strains carrying virulence genes associated with mammals in harlequin ducks. Steller's eiders that carried APEC had lower serum total protein and albumin concentrations, providing further evidence of pathogenicity. The genetic profile of two E. coli strains from water matched an isolate from a Steller's eider providing evidence of transmission between near-shore habitats and birds.

**URL:** <Go to ISI>://BCI201100204087

**Reference Type:**  Journal Article

**Record Number:** 1125

**Author:** T. E. Hollmen, J. C. Franson, P. L. Flint, J. B. Grand, R. B. Lanctot, D. E. Docherty and H. M. Wilson

**Year:** 2003

**Title:** An adenovirus linked to mortality and disease in long-tailed ducks (Clangula hyemalis) in Alaska

**Journal:** Avian Diseases

**Volume:** 47

**Issue:** 4

**Pages:** 1434-1440

**Date:** October-December 2003

**Short Title:** An adenovirus linked to mortality and disease in long-tailed ducks (Clangula hyemalis) in Alaska

**Accession Number:** BCI:BCI200400134711

**Keywords:** Long-tailed Duck; Clangula hyemalis; Disease; Survival; Nonbreeding Seasons; SDJV funded

**Abstract:** An adenovirus was isolated from intestinal samples of two long-tailed ducks (Clangula hyemalis) collected during a die-off in the Beaufort Sea off the north coast of Alaska in 2000. The virus was not neutralized by reference antiserum against known group I, II, or III avian adenoviruses and may represent a new serotype. The prevalence of the virus was determined in live-trapped long-tailed ducks at the mortality site and at a reference site 100 km away where no mortality was observed. Prevalence of adenovirus antibodies in serum samples at the mortality site was 86% compared to 10% at the reference site. Furthermore, 50% of cloacal swabs collected at the mortality site and only 7% of swabs from the reference site were positive for adenoviruses. In 2001, no mortality was observed at either of the study areas, and virus prevalence in both serum and cloacal samples was low, providing further evidence that the adenovirus was linked to the mortality event in 2000. The virus was used to infect long-tailed ducks under experimental conditions and resulted in lesions previously described for avian adenovirus infections and similar to those observed in long-tailed duck carcasses from the Beaufort Sea. The status of long-tailed ducks has recently become a concern in Alaska due to precipitous declines in breeding populations there since the mid-1970s. Our findings suggest that the newly isolated adenovirus is a disease agent and source of mortality in long-tailed ducks, and thus could be a contributing factor in population declines.

**URL:** <Go to ISI>://BCI200400134711

**Reference Type:**  Journal Article

**Record Number:** 1454

**Author:** T. E. Hollmen, J. C. Franson, M. Kilpi, D. E. Docherty and V. Myllys

**Year:** 2003

**Title:** An adenovirus associated with intestinal impaction and mortality of male common eiders (Somateria mollissima) in the Baltic Sea

**Journal:** Journal of Wildlife Diseases

**Volume:** 39

**Issue:** 1

**Pages:** 114-120

**Date:** January 2003

**Short Title:** An adenovirus associated with intestinal impaction and mortality of male common eiders (Somateria mollissima) in the Baltic Sea

**Accession Number:** BCI:BCI200300206360

**Keywords:** Common Eider; Somateria mollissima; Disease; Survival;

**Abstract:** We examined 10 common eider (Somateria mollissima) males found dead in 1998 during a die-off in the northern Baltic Sea off the southwestern coast of Finland. We diagnosed impaction of the posterior small intestine with mucosal necrosis as the cause of death in all 10 and isolated adenoviruses from cloacal samples of six birds. The adenovirus isolates were not neutralized by reference antisera to group I, II, or III avian adenoviruses. Cloacal swabs from 22 apparently healthy eider females nesting at the mortality area were negative for viruses. An adenovirus isolated from one of the eiders caused clinical signs of illness and gastrointestinal pathology in experimentally infected mallard (Anas platyrhynchos) ducklings. These findings suggest that the adenovirus contributed to the mortality of common eider males in the Finnish archipelago.

**URL:** <Go to ISI>://BCI200300206360

**Reference Type:**  Book

**Record Number:** 2366

**Author:** T. E. a. J. C. F. Hollmén

**Year:** 2015

**Title:** Infectious diseases, parasites, and biological toxins in sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 97-123

**Short Title:** Infectious diseases, parasites, and biological toxins in sea ducks

**Keywords:** Disease; Parasites

**Abstract:** This chapter addresses disease agents in the broad sense, including viruses, bacteria, fungi, protozoan and helminth parasites, and biological toxins. Some of these agents are known to cause mortality in sea ducks, some are thought to be incidental findings, and the significance of others is yet poorly understood. Although the focus of the chapter is on free-living sea ducks, the study of disease in this taxonomic group has been relatively limited and examples from captive sea ducks and other wild waterfowl are used to illustrate the pathogenicity of certain diseases. Much of the early work in sea ducks consisted of anecdotal and descriptive reports of parasites, but it was soon recognized that diseases such as avian cholera, renal coccidiosis, and intestinal infections with acanthocephalans were causes of mortality in wild populations. More recently, adenoviruses, reoviruses, and the newly emergent Wellfleet Bay virus, for example, also have been linked to die-offs of sea ducks. Declining populations of animals are particularly vulnerable to the threats posed by disease and it is important that we improve our understanding of the significance of disease in sea ducks. To conclude, we offer our recommendations for future directions in this field.

**Reference Type:**  Journal Article

**Record Number:** 105

**Author:** K. J. Holm and A. E. Burger

**Year:** 2002

**Title:** Foraging behavior and resource partitioning by diving birds during winter in areas of strong tidal currents

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 3

**Pages:** 312-325

**Date:** September, 2002

**Short Title:** Foraging behavior and resource partitioning by diving birds during winter in areas of strong tidal currents

**Accession Number:** BCI:BCI200200566830

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Behavior; Nonbreeding Seasons;

**Abstract:** We investigated the distribution and behavior of 21 species of diving birds wintering in tidally active nearshore ocean off southern Vancouver Island, British Columbia, Canada. Using vessel surveys in one site and land-based observations at a second site, we found significant differences in the use of tidally affected water types among and within three foraging guilds (piscivores, plankton feeders and benthic invertebrate predators) and five families (Gaviidae, Podicipedidae, Phalacrocoracidae, Anatidae, Alcidae). The only abundant plankton feeder, Ancient Murrelets (Synthliboramphus antiquus), foraged more frequently than other birds in areas of deeper water (>10 m) with fast tidal flow and turbulence. Their abundance and diving activity were significantly higher at maximum tide flow than at slack tides. Piscivores used both slack water and moderate currents in a wide range of depths but, apart from alcids and Pelagic Cormorants (Phalacrocorax pelagicus), avoided areas of high current and turbulence. Pigeon Guillemots (Cepphus columba) had higher abundance at tide phases with maximum current, and within a channel with strong tidal flow they showed repetitive upstream flights interspersed with downstream diving bouts. Fish-eating mergansers and most diving ducks taking benthic invertebrates foraged in relatively shallow (<10 m) and slack water, and avoided turbulence. Six species representing all three guilds showed changes in the use of depth categories as tides changed between slack and maximum current, and four species changed their behavior in different depth categories. Although there was considerable overlap in foraging niches, the differences in distribution and behavior of guilds, families, and species of diving birds indicate a degree of resource partitioning within tidally-driven water categories during winter.

**URL:** <Go to ISI>://BCI200200566830

**Reference Type:**  Journal Article

**Record Number:** 1884

**Author:** T. E. Holm and L. Haugaard

**Year:** 2013

**Title:** Effects of a Danish action plan on reducing shotgun wounding of Common Eider Somateria mollissima

**Journal:** Bird Study

**Volume:** 60

**Issue:** 1

**Pages:** 131-134

**Date:** Feb

**Short Title:** Effects of a Danish action plan on reducing shotgun wounding of Common Eider Somateria mollissima

**ISSN:** 0006-3657

**DOI:** 10.1080/00063657.2012.748715

**Accession Number:** WOS:000326674300014

**Keywords:** Common eider; Somateria mollissima; Conservation; Nonbreeding Seasons

**Notes:** Times Cited: 0

Holm, Thomas E. Haugaard, Lars

Holm, Thomas Eske /I-7473-2013

Holm, Thomas Eske /0000-0002-9654-2722

0

**URL:** <Go to ISI>://WOS:000326674300014

**Reference Type:**  Journal Article

**Record Number:** 2323

**Author:** S. Holopainen, C. Arzel, L. Dessborn, J. Elmberg, G. Gunnarsson, P. Nummi, H. Poysa and K. Sjoberg

**Year:** 2015

**Title:** Habitat use in ducks breeding in boreal freshwater wetlands: a review

**Journal:** European Journal of Wildlife Research

**Volume:** 61

**Issue:** 3

**Pages:** 339-363

**Date:** Jun

**Short Title:** Habitat use in ducks breeding in boreal freshwater wetlands: a review

**ISSN:** 1612-4642

**DOI:** 10.1007/s10344-015-0921-9

**Accession Number:** WOS:000354195700001

**Keywords:** Common Goldeneye; Barrow’s Goldeneye; White-winged Scoter; Surf Scoter; Hooded Merganser; Common Merganser; Red-breasted Merganser; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Bucephala clangula; Mergus merganser; Mergus serrator; Lophodytes cucullatus; Breeding Season; Habitat

**Abstract:** Breeding habitats strongly influence duck reproduction and survival. The boreal biome harbours a large share of the world's wetlands, which are important breeding sites for several duck species. Based on 98 studies in the peer-reviewed literature, we here synthesize and evaluate which habitat characteristics affect habitat use and reproduction of ducks breeding in boreal freshwater wetlands with respect to (1) species and guild (dabbling, diving and piscivorous ducks) and (2) breeding cycle stage (settling by pairs, nesting and brood rearing). We consider the following aspects related to habitat: wetland morphology and spatial aggregation, water characteristics, habitat structure and vegetation, and biotic interactions. Most of the peer-reviewed studies of duck habitat use in boreal wetlands are from North America and Fennoscandia, while nearly half of the boreal area lacks such studies. Few species dominate research thus far while several others have not been studied at all. Nest site use and success are mainly related to predator avoidance. Food resources and habitat structure are the key characteristics affecting habitat use by duck pairs and broods as well as breeding success, although there are differences between duck guilds. Among the commonly studied variables, there is little evidence that water characteristics affect duck habitat use or survival. The most notable knowledge gaps are found in the effects of anthropogenic activities on habitat use and breeding success of ducks. Because boreal breeding environments are increasingly affected by human activities, we underline the need for future studies combining climate variation with natural and anthropogenic disturbances.

**Notes:** Holopainen, Sari Arzel, Celine Dessborn, Lisa Elmberg, Johan Gunnarsson, Gunnar Nummi, Petri Poysa, Hannu Sjoberg, Kjell

**URL:** <Go to ISI>://WOS:000354195700001

**Reference Type:**  Journal Article

**Record Number:** 1596

**Author:** L. C. M. P. Hontelez, H. M. Van Den Dungen and A. J. Baars

**Year:** 1992

**Title:** Lead and cadmium in birds in the Netherlands: A preliminary survey

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 23

**Issue:** 4

**Pages:** 453-456

**Short Title:** Lead and cadmium in birds in the Netherlands: A preliminary survey

**Accession Number:** BCI:BCI199395011446

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** Three birds species (Buteo buteo, Ardea cinerea, and Somateria mollissima) from the Netherlands were investigated for lead and cadmium concentrations using kidneys, livers and tibiae. A major purpose of this study was to gain insight into the exposure of the birds in the Netherlands to the two heavy metals. Secondly, the use of these birds as biomonitors for environmental pollution was studied. Common eiders contained a higher cadmium load in liver and kidney than buzzards and grey herons. Additionally, they contained a higher lead burden in bone than grey herons. The three bird species, all standing at the end of a different food chain, seem appropriate indicators for environmental contamination with heavy metals.

**URL:** <Go to ISI>://BCI199395011446

**Reference Type:**  Journal Article

**Record Number:** 648

**Author:** E. C. Hopps

**Year:** 2002

**Title:** Information on waterfowl feather characteristics

**Journal:** Transactions of the Illinois State Academy of Science

**Volume:** 95

**Issue:** 3

**Pages:** 229-237

**Short Title:** Information on waterfowl feather characteristics

**Accession Number:** BCI:BCI200200560612

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology;

**Abstract:** Information on feather numbers and weights as well as dietary protein ingestion values for feather synthesis are fundamentally important to taxonomic and nutritional studies of waterfowl. In order to compare species-specific plumage characteristics in waterfowl, ten species of Anatinae (Anas platyrhynchos, Anas strepera, Anas americana, Anas crecca, Anas discors, Aix sponsa, Aythya affinis, Aythya collaris, Aythya americana, and Mergus cucullatus) were collected in the central Illinois River Valley during 1991 and 1992. Variations were found in total feather number, weight and estimated dietary protein requirements between species and sexes. Male and female plumage weight was positively correlated to body mass. Plumage weight was consistently greater in males than females and tended to be related to total body mass but was found not to be significant. Further investigations into waterfowl plumage characteristics and body surface area are recommended in order to elucidate potential physiological, behavioral or habitat related functions of waterfowl plumage.

**URL:** <Go to ISI>://BCI200200560612

**Reference Type:**  Journal Article

**Record Number:** 2006

**Author:** M. Hori and T. Noda

**Year:** 2001

**Title:** Spatio-temporal variation of avian foraging in the rocky intertidal food web

**Journal:** Journal of Animal Ecology

**Volume:** 70

**Issue:** 1

**Pages:** 122-137

**Date:** Jan

**Short Title:** Spatio-temporal variation of avian foraging in the rocky intertidal food web

**DOI:** 10.1046/j.1365-2656.2001.00467.x

**Notes:** Hori, M Noda, T

**Reference Type:**  Journal Article

**Record Number:** 1999

**Author:** M. Hori, T. Noda and S. Nakao

**Year:** 2006

**Title:** Effects of avian grazing on the algal community and small invertebrates in the rocky intertidal zone

**Journal:** Ecological Research

**Volume:** 21

**Issue:** 5

**Pages:** 768-775

**Date:** Sep

**Short Title:** Effects of avian grazing on the algal community and small invertebrates in the rocky intertidal zone

**DOI:** 10.1007/s11284-006-0192-8

**Notes:** Hori, Masakazu Noda, Takashi Nakao, Shigeru

**Reference Type:**  Journal Article

**Record Number:** 580

**Author:** J. P. Hornung and A. L. Foote

**Year:** 2008

**Title:** Comparing dietary preferences of Bufflehead ducklings in Western Canada through gut content and stable isotope analysis

**Journal:** Aquatic Ecology

**Volume:** 42

**Issue:** 1

**Pages:** 61-70

**Date:** Mar 2008

**Short Title:** Comparing dietary preferences of Bufflehead ducklings in Western Canada through gut content and stable isotope analysis

**Accession Number:** BCI:BCI200800173047

**Keywords:** Bufflehead; Bucephala albeola; Trophic Interactions; Breeding Season;

**Abstract:** Aquatic invertebrates are essential for duckling growth and development. We present results on the trophic status and dietary analysis of Bufflehead (Bucephala albeola) ducklings from the boreal breeding grounds of western Canada. We estimated dietary preference by comparing invertebrates found in Bufflehead diets to those identified in standardized dip net samples at their wetland feeding sites. Stable isotope ratios of Bufflehead and their prey were used as a second estimator of trophic position. Bufflehead ducklings preferentially foraged for larval Dytiscidae (predaceous diving beetles; 46% of total dietary biomass), Zygoptera larvae (damselflies; 14%) and non-Dytiscidae adult Coleoptera (5%; mainly Haliplidae). Results from stable isotope analyses supported these results; the separation between primary and secondary invertebrate consumers and ducklings was significant for all possible contrasts when considering nitrogen isotope ratios (Tukey HSD; P < 0.001). We iteratively explored all possible combinations of delta N-15 and delta C-13 data to generate a proportional range over which each food source may contribute to Bufflehead stable isotope signatures; these results suggested larval Zygoptera and larval Dytiscidae figure prominently in diets when accounting for isotope fractionation. The incorporation of prey availability into the metric of dietary preference, as opposed to the tabulation of ingested items alone, reduces the importance of invertebrate groups such as adult Dytiscidae as highlighted in previous studies.

**URL:** <Go to ISI>://BCI200800173047

**Reference Type:**  Journal Article

**Record Number:** 1019

**Author:** C. S. Houston and P. W. Brown

**Year:** 1978

**Title:** Longevity of White-Winged Scoters

**Journal:** Bird-Banding

**Volume:** 49

**Issue:** 2

**Pages:** 186-187

**Short Title:** Longevity of White-Winged Scoters

**Accession Number:** BCI:BCI197916044299

**Keywords:** White-winged Scoter; Melanitta fusca; Survival;

**URL:** <Go to ISI>://BCI197916044299

**Reference Type:**  Journal Article

**Record Number:** 1012

**Author:** C. S. Houston and P. W. Brown

**Year:** 1983

**Title:** Recoveries of Saskatchewan Canada Banded White-Winged Scoters Melanitta-Fusca

**Journal:** Canadian Field-Naturalist

**Volume:** 97

**Issue:** 4

**Pages:** 454-455

**Short Title:** Recoveries of Saskatchewan Canada Banded White-Winged Scoters Melanitta-Fusca

**Accession Number:** BCI:BCI198427029325

**Keywords:** White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Population Delineation; Breeding Season;

**URL:** <Go to ISI>://BCI198427029325

**Reference Type:**  Journal Article

**Record Number:** 1124

**Author:** M. D. Howell, J. B. Grand and P. L. Flint

**Year:** 2003

**Title:** Body molt of male Long-tailed Ducks in the near-shore waters of the north slope, Alaska

**Journal:** Wilson Bulletin

**Volume:** 115

**Issue:** 2

**Pages:** 170-175

**Date:** June 2003

**Short Title:** Body molt of male Long-tailed Ducks in the near-shore waters of the north slope, Alaska

**Accession Number:** BCI:BCI200400114712

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Molt; Nonbreeding Seasons;

**Abstract:** We examined the timing and intensity of body molt in relation to stage of remige growth for postbreeding adult male Long-tailed Ducks (Clangula hyemalis) off the coast of northern Alaska. During this period, remige and rectrix feathers are molted simultaneously with body feathers during the prebasic molt, which results in a period of increased energetic and nutritional demands. We collected birds from late July through mid-August and recorded intensity of molt in eight regions: head and neck, back and rump, greater coverts, lesser coverts, flank and sides, breast, belly, and tail. Using nonlinear regression, we estimated the peak intensity and variation for each region in relation to ninth primary length. We found little evidence of molt in the head and neck region. The greater and lesser coverts, and back and rump reached peak molt intensities earliest and were followed by tail, breast, and belly. Molt intensity in the flank and side region was highly variable and indicated a more prolonged molting pattern in relation to other regions. While body molt occurs simultaneously with wing molt, we found that molt among regions occurred in a staggered pattern. Long-tailed Ducks may employ this staggered molting pattern to minimize the energetic and nutritional requirements of molt.

**URL:** <Go to ISI>://BCI200400114712

**Reference Type:**  Journal Article

**Record Number:** 53

**Author:** M. V. Hoyer, S. K. Notestein, T. K. Frazer and D. E. Canfield, Jr.

**Year:** 2006

**Title:** A comparison between aquatic birds of lakes and coastal rivers in Florida

**Journal:** Hydrobiologia

**Volume:** 567

**Pages:** 5-18

**Date:** Sep 2006

**Short Title:** A comparison between aquatic birds of lakes and coastal rivers in Florida

**Accession Number:** BCI:BCI200600506813

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Aquatic birds were counted on five Gulf coast Florida rivers to determine if these river systems supported densities, biomass and species richness similar to those found on Florida lakes. Forty-two species were identified and for the species that were found on both Florida streams and lakes similar densities and biomass were encountered. As with Florida lakes, stream bird abundance and species richness were higher in winter months than in summer months, a consequence of migratory bird populations. Total bird abundance, biomass per unit of phosphorus, and species richness per unit of area were similar to data collected on Florida lakes. Thus, Florida rivers are capable of supplying sufficient resources to maintain bird densities, biomass and species richness values similar to lakes of equal size and nutrient concentrations and are therefore important habitats for aquatic bird populations. An examination of individual habitat characteristics indicates that water depth was inversely correlated and submersed aquatic vegetation was positively correlated with bird density, biomass and species richness within the river systems. While both habitat characteristics are important they are also inversely related making it difficult to separate the individual significance of each characteristic.

**URL:** <Go to ISI>://BCI200600506813

**Reference Type:**  Journal Article

**Record Number:** 2164

**Author:** S. Huber, N. A. Warner, T. Nygard, M. Remberger, M. Harju, H. T. Uggerud, L. Kaj and L. Hanssen

**Year:** 2015

**Title:** A broad cocktail of environmental pollutants found in eggs of three seabird species from remote colonies in Norway

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 34

**Issue:** 6

**Pages:** 1296-1308

**Date:** Jun

**Short Title:** A broad cocktail of environmental pollutants found in eggs of three seabird species from remote colonies in Norway

**ISSN:** 0730-7268

**DOI:** 10.1002/etc.2956

**Accession Number:** WOS:000355152400012

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** Eggs of 3 seabird species, common eider (Somateria mollisima), European shag (Phalacrocorax aristotelis aristotelis), and European herring gull (Larus argentatus), were surveyed for a broad range of legacy and emerging pollutants to assess chemical mixture exposure profiles of seabirds from the Norwegian marine environment. In total, 201 chemical substances were targeted for analysis ranging from metals, organotin compounds, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and associated metabolites, chlorinated paraffins, chlorinated and nonchlorinated organic pesticides, per- and polyfluoroalkyl substances (PFAS), dechlorane plus, octachlorostyrene, brominated flame retardants (BFRs), organophosphorous compounds, brominated and alkyl phenols, cyclic siloxanes, and phthalates. Of the chemicals targeted, 149 substances were found above the detection limits, with metals dominating the contaminant profile and comprising 60% of the total contaminant load. Polychlorinated biphenyls, pesticides, organophosphorous compounds, and PFAS were the dominant contaminant classes of organic pollutants found within the seabird species, with the highest loads occurring in herring gulls, followed by shag, and common eider. New generation pollutants (e.g., PFAS, organophosphorous compounds, and alkylphenols) were detected at similar or higher concentrations than the legacy persistent organic pollutants (POPs). Time trends of reported concentrations of legacy POPs appear to have decreased in recent decades from the Norwegian coastal environment. Concentrations of detected pollutants do not appear to have a negative effect on seabird population development within the sampling area. Additional stress caused by pollutants, however, may affect seabird health more at the individual level. Environ Toxicol Chem 2015;34:1296-1308. (c) 2015 SETAC

**Notes:** Huber, Sandra Warner, Nicholas A. Nygard, Torgeir Remberger, Mikael Harju, Mikael Uggerud, Hilde T. Kaj, Lennart Hanssen, Linda

**URL:** <Go to ISI>://WOS:000355152400012

**Reference Type:**  Journal Article

**Record Number:** 1092

**Author:** P. S. Humphrey

**Year:** 1957

**Title:** Observations on the diving of the surf scoter (Melanitta perspicillata)

**Journal:** Auk

**Volume:** 74

**Issue:** (3)

**Pages:** 392-394

**Short Title:** Observations on the diving of the surf scoter (Melanitta perspicillata)

**Accession Number:** BCI:BCI19583200003551

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior;

**Abstract:** Scoters can dive in any of the following ways (1) using the feet only, (2) using the feet for propulsion and half-extended motionless wings for "planes or rudders," (3) using both feet and half-extended wings for propulsion. || ABSTRACT AUTHORS: P. S. Humphrey

**URL:** <Go to ISI>://BCI19583200003551

**Reference Type:**  Journal Article

**Record Number:** 1711

**Author:** P. S. Humphrey

**Year:** 1958

**Title:** Diving of a captive common eider

**Journal:** Condor

**Volume:** 60

**Issue:** (6)

**Pages:** 408-410

**Short Title:** Diving of a captive common eider

**Accession Number:** BCI:BCI19593300024543

**Keywords:** Common Eider; Somateria mollissima; Behavior;

**URL:** <Go to ISI>://BCI19593300024543

**Reference Type:**  Journal Article

**Record Number:** 320

**Author:** B. Hunt and R. Ydenberg

**Year:** 2000

**Title:** Harlequins Histrionicus histrionicus in a Rocky Mountain watershed I: Background and general breeding ecology

**Journal:** Wildfowl

**Volume:** 51

**Pages:** 155-168

**Short Title:** Harlequins Histrionicus histrionicus in a Rocky Mountain watershed I: Background and general breeding ecology

**Accession Number:** BCI:BCI200100150320

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Productivity; Breeding Season;

**Abstract:** The Maligne Valley, a watershed draining into the Athabasca River in the Rocky Mountains, in Jasper National Park, Canada, is a breeding area for Harlequin Ducks (Histrionicus histrionicus). Based on peak counts, some 30 - 40 adults enter the valley each spring, arriving in early May along the Athabasca River. Numbers build steadily in the valley until the period of peak flow, and individuals are highly faithful to particular sections of the main watercourse. Feeding is intensive prior to nest initiation. Harlequins use lakes, outlets, rivers, and tributaries in the valley in a variety of ways. Along the Lower Maligne River, a few Harlequin pairs defend territories, but the majority of birds feed in aggregations at major lake outlets and inlets, likely highly productive places. On Maligne Lake birds feed in scattered pairs, generally situated at stream inlets. Females begin nesting in mid-June following peak flow, and males depart the valley shortly thereafter. Nests are placed along both the main course of the Maligne River and along several tributaries, but the upper and lower sections of the Maligne River accounted for 11 of the 14 broods located. Many females move their broods to two large lakes for rearing.

**URL:** <Go to ISI>://BCI200100150320

**Reference Type:**  Journal Article

**Record Number:** 2134

**Author:** J. L. Hurley-Sanders, R. S. Larsen, B. Troan and M. Loomis

**Year:** 2015

**Title:** FUNGAL OSTEOMYELITIS IN TWO BUFFLEHEAD DUCKLINGS (BUCEPHALA ALBEOLA)

**Journal:** Journal of Zoo and Wildlife Medicine

**Volume:** 46

**Issue:** 3

**Pages:** 613-616

**Date:** Sep

**Short Title:** FUNGAL OSTEOMYELITIS IN TWO BUFFLEHEAD DUCKLINGS (BUCEPHALA ALBEOLA)

**ISSN:** 1042-7260

**Accession Number:** WOS:000361049800026

**Keywords:** Bufflehead; Bucephala albeola; Disease

**Abstract:** Over a 25-mo span from a single zoologic collection, two bufflehead ducklings (Bucephala albeola) presented with pelvic limb paresis and were euthanized. On postmortem examination, the first duckling had intralesional fungal hyphae consistent with Aspergillus sp. in the spinal vertebrae and within pulmonary granulomas. In the second duckling, evidence of a thoracic spinal lesion was detected antemortem by using thermographic imaging. At postmortem examination, fungal hyphae consistent with Mucor sp. were found within the vertebrae. Although fungal infections of the respiratory system are commonly reported in waterfowl, infections that involve the spinal cord and vertebrae are unusual. These cases highlight the importance of consideration of axial skeleton fungal disease in neurologic presentations and the use of thermography for noninvasive diagnostic screening.

**Notes:** Hurley-Sanders, Jennifer L. Larsen, R. Scott Troan, Brigid Loomis, Michael

**URL:** <Go to ISI>://WOS:000361049800026

**Reference Type:**  Journal Article

**Record Number:** 587

**Author:** L. D. Igl

**Year:** 2003

**Title:** A probable extralimital post-breeding assembly of Bufflehead Bucephala albeola in southcentral North Dakota, USA, 1994-2002

**Journal:** Wildfowl

**Volume:** 54

**Pages:** 81-93

**Short Title:** A probable extralimital post-breeding assembly of Bufflehead Bucephala albeola in southcentral North Dakota, USA, 1994-2002

**Accession Number:** BCI:BCI200400435134

**Keywords:** Bufflehead; Bucephala albeola; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The Bufflehead Bucephala albeola breeds predominantly in Canada and Alaska (USA). Evidence suggests that the species may have recently expanded its breeding range southward into central and south central North Dakota. This paper presents data on observations of Buffleheads during the breeding season in Kidder County, North Dakota, 1994-2002, and discusses the possibility that the species has not expanded its breeding range but rather has established an extralimital post-breeding staging area south of its typical breeding range.

**URL:** <Go to ISI>://BCI200400435134

**Reference Type:**  Journal Article

**Record Number:** 1886

**Author:** D. T. Iles, R. F. Rockwell, P. Matulonis, G. J. Robertson, K. F. Abraham, J. C. Davies and D. N. Koons

**Year:** 2013

**Title:** Predators, alternative prey and climate influence annual breeding success of a long-lived sea duck

**Journal:** Journal of Animal Ecology

**Volume:** 82

**Issue:** 3

**Pages:** 683-693

**Date:** May

**Short Title:** Predators, alternative prey and climate influence annual breeding success of a long-lived sea duck

**ISSN:** 0021-8790

**DOI:** 10.1111/1365-2656.12038

**Accession Number:** WOS:000317863400019

**Keywords:** Common eider; Somateria mollissima; Population Dynamics; Productivity; Breeding Season; SDJV funded

**Notes:** Times Cited: 2

Iles, David T. Rockwell, Robert F. Matulonis, Paul Robertson, Gregory J. Abraham, Kenneth F. Davies, J. Chris Koons, David. N.

2

**URL:** <Go to ISI>://WOS:000317863400019

**Reference Type:**  Journal Article

**Record Number:** 112

**Author:** L. Imbeau, M. Monkkonen and A. Desrochers

**Year:** 2001

**Title:** Long-term effects of forestry on birds of the eastern Canadian boreal forests: A comparison with Fennoscandia

**Journal:** Conservation Biology

**Volume:** 15

**Issue:** 4

**Pages:** 1151-1162

**Date:** August, 2001

**Short Title:** Long-term effects of forestry on birds of the eastern Canadian boreal forests: A comparison with Fennoscandia

**Accession Number:** BCI:BCI200100398993

**Keywords:** Sea Ducks - General; Conservation; Habitat; Breeding Season;

**Abstract:** Logging is considered the most important threat to species in boreal forests. In contrast to eastern Canada, where most boreal forests remain largely untouched, in Fennoscandia it is possible to assess the cumulative, long-term effects of intensive forestry on wildlife. But harvesting of stands is rapidly changing Canadian boreal forests, which represent an important proportion of the world's boreal forests. We show that Fennoscandia and eastern Canada present striking similarities in terms of forest-age structure, natural-disturbance regime, and structure of bird assemblages, and we provide an assessment of the long-term effects of forestry on eastern Canadian birds of the boreal forest. We used life-history traits from habitat, nesting site, and geographical range to calculate an index of sensitivity to changes induced by modern forestry for boreal species of each region. Tropical migrants commonly found in eastern Canadian boreal forests have life-history traits that are not threat factors in relation to changes caused by modern forestry. Therefore, the general belief that tropical migrants in North America are more sensitive to landscape changes than those in Europe may not hold for species found in the boreal coniferous forests of eastern Canada. Nine Fennoscandian species present high levels of sensitivity, and at least eight eastern Canadian species are of similar concern. In both regions, most of the sensitive species are resident cavity nesters. Given the important similarities between the two regions, the northern expansion of commercial forestry in eastern Canada is likely to result in the significant decline of several resident species, as has occurred in Fennoscandia.

**URL:** <Go to ISI>://BCI200100398993

**Reference Type:**  Journal Article

**Record Number:** 160

**Author:** A. Inarsson and M. L. Mangnusdottir

**Year:** 1993

**Title:** The effect of sediment dredging on the distribution of diving ducks at Lake Myvatn, Iceland

**Journal:** Biological Conservation

**Volume:** 66

**Issue:** 1

**Pages:** 55-60

**Short Title:** The effect of sediment dredging on the distribution of diving ducks at Lake Myvatn, Iceland

**Accession Number:** BCI:BCI199396110257

**Keywords:** Sea Ducks - General; Habitat; Conservation; Breeding Season; Molt; Nonbreeding Seasons;

**Abstract:** Sediment dredging in Lake Myvatn, Iceland, which commenced in 1967, poses a threat to the populations of breeding and moulting waterfowl in the area. Detailed mapping of diving ducks on the lake was carried out in order to evaluate the impact of the dredging. Densities of diving ducks in the dredged area were among the lowest in the lake. Positions of ducks diving for food were mapped in a 4.8-km-2 area in the North Basin of the lake, which included the area disturbed by dredging. In June 1990 relatively few dives were recorded in the dredged area except by red-breasted mergansers Mergus serrator. In August numerous dives were recorded in the dredged area, yet they were significantly fewer than outside the area. The loss of habitat is still small in comparison with fluctuations which occur in the breeding populations, but dredging in areas close to the present dredging activities will have a disproportionately large impact on the waterfowl populations.

**URL:** <Go to ISI>://BCI199396110257

**Reference Type:**  Journal Article

**Record Number:** 349

**Author:** I. R. Inglis, J. Lazarus and R. Torrance

**Year:** 1989

**Title:** The Prenesting Behavior and Time Budget of the Harlequin Duck Histrionicus-Histrionicus

**Journal:** Wildfowl

**Issue:** 40

**Pages:** 55-73

**Short Title:** The Prenesting Behavior and Time Budget of the Harlequin Duck Histrionicus-Histrionicus

**Accession Number:** BCI:BCI199089055068

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Breeding Season;

**Abstract:** We describe the behaviour patterns, time budgets, diurnal rhythms and spacing patterns of the Harlequin Duck in the pre-nesting period. The study area was on the Laxa, a river in northeast Iceland, where the population is at a high density, containing pairs and unpaired males in the ratio 2:1. Birds spent much of their time resting on islands close to the water and dived for food in the fast stretches of the river. Females sat and preened more than males. They also had longer dive times. Agonistic and pre- and post-copulation displays are described. Males were not territorial but guarded their males vigorously. Females incited their males and joined them in agonistic encounters. Extra-pair copulation by paired males was not observed and unpaired males spent little time attempting to copulate with females. These mating strategies are discussed in the context of anatid strategies generally. The displays and time budget data are related to those of other ducks that inhabit fast-flowing rivers.

**URL:** <Go to ISI>://BCI199089055068

**Reference Type:**  Journal Article

**Record Number:** 319

**Author:** I. R. Inglis, J. Lazarus and R. L. L. F. Torrance

**Year:** 2000

**Title:** Breeding status and aggressive communication in the Harlequin Duck Histrionicus histrionicus

**Journal:** Wildfowl

**Volume:** 51

**Pages:** 139-153

**Short Title:** Breeding status and aggressive communication in the Harlequin Duck Histrionicus histrionicus

**Accession Number:** BCI:BCI200100150319

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** The breeding behaviour of ducks reflects a number of conflicts, both between and within the sexes. While unpaired (single) birds attempt to obtain mates, already mated males may pursue the conflicting strategies of mate guarding and extra-pair courtship or copulation in order to sequester the mate while pursuing mating opportunities outside the pair bond. If females pursue the same strategies pair members will also be in conflict. We have sought to understand the nature of these complex interactions in the Harlequin Duck (Histrionicus histionicus), and in the present paper examine the conflict between paired and unpaired birds as it is manifest in agonistic encounters. Pairs are predicted by game theory models to dominate single males as a result of one or more competitive asymmetries and this prediction was supported, pairs both initiating and winning encounters against single males. Compared to pairs, single males were more likely to retreat and less likely to display back to an initiating display. Similarly, individuals were less likely to retreat in response to single male displays than to those of paired males or females. Displays in the order 'head nod away', 'head nod at' and 'extended neck' were increasingly likely to result in a win. Responding birds tended to match the initiator's display and males showed gradual escalation in their own displays. The greater use of 'extended neck' by females probably reflected its use for inciting. Single males used more high intensity display (extended neck) and less low intensity display (head nod) against other single males than against pairs, in accord with the game theory prediction that encounters between closely-matched opponents will be of higher intensity. As a consequence of the dominance of pairs over single males the latter may find it impossible to obtain a mate on the breeding ground. This dominance, together with close mate guarding by both sexes, and female fidelity, is responsible for the rarity or absence of extra-pair copulations and mate switching, and the consequent strict monogamy found in this species.

**URL:** <Go to ISI>://BCI200100150319

**Reference Type:**  Journal Article

**Record Number:** 1369

**Author:** A. Ingolfsson

**Year:** 2007

**Title:** The near-closure of a lagoon in western Iceland: how accurate were predictions of impacts on environment and biota?

**Journal:** Journal of Coastal Conservation

**Volume:** 11

**Issue:** 2

**Pages:** 75-90

**Date:** Nov 2007

**Short Title:** The near-closure of a lagoon in western Iceland: how accurate were predictions of impacts on environment and biota?

**Accession Number:** BCI:BCI200800477964

**Keywords:** Common Eider; Somateria mollissima; Habitat; Conservation; Breeding Season;

**Abstract:** The Environmental Impact Assessment (EIA) project instigated in connection with the near-closure of the large fjord-like lagoon Gilsfjorour in sub-arctic western Iceland with a road is described and discussed. Three phases were involved: a survey of pre-impact conditions of areas possibly affected as well as control areas, predictions of impacts of the road, and assessment of impacts up to 5-6 years after completion of the project. Emphasis was placed on birds and benthic flora and fauna. Although several predictions were upheld, others were not. The most unexpected changes were the elimination of kelp forest and some associated fauna inside the road as well as from large areas outside it. Feeding areas of the knot (Calidris canutus) and female eiders (Somateria mollissima) with ducklings also changed in unexpected ways. Unforeseen changes can partly be traced to inadequate knowledge of communities and their functioning in the area. The ecological requirements of many species involved, e.g. with respect to salinity, were imperfectly known. The predictions of engineers on the effects of the project on physical factors were not as accurate or detailed as desired. Some critical predictions of the engineers failed to make an impact on the ecologists, who then failed to predict some major changes in the biota, such as the disappearance of kelp forest outside the road. This study highlights some problems probably shared by many EIAs: (a) the near impossibility of finding suitable control areas, (b) the lack of ecological understanding of even common species, and possibly (c) inadequate communication between engineers and ecologists.

**URL:** <Go to ISI>://BCI200800477964

**Reference Type:**  Journal Article

**Record Number:** 117

**Author:** D. B. Irons, S. J. Kendall, W. P. Erickson, L. L. McDonald and B. K. Lance

**Year:** 2000

**Title:** Nine years after the Exxon Valdez oil spill: Effects on marine bird populations in Prince William Sound, Alaska

**Journal:** Condor

**Volume:** 102

**Issue:** 4

**Pages:** 723-737

**Date:** November, 2000

**Short Title:** Nine years after the Exxon Valdez oil spill: Effects on marine bird populations in Prince William Sound, Alaska

**Accession Number:** BCI:BCI200100002974

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Contaminants; Nonbreeding Seasons;

**Abstract:** We compared post Exxon Valdez oil-spill densities of marine birds in Prince William Sound from 1989-1991, 1993, 1996, and 1998 to pre-spill densities from 1984-1985. Post-spill densities of several species of marine birds were lower than expected in the oiled area of Prince William Sound when compared to densities in the unoiled area. These negative effects continued through 1998 for five taxa: cormorants, goldeneyes, mergansers, Pigeon Guillemot (Cepphus columba), and murres. Black Oystercatchers (Haematopus bachmani) and Harlequin Ducks (Histrionicus histrionicus) exhibited negative effects in 1990 and 1991. Loons showed a weak negative effect in 1993. Black-legged Kittiwakes (Rissa tridactyla) showed relative decreases in 1989, 1996, and 1998 which may have been caused by shifts in foraging distribution rather than declines in populations. Glaucous-winged Gulls (Larus glaucescens) showed positive effects in most post-spill years. Murrelets and terns showed relative increases in 1993, 1996, and 1998. Generally, taxa that dive for their food were negatively affected, whereas taxa that feed at the surface were not. Effects for some taxa were dependent upon the spatial scale at which they were analyzed. Movements of birds and the mosaic pattern of oiling reduced our ability to detect oil-spill effects, therefore our results may be conservative. Several marine bird species were negatively affected at the population level and have not recovered to pre-spill levels nine years after the oil spill. The reason for lack of recovery may be related to persistent oil remaining in the environment and reduced forage fish abundance.

**URL:** <Go to ISI>://BCI200100002974

**Reference Type:**  Journal Article

**Record Number:** 151

**Author:** K. Isaksen and V. Bakken

**Year:** 1995

**Title:** Important moulting areas for seabirds in Svalbard

**Journal:** Norsk Polarinstitutt Meddelelser

**Volume:** 0

**Issue:** 135

**Pages:** 59-66

**Short Title:** Important moulting areas for seabirds in Svalbard

**Accession Number:** BCI:BCI199698741874

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Long-tailed Duck; Molt; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Geese, ducks and auks undergo synchronous moulting of the flight feathers in summer or autumn. During this 3-7 week period the flightless birds often gather in flocks and are very vulnerable to disturbances and oil spills. Pink-footed Geese (Anser brachyrhynchus), Barnacle Geese (Branta leucopsis) and Brent Goose (B. bernicla) moult while rearing their chicks in coastal areas with rich vegetation The male eiders (Somateria mollissima and S. spectabilis) and Long-tailed Ducks (Clangula hyemalis) leave the females in the incubation period and gather in moulting flocks in shallow areas along the coast. Common Guillemot (Uria aalge) and Brunnich's Guillemot (U. lomvia) young leave the breeding colony before they are able to fly. They are followed by the male patents in the swimming migration from the colony out to the rearing areas at sea. Maps showing the distribution of moulting eiders and guillemots with young observed during helicopter and ship surveys in the Svalbard area are presented.

**URL:** <Go to ISI>://BCI199698741874

**Reference Type:**  Journal Article

**Record Number:** 1141

**Author:** K. Isaksen and V. Bakken

**Year:** 1995

**Title:** Breeding populations of seabirds in Svalbard

**Journal:** Norsk Polarinstitutt Meddelelser

**Volume:** 0

**Issue:** 135

**Pages:** 11-35

**Short Title:** Breeding populations of seabirds in Svalbard

**Accession Number:** BCI:BCI199698741871

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The breeding distribution, estimates of population size and a brief summary of the biology of the breeding seabirds in Svalbard are given. For most species maps showing the known breeding colonies are given. Estimates of colony size are presented for the best known species. Most of the data is from the database of Barents Sea seabird colonies developed, by the Norwegian Polar Institute. Presently more than 500 colonies from Svalbard are registered in the database. Knowledge on size, development and breeding distribution of the seabird populations in Svalbard is most comprehensive for some of the typical colony-breeding species, such as Barnacle Goose (Branta leucopsis), Kittiwake (Rissa tridactyla), Common Guillemot (Uria aalge) and Brunnich's Guillemot (U. lomvia). Other species are less well known due to methodological difficulties with censusing breeding colonies (Fulmar Fulmarus glacialis and Little Auk Alle alle) or due to their dispersed breeding pattern (e.g. Long-tailed Duck Clangula hyemalis and Glaucous Gull Larus hyperboreus).

**URL:** <Go to ISI>://BCI199698741871

**Reference Type:**  Journal Article

**Record Number:** 1059

**Author:** S. A. Iverson, W. S. Boyd, D. Esler, D. M. Mulcahy and T. D. Bowman

**Year:** 2006

**Title:** Comparison of the effects and performance of four types of radiotransmitters for use with scoters

**Journal:** Wildlife Society Bulletin

**Volume:** 34

**Issue:** 3

**Pages:** 656-663

**Date:** Oct 2006

**Short Title:** Comparison of the effects and performance of four types of radiotransmitters for use with scoters

**Accession Number:** BCI:BCI200700148127

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Techniques; Nonbreeding Seasons;

**Abstract:** Radiotransmitters are widely used in wildlife ecology, often providing data that cannot be collected using other methods. However, negative effects have been associated with the use of transmitters for some species. We evaluated the effects and performance of 4 radiotransmitter types for use with surf and white-winged scoters (Melanitta perspicillata and M. fusca): COEXT-coelomically implanted transmitters with external antennas, COINT-coelomically implanted transmitters with internal antennas, SUBCU -subcutaneous implants with external antennas, and PRONG-external mounts, attached by a subcutaneous anchor and glue, with external antennas. Survival was not related to radiotransmitter type during the immediate (14-d) post-release period when most deaths (8 of 12) occurred. Rates of signal disappearance (transmitters ceased to be detected in the study area) and transmitter shedding (transmitters recovered without sign of predation) were similar among types over 30- and 60-day intervals; however higher proportions of dorsally mounted radiotransmitters (SUBCU, PRONG) disappeared or were shed over course of the full 100-day monitoring period used in this study. All 4 radiotransmitter types allowed for relatively accurate location estimates, with linear error estimates (distance between actual and estimated location) averaging < 50 in when receivers were within 1 km of transmitters. However, signal strength was lower for COINT transmitters. Based on our results, we recommend COEXT transmitters for radiotelemetry studies > 2 months in duration and for satellite telemetry studies of scoters. However, SUBCU and PRONG are recommended as cost-effective alternatives in shorter-duration radiotelemetry studies.

**URL:** <Go to ISI>://BCI200700148127

**Reference Type:**  Journal Article

**Record Number:** 281

**Author:** S. A. Iverson and D. Esler

**Year:** 2006

**Title:** Site fidelity and the demographic implications of winter movements by a migratory bird, the harlequin duck Histrionicus histrionicus

**Journal:** Journal of Avian Biology

**Volume:** 37

**Issue:** 3

**Pages:** 219-228

**Date:** May 2006

**Short Title:** Site fidelity and the demographic implications of winter movements by a migratory bird, the harlequin duck Histrionicus histrionicus

**Accession Number:** BCI:BCI200600470487

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** Understanding the degree of demographic connectivity among population segments is increasingly recognized as central to the fields of population ecology and conservation biology. However, delineating discrete population units has proven challenging, particularly for migratory birds as they move through their annual cycle. In this study, radio telemetry was used to assess movement rates among habitats by harlequin ducks Histrionicus histrionicus during the non-breeding season in Prince William Sound, Alaska. A total of 434 females were outfitted with radio transmitters over six years of data collection, and their signals tracked by aircraft. Using a spatially nested design, it was determined that 75% of radioed females remained in the bay or coastline area where they were originally trapped, 94% remained on the same island or mainland region of Prince William Sound where they began the winter period, and 98% remained within the 4500 km(2) study area as a whole. Home range analyses corroborated these findings, indicating that the scale of individual movements was small, with 95% kernel home range estimates averaging only 11.5 +/- 2.2 km(2). A simple demographic model, which incorporated estimates for population size, survival, and movement rates, was used to infer the degree of independence among population segments. Immigrant females were found to contribute little to population numbers in most areas, accounting for only 4% of the adult female population at a scale of approximately 100 km(2). These results have important implications for the scale of conservation action for the species and demonstrate that winter movements can have a strong influence local population dynamics.

**URL:** <Go to ISI>://BCI200600470487

**Reference Type:**  Journal Article

**Record Number:** 276

**Author:** S. A. Iverson and D. Esler

**Year:** 2007

**Title:** Survival of female harlequin ducks during wing molt

**Journal:** Journal of Wildlife Management

**Volume:** 71

**Issue:** 4

**Pages:** 1220-1224

**Date:** Jun 2007

**Short Title:** Survival of female harlequin ducks during wing molt

**Accession Number:** BCI:BCI200700437912

**Keywords:** Harlequin duck; Histrionicus histrionicus; Survival; Molt; Nonbreeding Seasons;

**Abstract:** Survival rates of waterfowl during wing molt have rarely been described, leading to uncertainty about the importance of this annual cycle stage for management. We quantified survival probability of 247 radiomarked female harlequin ducks (Histrionicus histrionicus) during wing molt in Prince William Sound, Alaska, USA. The daily survival rate (DSR) was extremely high (DSR = 0.999; 95% CI: 0.9941.000) during the 37-day interval over which remiges were replaced and individuals were rendered flightless. Our DSR estimate corresponded to a cumulative survival probability of 0.99 (95% CI: 0.81-1.00) for the 20 August-15 October postbreeding period as a whole, which is appreciably higher than estimates that have been derived for breeding or overwintering stages. We conclude that wing molt is a comparatively safe stage of the annual cycle for harlequin ducks that does not constrain population growth rate, with the implication for wildlife managers being that, in the absence of anthropogenic influences, management prescriptions may be most effective when focused on other stages of the annual cycle.

**URL:** <Go to ISI>://BCI200700437912

**Reference Type:**  Journal Article

**Record Number:** 233

**Author:** S. A. Iverson and D. Esler

**Year:** 2010

**Title:** Harlequin Duck population injury and recovery dynamics following the 1989 Exxon Valdez oil spill

**Journal:** Ecological Applications

**Volume:** 20

**Issue:** 7

**Pages:** 1993-2006

**Date:** Oct 2010

**Short Title:** Harlequin Duck population injury and recovery dynamics following the 1989 Exxon Valdez oil spill

**Accession Number:** BCI:BCI201000582552

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Population Model; Nonbreeding Seasons;

**Abstract:** The 1989 Exxon Valdez oil spill caused significant injury to wildlife populations in Prince William Sound, Alaska, USA. Harlequin Ducks (Histrionicus histrionicus) were particularly vulnerable to the spill and have been studied extensively since, leading to one of the most thorough considerations of the consequences of a major oil spill ever undertaken. We compiled demographic and survey data collected since the spill to evaluate the timing and extent of mortality using a population model. During the immediate aftermath of the spill, we estimated a 25% decrease in Harlequin Duck numbers in oiled areas. Survival rates remained depressed in oiled areas 6-9 years after the spill and did not equal those from unoiled areas until at least 11-14 years later. Despite a high degree of site fidelity to wintering sites, immigration was important for recovery dynamics, as the relatively large number of birds from habitats outside the spill zone provided a pool of individuals to facilitate numerical increases. On the basis of these model inputs and assumptions about fecundity rates for the species, we projected a timeline to recovery of 24 years under the most-likely combination of variables, with a range of 16 to 32 years for the best-case and worst-case scenarios, respectively. Our results corroborate assertions from other studies that the effects of spilled oil on wildlife can be expressed over much longer time frames than previously assumed and that the cumulative mortality associated with chronic exposure to residual oil may actually exceed acute mortality, which has been the primary concern following most oil spills.

**URL:** <Go to ISI>://BCI201000582552

**Reference Type:**  Journal Article

**Record Number:** 1065

**Author:** S. A. Iverson, D. Esler and W. S. Boyd

**Year:** 2003

**Title:** Plumage characteristics as an indicator of age class in the Surf Scoter

**Journal:** Waterbirds

**Volume:** 26

**Issue:** 1

**Pages:** 56-61

**Date:** March 2003

**Short Title:** Plumage characteristics as an indicator of age class in the Surf Scoter

**Accession Number:** BCI:BCI200300205477

**Keywords:** Surf Scoter; Melanitta perspicillata; Techniques; Nonbreeding Seasons; SDJV funded

**Abstract:** We assessed reliability of plumage as an indicator of age class in the Surf Scoter (Melanitta perspicillata) for demographic and behavioral studies. Three age classes were distinguished among male Surf Scoters, based on the degree of concordance between plumage characteristics and known age-related features (bursal depth and tail feather notching). Males in their first year (1Y) were distinguishable from older males (>1Y) with nearly total accuracy. Discriminating between second year (2Y) and after second year (>2Y) males had an error rate of 11%. Female Surf Scoters could not be reliably aged using plumage characteristics. Field observations suggested the timing of feather changes is an important variable affecting accurate age class determination. First year male Surf Scoter plumage is brown and female-like at the time of fledging, and gradually becomes more adult male-like during the first year. Observations of plumage changes throughout the annual cycle on wild birds suggested that females and 1Y males may be confused in early autumn, and that 1Y males and 2Y males may be misidentified during late spring and summer. Further, variation in timing and speed of pre- and post-breeding molt among 2Y and older males is uncertain. Therefore, mid-January until the end of March is the period when age class determinations based on plumage are most reliable.

**URL:** <Go to ISI>://BCI200300205477

**Reference Type:**  Journal Article

**Record Number:** 291

**Author:** S. A. Iverson, D. Esler and D. J. Rizzolo

**Year:** 2004

**Title:** Winter philopatry of Harlequin Ducks in Prince William Sound, Alaska

**Journal:** Condor

**Volume:** 106

**Issue:** 3

**Pages:** 711-715

**Date:** August 2004

**Short Title:** Winter philopatry of Harlequin Ducks in Prince William Sound, Alaska

**Accession Number:** BCI:BCI200400400275

**Keywords:** Harlequin duck; Histrionicus histrionicus; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** We used capture-mark-recapture data to assess winter philopatry by Harlequin Ducks (Histrionicus histrionicus) in Prince William Sound. Alaska, during winters 1995-1997 and 2000-2001. Philo-patry was quantified using homing rates, which were estimated as the proportion of birds recaptured at their original site out of all recaptured birds. Between-year homing rates of 0.95 (95% CI: 0.87-1.00) and 1.00 (0.92-1.00) were estimated for females and males, respectively, at three locations on Montague Island. Similar homing rates were measured in western Prince William Sound, where estimates were 0.92 (0.80-0.98) for females and 0.96 (0.79-1.00) for males, with a scale of detected movements for all recapture birds ranging from 3-52 km. Our results indicate that wintering aggregations may be demographically independent at a much finer spatial scale than genetic data indicate, and that conservation efforts should recognize this degree of demographic separation among population segments.

**URL:** <Go to ISI>://BCI200400400275

**Reference Type:**  Journal Article

**Record Number:** 2165

**Author:** S. A. Iverson, H. G. Gilchrist, P. A. Smith, A. J. Gaston and M. R. Forbes

**Year:** 2014

**Title:** Longer ice-free seasons increase the risk of nest depredation by polar bears for colonial breeding birds in the Canadian Arctic

**Journal:** Proceedings of the Royal Society B-Biological Sciences

**Volume:** 281

**Issue:** 1779

**Date:** Mar

**Short Title:** Longer ice-free seasons increase the risk of nest depredation by polar bears for colonial breeding birds in the Canadian Arctic

**ISSN:** 0962-8452

**DOI:** 10.1098/rspb.2013.3128

**Article Number:** 20133128

**Accession Number:** WOS:000332382700028

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Productivity; Trophic Interactions

**Abstract:** Northern polar regions have warmed more than other parts of the globe potentially amplifying the effects of climate change on biological communities. Ice-free seasons are becoming longer in many areas, which has reduced the time available to polar bears (Ursus maritimus) to hunt for seals and hampered bears' ability to meet their energetic demands. In this study, we examined polar bears' use of an ancillary prey resource, eggs of colonial nesting birds, in relation to diminishing sea ice coverage in a low latitude region of the Canadian Arctic. Long-term monitoring reveals that bear incursions onto common eider (Somateria mollissima) and thick-billed murre (Uria lomvia) nesting colonies have increased greater than sevenfold since the 1980s and that there is an inverse correlation between ice season length and bear presence. In surveys encompassing more than 1000 km of coastline during years of record low ice coverage (2010-2012), we encountered bears or bear sign on 34% of eider colonies and estimated greater egg loss as a consequence of depredation by bears than by more customary nest predators, such as foxes and gulls. Our findings demonstrate how changes in abiotic conditions caused by climate change have altered predator-prey dynamics and are leading to cascading ecological impacts in Arctic ecosystems.

**Notes:** Iverson, Samuel A. Gilchrist, H. Grant Smith, Paul A. Gaston, Anthony J. Forbes, Mark R.

**URL:** <Go to ISI>://WOS:000332382700028

**Reference Type:**  Journal Article

**Record Number:** 1064

**Author:** S. A. Iverson, B. D. Smith and F. Cooke

**Year:** 2004

**Title:** Age and sex distributions of wintering Surf Scoters: Implications for the use of age ratios as an index of recruitment

**Journal:** Condor

**Volume:** 106

**Issue:** 2

**Pages:** 252-262

**Date:** May 2004

**Short Title:** Age and sex distributions of wintering Surf Scoters: Implications for the use of age ratios as an index of recruitment

**Accession Number:** BCI:BCI200400372980

**Keywords:** Surf Scoter; Melanitta perspicillata; Abundance, Distribution, and Trends; Habitat; Techniques; Nonbreeding Seasons; SDJV funded

**Abstract:** We assessed age- and sex-specific distribution patterns of Surf Scoters (Melanitta perspicillata) wintering in southern coastal British Columbia, Canada, and evaluated potential biases associated with the use of male age ratios as an index of their recruitment. For surveys conducted during 2000 through 2002, annual variations in male age ratios were evident, with estimates ranging from 0.07 +/- 0.02 to 0. 13 +/- 0.03 (SE; first-year males:total males). Flock composition patterns indicated first-year males did not distribute independently, but tended to associate with other first-year males. With respect to habitat, male age-class proportions did not vary among shoreline substrate types, but higher proportions of first-year males were found in sites with low exposure to wind and waves (<50 km fetch). To determine the efficacy of male age ratios for indexing recruitment, we used a power analysis, which incorporated overdispersion in age-class segregation and determined the sample sizes required for precise estimates of the proportion of first-year male Surf Scorers. Samples of approximately 600-1000 total males were required to obtain 95% confidence limits within 5% of the estimated mean, with sampling accuracy leveling off at about 2% when 6000 or more males were aged. Recruitment among waterfowl species is typically modeled using the ratio of female recruits to breeding-age females. Based on the sex and male age-ratio estimates obtained in this study, we calculated a female age ratio of 0.23 (first-year females:adult females).

**URL:** <Go to ISI>://BCI200400372980

**Reference Type:**  Journal Article

**Record Number:** 372

**Author:** S. Jaari, K. Jaatinen and J. Merila

**Year:** 2009

**Title:** Isolation and characterization of 22 polymorphic microsatellite loci for the Barrow's goldeneye (Bucephala islandica)

**Journal:** Molecular Ecology Resources

**Volume:** 9

**Issue:** 3

**Pages:** 806-808

**Date:** May 2009

**Short Title:** Isolation and characterization of 22 polymorphic microsatellite loci for the Barrow's goldeneye (Bucephala islandica)

**Accession Number:** BCI:BCI200900362026

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Techniques; Breeding Season;

**Abstract:** We describe primers and polymerase chain reaction conditions to amplify 22 microsatellite loci from the Barrow's goldeneye (Bucephala islandica). The primers were tested on 27 individuals from a population breeding in British Columbia, Canada. The developed primer pairs yielded an average of 6.11 alleles per locus (range 2-12), an average observed heterozygosity of 0.70 (range 0.07-0.96) and a polymorphic information content of 0.07-0.88.

**URL:** <Go to ISI>://BCI200900362026

**Reference Type:**  Journal Article

**Record Number:** 370

**Author:** K. Jaatinen, S. Jaari, R. B. O'Hara, M. Ost and J. Merila

**Year:** 2009

**Title:** Relatedness and spatial proximity as determinants of host-parasite interactions in the brood parasitic Barrow's goldeneye (Bucephala islandica)

**Journal:** Molecular Ecology

**Volume:** 18

**Issue:** 12

**Pages:** 2713-2721

**Date:** Jun 2009

**Short Title:** Relatedness and spatial proximity as determinants of host-parasite interactions in the brood parasitic Barrow's goldeneye (Bucephala islandica)

**Accession Number:** BCI:BCI200900437303

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** Recent studies, which have found evidence for kin-biased egg donation, have sparked interest in re-assessing the parasitic nature of conspecific brood parasitism (CBP). Since host-parasite kinship is essential for mutual benefits to arise from CBP, we explored the role of relatedness in determining the behaviour of conspecific nest parasites and their hosts in nesting female Barrow's goldeneyes (Bucephala islandica), a duck in which CBP is common. The results revealed that the amount of parasitism increased with host-parasite relatedness, the effect of which was independent of geographical proximity of host and parasite nests. Proximity per se was also positively associated with the amount of parasitism. Furthermore, while hosts appeared to reduce their clutch size as a response to the presence of parasitic eggs, the magnitude of host clutch reduction also tended to increase with increasing relatedness to the parasite. Hence, our results indicate that both relatedness and spatial proximity are important determinants of CBP, and that host clutch reduction may be an adaptation to nest parasitism, modulated by host-parasite relatedness. Taken together, the results provide a demonstration that relatedness influences host and parasite behaviour in Barrow's goldeneyes, resulting in kin-biased egg donation.

**URL:** <Go to ISI>://BCI200900437303

**Reference Type:**  Journal Article

**Record Number:** 1887

**Author:** K. Jaatinen, J. Lehtonen and H. Kokko

**Year:** 2011

**Title:** Strategy selection under conspecific brood parasitism: an integrative modeling approach

**Journal:** Behavioral Ecology

**Volume:** 22

**Issue:** 1

**Pages:** 144-155

**Date:** Jan-Feb

**Short Title:** Strategy selection under conspecific brood parasitism: an integrative modeling approach

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/arq162

**Accession Number:** WOS:000288276100025

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season

**Notes:** Times Cited: 3

Jaatinen, Kim Lehtonen, Jussi Kokko, Hanna

Kokko, Hanna/C-7861-2009; Jaatinen, Kim/A-3221-2011

3

**URL:** <Go to ISI>://WOS:000288276100025

**Reference Type:**  Journal Article

**Record Number:** 1888

**Author:** K. Jaatinen, K. Noreikiene, J. Merila and M. Ost

**Year:** 2012

**Title:** Kin association during brood care in a facultatively social bird: active discrimination or by-product of partner choice and demography?

**Journal:** Molecular Ecology

**Volume:** 21

**Issue:** 13

**Pages:** 3341-3351

**Date:** Jul

**Short Title:** Kin association during brood care in a facultatively social bird: active discrimination or by-product of partner choice and demography?

**ISSN:** 0962-1083

**DOI:** 10.1111/j.1365-294X.2012.05603.x

**Accession Number:** WOS:000305582200020

**Keywords:** Common eider; somateria mollissima; behavior; Breeding Season

**Notes:** Times Cited: 3

Jaatinen, Kim Noreikiene, Kristina Merila, Juha Ost, Markus

Jaatinen, Kim/A-3221-2011; Ost, Markus/C-7376-2008; Merila, Juha/A-4061-2008

Merila, Juha/0000-0001-9614-0072

3

**URL:** <Go to ISI>://WOS:000305582200020

**Reference Type:**  Journal Article

**Record Number:** 1889

**Author:** K. Jaatinen and M. Ost

**Year:** 2011

**Title:** Experience attracts: the role of age in the formation of cooperative brood-rearing coalitions in eiders

**Journal:** Animal Behaviour

**Volume:** 81

**Issue:** 6

**Pages:** 1289-1294

**Date:** Jun

**Short Title:** Experience attracts: the role of age in the formation of cooperative brood-rearing coalitions in eiders

**ISSN:** 0003-3472

**DOI:** 10.1016/j.anbehav.2011.03.020

**Accession Number:** WOS:000291202900028

**Keywords:** Common eider; somateria mollissima; Behavior; Breeding Season

**Notes:** Times Cited: 9

Jaatinen, Kim Ost, Markus

Jaatinen, Kim/A-3221-2011; Ost, Markus/C-7376-2008

9

**URL:** <Go to ISI>://WOS:000291202900028

**Reference Type:**  Journal Article

**Record Number:** 1890

**Author:** K. Jaatinen and M. Ost

**Year:** 2013

**Title:** Brood Size Matching: A Novel Perspective on Predator Dilution

**Journal:** American Naturalist

**Volume:** 181

**Issue:** 2

**Pages:** 171-181

**Date:** Feb

**Short Title:** Brood Size Matching: A Novel Perspective on Predator Dilution

**ISSN:** 0003-0147

**DOI:** 10.1086/668824

**Accession Number:** WOS:000314091200005

**Keywords:** Common eider; Somateria mollissima; Behavior; Breeding Season

**Notes:** Times Cited: 1

Jaatinen, Kim Ost, Markus

Ost, Markus/C-7376-2008; Jaatinen, Kim/A-3221-2011

1

**URL:** <Go to ISI>://WOS:000314091200005

**Reference Type:**  Journal Article

**Record Number:** 1891

**Author:** K. Jaatinen, M. Ost, P. Gienapp and J. Merila

**Year:** 2011

**Title:** Differential responses to related hosts by nesting and non-nesting parasites in a brood-parasitic duck

**Journal:** Molecular Ecology

**Volume:** 20

**Issue:** 24

**Pages:** 5328-5336

**Date:** Dec

**Short Title:** Differential responses to related hosts by nesting and non-nesting parasites in a brood-parasitic duck

**ISSN:** 0962-1083

**DOI:** 10.1111/j.1365-294X.2011.05281.x

**Accession Number:** WOS:000298089300018

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season

**Notes:** Times Cited: 4

Jaatinen, Kim Ost, Markus Gienapp, Phillip Merila, Juha

Jaatinen, Kim/A-3221-2011; Merila, Juha/A-4061-2008; Ost, Markus/C-7376-2008; Gienapp, Phillip/A-2261-2014

Merila, Juha/0000-0001-9614-0072; Gienapp, Phillip/0000-0002-9368-8769

4

**URL:** <Go to ISI>://WOS:000298089300018

**Reference Type:**  Journal Article

**Record Number:** 1892

**Author:** K. Jaatinen, M. Ost, P. Gienapp and J. Merila

**Year:** 2013

**Title:** Facultative Sex Allocation and Sex-Specific Offspring Survival in Barrow's Goldeneyes

**Journal:** Ethology

**Volume:** 119

**Issue:** 2

**Pages:** 146-155

**Date:** Feb

**Short Title:** Facultative Sex Allocation and Sex-Specific Offspring Survival in Barrow's Goldeneyes

**ISSN:** 0179-1613

**DOI:** 10.1111/eth.12048

**Accession Number:** WOS:000313547800007

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Survival; Breeding Season

**Notes:** Times Cited: 0

Jaatinen, Kim Ost, Markus Gienapp, Phillip Merila, Juha

Ost, Markus/C-7376-2008; Jaatinen, Kim/A-3221-2011; Merila, Juha/A-4061-2008; Gienapp, Phillip/A-2261-2014

Merila, Juha/0000-0001-9614-0072; Gienapp, Phillip/0000-0002-9368-8769

0

**URL:** <Go to ISI>://WOS:000313547800007

**Reference Type:**  Journal Article

**Record Number:** 2166

**Author:** K. Jaatinen, M. Ost and K. A. Hobson

**Year:** 2016

**Title:** State-dependent capital and income breeding: a novel approach to evaluating individual strategies with stable isotopes

**Journal:** Frontiers in Zoology

**Volume:** 13

**Date:** Jun

**Short Title:** State-dependent capital and income breeding: a novel approach to evaluating individual strategies with stable isotopes

**ISSN:** 1742-9994

**DOI:** 10.1186/s12983-016-0157-x

**Article Number:** 24

**Accession Number:** WOS:000377579200001

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Energetics and Nutrition

**Abstract:** Background: Species-specific strategies for financing the costs of reproduction are well understood, forming a continuum ranging from high to low reliance on stored nutrients. Animals relying mostly on stored reserves are termed 'capital breeders', whereas 'income breeders' rely mostly on concurrent intake when financing the costs of reproduction. The role and adaptive value of individual variation in these strategies remain elusive. Life-history theory posits that capital breeding should be favoured when offspring reproductive value peaks, typically occurring early in the season, and that current income should increasingly be used with progressing season. Because resource limitation may hamper flexible resource allocation, a corollary prediction is that only good-condition individuals may show the expected seasonal shift in resource use. To test this prediction, we examined stable isotopes (delta C-13 and delta N-15) in blood and lipid-free egg yolk of breeding eider females (Somateria mollissima) from the Baltic Sea to assess the role of individual variation in the use of proteins from local diet vs. stored reserves. Results: We show for the first time that individuals from a single population differ in their utilization of stored reserves and concurrent intake to finance the costs of reproduction. Consistent with our prediction, heavy females predominantly used stored reserves for producing egg yolks early in the season, increasingly relying on local feeding with later onset of breeding, whereas light females showed no seasonal change in allocation strategy. Conclusions: Stable isotope profiling at the individual level is a powerful tool for monitoring relative changes in investment strategies through time, showing promise as an early warning indicator of ecological change in food webs.

**Notes:** Jaatinen, Kim Ost, Markus Hobson, Keith A.

**URL:** <Go to ISI>://WOS:000377579200001

**Reference Type:**  Journal Article

**Record Number:** 1282

**Author:** K. Jaatinen, M. Ost and A. Lehikoinen

**Year:** 2011

**Title:** Adult predation risk drives shifts in parental care strategies: a long-term study

**Journal:** Journal of Animal Ecology

**Volume:** 80

**Issue:** 1

**Pages:** 49-56

**Date:** Jan 2011

**Short Title:** Adult predation risk drives shifts in parental care strategies: a long-term study

**Accession Number:** BCI:BCI201100062238

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** P>1. Grouping provides antipredatory benefits, and therefore aggregation tendencies increase under heightened predation risk. In socially breeding groups, however, conflicts over reproductive shares or safety tend to disintegrate groups. Group formation thereby involves a balance between the antipredatory benefits of aggregation and the destabilizing effect of reproductive conflict.2. We study the grouping behaviour of a facultatively social precocial sea duck with uniparental female care, the eider (Somateria mollissima Linnaeus). Females tend their young solitarily or in groups of 2-5 females. Here, we focus on the effect predation on adults has on group-formation decisions of brood-caring females.3. By modifying an existing bidding game over care, we model the effects of predation risk on the width of the window of selfishness, which delimits the reproductive sharing allowing cooperation within brood-rearing coalitions, and generate predictions about the relative frequencies of solitary versus cooperative parental care modes. Furthermore, we model the dilution effect as a function of female group size and predation risk.4. The window of selfishness widens with increasing predation risk, and the dilution of predation risk increases with both female group size and increasing predation risk, yielding the following predictions: (i) cooperative brood care becomes more prevalent and, conversely, solitary brood care less prevalent under heightened predation risk and (ii) group sizes increase concomitantly.5. We tested these predictions using 13 years of data on female grouping decisions and annual predation rates, while controlling for the potentially confounding effect of female body condition.6. Our data supported both predictions, where heightened predation risk of nesting females, but not changes in their condition, increased the relative frequency of cooperative brood care. Increased female nesting mortality also resulted in larger groups of cooperative females.7. The predation risk of incubating females has long-term implications for later parental care decisions. We discuss the potential consequences of predation-induced shifts in group size on per capita fitness and population-wide productivity.

**URL:** <Go to ISI>://BCI201100062238

**Reference Type:**  Journal Article

**Record Number:** 371

**Author:** K. Jaatinen, M. Ost, P. Waldeck and M. Andersson

**Year:** 2009

**Title:** Clutch desertion in Barrow's goldeneyes (Bucephala islandica) - effects of non-natal eggs, the environment and host female characteristics

**Journal:** Annales Zoologici Fennici

**Volume:** 46

**Issue:** 5

**Pages:** 350-360

**Date:** Oct 30 2009

**Short Title:** Clutch desertion in Barrow's goldeneyes (Bucephala islandica) - effects of non-natal eggs, the environment and host female characteristics

**Accession Number:** BCI:BCI201000000563

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** Addition of eggs to nests of conspecifics is a common avian alternative breeding strategy, called conspecific brood parasitism. The consequences of this breeding strategy on recipient breeding success have seldom been quantified, while taking into account environmental factors and host female characteristics. We study the occurrence of nest parasitism and, using an information theoretic approach, the most important factors responsible for nest desertion in female Barrow's goldeneyes (Bucephala islandica). Nest parasitism is common in the study populationpopulation, and 58% of the nests contained non-natal eggs, representing 20% of all eggs. A prime factor explaining nest desertion was the number of non-natal eggs. There were also significant effects of year and own clutch size. By contrast, ambient temperature and female laying date did not influence nest desertion. These results provide one of the first demonstrations that non-natal eggs can have substantial negative effects also in precocial species.

**URL:** <Go to ISI>://BCI201000000563

**Reference Type:**  Journal Article

**Record Number:** 2167

**Author:** K. Jaatinen and M. Ouml;st

**Year:** 2016

**Title:** Brain size-related breeding strategies in a seabird

**Journal:** Oecologia

**Volume:** 180

**Issue:** 1

**Pages:** 67-76

**Date:** Jan

**Short Title:** Brain size-related breeding strategies in a seabird

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-015-3468-2

**Accession Number:** WOS:000367613800007

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** The optimal compromise between decision speed and accuracy may depend on cognitive ability, associated with the degree of encephalization: larger brain size may select for accurate but slow decision-making, beneficial under challenging conditions but costly under benign ones. How this brain size-dependent selection pressure shapes avian breeding phenology and reproductive performance remains largely unexplored. We predicted that (1) large-brained individuals have a delayed breeding schedule due to thorough nest-site selection and/or prolonged resource acquisition, (2) good condition facilitates early breeding independent of relative brain size, and (3) large brain size accrues benefits mainly to individuals challenged by environmental or intrinsic constraints. To test these predictions, we examined how the relative head volume of female eiders (Somateria mollissima) of variable body condition correlated with their breeding schedule, hatching success and offspring quality. The results were consistent with our predictions. First, large head size was associated with a progressively later onset of breeding with increasing breeding dispersal distance. Second, increasing body condition advanced the timing of breeding, but this effect was significantly weaker in large-brained females. Third, larger head volume was associated with increased hatching success mainly among late breeders and those in poor body condition, and duckling body condition was positively related to maternal head volume, but only in poor-condition mothers. Our study is, to our knowledge, the first to demonstrate the presence of brain size-related differences in reproductive strategies within a single natural population.

**Notes:** Jaatinen, Kim Ost, Markus

**URL:** <Go to ISI>://WOS:000367613800007

**Reference Type:**  Journal Article

**Record Number:** 1894

**Author:** K. Jaatinen, M. W. Seltmann, T. Hollmen, S. Atkinson, K. Mashburn and M. Ost

**Year:** 2013

**Title:** Context dependency of baseline glucocorticoids as indicators of individual quality in a capital breeder

**Journal:** General and Comparative Endocrinology

**Volume:** 191

**Pages:** 231-238

**Date:** Sep

**Short Title:** Context dependency of baseline glucocorticoids as indicators of individual quality in a capital breeder

**ISSN:** 0016-6480

**DOI:** 10.1016/j.ygcen.2013.06.022

**Accession Number:** WOS:000323870400025

**Keywords:** Common eider; Somateria mollissima; Physiology; Techniques; Breeding Season

**Notes:** Times Cited: 0

Jaatinen, Kim Seltmann, Martin W. Hollmen, Tuula Atkinson, Shannon Mashburn, Kendall Ost, Markus

Ost, Markus/C-7376-2008

0

**URL:** <Go to ISI>://WOS:000323870400025

**Reference Type:**  Journal Article

**Record Number:** 2168

**Author:** K. Jaatinen, M. W. Seltmann and M. Ost

**Year:** 2014

**Title:** Context-dependent stress responses and their connections to fitness in a landscape of fear

**Journal:** Journal of Zoology

**Volume:** 294

**Issue:** 3

**Pages:** 147-153

**Date:** Nov

**Short Title:** Context-dependent stress responses and their connections to fitness in a landscape of fear

**ISSN:** 0952-8369

**DOI:** 10.1111/jzo.12169

**Accession Number:** WOS:000344223900001

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior; Physiology

**Abstract:** The acute glucocorticoid stress response is presumed to facilitate escape from life-threatening situations such as predation and thus it is assumed to be linked to fitness. However, the fitness effects of glucocorticoid reactivity remain controversial, as these effects may be context-dependent. Individuals differing in their emphasis on current versus future reproduction may differ in their risk-taking under threat of predation; this variation in risk-taking may be mediated by variations in stress reactivity. We set out to test whether predation risk (island- and year-specific proportion of depredated nests) modified the relationships between stress responsiveness and current reproductive investment (clutch weight) and between stress responsiveness and reproductive success (viable proportion of the clutch) in the long-lived female eider Somateria mollissima. This study system shows large spatial and annual fluctuations in predation risk, indexed by the annual island-specific proportion of depredated nests. The capture stress-related corticosterone output was attenuated with increasing clutch weight under low predation pressure but elevated under severe predation pressure, and females in well-concealed nests had lower stress responsiveness. The viable proportion of the clutch decreased with increasing corticosterone reactivity under low to moderate predation pressure, but slightly increased under severe predation pressure. The acute stress response may thus mediate adaptive plasticity; dampened stress reactivity may ensure successful reproduction under low predation threat or in nest sites reducing detection by visual predators, whereas preparing for potential attacks may be favoured under elevated predation risk.

**Notes:** Jaatinen, K. Seltmann, M. W. Ost, M.

**URL:** <Go to ISI>://WOS:000344223900001

**Reference Type:**  Journal Article

**Record Number:** 830

**Author:** J. A. Jackson and W. E. Davis, Jr.

**Year:** 2004

**Title:** Little Blue Herons and Snowy Egrets use Red-breasted Mergansers as "beaters"

**Journal:** Oriole

**Volume:** 69

**Issue:** 3-4

**Pages:** 56-57

**Date:** Sep-Dec 2004

**Short Title:** Little Blue Herons and Snowy Egrets use Red-breasted Mergansers as "beaters"

**Accession Number:** BCI:BCI200700219266

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior;

**URL:** <Go to ISI>://BCI200700219266

**Reference Type:**  Journal Article

**Record Number:** 938

**Author:** J. Jacob and A. Zeman

**Year:** 1972

**Title:** The Uropygial Gland Wax from the Common Scoter Melanitta-Nigra

**Journal:** Zeitschrift fuer Naturforschung Teil B Anorganische Chemie Organische Chemie Biochemie Biophysik Biologie

**Volume:** 27

**Issue:** 6

**Pages:** 695-698

**Short Title:** The Uropygial Gland Wax from the Common Scoter Melanitta-Nigra

**Accession Number:** BCI:BCI197355014255

**Keywords:** Black Scoter; Melanitta nigra; Physiology;

**URL:** <Go to ISI>://BCI197355014255

**Reference Type:**  Journal Article

**Record Number:** 146

**Author:** J.-P. Jacob and P. Loly

**Year:** 1996

**Title:** Winter surveys of water birds in Wallonia and in the centre of Brabant: 1995/96

**Journal:** Aves

**Volume:** 33

**Issue:** 2

**Pages:** 93-106

**Short Title:** Winter surveys of water birds in Wallonia and in the centre of Brabant: 1995/96

**Accession Number:** BCI:BCI199799331695

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Winter surveys of water birds in Wallonia and in the centre of Brabant : 1995/96 During a winter that was harder than preceding ones, the general abundance of water birds reached particularly high levels, especially in January and February. This was due principally to the arrival of a series of species in numbers unprecedented in recent decades. The main species were divers like the great crested grebe and the little grebe, cormorants, goosanders, pochards and tufted ducks. Although very small in absolute terms, the presence of other species was higher than usual in Wallonia and in Brussels (whooper swan, wigeon, goldeneye etc.). On the other hand, numbers of mallards and moorhens were again rather low.

**URL:** <Go to ISI>://BCI199799331695

**Reference Type:**  Journal Article

**Record Number:** 81

**Author:** J.-P. Jacob, P. Loly and T. Kinet

**Year:** 2004

**Title:** Results of the winter censuses of waterbirds in Wallonie and Brussels area (Belgium) between 1998-1999 and 2003-2004

**Journal:** Aves

**Volume:** 41

**Issue:** 1-2

**Pages:** 1-61

**Short Title:** Results of the winter censuses of waterbirds in Wallonie and Brussels area (Belgium) between 1998-1999 and 2003-2004

**Accession Number:** BCI:BCI200500119777

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Winter censuses of waterbirds from 1998-99 to 2003-2004 in Wallonia and in the Brussels area were conducted during rather mild winters, with limited cold spells occurring notably early in 2003 (when arrivals of Wigeons, Mallards, Goosanders. Cormorants and Tufted duck were noted). The results per winter and per region are shown in table 7a-f (see Fig.2 for the regions); they are summarized in table 8. Totals for January censuses are 22.317 to 28.603 indigenous anatidae and: an increasing number of birds of introduced species (1.768 in January 2004, amounting to 6,4 % of the totals for this family). Laridae numbered about 60.000 ex, and the other species from 10 to 13.000 individuals, mainly Cormorants. Moorhens and Coots. Observed numbers generally remain within recent variations except for record numbers of Whooper swans and Teals in 2002, of Moorhens in 2000 and of species that clearly increase such as Cormorant. Great White Egret, Canada Goose, Mute Swan and Gadwall. Results of Gulls censused at resting places in 2000 (table 11) confirm the decrease of the Herring Gull. small numbers of wintering Lesser black-backed ked Gulls as well as the occurrence of a few Yellow-legged and Pontic Gulls.

**URL:** <Go to ISI>://BCI200500119777

**Reference Type:**  Journal Article

**Record Number:** 1396

**Author:** S. E. Jamieson, H. G. Gilchrist, F. R. Merkel, A. W. Diamond and K. Falk

**Year:** 2006

**Title:** Endogenous reserve dynamics of northern common eiders wintering in Greenland

**Journal:** Polar Biology

**Volume:** 29

**Issue:** 7

**Pages:** 585-594

**Date:** Jun 2006

**Short Title:** Endogenous reserve dynamics of northern common eiders wintering in Greenland

**Accession Number:** BCI:BCI200600493550

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Endogenous reserves influence both survival and reproduction of many waterfowl species, but little is known about reserve levels of most species during the nonbreeding season, particularly those wintering at high latitudes. We investigated whether age, sex, and season were related to carcass composition of northern common eiders (Somateria mollissima borealis) wintering in southwest Greenland during 1999-2002. Adults carried more lipid and protein than juveniles during all winters. Among both age classes, males and females had similar fat levels but males carried slightly more protein. There was no dramatic seasonal variation in lipid or protein content. This suggests that during the period of this study, these eiders did not experience large-scale nutritional shortfalls. As predicted, Greenlandic eiders carried more lipid reserves than eider populations wintering in more temperate environments. Contrary to prediction, there was little relation between reserve levels and photoperiod, ambient temperature, or hunting disturbance intensity. Our results suggest that both sexes are equally capable of dealing with nutritional deficits, and that juvenile birds are more prone to nutritional stress as evidenced by their consistently poorer body condition.

**URL:** <Go to ISI>://BCI200600493550

**Reference Type:**  Journal Article

**Record Number:** 1397

**Author:** S. E. Jamieson, H. G. Gilchrist, F. R. Merkel, K. Falk and A. W. Diamond

**Year:** 2006

**Title:** An evaluation of methods used to estimate carcass composition of common eiders Somateria mollissima

**Journal:** Wildlife Biology

**Volume:** 12

**Issue:** 2

**Pages:** 219-226

**Date:** Jun 2006

**Short Title:** An evaluation of methods used to estimate carcass composition of common eiders Somateria mollissima

**Accession Number:** BCI:BCI200600534605

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Techniques; Nonbreeding Seasons;

**Abstract:** To examine how endogenous reserves may influence avian life history, it is often necessary to quantify carcass composition. However, proximate analyses are expensive, time-consuming and difficult to perform under field conditions. Consequently, carcass composition is often estimated from easily measured data. We evaluate methods of estimating carcass composition of the common eider duck Somateria mollissima. We measured, dissected and completed proximate analyses of 92 ciders. Predictive models were derived using multiple regressions of 70 birds, while the remaining 22 were used as an independent test of the models. Each model's accuracy was evaluated by comparing estimates against known values of protein and lipids, using root mean square error (RMSE). Abdominal and leg fat pad mass were highly correlated with total lipid (r = 0.92), and body mass was highly correlated with total protein (r = 0.80). Models that used body mass, fat depots and/or muscle group data were the most accurate (lipids adjusted R-2 = 0.93, RMSE = 14.60; protein adjusted R-2 = 0.74, RMSE = 11.14). By using these equations it is possible, using dissection data, to accurately estimate carcass composition of eiders. If dissection data are not available, one can still estimate carcass composition using equations that require only morphometrics although in our lipid analysis such equations had relatively low accuracy (lipids adjusted R-2 = 0.54, RMSE = 32.74).

**URL:** <Go to ISI>://BCI200600534605

**Reference Type:**  Journal Article

**Record Number:** 1129

**Author:** S. E. Jamieson, G. J. Robertson and H. G. Gilchrist

**Year:** 2001

**Title:** Autumn and winter diet of Long-tailed Duck in the Belcher Islands, Nunavut, Canada

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 1

**Pages:** 129-132

**Date:** April, 2001

**Short Title:** Autumn and winter diet of Long-tailed Duck in the Belcher Islands, Nunavut, Canada

**Accession Number:** BCI:BCI200100277212

**Keywords:** Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We examined the diet of Long-tailed Ducks (Clangula hyemalis) in the autumn and winter of 1998-99 in the Belcher Islands, Nunavut, Canada. Collections were made in early November before sea ice had formed and in February and March, the time of maximum ice cover. Eight birds collected in the autumn and 19 collected in the winter had food items in the proventriculus/esophagus. For birds collected in the fall, 89% (aggregate wet mass) of the diet consisted of the amphipod Calliopius laeviusculus. The remainder consisted of other smaller amphipods (5%) and sandlance (sandeels, Ammodytes sp.; 6%). In winter, Long-tailed Duck diet consisted of the amphipod Ischyrocerus anquipes (69%), fish eggs (probably sandlance; 24%), sandlance (1%) and other amphipods (5%). Long-tailed Duck foraging at the landfast ice floe edge along coasts fed mostly on fish and fish eggs, while those in polynyas among islands fed on amphipods. Consuming soft-bodied prey with high energy densities is likely to allow Long-tailed Ducks to successfully winter in the predominately ice-covered Hudson Bay.

**URL:** <Go to ISI>://BCI200100277212

**Reference Type:**  Journal Article

**Record Number:** 93

**Author:** D. S. Jeffries, T. A. Clair, S. Couture, P. J. Dillon, J. Dupont, W. Keller, D. K. McNicol, M. A. Turner, R. Vet and R. Weeber

**Year:** 2003

**Title:** Assessing the recovery of lakes in southeastern Canada from the effects of acidic deposition

**Journal:** Ambio

**Volume:** 32

**Issue:** 3

**Pages:** 176-182

**Date:** April 2003

**Short Title:** Assessing the recovery of lakes in southeastern Canada from the effects of acidic deposition

**Accession Number:** BCI:BCI200300323440

**Keywords:** Sea Ducks - General; Common merganser; Contaminants;

**Abstract:** Reductions in North American sulfur dioxide (SO2) emissions promoted expectations that aquatic ecosystems in southeastern Canada would soon recover from acidification. Only lakes located near smelters that have dramatically reduced emissions approach this expectation. Lakes in the Atlantic provinces, Quebec and Ontario affected only by long-range sources show a general decline in sulfate (SO42-) concentrations, but with a relatively smaller compensating increase in pH or alkalinity. Several factors may contribute to the constrained (or most likely delayed) acidity response: declining base cation concentrations, drought-induced mobilization of SO42-, damaged internal alkalinity generation mechanisms, and perhaps increasing nitrate or organic anion levels. Monitoring to detect biological recovery in southeastern Canada is extremely limited, but where it occurs, there is little evidence of recovery outside of the Sudbury/Killarney area. Both the occurrence of Atlantic salmon in Nova Scotia rivers and the breeding success of Common Loons in Ontario lakes are in fact declining although factors beyond acidification also play a role. Chemical and biological models predict that much greater SO2 emission reductions than those presently required by legislation will be needed to promote widespread chemical and latterly, biological recovery. It may be unrealistic to expect that pre-industrial chemical and biological conditions can ever be reestablished in many lakes of southeastern Canada.

**URL:** <Go to ISI>://BCI200300323440

**Reference Type:**  Journal Article

**Record Number:** 829

**Author:** J. R. Jehl, Jr.

**Year:** 2004

**Title:** Foraging by a Red-Tailed Hawk along a wetland edge: How large a duck can be captured?

**Journal:** Wilson Bulletin

**Volume:** 116

**Issue:** 4

**Pages:** 354-356

**Date:** December 2004

**Short Title:** Foraging by a Red-Tailed Hawk along a wetland edge: How large a duck can be captured?

**Accession Number:** BCI:BCI200500186615

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions;

**Abstract:** A Red-tailed Hawk (Buteo jamaicensis; estimated mass 1,000-1,200 g) failed to kill a Red-breasted Merganser (Mergus serrator; estimated mass 1,150 g) that it captured in shallow water (<25 cm), but evidently dispatched a starving Red-necked Grebe (Podiceps grisegena; mass 645-660 g). These observations are pertinent to estimating the upper mass limit for successful foraging in water.

**URL:** <Go to ISI>://BCI200500186615

**Reference Type:**  Journal Article

**Record Number:** 1623

**Author:** B. M. Jenssen and M. Ekker

**Year:** 1989

**Title:** Rehabilitation of Oiled Birds a Physiological Evaluation of Four Cleaning Agents

**Journal:** Marine Pollution Bulletin

**Volume:** 20

**Issue:** 10

**Pages:** 509-512

**Short Title:** Rehabilitation of Oiled Birds a Physiological Evaluation of Four Cleaning Agents

**Accession Number:** BCI:BCI199089036423

**Keywords:** Common Eider; Somateria mollissima; Techniques; Contaminants;

**Abstract:** The development of more efficient detergents for cleaning oiled birds is important in order to improve on existing methods. In the present study we tested the properties of four different cleaning agents to remove oil from the plumage and to restore the water repellent and insulative properties of the feathers of domestic ducks (Anas platyrhynchos) and of common eiders (Somateria mollissima). By using more efficient detergents, the cleaning time was reduced by approximately 50%. Our results also show that these detergents are efficient in restoring the insulative properties of the cleaned plumage. The study also showed that the water repellent properties of the plumage were not re-established before the plumage was dry, and that cleaning oiled birds using cold water resulted in hypothermia.

**URL:** <Go to ISI>://BCI199089036423

**Reference Type:**  Journal Article

**Record Number:** 1607

**Author:** B. M. Jenssen and M. Ekker

**Year:** 1991

**Title:** Dose Dependent Effects of Plumage-Oiling on Thermoregulation of Common Eiders Somateria-Mollissima Residing in Water

**Journal:** Polar Research

**Volume:** 10

**Issue:** 2

**Pages:** 579-584

**Short Title:** Dose Dependent Effects of Plumage-Oiling on Thermoregulation of Common Eiders Somateria-Mollissima Residing in Water

**Accession Number:** BCI:BCI199294079946

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Energetics and Nutrition;

**Abstract:** Thermoregulatory effects which occur during the first hours after plumage-oiling were studied under laboratory conditions by measuring the metabolic heat production of Common Eiders (Somateria mollissima) which were resting in water for up to three hours. The ducks were exposed to 10-70 mL Statfjord A crude oil while residing in water inside a respiration chamber at 5.5.degree. C. The study demonstrated a dose-and time-dependent effect of plumage oiling on metabolic heat production during the first three hours after contact with the oil. The results indicate that the immediate, short-term effects following initial contact with oil at sea are lesser in scale than those which occur after the birds have preened the oil into a greater part of their plumage. After plumage contamination with 70 mL crude oil, the rate of heat loss exceeded the thermoregulatory heat production capacity and the Eiders became hypothermic within 70 minutes after contamination.

**URL:** <Go to ISI>://BCI199294079946

**Reference Type:**  Journal Article

**Record Number:** 1608

**Author:** B. M. Jenssen and M. Ekker

**Year:** 1991

**Title:** Effects of Plumage Contamination with Crude Oil Dispersant Mixtures on Thermoregulation in Common Eiders and Mallards

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 20

**Issue:** 3

**Pages:** 398-403

**Short Title:** Effects of Plumage Contamination with Crude Oil Dispersant Mixtures on Thermoregulation in Common Eiders and Mallards

**Accession Number:** BCI:BCI199191125275

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Energetics and Nutrition;

**Abstract:** Thermoregulatory effects of plumage-oiling with Statfjord A crude oil (SACO), or of SACO mixed with the dispersants Finasol OSR-5 or OSR-12 were studied by measuring the rate of metabolic heat production of common eiders (Somateria mollissima) and mallards (Anas platyrhynchos) residing in water (6.57%C). The study suggests that oil-dispersant mixtures are more potent than the crude oil alone, and that common eiders are more sensitive to crude oil-dispersant mixtures than are mallards. The species differences is probably due to specific differences in plumage structure, i.e., birds possessing an air-filled plumage, with high insulative properties, are probably more vulnerable than species with a plumage which does not offer so much resistance to heat loss. The level of heat production of contaminated mallards was higher on the day following contamination compared to the metabolic rate recorded two-three hours after contamination, presumably because the birds preened the pollutants further into their plumage, enhancing its wettability. Because exposure to very small volumes of chemically treated oil may cause a significant decrease in plumage-insulation, birds should be prevented from coming into contact with chemically treated oilslicks.

**URL:** <Go to ISI>://BCI199191125275

**Reference Type:**  Journal Article

**Record Number:** 1624

**Author:** B. M. Jenssen, M. Ekker and C. Bech

**Year:** 1989

**Title:** Thermoregulation in Winter-Acclimatized Common Eiders Somateria-Mollissima in Air and Water

**Journal:** Canadian Journal of Zoology

**Volume:** 67

**Issue:** 3

**Pages:** 669-673

**Short Title:** Thermoregulation in Winter-Acclimatized Common Eiders Somateria-Mollissima in Air and Water

**Accession Number:** BCI:BCI198988032636

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition;

**Abstract:** Metabolic heat production, body temperature, and skin temperatures of the back and breast were measured and the thermal conductance, and thus insulation, estimated in winter-acclimatized common eiders (Somateria mollissima) exposed to air and water. When exposed to low air temperatures, the plumage was responsible for most of the insulation. When exposed to water, the insulation in the plumage was reduced. This decrease was, however, compensated through increased peripheral vasoconstriction. A low total thermal conductance lowers the energetic costs of existence in cold environments. This reduces the nutritional demands, and may be an adaptation to living in polar and subpolar regions where temperatures are low and where the short day length during winter may reduce the time available for feeding.

**URL:** <Go to ISI>://BCI198988032636

**Reference Type:**  Journal Article

**Record Number:** 1652

**Author:** P. U. Jepsen

**Year:** 1984

**Title:** Observations of Molting Eider and Breeding Common Eider Somateria-Mollissima at Nordaustlandet Svalbard Norway in 1979

**Journal:** Polar Research

**Volume:** 2

**Issue:** 1

**Pages:** 19-26

**Short Title:** Observations of Molting Eider and Breeding Common Eider Somateria-Mollissima at Nordaustlandet Svalbard Norway in 1979

**Accession Number:** BCI:BCI198579075055

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Molt; Breeding Season; Nonbreeding Seasons;

**Abstract:** A survey on the common eider S. mollissima in wing feacher molt and females with young was carried out in connection with Norsk Polarinstitutt's expedition to Svalbard in July and Aug. 1979. A total of 3450 molting eider were found on a water area of approximately 2500 km2; 18% of these were flightless. Females dominated in the population with about 82%. Of the breeding population, 109 females with 336 young were found. The average ratio of female to young has been calculated at 1:3.08. This ratio in relation to other studies of eider productivity is discussed briefly.

**URL:** <Go to ISI>://BCI198579075055

**Reference Type:**  Journal Article

**Record Number:** 1038

**Author:** D. A. Jessup, M. A. Miller, J. P. Ryan, H. M. Nevins, H. A. Kerkering, A. Mekebri, D. B. Crane, T. A. Johnson and R. M. Kudela

**Year:** 2009

**Title:** Mass Stranding of Marine Birds Caused by a Surfactant-Producing Red Tide

**Journal:** PLoS One

**Volume:** 4

**Issue:** 2

**Pages:** e4550

**Date:** Feb 23 2009

**Short Title:** Mass Stranding of Marine Birds Caused by a Surfactant-Producing Red Tide

**Accession Number:** BCI:BCI200900335789

**Keywords:** Surf Scoter; Melanitta perspicillata; Survival; Nonbreeding Seasons;

**Abstract:** In November-December 2007 a widespread seabird mortality event occurred in Monterey Bay, California, USA, coincident with a massive red tide caused by the dinoflagellate Akashiwo sanguinea. Affected birds had a slimy yellow-green material on their feathers, which were saturated with water, and they were severely hypothermic. We determined that foam containing surfactant-like proteins, derived from organic matter of the red tide, coated their feathers and neutralized natural water repellency and insulation. No evidence of exposure to petroleum or other oils or biotoxins were found. This is the first documented case of its kind, but previous similar events may have gone undetected. The frequency and amplitude of red tides have increased in Monterey Bay since 2004, suggesting that impacts on wintering marine birds may continue or increase.

**URL:** <Go to ISI>://BCI200900335789

**Reference Type:**  Journal Article

**Record Number:** 212

**Author:** A. H. Joensen

**Year:** 1972

**Title:** Oil Pollution and Sea Birds in Denmark 1935-1968

**Journal:** Danish Review of Game Biology

**Volume:** 6

**Issue:** 8

**Pages:** 1-24

**Short Title:** Oil Pollution and Sea Birds in Denmark 1935-1968

**Accession Number:** BCI:BCI197458063905

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI197458063905

**Reference Type:**  Journal Article

**Record Number:** 213

**Author:** A. H. Joensen

**Year:** 1972

**Title:** Studies on Oil Pollution and Sea Birds in Denmark 1968-1971

**Journal:** Danish Review of Game Biology

**Volume:** 6

**Issue:** 9

**Pages:** 1-32

**Short Title:** Studies on Oil Pollution and Sea Birds in Denmark 1968-1971

**Accession Number:** BCI:BCI197559023085

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI197559023085

**Reference Type:**  Journal Article

**Record Number:** 207

**Author:** A. H. Joensen

**Year:** 1973

**Title:** Molt Migration and Wing Feather Molt of Sea Ducks in Denmark

**Journal:** Danish Review of Game Biology

**Volume:** 8

**Issue:** 4

**Pages:** 1-42

**Short Title:** Molt Migration and Wing Feather Molt of Sea Ducks in Denmark

**Accession Number:** BCI:BCI197559024229

**Keywords:** Sea Ducks - General; Molt; Migration; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197559024229

**Reference Type:**  Journal Article

**Record Number:** 202

**Author:** A. H. Joensen and E. B. Hansen

**Year:** 1977

**Title:** Oil Pollution and Sea Birds in Denmark 1971-1976

**Journal:** Danish Review of Game Biology

**Volume:** 10

**Issue:** 5

**Pages:** 1-32

**Short Title:** Oil Pollution and Sea Birds in Denmark 1971-1976

**Accession Number:** BCI:BCI197968077148

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** The main topics discussed are: general collection of information on oil pollution incidents; reports on 2 disasters in 1972; questionnaire surveys to diving-duck hunters; surveys of beached birds; geographical and seasonal distribution of seabird mortality; species affected by oil pollution; and trends in seabird mortality during 1968-1976.

**URL:** <Go to ISI>://BCI197968077148

**Reference Type:**  Journal Article

**Record Number:** 940

**Author:** A. Jogi

**Year:** 1971

**Title:** On the Molting Migration of the Goldeneye Bucephala and the Common Scoter Melanitta-Nigra in Estonia

**Journal:** Ornithologische Mitteilungen

**Volume:** 23

**Issue:** 4

**Pages:** 65-67

**Short Title:** On the Molting Migration of the Goldeneye Bucephala and the Common Scoter Melanitta-Nigra in Estonia

**Accession Number:** BCI:BCI197107072910

**Keywords:** Common Goldeneye; Bucephala clangula; Black Scoter; Melanitta nigra; Migration; Molt; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197107072910

**Reference Type:**  Journal Article

**Record Number:** 526

**Author:** E. P. Johnsen, T. G. Dilworth and P. Kehoe

**Year:** 1994

**Title:** Change in waterfowl nest cavity density in a New Brunswick floodplain forest

**Journal:** Ecoscience

**Volume:** 1

**Issue:** 3

**Pages:** 271-274

**Short Title:** Change in waterfowl nest cavity density in a New Brunswick floodplain forest

**Accession Number:** BCI:BCI199699132276

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** A study of waterfowl nest cavities conducted in the Saint John River valley in 1963-1964 by Prince recorded a density of 5.5 suitable nesting cavities/ha, which is the highest reported to date in North America. Since that study, the area's timber characteristics have been altered via Dutch elm disease and timber harvest. We investigated whether these factors caused a reduction in the number of cavities available to cavity-nesting waterfowl by conducting an inventory of the forest composition and recording density and use of cavities. Plots studied in 1963 and 1964 by Prince were used to be comparable. Total basal area for each sample plot was significantly reduced with a mean decrease of 51%. For the two most important cavity tree species, this represented a reduction from 80 to 0.7 m-2/ha for American elm (Ulmus americana L.) and from 103.6 to 51.9 m-2/ha for silver maple (Acer saccharinum L.). The number of cavities/ha for the four sample plots ranged from 0 to 2.5 with a mean of 1.0. Sixteen of 50 "suitable" cavities were unused by animals and only six were used by waterfowl.

**URL:** <Go to ISI>://BCI199699132276

**Reference Type:**  Journal Article

**Record Number:** 220

**Author:** P. A. Johnsgard

**Year:** 1960

**Title:** Hybridization in the Anatidae and its taxonomic implications

**Journal:** Condor

**Volume:** 62

**Issue:** (1)

**Pages:** 25-33

**Short Title:** Hybridization in the Anatidae and its taxonomic implications

**Accession Number:** BCI:BCI19603500030803

**Keywords:** Sea Ducks - General; Taxonomy;

**Abstract:** A summary of published and unpublished records of interspecific hybridization in the waterfowl family Anatidae indicate that the tribes and genera that have been proposed by J. Delacour and E. Mayr are substantiated by hybrid evidence. Wide interspecific hybrid fertility necessitates broad generic limits in the Anatidae. Frequency of intertribal hydridization in the perching duck tribe (Cairinini) indicates that this tribe should be placed between the shelduck tribe (Tadornini) and the surface-feeding ducks (Anatini), rather than between the diving ducks (Aythyini) and the sea ducks (Mergini) where the perching ducks are presently placed. || ABSTRACT AUTHORS: P. A. Johnsgard

**URL:** <Go to ISI>://BCI19603500030803

**Reference Type:**  Journal Article

**Record Number:** 221

**Author:** P. A. Johnsgard

**Year:** 1960

**Title:** Classification and evolutionary relationships of the sea ducks

**Journal:** Condor

**Volume:** 62

**Issue:** (6)

**Pages:** 426-433

**Short Title:** Classification and evolutionary relationships of the sea ducks

**Accession Number:** BCI:BCI19613600019024

**Keywords:** Sea Ducks - General; Taxonomy;

**Abstract:** Anatomical and behavioral variations among the sea ducks (Mergini) of the avian family Anatidae are discussed with reference to the probable taxonomic validity of this tribe as it was erected by J. Delacour and E. Mayr (Wilson Bull. 57: 3-15. 1945). Evidence for recent suggestions that the eider group be removed from the tribe is analyzed and rejected on both anatomical and behavioral grounds. However, the generic separation of the Steller's eider (Polysticta stelleri) from the typical eiders (Somateria) is upheld. It is concluded that the tribe has its closest evolutionary affinities with the pochard group (Aythyini) rather than with the dabbling ducks (Anatini) or the perching ducks (Cairinini). ABSTRACT AUTHORS: P. A. Johnsgard

**URL:** <Go to ISI>://BCI19613600019024

**Reference Type:**  Journal Article

**Record Number:** 692

**Author:** P. A. Johnsgard

**Year:** 1961

**Title:** The sexual behavior and systematic position of the Hooded Merganser

**Journal:** Wilson Bull

**Volume:** 73

**Issue:** (3)

**Pages:** 227-236

**Short Title:** The sexual behavior and systematic position of the Hooded Merganser

**Accession Number:** BCI:BCI19623900021275

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Taxonomy;

**Abstract:** The courtship and copulatory behavior patterns of the Hooded Merganser are discribed, and homologies are pointed out with other Mergus species and with Bucephala. Some of its courtship displays and precopulatory behavior has typical Mergus elements and others show affinities with Bucephala. The Hooded Merganser provides a connecting link between Bucephala and Mergus. || ABSTRACT AUTHORS: W. Porter

**URL:** <Go to ISI>://BCI19623900021275

**Reference Type:**  Journal Article

**Record Number:** 218

**Author:** P. A. Johnsgard

**Year:** 1964

**Title:** Comparative behavior and relationships of the eiders

**Journal:** Condor

**Volume:** 66

**Issue:** (2)

**Pages:** 113-129

**Short Title:** Comparative behavior and relationships of the eiders

**Accession Number:** BCI:BCI19644500098109

**Keywords:** Sea Ducks - General; Behavior; Taxonomy;

**Abstract:** Pair-forming and copulatory displays of the 4 spp. of eiders (Anatidae) are described and illustrated, based on observations of captive and wild specimens. Behavioral differences indicate that 2 genera (Polysticta and Somateria) of eiders should be recognized, and that Lampronetta should be considered a synonym of Somateria. Racial differences in the displays of Somateria mollissima mollissima and S. m. v. nigra are explained on the basis of sympatry between the latter and S. fischeri, producing selection for display divergence that has not affected S. m. mollissima. Similarities in the behavior patterns of the eiders and scoters suggest that the eiders are directly related to the scoters and other sea ducks (Mergini), probably through such intermediate forms as Camptorhynchus, Clangula, and Histrionicus, for which the behavior patterns are largely or entirely unknown. || ABSTRACT AUTHORS: P. A. Johnsgard

**URL:** <Go to ISI>://BCI19644500098109

**Reference Type:**  Journal Article

**Record Number:** 1116

**Author:** S. R. Johnson, L. E. Noel, W. J. Gazey and V. C. Hawkes

**Year:** 2005

**Title:** Aerial monitoring of marine waterfowl in the Alaskan Beaufort Sea

**Journal:** Environmental Monitoring and Assessment

**Volume:** 108

**Issue:** 1-3

**Pages:** 1-43

**Date:** Sep 2005

**Short Title:** Aerial monitoring of marine waterfowl in the Alaskan Beaufort Sea

**Accession Number:** BCI:BCI200600034001

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Habitat; Conservation; Breeding Season; Nonbreeding Seasons;

**Abstract:** The purpose of this study was to design and test a monitoring protocol for marine waterfowl in the central Alaskan Beaufort Sea. The study provides an important case-study of how a long-term monitoring program may be affected by unanticipated human disturbances.Because of its overwhelming and widespread abundance, relatively sedentary behavior, ease in counting, and the extensive historical database, the long-tailed duck (Clangula hyemalis) was selected as the focal species. Two null hypotheses were formulated concerning potential changes in the numbers and distribution of long-tailed ducks in relation to disturbance in an industrial study area, compared to a reference study area located about 50 km to the east.A 9-year historical database (1977-1984, 1989) of long-tailed duck densities and other important data recorded during systematic aerial surveys was analyzed retrospectively using multiple regression techniques. The retrospective analyses determined which of several predictor variables recorded were significantly related to long-tailed duck density. Separate analyses were conducted for two periods: (1) the overall period when long-tailed ducks were present in the lagoon study areas, and (2) the shorter adult male molt period. The results of the two analyses indicated that 57% and 68%, respectively, of the total variation in long-tailed duck density during the two periods could be explained by variables recorded during the surveys. Predictor variables representing habitat, day of the year, time of day, amount of ice, and wave height recorded on-transect during surveys were most closely associated with long-tailed duck density. Measurement error during the surveys, and influences outside the study area such as nesting success in tundra habitats and mortality during migration and in over-wintering areas likely also had strong influences on the results, but these factors were not measurable in our study.Based on results of the retrospective analyses, a long-term monitoring protocol consisting of a program of systematic aerial surveys and an analyses of variance and covariance (ANOVA and ANCOVA) statistical procedure was designed and initially tested in 1990 and 1991. This 2-year testing phase resulted in several revisions to the monitoring protocol. Refinements were made to the original sampling procedures, to the survey schedule, and to the recommended statistical analysis procedures. Results of the ANOVA and ANCOVA indicated that there was no evidence of a change in long-tailed duck densities that could be attributable to disturbance (from any source) in the industrial study area relative to a reference area with no industrial development. Other analyses indicated that the sampling and analysis procedures would be adequate to detect long-term trends in long-tailed duck density and localized disturbance effects, but that the monitoring program should be continued well beyond two years to detect statistically significant changes. As a result, additional aerial surveys of both study areas were conducted again during 1999-2001.Results of the revised ANOVA and ANCOVA of the 1990-1991 and 1999-2001 survey data indicated that the density of long-tailed ducks had significantly declined in coastal lagoons along the central Alaskan Beaufort Sea coast during the study period. In addition, disturbances throughout the barrier island-lagoon systems used by these ducks, including both the industrial and the reference study areas, had significantly increased over the same period. However, because unanticipated disturbances from a variety of anthropogenic sources, and not just industry sources, increased in both study areas, the reference study area was not an effective statistical control. As a result, the decline in long-tailed duck density in both study areas was not attributable to industry-related activities. Although the monitoring protocol described here is an effective method to detect statistically significant changes in long-tailed duck distribution and abundance in the nearshore Alaskan Beaufort Sea, many more years of sampling would be necessary to attribute observed changes to industry-related disturbances.

**URL:** <Go to ISI>://BCI200600034001

**Reference Type:**  Journal Article

**Record Number:** 184

**Author:** S. R. Johnson and W. J. Richardsn

**Year:** 1982

**Title:** Water Bird Migration near the Yukon and Alaskan Coast of the Beaufort Sea 2. Molt Migration of Sea Ducks in Summer

**Journal:** Arctic

**Volume:** 35

**Issue:** 2

**Pages:** 291-301

**Short Title:** Water Bird Migration near the Yukon and Alaskan Coast of the Beaufort Sea 2. Molt Migration of Sea Ducks in Summer

**Accession Number:** BCI:BCI198376024856

**Keywords:** Surf Scoter; Melanitta perspicillata; Sea Ducks - General; Migration; Molt; Nonbreeding Seasons; Long-tailed Duck; Clangula hyemalis;

**Abstract:** Westward molt migrations of seaducks were studied in the summers of 1972 and 1975 (northern Yukon) and 1977-1978 (west of Prudhoe Bay, Alaska [USA]). Methods used were visual observations from the coast, aerial surveys and (in 1975) DEW [distant early warning] radar. Many male oldsquaws (Clangula hyemalis) fly west near the north coast of Alaska in early July. Most seem to travel only a short distance; tens of thousands subsequently molt in various lagoons along northern Alaska. Few of the male eiders (Somateria spp.) that leave the Beaufort Sea in summer travel west along the coast past the 2 study areas. Instead, the main route may be seaward of the barrier islands until the eiders approach Point Barrow. In late June and July, several thousand male surf scoters (Melanitta perspicillata) fly west near the Yukon and Alaskan coast to molting areas in lagoons. This flight, unlike molt migrations of most scoters, is not directed toward the wintering areas.

**URL:** <Go to ISI>://BCI198376024856

**Reference Type:**  Journal Article

**Record Number:** 1144

**Author:** S. R. Johnson, D. A. Wiggins and P. F. Wainwright

**Year:** 1993

**Title:** Late-summer abundance and distribution of marine birds in Kasegaluk Lagoon, Chukchi Sea, Alaska

**Journal:** Arctic

**Volume:** 46

**Issue:** 3

**Pages:** 212-227

**Short Title:** Late-summer abundance and distribution of marine birds in Kasegaluk Lagoon, Chukchi Sea, Alaska

**Accession Number:** BCI:BCI199396134870

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Oil and gas drilling programs in the Alaska Chukchi Sea were carried out on leases offshore from Kasegaluk Lagoon in 1989-91, and further exploration and development activities in this area are likely in future years. We conducted aerial surveys between late July and early September 1989-91 to determine the distribution and abundance of marine birds in the Kasegaluk Lagoon area. We hypothesized that Kasegaluk Lagoon supported an avifauna similar to that found in other lagoon systems in arctic Alaska. In fact, the richness and diversity of bird species using Kasegaluk Lagoon were greater than in lagoon systems in the Beaufort Sea. Brant (Branta bernicla) was the most abundant species in Kasegaluk Lagoon compared to lagoons in the Beaufort Sea, where the Oldsquaw (Clangula hyemalis) is the dominant species. Several other species or species groups, such as Glaucous Gull (Larus hyperboreus), Arctic Tern (Sterna paradisaea), small shorebirds (mainly Calidris and Phalaropus), and Lesser Snow Goose (Chen caerulescens) were also relatively abundant in Kasegaluk Lagoon.

**URL:** <Go to ISI>://BCI199396134870

**Reference Type:**  Journal Article

**Record Number:** 35

**Author:** C. M. Jonassen and K. Handeland

**Year:** 2007

**Title:** Avian influenza virus screening in wild waterfowl in Norway, 2005

**Journal:** Avian Diseases

**Volume:** 51

**Issue:** 1, Suppl. S

**Pages:** 425-428

**Short Title:** Avian influenza virus screening in wild waterfowl in Norway, 2005

**Accession Number:** BCI:BCI200700339556

**Keywords:** Sea Ducks - General; Disease; Nonbreeding Seasons;

**Abstract:** The prevalence of influenza A virus infection, and the distribution of different subtypes of the virus, were studied in 604 geese and ducks shot during ordinary hunting 2005. The study was based upon molecular screening of cloacal swabs taken by the hunters. The sampling included the following species: greylag (Anser anser), mallard (Anas platyrhynchos), wigeon (Anas penelope), teal (Anas crecca), goosander (Mergus merganser), tufted duck (Aythya fuligula), common scoter (Melanitta nigra), goldeneye (Bucephala clangula), and red-breasted merganser (Mergus serrator).The samples found to be positive in the initial pan-influenza A virus reverse transcription-polymerase chain reaction (RT-PCR) were further subtyped by using a specific H5 RT-PCR and full-length RT-PCRs for the hemagglutinin (HA) and neuraminidase genes.None of the greylag samples (0/185) were positive for influenza A virus, whereas 19.1% of the ducks (80/419) were positive. The prevalences of influenza A virus in the different duck species were as follows: mallard, 20.4% (58/284); wigeon, 12.5% (8/64); teal, 30.9% (13/42); goosander, 0% (0/5); tufted duck, 0% (0/4); common scoter, 14.3% (1/7); goldeneye, 0% (0/11); and red-breasted merganser, 0% (0/2). H5N1 subtype was found in one mallard and H5N2 subtype in another mallard and one teal. Sequencing of the HA gene identified all three viruses as low-pathogenic strains, closely related to low-pathogenic H5 influenza A viruses evidenced in recent years in Sweden and the Netherlands. The other subtypes identified included H1N1, H2, H3N2, H3N8, H6N1, H6N2, H6N8, H8N4, H9N2, H11N9, and H12 in mallards; H3N2, H6N2, H6N8, and H9N2 in teals; and H6N2 in wigeons and common secret.

**URL:** <Go to ISI>://BCI200700339556

**Reference Type:**  Journal Article

**Record Number:** 195

**Author:** P. M. Jonasson

**Year:** 1979

**Title:** The Lake Myvatn Ecosystem Iceland

**Journal:** Oikos

**Volume:** 32

**Issue:** 1-2

**Pages:** 289-305

**Short Title:** The Lake Myvatn Ecosystem Iceland

**Accession Number:** BCI:BCI198069008724

**Keywords:** Sea Ducks - General; Habitat;

**Abstract:** Lake Myvatn lies at 63.degree.35'N and 17.degree.00'W and at 278 m above sea level in northern Iceland. The climate is more continental than maritime. But in some years the proximity to the Arctic Circle causes the climate to be cold, wet and foggy. Lake Myvatn has 2 basins: the north basin and the south basin. Volcanic activity since 1975 has caused a land rise of 34 cm at the northeast coast of the north basin. Water enters the lake mainly from cold and warm springs along the east shore (range 5.2-23.1.degree. C) and is discharged, to the west, into the River Laxa. The drainage basin is at least 1000 km2. Retention time in the north basin was 14 days and in south basin, 24 days. Temperature records reveal large variations in response to climatic factors. Air temperatures correlate well with water temperature. The annual amplitude of water temperature was 18.degree. C with a daily amplitude of 3.degree. C in south basin. Wind-induced water level fluctuations are 0.7 m in the north basin and 0.4 m in the south basin. Average ice-cover is 190 days yr-1. Resuspension is high and varies with depth. It was 3 times higher in the north than the south basin. The resuspension provides renewal of nutrients from the bottom, but P seems limiting during calm periods with high demands. N-fixation ensures sufficient N. The N:P ratio in the outlet is 8:1. An inverse thermocline develops in winter and O2 is depleted from the bottom water, but oxygenated conditions are re-established in Feb.-March due to production of benthic diatoms. Phytoplankton gross production was 118 g C m-2 yr-1 in the south basin but only 75 in the north basin. Seasonal succession was unimodal. High production due to Anabaena flos-aquae coincided with high radiation, high temperature and time of ice-break. Production was low at other seasons despite considerable biomass of diatoms and chrysophyceans. Net production in the south basin was calculated to 600 kcal m-2 yr-1. A net production of benthic diatoms amounted to 2220 kcal m-2 yr-1. A dim-light adapted Cladophora aegagropila forms massive phytobenthos in the south basin with 50 g ash-free dry weight m-2. Calculated production was 500 kcal m-2 yr-1. Macro- and epiphytes are important in the north-basin. A living substratum of Cladophora and macrophytes stabilizes the sediment and acts as a sieve for resuspended organic matter. A close relation was found between substrate type and zoobenthos abundance and production. In the south basin, with mud and Cladophora, chironomids dominate numerically (average of total zoobenthos 75,500 individuals m-2) and in terms of production (200 kcal m-2 yr-1). In the north basin, with diatoms, average values are 9750 m-2 and 32 kcal m-2 yr-1. Benthic Crustacea produce approximately 10 kcal m-2 yr-1 in both basins. Zooplankton produced on an average 43 and 15 kcal m-2 yr-1 in the south and north basin, respectively. Fish production, calculated from catch data, was 3 kcal m-2 yr-1 and ducks produced 0.5 kcal m-2 yr-1. Thus energy flow is mainly channeled through phyto- and zoobenthos.

**URL:** <Go to ISI>://BCI198069008724

**Reference Type:**  Journal Article

**Record Number:** 548

**Author:** J. J. Jones and R. D. Drobney

**Year:** 1986

**Title:** Winter Feeding Ecology of Scaup and Common Goldeneye Bucephala-Clangula in Michigan USA

**Journal:** Journal of Wildlife Management

**Volume:** 50

**Issue:** 3

**Pages:** 446-452

**Short Title:** Winter Feeding Ecology of Scaup and Common Goldeneye Bucephala-Clangula in Michigan USA

**Accession Number:** BCI:BCI198682091003

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The feeding ecology of wintering greater scaup (Aythya marila), lesser scaup (A. affinis), and common goldeneye (Bucephala clangula) was studied on the Detroit River in southeast Michigan during 1980-81. Aquatic oligochaetes, wildcelery (Vallisneria americana), and pondweeds (Potamogeton spp.) were the principal foods consumed by all 3 species. Ducks foraged almost exclusively at sites with water depths .ltoreq. 2 m. Macroinvertebrate densities were greater (P < 0.05) at shallow depths (2 m) than at deep depths (4.5 m), indicating that the use of feeding sites by waterfowl was influenced by food availability and foraging efficiency. Consequently, shallow areas are critical to diving ducks on the Detroit River, particularly during periods of harsh winter weather.

**URL:** <Go to ISI>://BCI198682091003

**Reference Type:**  Journal Article

**Record Number:** 798

**Author:** K. Jonker

**Year:** 1972

**Title:** Observations of Mergansers in the Zaan District

**Journal:** Maandblad de Pieper

**Volume:** 11

**Issue:** 3

**Pages:** 17-20

**Short Title:** Observations of Mergansers in the Zaan District

**Accession Number:** BCI:BCI197208062330

**Keywords:** Common merganser; Mergus merganser;

**URL:** <Go to ISI>://BCI197208062330

**Reference Type:**  Journal Article

**Record Number:** 1574

**Author:** C. J. Jonsson, B. O. Lund, B. Brunstrom and I. Brandt

**Year:** 1994

**Title:** Toxicity and irreversible binding of two DDT metabolites-3-methylsulfonyl-DDE and o,p'-DDD-in adrenal interrenal cells in birds

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 13

**Issue:** 8

**Pages:** 1303-1310

**Short Title:** Toxicity and irreversible binding of two DDT metabolites-3-methylsulfonyl-DDE and o,p'-DDD-in adrenal interrenal cells in birds

**Accession Number:** BCI:BCI199497454986

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season; Physiology;

**Abstract:** The toxicity and the metabolism-dependent irreversible binding of the lipophilic DDT metabolites 3-methylsulfonyl-DDE (MeSO-2-DDE) and o,p'-DDD in the adrenal gland of the chicken were examined. As determined by histopathology, vacuolar degeneration and pycnosis of adrenal interrenal cells occurred 4 d after injection of a single dose of either compound (0.25 mmol/kg; 80- 100 mg/kg body weight) to 6-d-old chicken. In addition, o, p'-DDD, but not MeSO-2-DDE, induced fatty degeneration of the liver. According to autoradiography, irreversibly bound radioactivity was present in the interrenal cells after injection of the 14C-labeled compounds into the air sacs of eggs. Both DDT metabolites were also irreversibly bound to protein after incubation with adrenal 300 g supernatant in vitro, with apparent K-m values of 2.0 and 8.3 mu-M for MeSO-2-DDE and o, p'-DDD, respectively. The irreversible binding in vitro was inhibited by metyrapone, SKF 525A, and carbon monoxide, suggesting a cytochrome P450-dependent metabolic activation to reactive intermediates. Addition of glutathione to the incubations reduced the irreversible binding of MeSO-2-(14C)DDE significantly, whereas the irreversible binding of o,p'-(14C)DDD remained unchanged. The results indicate that MeSO-2-DDE and o, p'-DDD are adrenocorticolytic following an adrenal P450-dependent metabolic activation in the chicken. Experiments with embryonated eggs from common eider and domestic duck demonstrated that MeSO-2-DDE and o, p'-DDD are also metabolically activated and irreversibly bound to adrenal tissue in embryos of these species.

**URL:** <Go to ISI>://BCI199497454986

**Reference Type:**  Journal Article

**Record Number:** 1307

**Author:** J. E. Jonsson

**Year:** 2010

**Title:** Sex ratios of Eurasian wigeon, mallard and common eider in Iceland

**Journal:** Natturufraedingurinn

**Volume:** 79

**Issue:** 1-4

**Pages:** 118-124

**Short Title:** Sex ratios of Eurasian wigeon, mallard and common eider in Iceland

**Accession Number:** BCI:BCI201000318468

**Keywords:** Common Eider; Somateria mollissima; Population Dynamics; Nonbreeding Seasons;

**Abstract:** Sex ratios of Eurasian wigeon, mallard and common eider in Iceland Sex ratios often are uneven in birds, especially northern hemisphere ducks. During winter, the male:female ratio is closest to 1:1 in southern parts of the range, whereas it tends to become progressively more skewed towards males with increasing latitudes. This has been explained by two hypotheses: (1) males prefer to winter near the breeding grounds but are socially dominant to females and force them to winter further south; (2) females may migrate further south because they are smaller and less tolerant of cold weather. Here, the sex ratios of three residential, Icelandic duck populations (Eurasian Wigeon Anas penelope, Mallard A. platyrhynchos and Common Eider Somateria mollissima) were evaluated and compared with data from Western Europe. The sex ratio of Icelandic Eurasian Wigeon was even (1:1), in contrast to male skewness in Great Britain and Western Europe. The sex ratio of Icelandic Mallards averaged 58% males. The sex ratio of European Mallards was correlated with mean average temperature in January with the highest male skewness in the coldest areas. The sex ratios of Icelandic Common Eider were similar to those of other European populations (55-60% males). Winter sex ratios of these species were similar to those of breeding birds, which indicates that the sexes do not segregate in residential duck populations in Iceland. The distance to the mainland probably explains why these populations are residential in Iceland. However, all three species pair relatively early, which in turn precludes males from excluding females from preferred wintering areas for longer than 1-2 months. Residential populations of Icelandic ducks, all of which pair early in winter, may have taken the first evolutionary steps towards speciation similar to the "Island waterfowl" in the Southern Hemisphere.

**URL:** <Go to ISI>://BCI201000318468

**Reference Type:**  Journal Article

**Record Number:** 1325

**Author:** J. E. Jonsson, A. Gardarsson, J. A. Gill, A. Petersen and T. G. Gunnarsson

**Year:** 2009

**Title:** Seasonal weather effects on the common eider, a subarctic capital breeder, in Iceland over 55 years

**Journal:** Climate Research

**Volume:** 38

**Issue:** 3

**Pages:** 237-248

**Date:** May 2009

**Short Title:** Seasonal weather effects on the common eider, a subarctic capital breeder, in Iceland over 55 years

**Accession Number:** BCI:BCI200900444893

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Productivity; Breeding Season;

**Abstract:** Changes in bird populations and their phenology (i.e. timing of nesting and migration) are increasingly linked to global climatic changes, particularly at temperate and Arctic latitudes. These patterns arise from local- and regional-scale effects of weather on demography but long-term time-series data necessary to explore these relationships are rarely available. Colonies of the common eider Somateria mollissima are often monitored annually for nest-down harvesting. We use long-term data from 2 nesting colonies in northwest Iceland (Bildsey, Breidafjordur: 29 yr and Laekur, Dyrafjorour: 55 yr) to examine the effects of weather conditions in each season on breeding numbers, arrival dates and clutch sizes. Numbers of nests in Bildsey increased following warm, wet winters and first nests were produced later following windy and wet winters at Laekur. In spring, windy conditions tended to be followed by earlier female arrivals at Bildsey. Warm, wet springs were positively correlated with larger clutch sizes at Laekur, and clutch sizes at Laekur decreased following especially wet and warm autumns. The overall population trends vary among sites and are likely to be influenced by both climatic and management conditions. These findings indicate that the effects of global climatic changes will depend on the details of changes in local weather conditions within each season. The strong effects on nesting dates and clutch sizes suggest that accumulation of body reserves, which sustain females during incubation and into brood rearing, is a key mechanism that could determine how altered distribution and frequencies of depressions within each season will affect future numbers of this species.

**URL:** <Go to ISI>://BCI200900444893

**Reference Type:**  Journal Article

**Record Number:** 1895

**Author:** J. E. Jonsson, A. Gardarsson, J. A. Gill, U. K. Petursdottir, A. Petersen and T. G. Gunnarsson

**Year:** 2013

**Title:** Relationships between Long-Term Demography and Weather in a Sub-Arctic Population of Common Eider

**Journal:** Plos One

**Volume:** 8

**Issue:** 6

**Date:** Jun

**Short Title:** Relationships between Long-Term Demography and Weather in a Sub-Arctic Population of Common Eider

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0067093

**Article Number:** e67093

**Accession Number:** WOS:000320846500120

**Keywords:** Common eider; Somateria mollissima; Abundance, Distribution, and Trends; Population Dynamics; Breeding Season; Productivity

**Notes:** Times Cited: 0

Jonsson, Jon Einar Gardarsson, Arnthor Gill, Jennifer A. Petursdottir, Una Kristin Petersen, Aevar Gunnarsson, Tomas Gretar

0

**URL:** <Go to ISI>://WOS:000320846500120

**Reference Type:**  Journal Article

**Record Number:** 1896

**Author:** J. E. Jonsson and S. J. Luoviksson

**Year:** 2013

**Title:** A choice between two adjacent islands: is switching nest sites related to weather or nest density in the Common Eider (Somateria mollissima)?

**Journal:** Ornis Fennica

**Volume:** 90

**Issue:** 2

**Pages:** 73-85

**Short Title:** A choice between two adjacent islands: is switching nest sites related to weather or nest density in the Common Eider (Somateria mollissima)?

**ISSN:** 0030-5685

**Accession Number:** WOS:000322854800002

**Keywords:** Common eider; Somateria mollissima; habitat; Behavior; Breeding Season

**Notes:** Times Cited: 1

Jonsson, Jon Einar Luoviksson, Smari J.

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**URL:** <Go to ISI>://WOS:000322854800002

**Reference Type:**  Journal Article

**Record Number:** 1231

**Author:** J. E. Jonsson, A. Petersen, A. Garoarsson and T. G. Gunnarsson

**Year:** 2009

**Title:** Population overview of eider ducks

**Journal:** Natturufraedingurinn

**Volume:** 78

**Issue:** 1-2

**Pages:** 46-56

**Short Title:** Population overview of eider ducks

**Accession Number:** BCI:BCI200900508198

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Conservation;

**Abstract:** Seabird populations are much discussed because of possible impacts of global climate change. Eider ducks (Somatereae) are a monophyletic group comprised of four species of specialized ducks that all live along the Arctic coastline. Most populations are listed as of special concern with a few exceptions, notably the Common Eider (Somateria mollissima) in Iceland. The other species are King Eider (S. spectabilis), Spectacled Eider (S. fischeri) and Steller's Eider (Polysticta stelleri). Many populations are hunted, especially those of Common Eider and King Eider, where over-harvest has been implicated as the cause of population declines. All eider duck species face disturbances from human activities, i.e. from oil spills, contaminants, and drowning in gill-nets. Climate change might increase the occurrences of inclement weather at the highest latitudes, which is likely to negatively impact eiders. However, reduced sea ice near breeding grounds could be beneficial on a local scale. Eider duckling survival is relatively low during first days of life because they are sensitive to food shortage, weather and predators during that time. However, there are few data that indicate that production limits eider duck populations because adult survival is the key factor for population stability among long-living species. Future research is critical as future prospects of eider ducks greatly depend on impending changes and human activities throughout their range.

**URL:** <Go to ISI>://BCI200900508198

**Reference Type:**  Journal Article

**Record Number:** 948

**Author:** J. Jorgensen

**Year:** 1941

**Title:** July-August migration of the common scoter, M. nigra

**Journal:** Dansk Ornithol Foren Tidsskr

**Volume:** 35

**Issue:** (3/4)

**Pages:** 137-143

**Short Title:** July-August migration of the common scoter, M. nigra

**Accession Number:** BCI:BCI19482200015456

**Keywords:** Black Scoter; Melanitta nigra; Migration; Molt; Nonbreeding Seasons;

**Abstract:** For 16 years in s. Slesvig the author has seen migrations of common scoters, sometimes in huge flocks, in July and August, moving from the Baltic to North Sea waters, to the coast of England, where they remain to molt the flight feathers. Observations suggest that earlier migrants are young birds, later ones non-breeding adults or those that failed in nesting efforts. Literature on the subject is reviewed. || ABSTRACT AUTHORS: O. J. Murie

**URL:** <Go to ISI>://BCI19482200015456

**Reference Type:**  Journal Article

**Record Number:** 1306

**Author:** H. Jorundsdottir, K. Lofstrand, J. Svavarsson, A. Bignert and A. Bergman

**Year:** 2010

**Title:** Organochlorine Compounds and Their Metabolites in Seven Icelandic Seabird Species - a Comparative Study

**Journal:** Environmental Science & Technology

**Volume:** 44

**Issue:** 9

**Pages:** 3252-3259

**Date:** May 1 2010

**Short Title:** Organochlorine Compounds and Their Metabolites in Seven Icelandic Seabird Species - a Comparative Study

**Accession Number:** BCI:BCI201000275113

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** The present study is designed to assess the occurrence of a few organochlorine contaminants and their metabolites in eggs of different marine bird species in Iceland, a country located in the sub-Arctic of the North-Western Atlantic. Previous investigations from e.g. Sweden and The Netherlands have shown some obvious differences in contaminant concentrations, including e.g. hydroxylated polychlorinated biphenyl metabolites (OH-PCBs) in guillemot (Uria aalge) and other bird species. Eggs from seven marine bird species, Arctic tern (Sterna paradisaea), common eider (Somateria mollissima), guillemot, fulmar (Fulmarus glacialis), great black-backed gull (Larus marinus), lesser black-backed gull (Larus fuscus), and great skua (Stercorarius skua), that all breed in Iceland, were collected and analyzed for several persistent organic compounds and their metabolites. The contaminant levels varied between the species investigated. The highest concentrations were found in eggs from the great skua (18 and 23 mu g/g I.w. of CB-153 and 4,4'-DDE, respectively). The concentration difference was generally 2 orders of magnitude higher in great skua for all organochlorine compounds analyzed with the exception of HCB. HCB did not vary as much between the seven species (ranging from 34 to 710 ng/g I.w). OH-PCB and MeSO2-PCB metabolites congener concentrations and patterns showed differences in metabolic capacity between bird species. Guillemot and great skua seem to distinguish themselves most from other species i.e. with the absence of 4-OH-CB187 and low relative levels of 4-OH-CB146 in guillemot and the low abundance of OH-PCBs in great skua.

**URL:** <Go to ISI>://BCI201000275113

**Reference Type:**  Journal Article

**Record Number:** 1897

**Author:** H. Jorundsdottir, K. Lofstrand, J. Svavarsson, A. Bignert and A. Bergman

**Year:** 2013

**Title:** Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland

**Journal:** Chemosphere

**Volume:** 93

**Issue:** 8

**Pages:** 1526-1532

**Date:** Nov

**Short Title:** Polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) in seven different marine bird species from Iceland

**ISSN:** 0045-6535

**DOI:** 10.1016/j.chemosphere.2013.07.061

**Accession Number:** WOS:000327003100011

**Keywords:** Common eider; Somateria mollissima; Contaminants

**Notes:** Times Cited: 0

Jorundsdottir, Hronn Lofstrand, Karin Svavarsson, Jorundur Bignert, Anders Bergman, Ake

0

**URL:** <Go to ISI>://WOS:000327003100011

**Reference Type:**  Journal Article

**Record Number:** 1225

**Author:** F. C. R. Jourdain

**Year:** 1926

**Title:** The nesting of Steller's Eider in Norway

**Journal:** Ibis

**Volume:** 2

**Issue:** (4)

**Pages:** 832-833

**Short Title:** The nesting of Steller's Eider in Norway

**Accession Number:** BCI:BCI19290300016948

**Keywords:** Steller's eider; Polysticta stelleri; Breeding Season;

**Abstract:** Comments on a letter by H. W. Robinson. || ABSTRACT AUTHORS: W. W. Bowen

**URL:** <Go to ISI>://BCI19290300016948

**Reference Type:**  Journal Article

**Record Number:** 847

**Author:** J. Kahlert

**Year:** 1994

**Title:** Effects of human disturbance on broods of Red-breasted Mergansers Mergus serrator

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 222-231

**Short Title:** Effects of human disturbance on broods of Red-breasted Mergansers Mergus serrator

**Accession Number:** BCI:BCI201000234411

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior; Conservation; Breeding Season;

**Abstract:** The effects of human disturbance on broods of Red-breasted Mergansers were studied at three Danish localities. Fast-moving boots (fishermen, windsurfers, and motor boats) were considered to have the greatest impact on Merganser broods as frequency of encounters and rote of disturbance were highest. The presence of fast-moving boots also caused the most significant modifications to time budgets. However, Merganser broods are considered quite resilient to human disturbance as they quickly resumed their former activities after disturbance, and at moderate disturbance levels, interruptions to comfort behaviour were compensated for within 1 1/2 hours. However, on one locality with high disturbance levels and frequent high-speed boating, the survival of ducklings was reduced.

**URL:** <Go to ISI>://BCI201000234411

**Reference Type:**  Journal Article

**Record Number:** 837

**Author:** J. Kahlert, M. Coupe and F. Cooke

**Year:** 1999

**Title:** Winter segregation and timing of pair formation in Red-breasted Merganser Mergus serrator

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 161-172

**Short Title:** Winter segregation and timing of pair formation in Red-breasted Merganser Mergus serrator

**Accession Number:** BCI:BCI199900307442

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior; Nonbreeding Seasons;

**Abstract:** During the late winter and spring of 1997, sex-ratios and pairing chronology of Red-breasted Mergansers were studied in the Fraser River Estuary, south west Canada. Until late March at one site, English Bay, there was a strong male-bias, whereas a female bias was evident at the nearby Boundary Bay. This pattern was interpreted as sexual winter segregation. At the male-biased site, antagonistic and kleptoparasitic behaviour initiated by males towards females could not account for the winter segregation. In late March and April, the sex ratios at the two study sites converged to similar values. This trait coincided with an increase in the number of courtship displays and percentage of paired birds. Although the majority of mergansers exhibited this pairing chronology, pairs were observed as early as mid-February, suggesting a gradient in the timing of pair formation. Pairs tended to segregate from flocks. If pairs are able to segregate throughout the winter early pairing may be beneficial as food resources could be monopolised and interference with conspecifics avoided. However, the frequency of interactions with conspecifics tends to be unpredictable, since local population size fluctuated considerably.

**URL:** <Go to ISI>://BCI199900307442

**Reference Type:**  Journal Article

**Record Number:** 899

**Author:** M. J. Kaiser, M. Galanidi, D. A. Showler, A. J. Elliott, R. W. G. Caldow, E. I. S. Rees, R. A. Stillman and W. J. Sutherland

**Year:** 2006

**Title:** Distribution and behaviour of Common Scoter Melanitta nigra relative to prey resources and environmental parameters

**Journal:** Ibis

**Volume:** 148

**Issue:** Suppl. 1

**Pages:** 110-128

**Date:** Mar 2006

**Short Title:** Distribution and behaviour of Common Scoter Melanitta nigra relative to prey resources and environmental parameters

**Accession Number:** BCI:BCI200700215523

**Keywords:** Black Scoter; Melanitta nigra; Habitat; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Offshore wind farms are proposed around the coast of the UK and elsewhere in Europe. These sites tend to be located in shallow coastal waters that often coincide with areas used by over-wintering Common Scoter Melanitta nigra. A large-scale study was undertaken to ascertain the relationship of the spatial distribution of Common Scoter in Liverpool Bay with prey abundance and environmental and anthropogenic variables that may affect foraging efficiency. The highest numbers of Common Scoter coincided with sites that had a high abundance and biomass of bivalve prey species. There was strong evidence that the maximum observed biomass of bivalves occurred at a mean depth of c. 14 m off the Lancashire coast and at c. 8 m off the north Wales coast. This coincided well with the distribution of Common Scoter at Shell Flat, but less well with the distribution of birds off North Wales. Common Scoters were observed in lowest numbers or were absent from areas in which anthropogenic disturbance ( shipping activity) was relatively intense, even when these areas held a high prey biomass. Commercial fishing activities did not appear to contribute to this disturbance.

**URL:** <Go to ISI>://BCI200700215523

**Reference Type:**  Journal Article

**Record Number:** 723

**Author:** L. Kajtoch and A. Piestrzynska-Kajtoch

**Year:** 2005

**Title:** Settlement of the Raba River basin by the Goosander Mergus merganser

**Journal:** Notatki Ornitolgiczne

**Volume:** 46

**Issue:** 4

**Pages:** 244-246

**Short Title:** Settlement of the Raba River basin by the Goosander Mergus merganser

**Accession Number:** BCI:BCI200600456708

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** A study of the distribution and abundance of a new population of the Goosander was conducted in the Raba River basin (south-eastern Poland) in 2000-2005. In particular years, the number of pairs ranged between 4 and 16. The decrease in the number of breeding pairs recorded for 2002-2004 was caused by cutting of forests and regulation of the river bed. The Goosander populated also the Dobczycki Reservoir and the Stradomka, Tarnawka and Krzyworzeka River valleys in the Wisnicki Foothill, forming the first population in the Polish Carpathian Mts. In 2005 the total abundance of this species was estimated at 20-24 pairs. it probably breeds in burrows and in beech forests, and is likely to spread into other river valleys of the Carpathian Foothills in the future.

**URL:** <Go to ISI>://BCI200600456708

**Reference Type:**  Journal Article

**Record Number:** 1898

**Author:** L. Kajtoch and M. Zmihorski

**Year:** 2013

**Title:** Are Goosanders good indicators of Carpathian's submontane river valleys naturalness and biodiversity?

**Journal:** Acta Biologica Cracoviensia Series Botanica

**Volume:** 55

**Pages:** 25-25

**Short Title:** Are Goosanders good indicators of Carpathian's submontane river valleys naturalness and biodiversity?

**ISSN:** 0001-5296

**Accession Number:** WOS:000325510300014

**Keywords:** Common merganser; Mergus merganser; Conservation; Breeding Season

**Notes:** Times Cited: 0

Kajtoch, Lukasz Zmihorski, Michal

Kajtoch, Lukasz/B-4236-2012

Kajtoch, Lukasz/0000-0001-7345-9400

0

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**URL:** <Go to ISI>://WOS:000325510300014

**Reference Type:**  Journal Article

**Record Number:** 2236

**Author:** L. Kajtoch, M. Zmihorski and A. Piestrzynska-Kajtoch

**Year:** 2014

**Title:** The Goosander as potential indicator of naturalness and biodiversity in submontane river valleys of northern Carpathians

**Journal:** Ecological Indicators

**Volume:** 45

**Pages:** 83-92

**Date:** Oct

**Short Title:** The Goosander as potential indicator of naturalness and biodiversity in submontane river valleys of northern Carpathians

**ISSN:** 1470-160X

**DOI:** 10.1016/j.ecolind.2014.03.021

**Accession Number:** WOS:000340312100011

**Keywords:** Common Merganser; Mergus merganser; Breeding Season; Habitat; Abundance, Distribution, & Trends; Conservation

**Abstract:** Riparian habitats are biodiversity hotspots, however, despite their protection (e.g. in Natura 2000 sites) they are drastically transformed, particularly in more developed countries. The least inventoried, monitored and protected are submontane drainages composed of lowland and mountain habitats and species. Effective evaluation and monitoring of riparian habitat quality and species richness in submontane valleys is difficult and time consuming, but could be overcome by using indicator species. In this work, we verify if Goosander Mergus merganser could be considered as indicators of submontane valleys' naturalness and biodiversity. Data about Goosander occurrence in the Raba drainage (Polish Carpathians) were compared with several environmental variables and information about species richness of selected riparian animals. Goosander distribution and abundance depended on "naturalness" variables (high share of alluvia and scarps in river channels and forests on river banks), but association with hydrogeomorphology and the vicinity of humans was not found. Goosander abundance was found to be significantly correlated with bird species richness (both forest- and river-dwellers) and the presence of aquatic mammals (beavers and otters), but not with a richness of fish. Moreover, Goosander allows a high prediction accuracy to be achieved for the presence of aquatic animals (otters, beavers, woodpeckers and river-dwelling birds), among others, species annexed in EU directives. The correlation of Goosander abundance with the richness of riparian vertebrates, as well as with natural riparian habitats makes this bird a good candidate for an umbrella and flagship species. Moreover, using Goosanders as indicators would be a valuable method for preliminary valorization and further monitoring of habitats and species in Natura 2000 sites of Polish Carpathians. The utility of this species as bioindicator in other parts of the Carpathians should be verified after saturation of available areas by its populations. (C) 2014 Elsevier Ltd. All rights reserved.

**Notes:** Kajtoch, Lukasz Zmihorski, Michal Piestrzynska-Kajtoch, Agata

**URL:** <Go to ISI>://WOS:000340312100011

**Reference Type:**  Journal Article

**Record Number:** 766

**Author:** J. A. Kalas, T. G. Heggberget, P. A. Bjorn and O. Reitan

**Year:** 1993

**Title:** Feeding behaviour and diet of goosanders (Mergus merganser) in relation to salmonid seaward migration

**Journal:** Aquatic Living Resources

**Volume:** 6

**Issue:** 1

**Pages:** 31-38

**Short Title:** Feeding behaviour and diet of goosanders (Mergus merganser) in relation to salmonid seaward migration

**Accession Number:** BCI:BCI199396026389

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation; Breeding Season;

**Abstract:** Foraging activities of goosanders (Anatidae, Mergus merganser) were studied in relation to seaward migration of smolt in the River Halselva in northern Norway, 1987-1989. Birds aggregated in the estuary in June, during mass migration of smolts. When present in the estuary males and females spent 28.7 and 35.6% of their time feeding. Only 15% of dives resulted in birds' bringing prey to the surface and about 25% of prey found in goosander stomachs were salmonoids. For hatchery-reared smolts released in the estuary, average length taken did not differ from that available; for wild smolts of Arctic char, however, smaller fishes than those available were taken. For 1989, we estimate that goosanders took 1% of the hatchery-reared smolts released in the estuary, and 2% of the wild smolts when smolts passed the estuary during seaward migration. As it is likely that less fit smolts (e. g. sick, injured, small) are most prone to predation we argue that such a level of predation on migrating smolts from goosanders has only a minor impact on salmonid production. Suggestions to reduce predation are discussed.

**URL:** <Go to ISI>://BCI199396026389

**Reference Type:**  Journal Article

**Record Number:** 52

**Author:** B. Kalejta-Summers and D. Butterfield

**Year:** 2006

**Title:** Numbers and distribution of wintering divers, grebes and seaducks in the Moray Firth, Scotland, 1998/99-2003/04

**Journal:** Wildfowl

**Volume:** 56

**Pages:** 113-128

**Short Title:** Numbers and distribution of wintering divers, grebes and seaducks in the Moray Firth, Scotland, 1998/99-2003/04

**Accession Number:** BCI:BCI200700194766

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Numbers of divers, grebes and seaducks were counted in the Moray Firth during six consecutive winters between 1998/99 and 2003/04, and compared with earlier surveys. Common Scoter Melanitta nigra, Long-tailed Duck Clangula hyentails and Eider Somateria mollissima were the most abundant species, accounting for over 70% of all birds counted. When maximum winter numbers during the study period were compared with published data for earlier years, declines in numbers were apparent for Goosander Mergus merganser, Long-tailed Duck and Eider since the early 1980s, and for Red-breasted Merganser M. serrator since the late 1980s. Counts of Goldeneye Bucephala clangula have increased since the early 1980s and those of Scaup, Common Scoter and Velvet Scoter M. fusca since the late 1980s. There were considerable changes in the distribution of several species within the Moray Firth, probably in response to changes in the food supply attributed to improvements to sewage and distillery discharges and to associated declines in fish and Blue Mussel Mytilus edulis populations. The Moray Firth supports internationally important numbers of two species (Great Northern Diver Gavia immer and Slavonian Grebe Podiceps auritus) and is nationally important for 10 other diver, grebe and seaduck species. The area supports the largest numbers of wintering Long-tailed Duck and the second largest numbers of Great Northern Diver, Red-throated Diver G. stellata, Slavonian Grebe, Common Scoter,Velvet Scoter and Goldeneye in Britain.

**URL:** <Go to ISI>://BCI200700194766

**Reference Type:**  Journal Article

**Record Number:** 2237

**Author:** E. Kalisinska, I. Bosiacka-Baranowska, N. Lanocha, D. Kosik-Bogacka, K. Krolaczyk, A. Wilk, K. Kavetska, H. Budis, I. Gutowska and D. Chlubek

**Year:** 2014

**Title:** Fluoride concentrations in the pineal gland, brain and bone of goosander (Mergus merganser) and its prey in Odra River estuary in Poland

**Journal:** Environmental Geochemistry and Health

**Volume:** 36

**Issue:** 6

**Pages:** 1063-1077

**Date:** Dec

**Short Title:** Fluoride concentrations in the pineal gland, brain and bone of goosander (Mergus merganser) and its prey in Odra River estuary in Poland

**ISSN:** 0269-4042

**DOI:** 10.1007/s10653-014-9615-6

**Accession Number:** WOS:000344546700004

**Keywords:** Common Merganser; Mergus merganser; Contaminants

**Abstract:** The aim of the study was to investigate fluoride concentrations in bone, brain and pineal gland of goosander Mergus merganser wintering in the Odra estuary ( Poland) as well as in fish originating from its digestive tract. The fluoride concentrations were determined with potentiometric method. Medians of concentrations in goosander had the highest and the lowest values in pineal gland and brain (>760 and <190 mg/kg, respectively). Fluoride concentration in the pineal gland was significantly greater than in the bone and the brain of the duck. In fish, the fluoride concentration ranged from 37 to 640 mg/kg and significant correlation was revealed between the fluoride concentration and fish weight and length. Based on own results and data of other authors, a daily fluoride intake by the goosander in the Odra estuary was estimated at 15 mg. So high fluoride concentrations like in the duck have not been found in mammal brains.

**Notes:** Kalisinska, Elzbieta Bosiacka-Baranowska, Irena Lanocha, Natalia Kosik-Bogacka, Danuta Krolaczyk, Katarzyna Wilk, Aleksandra Kavetska, Katarzyna Budis, Halina Gutowska, Izabela Chlubek, Dariusz

**URL:** <Go to ISI>://WOS:000344546700004

**Reference Type:**  Journal Article

**Record Number:** 702

**Author:** E. Kalisinska, H. Budis, J. Podlasinska, N. Lanocha and K. M. Kavetska

**Year:** 2010

**Title:** Body condition and mercury concentration in apparently healthy goosander (Mergus merganser) wintering in the Odra estuary, Poland

**Journal:** Ecotoxicology

**Volume:** 19

**Issue:** 8

**Pages:** 1382-1399

**Date:** Nov 2010

**Short Title:** Body condition and mercury concentration in apparently healthy goosander (Mergus merganser) wintering in the Odra estuary, Poland

**Accession Number:** BCI:BCI201100032866

**Keywords:** Common merganser; Mergus merganser; Physiology; Contaminants; Nonbreeding Seasons;

**Abstract:** Goosanders (Mergus merganser, ad, adult n = 42: M, males 33 and F, females 9; im, immature n = 17: M 8, F 9) were collected in 2005 at wintering site in the River Odra estuary (Poland). The body size (BM, body mass; BL, body length; KL, keel length), weights of organs (LM, liver; KM, kidneys; EM, encephalon), and two condition-related indices (BM/BL and BM/KL) were determined. Based on BM/BL and BM/KL indices, the birds were divided into 3 condition groups: A (very good), B (good), and C (moderate). Total mercury (Hg) concentrations (mg kg(-1) dry weight) were determined in liver, kidney, brain, breast muscle, and bone of 17 birds (ad, n = 8: 8 M, 1 F; im, n = 9: 6 M, 3 F). The highest Hg concentrations (in n = 17) were recorded in liver and kidney (14.7 and 9.9 mg kg(-1), respectively); the concentrations found in muscle and brain were lower (2.3 and 1.3 mg kg(-1), respectively), the lowest concentrations being typical of bone (0.08 mg kg(-1)). Mercury concentrations in the same organs of immature and adult goosanders, as well as males and females, did not differ significantly. On the other hand, distinct differences in Hg concentrations in the organs studied (except for the liver) were observed between individuals assigned to Group A (n = 11) and C (n = 6). Mercury levels were higher in the birds characterised by very good condition, which was most probably related to those birds being more efficient hunters, consuming higher amounts of Hg-containing fish. Significant and negative correlations between the muscle Hg concentration and the two condition-related indices (r > -0.70) were recorded in Group A only: the higher the concentration, the lower the BM/LM and BM/KL values.

**URL:** <Go to ISI>://BCI201100032866

**Reference Type:**  Journal Article

**Record Number:** 2238

**Author:** E. Kalisinska, J. Gorecki, A. Okonska, B. Pilarczyk, A. Tomza-Marciniak, H. Budis, N. Lanocha, D. I. Kosik-Bogacka, K. M. Kavetska, M. Macherzynski and J. Golas

**Year:** 2014

**Title:** HEPATIC AND NEPHRIC MERCURY AND SELENIUM CONCENTRATIONS IN COMMON MERGANSERS, MERGUS MERGANSER, FROM BALTIC REGION, EUROPE

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 33

**Issue:** 2

**Pages:** 421-430

**Date:** Feb

**Short Title:** HEPATIC AND NEPHRIC MERCURY AND SELENIUM CONCENTRATIONS IN COMMON MERGANSERS, MERGUS MERGANSER, FROM BALTIC REGION, EUROPE

**ISSN:** 0730-7268

**DOI:** 10.1002/etc.2448

**Accession Number:** WOS:000329556600020

**Keywords:** Common Merganser; Mergus merganser; Contaminants

**Abstract:** The subject of the present study was the piscivorous common mergansers (Mergus merganser). The total mercury (THg), methylmercury (MeHg), selenium (Se) inorganic mercury (InHg; THg - MeHg), percentage of THg that is MeHg (%MeHg), molar ratios (THg:Se, MeHg:Se, InHg:Se), and their mutual relations in livers and kidneys were determined in ducks from an Se-deficient area in Poland. The authors verified a hypothesis that, as a result of living in an Se-deficient region, mergansers from Poland should have higher THg:Se ratios than other waterbirds with similar THg tissue levels. Although a comparison of healthy mergansers from Poland and Canada showed similar THg tissue contents, the group in the present study had a few times lower Se levels and higher THg:Se ratios (overall means >1.7 in both livers and kidneys in all studied individuals) than the Canadian group and other European and North American waterbirds. The authors found significant correlations between various relations, including MeHg-THg, InHg-THg, Se-THg, %MeHg-THg, InHg/%THg-THg, %MeHg/THg-InHg, %InHg/THg-InHg, MeHg:Se-THg:Se, InHg:Se-THg:Se, InHg:Se-MeHg:Se in liver and InHg-THg, Se-THg, Se-InHg, %MeHg-THg, %MeHg-InHg, %InHg/THg-InHg, THg:Se-THg, InHg:Se-THg, MeHg:Se-MeHg, THg:Se-InHg, InHg:Se-InHg, and InHg:Se-THg:Se in kidney. It is likely that the main factor responsible for the high value of THG:Se ratio (>1) in mergansers from Poland is Se deficiency in central and northern Europe. Therefore, this element is unlikely to participate in the detoxification of Hg in these birds. (c) 2013 SETAC

**Notes:** Kalisinska, Elzbieta Gorecki, Jerzy Okonska, Anna Pilarczyk, Bogumila Tomza-Marciniak, Agnieszka Budis, Halina Lanocha, Natalia Kosik-Bogacka, Danuta I. Kavetska, Katarzyna M. Macherzynski, Mariusz Golas, Janusz

**URL:** <Go to ISI>://WOS:000329556600020

**Reference Type:**  Journal Article

**Record Number:** 2239

**Author:** E. Kalisinska, J. Gorecki, A. Okonska, B. Pilarczyk, A. Tomza-Marciniak, H. Budis, N. Lanocha, D. I. Kosik-Bogacka, K. M. Kavetska, M. Macherzynski and J. M. Golas

**Year:** 2014

**Title:** Mercury and selenium in the muscle of piscivorous common mergansers (Mergus merganser) from a selenium-deficient European country

**Journal:** Ecotoxicology and Environmental Safety

**Volume:** 101

**Pages:** 107-115

**Date:** Mar

**Short Title:** Mercury and selenium in the muscle of piscivorous common mergansers (Mergus merganser) from a selenium-deficient European country

**ISSN:** 0147-6513

**DOI:** 10.1016/j.ecoenv.2013.12.019

**Accession Number:** WOS:000331853400017

**Keywords:** Common Merganser; Mergus merganser; Contaminants

**Abstract:** Although the relationship between mercury (Hg) and selenium (Se) has been studied in wild birds in areas with sufficient or excessive Se levels, little is known about this relationship in areas where the supply of Se is limited. As Hg detoxification is based on the production of biologically inactive Hg-Se complexes, the aim of this study was to investigate the relationships between the concentrations of total mercury (THg), methylmercury (MeHg), inorganic mercury (InHg=THg-MeHg), percent MeHg of THg, Se and molar ratios (THg:Se, MeHg:Se, InHg:Se) in the breast muscle (n=16) of the piscivorous common mergansers (Mergus merganser) from a Se-deficient and moderately Hg-polluted area in Poland. Mergansers were divided into two groups differing in condition (A very good condition; C moderate condition). Concentrations of THg, MeHg and Se were determined by atomic absorption spectrometry, modified gas chromatography atomic fluorescence spectroscopy, and spectrofluorometric methods, respectively. In all studied mergansers, mean concentrations of THg, MeHg, InHg, and Se in muscle were 2.63, 1.92, 0.46, and 0.54 mu g g(-1) dw, respectively. THg and MeHg concentrations in the muscle of group A mergansers were greater than in group C. The ratio of THg:Se was higher in group A than in group C (2.32 vs 1.36; p < 0.01), as well as the molar ratio of MeHg:Se (A vs C: 1.98 vs 1.03; p < 0.05). Comparisons between mergansers from Poland and Canada showed similar THg and percent MeHg in the muscle, but mergansers from Poland had several times lower Se levels and higher THg:Se ratios ( > 2.0) than the Canadian mergansers and other European and North American waterbirds. We found statistically significant positive correlations (MeHg-THg, percent MeHg/THg-MeHg, percent InHg/THg-InHg, THg:Se-THg, MeHg:Se-THg, THg:Se-MeHg, MeHg:Se-MeHg, InHg:Se-InHg, MeHg:Se-THg:Se) and some negative correlations (percent InHg/THg-MeHg, percent MeHg/THg-InHg, THg:Se-Se, MeHg:Se-Se). As THg and percent MeHg in the studied mergansers were similar to populations living in non-Se-deficient areas, it is likely that different mechanisms of muscle Hg detoxification have evolved in mergansers populations living in Se-deficient areas. (C) 2013 Elsevier Inc. All rights reserved.

**Notes:** Kalisinska, Elzbieta Gorecki, Jerzy Okonska, Anna Pilarczyk, Bogumila Tomza-Marciniak, Agnieszka Budis, Halina Lanocha, Natalia Kosik-Bogacka, Danuta I. Kavetska, Katarzyna M. Macherzynski, Mariusz Golas, Janusz M.

**URL:** <Go to ISI>://WOS:000331853400017

**Reference Type:**  Journal Article

**Record Number:** 1138

**Author:** E. Kalisinska and U. Szuberla

**Year:** 1996

**Title:** Heavy metals in the brain of long-tailed duck (Clangula hyemalis) wintering in the Pomeranian Bay, Poland

**Journal:** Biological Trace Element Research

**Volume:** 55

**Issue:** 1-2

**Pages:** 191-197

**Short Title:** Heavy metals in the brain of long-tailed duck (Clangula hyemalis) wintering in the Pomeranian Bay, Poland

**Accession Number:** BCI:BCI199799372469

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons;

**Abstract:** Males (n = 34) and females (n = 23) of long-tailed duck (Clangula hyemalis) collected on the southern coast of the Baltic Sea in winter were studied to determine brain tissue concentration of iron (Fe), zinc (Zn), copper (Cu), manganese (Mn), and cadmium (Cd). There were no significant differences in the concentration of metals between males and females, except for Cd, the concentration of which in male brains was twice that of the females. In the brains of 20 birds (41% male and 26% female), the lead (Pb) concentration exceeded 1 mu-g/g wet wt. In all the duck brains examined, Spearman correlation coefficients were significant and positive for Zn-Mn, Cu-Mn, Cu-Fe, and Pb-Fe; a negative correlation was found for Pb-Zn. Additionally, female brains showed a positive correlation between Pb and Fe. The results obtained were compared with literature data for diving and nondiving anseriforms and birds of other taxa. It seems that concentration of heavy metals in the brain tissue of birds reflect natural adaptations (e.g., for diving) as well as effects of environmental pollution.

**URL:** <Go to ISI>://BCI199799372469

**Reference Type:**  Journal Article

**Record Number:** 718

**Author:** H. Kallander

**Year:** 2006

**Title:** Interspecific kleptoparasitism by four species of gull Larus spp. in South Sweden

**Journal:** Ornis Svecica

**Volume:** 16

**Issue:** 3

**Pages:** 127-149

**Short Title:** Interspecific kleptoparasitism by four species of gull Larus spp. in South Sweden

**Accession Number:** BCI:BCI200700034147

**Keywords:** Common Eider; Somateria mollissima; Common merganser; Mergus merganser; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Data are presented on interspecific kleptoparasitism by Black-headed Gull Larus ridibundus, Common Gull L. canus, Herring Gull L. argentatus and Great Black-backed Gull L. marinas, collected in South Sweden from the late 1950s to the present day. The basis for the presentation is the various host species exploited by the four gull species. For each host species, information is given on species of gull kleptoparasitising it, seasonal occurrence of kleptoparasitism, details of behaviour and, when available, data on gulls' success rates. The paper is intended as a sort of catalogue. For this reason, relevant literature is reviewed under each of the host-species headings. Gulls' success rates varied between 55% for Black-headed Gulls and Common Gulls parasitising Northern Lapwings Vanellus vanellus, the most often observed kleptoparasitic association, and 15% on the few occasions that Black-headed Gulls parasitised Curlews Numenius arquata in grassland. When the same two gull species parasitised Common Starlings Sturnus vulgaris, their success rate varied with robbing tactic used (16% vs Abstract 45%). Beside the association of the two small gull species with Lapwings and Golden Plovers Pluvialis apricaria, the most frequently observed associations were those of Herring Gulls with Common Eiders Somateria mollissima and Great Black-backed Gulls and Herring Gulls with diving fish-eaters (Great Cormorant Phalacrocorax carbo, mergansers Mergus spp.). Kleptoparasitism often occurred during periods of food scarcity, being most common in harsh winter conditions (the two large gull species) and during cold spells in early spring (some associations of the two small gull species). As in other studies, gulls' success rate was strongly dependent on the size of hosts' prey, and thus, normally on handling time. It is suggested that success rate can often be used as a substitute for profitability in studies of kleptoparasitism.

**URL:** <Go to ISI>://BCI200700034147

**Reference Type:**  Journal Article

**Record Number:** 556

**Author:** G. Kapperud and O. Rosef

**Year:** 1983

**Title:** Avian Wildlife Reservoir of Campylobacter-Fetus-Ssp-Jejuni Yersinia-Spp and Salmonella-Spp in Norway

**Journal:** Applied and Environmental Microbiology

**Volume:** 45

**Issue:** 2

**Pages:** 375-380

**Short Title:** Avian Wildlife Reservoir of Campylobacter-Fetus-Ssp-Jejuni Yersinia-Spp and Salmonella-Spp in Norway

**Accession Number:** BCI:BCI198376006759

**Keywords:** Common Goldeneye; Bucephala clangula; Disease;

**Abstract:** Cloacal swabs from 540 wild-living birds were cultured for C. fetus ssp. jejuni, Yersinia spp. and Salmonella spp. The carrier rates detected were as follows: C. fetus ssp. jejuni, 28.4%; Yersinia spp., 1.2%; and Salmonella spp., 0.8%. All birds were apparently healthy when captured. C. fetus ssp. jejuni was isolated from 11 of the 40 bird species examined. Among birds inhabiting the city of Oslo, the highest isolation rate was found in crows (Corvus corone cornix) (89.8%), followed by gulls (Larus spp.) (50.0%) and domestic pigeons (Columba livia domestica) (4.2%). The gulls and crows scavenge on refuse dumps. High carrier rates were also detected among the following birds from nonurban, coastal areas: puffin (Fratercula arctica), (51.3%), common tern (Sterna hirundo) (5.6%), common gull (L. canus) (18.9%), black-headed gull (L. ridibundus) (13.2%) and herring gull (L. argentatus) (4.2%). The list of species harboring C. fetus ssp. jejuni also includes the Ural owl (Strix uralensis), goldeneye (Bucephala clangula) and reed bunting (Emberiza schoeniclus). The following 5 Yersinia strains were isolated: Y. kristensenii (2 strains), Y. intermedia (2 strains) and Yersinia X2 (1 stain). Four Salmonella strains were isolated from 3 different species of gulls. These isolates were identified as S. typhimurium, S. indiana and S. djugu. The results indicate that campylobacters are a normal component of the intestinal flora in several bird species whereas Salmonella and Yersinia carriers are more sporadic.

**URL:** <Go to ISI>://BCI198376006759

**Reference Type:**  Journal Article

**Record Number:** 1655

**Author:** O. Karlog, K. Elvestad and B. Clausen

**Year:** 1983

**Title:** Heavy Metals Cadmium Copper Lead and Mercury in Common Eiders Somateria-Mollissima from Denmark

**Journal:** Nordisk Veterinaermedicin

**Volume:** 35

**Issue:** 12

**Pages:** 448-451

**Short Title:** Heavy Metals Cadmium Copper Lead and Mercury in Common Eiders Somateria-Mollissima from Denmark

**Accession Number:** BCI:BCI198478039113

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** The Cd, Cu, Pb and Hg content in livers and kidneys of Danish eiders was determined. Toxic levels of Pb were found in some of the birds, and the liver Cd content seemed high from a consumer's point of view.

**URL:** <Go to ISI>://BCI198478039113

**Reference Type:**  Journal Article

**Record Number:** 13

**Author:** S. Kasahara and K. Koyama

**Year:** 2010

**Title:** Population trends of common wintering waterfowl in Japan: participatory monitoring data from 1996 to 2009

**Journal:** Ornithological Science

**Volume:** 9

**Issue:** 1

**Pages:** 23-36

**Date:** Jun 2010

**Short Title:** Population trends of common wintering waterfowl in Japan: participatory monitoring data from 1996 to 2009

**Accession Number:** BCI:BCI201000589735

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** We analyzed population trends of 13 waterfowl (Anseriformes) species wintering in Japan during a 14-year period (1996-2009). We used data from annual volunteer-participatory waterfowl count surveys which were conducted in Japan by the Ministry of the Environment and local prefectural governments. Population indices and long-term trends of each species were calculated using TRIM (TRends and Indices for Monitoring data). TRIM is a freeware program developed for analysis of time series count data with missing observations. During the 14 years, seven species exhibited significant long-term declines, while four species showed long-term increases. Most of the species that showed long term declines were characterized as being water-surface foraging species, species breeding in both middle and high latitude regions, or species using rice fields. Most species that showed long-term increases were characterized as diving species, species breeding at high latitude or species rarely using rice fields. We calculated composite indices for these groups. The group of water-surface foraging species showed declines in river, natural lakes and artificial lakes, except reservoirs, when each habitat was analyzed separately. In contrast, the group of diving foraging species showed an increase in estuarine habitat. We suggest that changes in: water quality, breeding habitat in the middle latitude region, and in cultivation methods in rice fields, have affected population changes of some species and groups.

**URL:** <Go to ISI>://BCI201000589735

**Reference Type:**  Journal Article

**Record Number:** 80

**Author:** K. Kauhala

**Year:** 2004

**Title:** Removal of medium-sized predators and the breeding success of ducks in Finland

**Journal:** Folia Zoologica

**Volume:** 53

**Issue:** 4

**Pages:** 367-378

**Short Title:** Removal of medium-sized predators and the breeding success of ducks in Finland

**Accession Number:** BCI:BCI200500159459

**Keywords:** Sea Ducks - General; Trophic Interactions; Breeding Season; Productivity;

**Abstract:** A predator removal study was done in Finland to reveal the possible effects of mammalian predators on the breeding success of ducks. Predator removal/protection from hunting was most effective in northern Finland. Also in eastern Finland predator removal had sonic influence on predator numbers, whereas its impact on predator numbers was not so evident in southern Finland. In southern Finland, no increase in the breeding success of ducks was observed in the predator removal area, whereas in northern Finland the relative reproduction rate of diving ducks increased in the removal area and that of dabbling ducks declined in the control area. In eastern Finland, the breeding success of ducks declined in both areas. There was a positive relationship between the raccoon dog index and the relative reproduction rate of dabbling ducks in southern Finland, indicating that raccoon dog numbers probably are of minor importance for the breeding success of ducks. On the contrary. there was a negative relation-ship between the fox and marten indices and the breeding success of ducks in some areas. Marten and fox removal may thus have a positive effect on the breeding success of ducks in Finland. The effect of the American mink could not be verified in this study.

**URL:** <Go to ISI>://BCI200500159459

**Reference Type:**  Journal Article

**Record Number:** 124

**Author:** J. Kauppinen and V.-M. Vaananen

**Year:** 1999

**Title:** Factors affecting changes in waterfowl populations in eutrophic wetlands in the Finnish lake district

**Journal:** Wildlife Biology

**Volume:** 5

**Issue:** 2

**Pages:** 73-81

**Date:** June, 1999

**Short Title:** Factors affecting changes in waterfowl populations in eutrophic wetlands in the Finnish lake district

**Accession Number:** BCI:BCI199900326720

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** From the 1970s to the 1990s, changes in breeding waterfowl populations were monitored at 26 well-vegetated lakes in southern Finland. Extreme total population levels were found to differ by 40%, but between successive years fluctuations did not exceed 20%, the most unstable populations being garganey Anas querquedula, tufted duck Aythya fuligula, coot Fulica atra and pochard Aythya ferina. Multiple regression analysis was used to determine the effects of weather factors during wintering, spring and brood seasons on the variation in breeding waterfowl populations. The following weather factors were statistically significant in explaining fluctuations observed in four species; in garganey: spring temperature; in pintail Anas acuta: brood season temperature, winter severity in France and spring temperature; in goldeneye Bucephala clangula: winter severity in the Baltic and spring temperature; and in mallard Anas platyrhynchos: brood season temperature of the previous year. Mallard, teal Anas crecca, wigeon Anas penelope and goldeneye were shot in larger numbers than would be expected considering their respective proportions of the breeding waterfowl community. Hunting pressure on mallard, tufted duck and goldeneye was clearly higher in our study area than in other parts of Finland. Our results indicate that the level of hunting pressure in our study area may affect population densities of mallard.

**URL:** <Go to ISI>://BCI199900326720

**Reference Type:**  Journal Article

**Record Number:** 1541

**Author:** M. F. Kay and H. G. Gilchrist

**Year:** 1998

**Title:** Distraction displays made by female common eiders, Somateria mollissima borealis, in response to human disturbance

**Journal:** Canadian Field-Naturalist

**Volume:** 112

**Issue:** 3

**Pages:** 529-532

**Date:** July-Sept., 1998

**Short Title:** Distraction displays made by female common eiders, Somateria mollissima borealis, in response to human disturbance

**Accession Number:** BCI:BCI199900070374

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** A high frequency of distraction displays was observed among Common Eiders (Somateria mollissima borealis) nesting on an island in East Bay, Southampton Island, Northwest Territories. Although this anti-predator behavior is common among ground-nesting birds, it appears to be rare among Common Eiders. This may be because Common Eiders nest on offshore islands where terrestrial predators are limited and/or because this type of behaviour increases the risk of predation for the female. Eiders at the East Bay colony, however, are subjected to Arctic Foxes (Alopex lagopus) during egg-laying and early incubation and this may have influenced the frequency with which distraction display behaviors are expressed.

**URL:** <Go to ISI>://BCI199900070374

**Reference Type:**  Journal Article

**Record Number:** 1001

**Author:** F. P. Kehoe

**Year:** 1989

**Title:** The Adaptive Significance of Creching Behavior in the White-Winged Scoter Melanitta-Fusca-Deglandi

**Journal:** Canadian Journal of Zoology

**Volume:** 67

**Issue:** 2

**Pages:** 406-411

**Short Title:** The Adaptive Significance of Creching Behavior in the White-Winged Scoter Melanitta-Fusca-Deglandi

**Accession Number:** BCI:BCI198988000476

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Breeding Season;

**Abstract:** I tested several hypotheses regarding the adaptive significance of creching behaviour using white-winged scoters (Melanitta fusca delgnadi) at Redberry Lake, Saskatchewan [Canada]. Scoter creches consist of a single female tending the young of one or more conspecifics. There was no relationship between a female's weight at the end of incubation and whether she stayed with ducklings. Therefore, there is no evidence that females in poor condition abandon their young more frequently than other females. No relationship was found between a female's age and her association with ducklings. Therefore, creching does not appear to be related female age or experience. Observations of color-marked ducklings in 1985 showed that 7 out of 10 females tended creches that were composed entirely of forestered young. The survival of ducklings from large groups was greater than that from small groups, so creching does not appear to be a strategy that enhances individual fitness of creche-tending females. However, because of the high degree of philopatry by female scoters, creching could enhance inclusive fitness if creches contain the young of related individuals. This hypothesis could not be tested.

**URL:** <Go to ISI>://BCI198988000476

**Reference Type:**  Journal Article

**Record Number:** 1000

**Author:** F. P. Kehoe, P. W. Brown and C. S. Houston

**Year:** 1989

**Title:** Survival and Longevity of White-Winged Scoters Nesting in Central Saskatchewan Canada

**Journal:** Journal of Field Ornithology

**Volume:** 60

**Issue:** 2

**Pages:** 133-136

**Short Title:** Survival and Longevity of White-Winged Scoters Nesting in Central Saskatchewan Canada

**Accession Number:** BCI:BCI198988035312

**Keywords:** White-winged Scoter; Melanitta fusca; Survival; Breeding Season;

**Abstract:** Female white-winged scoters (Melanitta fusca) banded at Redberry Lake, Saskatchewan, have an annual survival rate of 78.2 .+-. 2.0%. One female captured in July 1985 was at least 18 yr old, a new longevity record for the species.

**URL:** <Go to ISI>://BCI198988035312

**Reference Type:**  Journal Article

**Record Number:** 707

**Author:** V. Keller

**Year:** 2009

**Title:** The Goosander Mergus merganser population breeding in the Alps and its connections to the rest of Europe

**Journal:** Wildfowl

**Issue:** Sp. Iss. 2

**Pages:** 60-73

**Short Title:** The Goosander Mergus merganser population breeding in the Alps and its connections to the rest of Europe

**Accession Number:** BCI:BCI201000087037

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** The main range of the Goosander Mergus merganser in Europe stretches from Norway to northern Russia. Outside this main range, breeding populations exist in Iceland, Britain and the Balkans. In the Alps, the birds breed mainly in Switzerland and southern Germany (Bavaria). This paper compiles evidence from different disciplines to determine the conservation status of the Central-West European (Alpine) population of Goosander, in particular whether it is isolated from other Goosander populations. Recoveries of ringed birds showed that the Goosanders breeding in the Alpine region, estimated at c. 1,000-1,400 pairs in 1998, are augmented by birds from northern Europe during the winter months. Molecular analysis of female-inherited mtDNA indicated a strong genetic differentiation among European breeding populations, whereas no significant differences were found at nuclear DNA markers, indicating at least some interchange between populations. The evidence from the various studies reinforces the view that the Central-West European (Alpine) population of Goosandcr should be considered as a separate population and conservation unit.

**URL:** <Go to ISI>://BCI201000087037

**Reference Type:**  Journal Article

**Record Number:** 1775

**Author:** D. K. Kellett and R. T. Alisauskas

**Year:** 1997

**Title:** Breeding biology of king eiders nesting on Karrak Lake, Northwest Territories

**Journal:** Arctic

**Volume:** 50

**Issue:** 1

**Pages:** 47-54

**Short Title:** Breeding biology of king eiders nesting on Karrak Lake, Northwest Territories

**Accession Number:** BCI:BCI199799500974

**Keywords:** King Eider; Somateria spectabilis; Productivity; Breeding Season;

**Abstract:** We studied various aspects of the breeding biology of king eiders (Somateria spectabilis) nesting at Karrak Lake, south of Queen Maud Gulf in the central Canadian Arctic. We found 41 nests distributed among 10 islands in Karrak Lake; to our knowledge, this represents the largest number of king eider nests studied at one site. We suspect that island nesting by king eiders is more common than has been previously reported. King eiders favoured mid-sized islands (0.002-0.081 km-2) over very small (less than 0.002 km-2) or very large (greater than 0.081 km-2) islands. Mean clutch size was 5.4 +- 1.7 (SD) eggs. Apparent nest success was 69.4%, with a composite Mayfield estimate of nest success over egg laying and incubation of 48.7% (95% CI: 47.4-50.0%). Nest success was uncorrelated with date of nest initiation or island size, but eiders nesting on islands farther from the mainland had greater success than those nesting on islands closer to the mainland. Additionally, nest success was greater on islands with more nesting eiders and on islands with nesting arctic terns (Sterna paradisaea).

**URL:** <Go to ISI>://BCI199799500974

**Reference Type:**  Journal Article

**Record Number:** 1771

**Author:** D. K. Kellett and R. T. Alisauskas

**Year:** 2000

**Title:** Body-mass dynamics of King Eiders during incubation

**Journal:** Auk

**Volume:** 117

**Issue:** 3

**Pages:** 812-817

**Date:** July, 2000

**Short Title:** Body-mass dynamics of King Eiders during incubation

**Accession Number:** BCI:BCI200000406321

**Keywords:** King Eider; Somateria spectabilis; Energetics and Nutrition; Breeding Season;

**URL:** <Go to ISI>://BCI200000406321

**Reference Type:**  Journal Article

**Record Number:** 1756

**Author:** D. K. Kellett, R. T. Alisauskas and K. R. Mehl

**Year:** 2003

**Title:** Nest-site selection, interspecific associations, and nest success of king eiders

**Journal:** Condor

**Volume:** 105

**Issue:** 2

**Pages:** 373-378

**Date:** May 2003

**Short Title:** Nest-site selection, interspecific associations, and nest success of king eiders

**Accession Number:** BCI:BCI200300279580

**Keywords:** King Eider; Somateria spectabilis; Productivity; Breeding Season;

**Abstract:** We investigated factors influencing nest success in King Eiders (Somateria spectabilis) at Karrak Lake, Nunavut, Canada, during 1995-2001. Island-nesting King Eiders had higher nest success (range 30-89%) than that reported for mainland-nesting populations, and nested at much higher densities (46-198 nests km-2) than on mainland, where they were detected infrequently (usually <1 nest km-2). Predation was the main cause of nest failure, and King Eider nest success was greater on isolated islands (smaller islands, and larger islands farther from the mainland) that were presumably less accessible to mammalian predators. King Eiders did not derive protection from predators by nesting near gulls (Larus spp.) and Arctic Terns (Sterna paradisaea).

**URL:** <Go to ISI>://BCI200300279580

**Reference Type:**  Journal Article

**Record Number:** 1115

**Author:** D. K. Kellett, R. T. Alisauskas, K. R. Mehl, K. L. Drake, J. J. Traylor and S. L. Lawson

**Year:** 2005

**Title:** Body mass of long-tailed ducks (Clangula hyemalis) during incubation

**Journal:** Auk

**Volume:** 122

**Issue:** 1

**Pages:** 313-318

**Date:** Jan 05

**Short Title:** Body mass of long-tailed ducks (Clangula hyemalis) during incubation

**Accession Number:** BCI:BCI200510131669

**Keywords:** Long-tailed Duck; Clangula hyemalis; Energetics and Nutrition; Breeding Season;

**Abstract:** We investigated body-mass dynamics during incubation of Long-tailed Ducks (Clangula hyemalis) nesting in Canada's central Arctic, 1998-2003. Long-tailed Duck females (n = 37) lost 7% of pre-incubation body mass during incubation; on average, females weighed 618 +/- 15 g (mean SE) at clutch completion and 575 +/- 11 g at hatch. Given the differences in body size, Long-tailed Ducks relied less on endogenous reserves than sympatric King Eiders (Somateria spectabilis), but lost less mass than similar-sized waterfowl species nesting in temperate climates. Preliminary data suggest that Long-tailed Ducks maintain similar or higher nest-attendance rates than temperate-nesting waterfowl of similar size, and we suggest that access to locally abundant, high-quality foods enable Long-tailed Duck females to maintain high incubation constancy without sacrificing female body condition. Nevertheless, Long-tailed Ducks appear to differ widely from most Arctic-nesting waterfowl in nutritional strategy for nesting.

**URL:** <Go to ISI>://BCI200510131669

**Reference Type:**  Journal Article

**Record Number:** 27

**Author:** B. C. Kelly, M. G. Ikonomou, J. D. Blair and F. A. P. C. Gobas

**Year:** 2008

**Title:** Hydroxylated and methoxylated polybrominated diphenyl ethers in a Canadian Arctic marine food web

**Journal:** Environmental Science & Technology

**Volume:** 42

**Issue:** 19

**Pages:** 7069-7077

**Date:** Oct 1 2008

**Short Title:** Hydroxylated and methoxylated polybrominated diphenyl ethers in a Canadian Arctic marine food web

**Accession Number:** BCI:BCI200800625313

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Residues of hydroxylated (OH-) and methoxylated (MeO-) polybrominated diphenyl ethers (PBDEs) have been previously detected in precipitation, surface waters, wildlife, and humans. We report measured concentrations of OH-PBDEs, MeO-PBDEs, and Br-3-Br-7 PBDEs in sediments and biota from a Canadian Arctic marine food web. PBDEs exhibited very low trophic magnification factors (TMFs between 0.1-1.6), compared to recalcitrant PCBs (TMFs between 3 and 11), indicating biotransformation via debromination and/or cytochrome P450 mediated metabolism. OH-PBDEs were not detectable in samples of blood, muscle, and/or liver of fish and marine wildlife. Five OH-PBDEs were detected at very low concentrations (range: 0.01-0.1 ng.g(-1) lipid equivalent) in beluga whale blubber and milk. The data indicate negligible formation/retention of OH-PBDEs in these Arctic marine organisms. Appreciable levels of several MeO-PBDEs were observed in bivalves, Arctic cod, sculpin, seaducks, and beluga whales (mean range 0.1-130 ng.g(-1) lipid equivalent). 2'-MeO-BDE-68 and 6-MeO-BDE-47 exhibited the highest concentrations among the brominated compounds studied (including BDE-47 and BDE-99) and biomagnified slightly in the food web, with TMFs of 2.3 and 2.6, respectively. OH- and MeO-PBDEs in this Arctic marine food web may occur via metabolic transformation of PBDEs or bioaccumulation of PBDE degradation products and/or natural marine products. We observed no evidence of a local natural source of OH- or MeO-PBDEs, as no measurable quantities of those compounds were observed in ambient environmental media (i.e., sediments) or macroalgae. Further investigations of PBDEs and their hydroxylated and methoxylated analogues would be useful to better understand sources, fate, and mechanisms governing biotransformation and bioaccumulation behavior of these compounds.

**URL:** <Go to ISI>://BCI200800625313

**Reference Type:**  Journal Article

**Record Number:** 129

**Author:** J. P. Kelly and S. L. Tappen

**Year:** 1998

**Title:** Distribution, abundance, and implications for conservation of winter waterbirds on Tomales Bay, California

**Journal:** Western Birds

**Volume:** 29

**Issue:** 2

**Pages:** 103-120

**Short Title:** Distribution, abundance, and implications for conservation of winter waterbirds on Tomales Bay, California

**Accession Number:** BCI:BCI199800269069

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** We analyzed patterns of abundance and distribution of wintering waterbirds in Tomales Bay, California, on the basis of 21 baywide winter surveys over 7 years from 1989-90 to 1995-96. Total waterbird abundances averaged 21,943 (min. 14,842, max. 25,553), excluding shorebirds and gulls. Mean waterbird density was 770 birds/km2 with the greatest concentrations along the east shore and between Pelican and Tom's points. The Surf Scoter, Bufflehead, and Greater Scaup together accounted for 70% of the total waterbirds. Aerial count data from the U.S. Fish and Wildlife Service Midwinter Waterfowl Survey underestimated the numbers of waterbirds in comparison to our counts made from boats. Such differences adjusted for, our abundance estimates for scoters and Bufflehead appear similar to other abundances reported in the 1960s and 1970s. Compared to other coastal wetlands in California, Tomales Bay provides particularly important winter habitat for the Red-throated and Common loon, Eared and Horned grebe, Black Brant, Surf and Black scoter. Except for San Francisco Bay, Tomales Bay may provide the most important winter habitat for the Bufflehead on the Pacific coast south of the Columbia River. Waterbird distributions on Tomales Bay are associated with a dynamic array of habitat conditions. Increasing human activities in Tomales Bay and its watershed interact with these processes and conditions and suggest several concerns for conservation of winter waterbirds. Protection of waterbird populations will require particular attention to the control of human disturbance, protection of eelgrass beds, the possible effects of the herring fishery and aquaculture, and management of processes in the watershed.

**URL:** <Go to ISI>://BCI199800269069

**Reference Type:**  Journal Article

**Record Number:** 79

**Author:** M. A. Kendall, M. T. Burrows, A. J. Southward and S. J. Hawkins

**Year:** 2004

**Title:** Predicting the effects of marine climate change on the invertebrate prey of the birds of rocky shores

**Journal:** Ibis

**Volume:** 146

**Issue:** Suppl. 1

**Pages:** 40-47

**Date:** September 2004

**Short Title:** Predicting the effects of marine climate change on the invertebrate prey of the birds of rocky shores

**Accession Number:** BCI:BCI200400473580

**Keywords:** Sea Ducks - General; Trophic Interactions;

**Abstract:** By the end of the 21st century models of climate change predict that the air temperature over most of the British Isles will increase by between 2 and 3degreeC and sea-level will rise by 40-50 cm. Over that period it will become windier and mean wave height will increase, as will the frequency of storms. These changes in climate and weather will impact the intertidal zone of the UK and will cause distribution changes in many of the common invertebrate species that live there. Where these changes are severe they may well impact on patterns of distribution of ducks and wading birds. In the British Isles a number of organisms live close to their geographical limits of distribution. Some of these species might be expected to extend their range as climatic restraints are relaxed. Species currently limited by cool summers or winter cold will move northwards. In most cases the effects on the distribution of waterbirds will be small. For example, the replacement of the Northern Limpet Patella vulgata by the Southern Limpet P. depressa is unlikely to adversely affect Eurasian Oystercatchers Haematopus ostralegus. Of wider concern is the possibility that as climate warms the abundance and productivity of brown algae will decrease. This is likely to have two significant effects for waders. First, it would represent a loss of potentially rich feeding grounds for species such as Ruddy Turnstone Arenaria interpres that feed on small easily desiccated invertebrates living on or below the seaweed. Secondly, as algae die or are broken away the resulting debris is exported to sediment habitats where it considerably boosts the in situ production of bacteria at the base of the food web. An increase in sea-level will only have a major impact on the extent of rocky shore invertebrate communities where shore topography prevents the upward migration of the biota. Where a seawall limits shores, for example, biological production will be curtailed as the area available for colonization decreases. Increases in the size of waves and the frequency of storms will mimic increasing exposure and there will be a significant reduction in algal production in areas that are affected.

**URL:** <Go to ISI>://BCI200400473580

**Reference Type:**  Journal Article

**Record Number:** 676

**Author:** R. A. Kennamer, W. F. I. Harvey and G. R. Hepp

**Year:** 1988

**Title:** Notes on Hooded Merganser Nests in the Coastal Plain of South Carolina USA

**Journal:** Wilson Bulletin

**Volume:** 100

**Issue:** 4

**Pages:** 686-688

**Short Title:** Notes on Hooded Merganser Nests in the Coastal Plain of South Carolina USA

**Accession Number:** BCI:BCI198936046900

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Breeding Season;

**URL:** <Go to ISI>://BCI198936046900

**Reference Type:**  Journal Article

**Record Number:** 763

**Author:** J. Kerekes, R. Tordon, A. Nieuwburg and L. Risk

**Year:** 1994

**Title:** Fish-eating abundance in oligotrophic lakes in Kejimkujik National Park, Nova Scotia, Canada

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 57-61

**Short Title:** Fish-eating abundance in oligotrophic lakes in Kejimkujik National Park, Nova Scotia, Canada

**Accession Number:** BCI:BCI199497325651

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Aquatic bird population data in 40 oligotrophic lakes and ponds in Nova Scotia, Canada indicates that only lakes gt 20 ha support territorial pairs of Common Loon (Gavia immer) and only lakes gtoreq 40 ha produce their young. Broods of Common Merganser (Mergus merganser americanus) occurred in lakes gt 25 ha and loon and merganser broods together occurred only in lakes gtoreq 80 ha. The fish production in the lakes was estimated from the total phosphorus vs fish yield relationship obtained in similar, oligotrophic lakes in Ontario. Considering the fish consumption and mergansers until fledging along with the maintenance of the adults during the same period (about 200 and 130 kg fish respectively) and the estimated fish production in these lakes, there is a close balance between the size of water body and its fish production to the occupancy and production of piscivorous birds.

**URL:** <Go to ISI>://BCI199497325651

**Reference Type:**  Journal Article

**Record Number:** 1217

**Author:** K. Kertell

**Year:** 1991

**Title:** Disappearance of the Steller's Eider from the Yukon-Kuskokwim Delta Alaska

**Journal:** Arctic

**Volume:** 44

**Issue:** 3

**Pages:** 177-187

**Short Title:** Disappearance of the Steller's Eider from the Yukon-Kuskokwim Delta Alaska

**Accession Number:** BCI:BCI199242000706

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI199242000706

**Reference Type:**  Journal Article

**Record Number:** 1899

**Author:** M. Kesler, M. Vetemaa, L. Saks and T. Saat

**Year:** 2013

**Title:** Survival of reared Atlantic salmon (Salmo salar) smolts during downstream migration and its timing: a case study in the Pirita River

**Journal:** Boreal Environment Research

**Volume:** 18

**Issue:** 1

**Pages:** 53-60

**Date:** Jan

**Short Title:** Survival of reared Atlantic salmon (Salmo salar) smolts during downstream migration and its timing: a case study in the Pirita River

**ISSN:** 1239-6095

**Accession Number:** WOS:000314447100004

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions

**Notes:** Times Cited: 0

Kesler, Martin Vetemaa, Markus Saks, Lauri Saat, Toonrias

0

**URL:** <Go to ISI>://WOS:000314447100004

**Reference Type:**  Journal Article

**Record Number:** 1900

**Author:** R. A. Khan, C. V. Chandra, P. J. Earle, G. J. Robertson, P. Ryan and S. Jamieson

**Year:** 2011

**Title:** Influence of petroleum hydrocarbons on the endoparasitic helminths of the common eider, Somateria mollissima, from Newfoundland

**Journal:** Journal of Helminthology

**Volume:** 85

**Issue:** 4

**Pages:** 430-434

**Date:** Dec

**Short Title:** Influence of petroleum hydrocarbons on the endoparasitic helminths of the common eider, Somateria mollissima, from Newfoundland

**ISSN:** 0022-149X

**DOI:** 10.1017/s0022149x10000775

**Accession Number:** WOS:000297409900009

**Keywords:** Common eider; somateria mollissima; Parasites; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 0

Khan, R. A. Chandra, C. V. Earle, P. J. Robertson, G. J. Ryan, P. Jamieson, S.

0

**URL:** <Go to ISI>://WOS:000297409900009

**Reference Type:**  Journal Article

**Record Number:** 695

**Author:** L. Kilham

**Year:** 1954

**Title:** Repeated territorial attacks of pied-billed grebe on ring-necked duck

**Journal:** Wilson Bull

**Volume:** 66

**Issue:** (4)

**Pages:** 265-267

**Short Title:** Repeated territorial attacks of pied-billed grebe on ring-necked duck

**Accession Number:** BCI:BCI19563000012008

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**Abstract:** The report of an attack by a male Pied-billed Grebe (Podilymbus podiceps) on a female Ring-neck Duck (Aythya collaris). Coots (Fulica americana), Blue-winged Teal (Anas discors). and Wood Ducks (Aix sponsa) were present but were not molested. However, a female Hooded Merganser (Lophodytes cucullatus) was also attacked from below and threatened from the surface during one observational period. || ABSTRACT AUTHORS: T. W. Porter

**URL:** <Go to ISI>://BCI19563000012008

**Reference Type:**  Journal Article

**Record Number:** 1549

**Author:** M. Kilpi and L. Lindstrom

**Year:** 1997

**Title:** Habitat-specific clutch size and cost of incubation in common eiders, Somateria mollissima

**Journal:** Oecologia (Berlin)

**Volume:** 111

**Issue:** 3

**Pages:** 297-301

**Date:** July, 1997

**Short Title:** Habitat-specific clutch size and cost of incubation in common eiders, Somateria mollissima

**Accession Number:** BCI:BCI199800003751

**Keywords:** Common Eider; Somateria mollissima; Habitat; Energetics and Nutrition; Breeding Season;

**Abstract:** Common eiders, Somateria mollissima, breed on two types of island in the Northern Baltic: open, sparsely vegetated islands and wooded islands with dense mixed forests. On open islands 79.8% of the nests were on open cliffs, exposed to wind and rain whereas on wooded islands 91.7% of the nests were sheltered inside dense spruce and pine thickets. We found that clutch size on open islands was significantly smaller than on wooded islands. Females started breeding simultaneously in the two habitats and they were similar in body size as measured by the length of the radio-ulna. During incubation females on open islands lost weight at a faster rate than females on wooded islands (34 g/day and 19 g/day, respectively). Heat loss is faster on open than wooded islands and therefore we suggest that the faster weight loss of females on open islands result from thermodynamically adverse incubation conditions. Because the eider is an 'extreme capital breeder, energy used for egg production cannot be used for incubation. To sustain a higher incubation cost on open islands, the optimal clutch size is therefore lower than on wooded islands.

**URL:** <Go to ISI>://BCI199800003751

**Reference Type:**  Journal Article

**Record Number:** 1137

**Author:** E. Y. Kim, T. Murakami, K. Saeki and R. Tatsukawa

**Year:** 1996

**Title:** Mercury levels and its chemical form in tissues and organs of seabirds

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 30

**Issue:** 2

**Pages:** 259-266

**Short Title:** Mercury levels and its chemical form in tissues and organs of seabirds

**Accession Number:** BCI:BCI199698686858

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants;

**Abstract:** Liver, muscle, kidney, and feather samples from nine species of seabirds were analyzed for total and organic (methyl) mercury (MM). Total mercury (TM) levels in liver showed great intra- and inter-species variations, with the concentrations varied from 306 mu-g/g (dry weight) in black-footed albatross (Diomedea nigripes) to 4.9 mu-g/g in arctic tern(Sterna paradisaea), while MM levels were less relatively variable. The order of MM concentrations in tissues of all the seabirds except oldsquaw (Clangula hyemalis) was as follows: liver gt kidney gt muscle. The mean percentage of MM in total was 35%, 36%, and 66% in liver, kidney, and muscle, respectively, for all the species. Statistically significant negative correlations were found between the proportion of MM to TM and concentrations of TM in the liver and muscle of black-footed albatross and in the liver of laysan albatross. Further-more, the percentage of MM decreased with an increase in TM concentrations in the liver, muscle, and kidney of all the species. Black-footed albatross had the highest concentration and burden of mercury in the liver, wherein more than 70% of the TM occurred as inorganic mercury. On the other hand, the mercury burdens in feathers were less than 10% of the body burdens, indicating that excretion of mercury by moulting is negligible. The results suggest that some seabirds are capable of demethylating MM in the tissues (mainly in liver), and store mercury as an immobilizable inorganic form in the liver. It is noteworthy that the species with a high degree of demethylation capacity and slow moulting pattern showed low mercury burdens in feathers.

**URL:** <Go to ISI>://BCI199698686858

**Reference Type:**  Journal Article

**Record Number:** 1136

**Author:** E.-Y. Kim, H. Ichihashi, K. Saeki, G. Atrashkevich, S. Tanabe and R. Tatsukawa

**Year:** 1996

**Title:** Metal accumulation in tissues of seabirds from Chaun, Northeast Siberia, Russia

**Journal:** Environmental Pollution

**Volume:** 92

**Issue:** 3

**Pages:** 247-252

**Short Title:** Metal accumulation in tissues of seabirds from Chaun, Northeast Siberia, Russia

**Accession Number:** BCI:BCI199699109066

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Breeding Season;

**Abstract:** Concentrations of four essential elements (Fe, Mn, Zn, and Cu) and two toxic metals (Cd and Hg) were determined in selected tissues of 11 seabird species collected in Chaun, northeast Siberia. In oldsquaw, arctic tern and herring gull, zinc concentrations were correlated with Cd concentrations. Cadmium concentrations in all the species were highest in kidney and Hg in liver. Cd levels in the liver and kidney of herring gulls were higher than those observed from other breeding areas. Similarly, Hg concentrations were also high in the liver of herring gull. High concentrations of Cd and Hg found in some birds from Chaun might have arisen from exposure on migration.

**URL:** <Go to ISI>://BCI199699109066

**Reference Type:**  Journal Article

**Record Number:** 1901

**Author:** J. W. Kim, J. L. A. Wood, J. W. A. Grant and G. E. Brown

**Year:** 2011

**Title:** Acute and chronic increases in predation risk affect the territorial behaviour of juvenile Atlantic salmon in the wild

**Journal:** Animal Behaviour

**Volume:** 81

**Issue:** 1

**Pages:** 93-99

**Date:** Jan

**Short Title:** Acute and chronic increases in predation risk affect the territorial behaviour of juvenile Atlantic salmon in the wild

**ISSN:** 0003-3472

**DOI:** 10.1016/j.anbehav.2010.09.017

**Accession Number:** WOS:000285412900013

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Breeding Season

**Notes:** Times Cited: 3

Kim, Jae-Woo Wood, Jacquelyn L. A. Grant, James W. A. Brown, Grant E.

Brown, Grant/B-7182-2013

Brown, Grant/0000-0003-3493-3477

3

**URL:** <Go to ISI>://WOS:000285412900013

**Reference Type:**  Journal Article

**Record Number:** 627

**Author:** B. King

**Year:** 1976

**Title:** Feeding Behavior of Buffleheads

**Journal:** British Birds

**Volume:** 69

**Issue:** 3

**Pages:** 105

**Short Title:** Feeding Behavior of Buffleheads

**Accession Number:** BCI:BCI197612065345

**Keywords:** Bufflehead; Bucephala albeola; Behavior;

**URL:** <Go to ISI>://BCI197612065345

**Reference Type:**  Journal Article

**Record Number:** 1305

**Author:** J. D. King and D. Shutler

**Year:** 2010

**Title:** Parasite Transmission Stages in Feces of Common Eiders Flushed from their Nests

**Journal:** Northeastern Naturalist

**Volume:** 17

**Issue:** 1

**Pages:** 155-160

**Short Title:** Parasite Transmission Stages in Feces of Common Eiders Flushed from their Nests

**Accession Number:** BCI:BCI201000383637

**Keywords:** Common Eider; Somateria mollissima; Parasites; Behavior; Breeding Season;

**Abstract:** Several species of ducks defecate when flushed from their nests, but it is unclear why. Possibly, this ehavior reflects manipulation by parasites to facilitate transmission. We analyzed feces of 32 incubating Somateria mollissima (Common Eider) for evidence of parasite transmission stages. We found a total of only 11 parasite transmission stages (identified as digenean and nematode eggs) in feces of 3 different hens, suggesting that defecation around the nest has a low probability of leading to parasite transmission. Other hypotheses for defecation behavior in this and other duck species (repulsion of egg predators, weight loss to increase hen maneuverability to escape predators) appear insufficient to explain its persistence.

**URL:** <Go to ISI>://BCI201000383637

**Reference Type:**  Journal Article

**Record Number:** 150

**Author:** J. S. Kirby, D. G. Salmon, G. L. Atkinson-Willes and P. A. Cranswick

**Year:** 1995

**Title:** Index numbers for waterbird populations. III. Long-term trends in the abundance of wintering wildfowl in Great Britain, 1966/67-1991/92

**Journal:** Journal of Applied Ecology

**Volume:** 32

**Issue:** 3

**Pages:** 536-551

**Short Title:** Index numbers for waterbird populations. III. Long-term trends in the abundance of wintering wildfowl in Great Britain, 1966/67-1991/92

**Accession Number:** BCI:BCI199598466261

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** 1. A new approach to estimating the relative size (indexing) of waterbird populations was applied to monthly counts for 17 wildfowl species obtained over 26 winter seasons from 1966/67 to 1991/92. 2. The wetland count units included in the index computations were those with at least 50% of the potential counts available. All index numbers were based on these count units, and on the winter months of maximum abundance for each species, ascertained by examination of monthly indices. 3. A mean of 69% (37-99%) of the maximum species count for the whole of Britain in 1991-92 was present on the count units included in the indexing process, and thus the indices were applicable to the counted population. Compared to total British population estimates, the count units selected supported relatively high proportions ( gt 56%) of the total populations of 10 of the 17 species considered. Thus, most index numbers were considered to be representative of the whole population. 4. Spectacular and sustained increases were apparent for the Bewick's swan, Canada goose, dark-bellied brent goose and gadwall, and less dramatic, though sustained, increases were found for four species of ducks (teal, shelduck, redbreasted merganser and goosander). Populations of the two remaining swans (mute swan and whooper swan) had undergone sharp increases since the mid-1980s, whilst those for four further duck species (pintail, shoveler, tufted duck and goldeneye) had increased sharply during the mid to late-1960s and have increased or decreased slightly subsequently. The pochard population appears to be smaller now than it was in the early and mid-1970s, whilst that for mallard was relatively stable. Index numbers for wigeon were variable, with no obvious trend. 5. The index numbers for goosander implied that the population follows a regular cycle, with winters of peak abundance separated by three or four winters of low, and often, decreasing numbers. 6. The reliability of the index numbers is discussed together with trends for individual species, recent changes in European populations and possible causal factors.

**URL:** <Go to ISI>://BCI199598466261

**Reference Type:**  Journal Article

**Record Number:** 933

**Author:** K. Kirchhoff

**Year:** 1982

**Title:** Waterfowl Losses Caused by Fishery at the Baltic Coast of Schleswig-Holstein West Germany

**Journal:** Vogelwelt

**Volume:** 103

**Issue:** 3

**Pages:** 81-89

**Short Title:** Waterfowl Losses Caused by Fishery at the Baltic Coast of Schleswig-Holstein West Germany

**Accession Number:** BCI:BCI198375017426

**Keywords:** Common Eider; Somateria mollissima; Black Scoter; Melanitta nigra; Nonbreeding Seasons; Conservation;

**Abstract:** During 4 winters (1977/1978-1980/1981) 6 fishing places which comprised 19.3% of the fleet were controlled on 552 occasions to calculate the waterfowl losses caused by fishery activities. Almost all waterfowl drowned in set nets. The calculation resulted in a minimum of 15,000 individuals/winter (9400 eiderducks, 2600 common scoters and 1200 tufted ducks). Most waterfowl drown in Nov. (32%), 64% in the 1st half of the winter. The results are discussed regarding the size of the populations. The losses caused by fisheries have to be kept in mind when discussing measures interfering with populations.

**URL:** <Go to ISI>://BCI198375017426

**Reference Type:**  Journal Article

**Record Number:** 1053

**Author:** M. Kirk, D. Esler and W. S. Boyd

**Year:** 2007

**Title:** Morphology and density of mussels on natural and aquaculture structure habitats: implications for sea duck predators

**Journal:** Marine Ecology Progress Series

**Volume:** 346

**Pages:** 179-187

**Short Title:** Morphology and density of mussels on natural and aquaculture structure habitats: implications for sea duck predators

**Accession Number:** BCI:BCI200800010327

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Surf Scoter; Melanitta perspicillata; Trophic Interactions; Habitat; Nonbreeding Seasons; Conservation;

**Abstract:** We compared density and morphology of wild mussels Mytilus trossulus growing naturally on shellfish farming structures to that of mussels from nearby intertidal areas, and considered the relevance to molluscivorous sea ducks. Mussel density on aquaculture structures greatly exceeded that of intertidal areas and farm mussels were larger, had lower shell mass, and had weaker byssal attachments. Differences in environmental conditions and predation regimes throughout the summer growing season were likely responsible for these differences. These morphological and density differences, in turn, have important implications for their primary winter predators, sea ducks, including surf scoters Melanitta perspicillata and Barrow's goldeneyes Bucephala islandica. Higher levels of mussel depletion in farm habitats and strong associations of ducks with shellfish farms indicate that sea ducks responded to this novel, profitable prey resource. Our results support recent research that indicates that artificial structures introduced into coastal areas create novel marine habitats that can support unique communities of epibiota. That sea ducks appear to profit from the introduction of aquaculture structures is evidence of a positive effect of anthropogenic modifications in a coastal environment.

**URL:** <Go to ISI>://BCI200800010327

**Reference Type:**  Journal Article

**Record Number:** 1047

**Author:** M. Kirk, D. Esler, S. A. Iverson and W. S. Boyd

**Year:** 2008

**Title:** Movements of wintering surf scoters: predator responses to different prey landscapes

**Journal:** Oecologia (Berlin)

**Volume:** 155

**Issue:** 4

**Pages:** 859-867

**Date:** Apr 2008

**Short Title:** Movements of wintering surf scoters: predator responses to different prey landscapes

**Accession Number:** BCI:BCI200800305083

**Keywords:** Surf Scoter; Melanitta perspicillata; Dispersal; Habitat; Behavior; Nonbreeding Seasons; SDJV funded

**Abstract:** The distribution of predators is widely recognized to be intimately linked to the distribution of their prey. Foraging theory suggests that predators will modify their behaviors, including movements, to optimize net energy intake when faced with variation in prey attributes or abundance. While many studies have documented changes in movement patterns of animals in response to temporal changes in food, very few have contrasted movements of a single predator species naturally occurring in dramatically different prey landscapes. We documented variation in the winter movements, foraging range size, site fidelity, and distribution patterns of a molluscivorous sea duck, the surf scoter (Melanitta perspicillata), in two areas of coastal British Columbia with very different shellfish prey features. Baynes Sound has extensive tidal flats with abundant clams, which are high-quality and temporally stable prey for scoters. Malaspina Inlet is a rocky fjord-like inlet where scoters consume mussels that are superabundant and easily accessible in some patches but are heavily depleted over the course of winter. We used radio telemetry to track surf scoter movements in both areas and found that in the clam habitats of Baynes Sound, surf scoters exhibited limited movement, small winter ranges, strong foraging site fidelity, and very consistent distribution patterns. By contrast, in mussel habitats in the Malaspina Inlet, surf scoters displayed more movement, larger ranges, little fidelity to specific foraging sites, and more variable distribution patterns. We conclude that features associated with the different prey types, particularly the higher depletion rates of mussels, strongly influenced seasonal space use patterns. These findings are consistent with foraging theory and confirm that predator behavior, specifically movements, is environmentally mediated.

**URL:** <Go to ISI>://BCI200800305083

**Reference Type:**  Journal Article

**Record Number:** 1054

**Author:** M. K. Kirk, D. Esler and W. S. Boyd

**Year:** 2007

**Title:** Foraging effort of Surf Scoters (Melanitta perspicillata) wintering in a spatially and temporally variable prey landscape

**Journal:** Canadian Journal of Zoology

**Volume:** 85

**Issue:** 12

**Pages:** 1207-1215

**Date:** Dec 2007

**Short Title:** Foraging effort of Surf Scoters (Melanitta perspicillata) wintering in a spatially and temporally variable prey landscape

**Accession Number:** BCI:BCI200800220184

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We monitored foraging effort of radio-tagged Surf Scorers (Melanitta perspicillata (L., 1758)) in three different habitats: (1) shellfish farm structures with high densities of mussels and strong seasonal prey depletion, (2) soft-bottom clam beds with more stable but less available prey, and (3) rocky intertidal beds with moderate mussel densities and depletion rates. We predicted that foraging effort would vary uniquely by habitat, with effort increasing more where depletion was strongest. However, variation in both hourly and daily foraging efforts was best explained by date only. Effort per hour was lowest in early December (presumably owing to very high prey abundance), increased until mid-February as prey declined, and then decreased again in March (probably owing to increased daylight time for foraging). Foraging effort estimated over a full day increased steadily from December to March as prey were depleted. Temporal patterns of effort did not vary by habitat after accounting for seasonal effects. Instead of increasing foraging effort in habitats with strong depletion, Surf Scoters redistributed, to habitats with lower degrees of prey reduction as the season progressed. We suggest that Surf Scoters; respond to variation in prey by adjusting both foraging effort and habitat selection as the prey landscape changes.

**URL:** <Go to ISI>://BCI200800220184

**Reference Type:**  Journal Article

**Record Number:** 1272

**Author:** A. A. Kistchinski and V. E. Flint

**Year:** 1974

**Title:** On the biology of the Spectacled Eider

**Journal:** Wildfowl

**Volume:** 25

**Pages:** 5-15

**Short Title:** On the biology of the Spectacled Eider

**Accession Number:** BCI:BCI201000334922

**Keywords:** Spectacled Eider; Somateria fischeri; Breeding Season;

**URL:** <Go to ISI>://BCI201000334922

**Reference Type:**  Journal Article

**Record Number:** 689

**Author:** D. W. Kitchen and G. S. Hunt

**Year:** 1969

**Title:** Brood Habitat of the Hooded Merganser

**Journal:** Journal of Wildlife Management

**Volume:** 33

**Issue:** 3

**Pages:** 605-608

**Short Title:** Brood Habitat of the Hooded Merganser

**Accession Number:** BCI:BCI197051006528

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Breeding Season;

**URL:** <Go to ISI>://BCI197051006528

**Reference Type:**  Journal Article

**Record Number:** 123

**Author:** R. W. Knapton and S. A. Petrie

**Year:** 1999

**Title:** Changes in distribution and abundance of submerged macrophytes in the Inner Bay at Long Point, Lake Erie: Implications for foraging waterfowl

**Journal:** Journal of Great Lakes Research

**Volume:** 25

**Issue:** 4

**Pages:** 783-798

**Short Title:** Changes in distribution and abundance of submerged macrophytes in the Inner Bay at Long Point, Lake Erie: Implications for foraging waterfowl

**Accession Number:** BCI:BCI200000192628

**Keywords:** Sea Ducks - General; Habitat;

**Abstract:** Submerged aquatic macrophytes in Long Point Bay provide food for several species of migrating waterfowl, particularly diving ducks. The percent occurrence of several plant species in the diets of six species (207 birds) of diving ducks were studied between 1992 and 1994. Of 29 plant species consumed, Vallisneria americana was the most commonly occurring in the diet. Chara vulgaris, Potamogeton spp., Polygonum spp., and Najas flexilis/quadalupensis were also important dietary items. The seeds of a number of emergent macrophyte species were also consumed. Submerged macrophytes were sampled at 312 locations in the Inner Bay of Long Point, Lake Erie, in 1991, 1992, and 1995. Distribution and percent abundance were compared with a similar study in 1976 and with observations of macrophytes in 1962. In comparison with the 1976 study, Chara vulgaris is still dominant over much of the Bay. V. americana and N. flexilis/N. guadalupensis have expanded their ranges, probably a result of increasing light penetration associated with the filtering of suspended material by introduced zebra mussels Dreissena polymorpha. The continued widespread distribution of C. vulgaris, and the expansion of V. americana and N. flexilis/N. guadalupensis, has probably benefitted waterfowl, as these species have a high nutritive value and are readily consumed by diving ducks at Long Point. Myriophyllum spicatum, an exotic species introduced in the early 1970s, increased in distribution between 1976 and 1991 but decreased in distribution and percent abundance by 1995. Increased light transparency may have contributed to this decline, as M. spicatum typically grows best in turbid, eutrophic environments. The decline of this species has probably been beneficial to waterfowl because it commonly out-competes native plants and it is underutilized by ducks at Long Point. Ceratophyllum demersum appears to be a more prominent member of the submerged macrophyte communities in the 1990s, as it was not reported previously. In comparison with 1962, major changes have occurred in species composition and relative abundance: M. spicatum, Najas spp., and Elodea canadensis have increased, Potamogeton spp. and Nitella spp. have declined. Macrophyte distribution and abundance on the Inner Bay is influenced by environmental, biological, geomorphological and geological variables. However, the anthropogenic introduction of two exotic species, M. Spicatum and the zebra mussel, appears to have had a pronounced influence on the community structure of submerged macrophytes in Long Point Bay.

**URL:** <Go to ISI>://BCI200000192628

**Reference Type:**  Journal Article

**Record Number:** 1742

**Author:** M. J. Knoche, A. N. Powell, L. T. Quakenbush, M. J. Wooller and L. M. Phillips

**Year:** 2007

**Title:** Further evidence for site fidelity to wing molt locations by king eiders: Integrating stable isotope analyses and satellite telemetry

**Journal:** Waterbirds

**Volume:** 30

**Issue:** 1

**Pages:** 52-57

**Date:** Mar 2007

**Short Title:** Further evidence for site fidelity to wing molt locations by king eiders: Integrating stable isotope analyses and satellite telemetry

**Accession Number:** BCI:BCI200700383078

**Keywords:** King Eider; Somateria spectabilis; Dispersal; Techniques; Molt; Nonbreeding Seasons;

**Abstract:** Studies using stable-isotope analyses of feathers to determine molt locations in marine birds are increasingly common but generally lack verification through ground-truthing. In this study, we examined the stable isotope compositions of wing feathers from King Eiders (Somateria spectabilis) implanted with satellite-transmitters. We compared stable carbon, nitrogen, and hydrogen isotope compositions (delta C-13, delta N-15, and delta D, respectively) of primary feathers with the geographic location of wing molt in the subsequent year. Longitude of molt locations of ciders was highly correlated with delta C-13 (r(2)= 0.69, N = 12) and delta D (r(2)= 0.90, N = 12) isotope values from their primary feathers grown in the previous year. There was no relationship between delta N-15 and location of wing molt (r(2) = 0.007, N = 12). The results of this study provide further evidence for site fidelity during wing molt by King Eiders.

**URL:** <Go to ISI>://BCI200700383078

**Reference Type:**  Journal Article

**Record Number:** 586

**Author:** G. A. Knutsen and J. C. King

**Year:** 2004

**Title:** Bufflehead breeding activity in south-central North Dakota

**Journal:** Prairie Naturalist

**Volume:** 36

**Issue:** 3

**Pages:** 187-190

**Date:** September 2004

**Short Title:** Bufflehead breeding activity in south-central North Dakota

**Accession Number:** BCI:BCI200500081721

**Keywords:** Bufflehead; Bucephala albeola; Breeding Season;

**URL:** <Go to ISI>://BCI200500081721

**Reference Type:**  Journal Article

**Record Number:** 628

**Author:** R. M. Kocan and J. O. J. Knisley

**Year:** 1971

**Title:** The Bufflehead Bucephala-Albeoia a New Host Record for Plasmodium

**Journal:** Journal of Wildlife Diseases

**Volume:** 7

**Issue:** 1

**Pages:** 35

**Short Title:** The Bufflehead Bucephala-Albeoia a New Host Record for Plasmodium

**Accession Number:** BCI:BCI197152136939

**Keywords:** Bufflehead; Bucephala albeola; Parasites;

**URL:** <Go to ISI>://BCI197152136939

**Reference Type:**  Journal Article

**Record Number:** 1902

**Author:** L. Kolarova, K. Skirnisson, H. Ferte and D. Jouet

**Year:** 2013

**Title:** Trichobilharzia mergi sp nov (Trematoda: Digenea: Schistosomatidae), a visceral schistosome of Mergus serrator (L.) (Aves: Anatidae)

**Journal:** Parasitology International

**Volume:** 62

**Issue:** 3

**Pages:** 300-308

**Date:** Jun

**Short Title:** Trichobilharzia mergi sp nov (Trematoda: Digenea: Schistosomatidae), a visceral schistosome of Mergus serrator (L.) (Aves: Anatidae)

**ISSN:** 1383-5769

**DOI:** 10.1016/j.parint.2013.03.002

**Accession Number:** WOS:000318752400012

**Keywords:** Red-breasted merganser; Mergus serrator; Parasites

**Notes:** Times Cited: 2

Kolarova, Libuse Skirnisson, Karl Ferte, Hubert Jouet, Damien

2

**URL:** <Go to ISI>://WOS:000318752400012

**Reference Type:**  Journal Article

**Record Number:** 1145

**Author:** A. V. Kondrat'ev

**Year:** 1992

**Title:** Feeding niche partitioning by three coexistent diving duck species in the same habitat during brood-rearing period

**Journal:** Zoologicheskii Zhurnal

**Volume:** 71

**Issue:** 11

**Pages:** 89-101

**Short Title:** Feeding niche partitioning by three coexistent diving duck species in the same habitat during brood-rearing period

**Accession Number:** BCI:BCI199396002876

**Keywords:** Black Scoter; Melanitta nigra; Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Behavior; Breeding Season;

**Abstract:** Breeding phenology, feeding contents, biotopical distribution, and feeding modes were studied in long-tailed duck. American black scoter, and great scaup with in the same lake. Long-tailed duck is more flexible in its habitat preference, and feeds mainly on plankton invertebrates. This species has the earliest hatching dates and the narrowest feeding spectrum. Block scoter and scaup have the largest niche overlap. Both these species feed on benthic invertebrates, but scoter prefers patches of a higher density. Scoter ducklings move slowly across the lake when foraging, dive to greater depth and stay under water longer than scaup ducklings. The latter species has the widest feeding spectrum, the shortest distance from the shore to the feeding place, the lowest diving intensity and higher swimming speed in comparison with scoter. Adaptive significance of different patterns of prey size and distribution is discussed.

**URL:** <Go to ISI>://BCI199396002876

**Reference Type:**  Journal Article

**Record Number:** 1785

**Author:** A. V. Kondrat'Ev and L. V. Zadorina

**Year:** 1992

**Title:** Comparative Ecology of King Eider Somateria-Spectabilis and Spectacled Eider Somateria-Fischeri in Chaun Tundra

**Journal:** Zoologicheskii Zhurnal

**Volume:** 71

**Issue:** 1

**Pages:** 99-108

**Short Title:** Comparative Ecology of King Eider Somateria-Spectabilis and Spectacled Eider Somateria-Fischeri in Chaun Tundra

**Accession Number:** BCI:BCI199294003122

**Keywords:** King Eider; Somateria spectabilis; Spectacled Eider; Somateria fischeri; Trophic Interactions; Habitat; Abundance, Distribution, and Trends; Behavior; Breeding Season;

**Abstract:** Biotopic distribution, feeding ecology and foraging behavior were studied in the area of sympatry. Over 100 nests of spectacled eider and 8 nests of king eider were found. 75% nests of the former were situated in gull colonies, and king eider nests were found separately along the coastal zone. No differences were registered in the feeding spectrum of both species from the same habitat, but the spectacled eiders used the wider habitat spectrum, which determines the wider feeding spectrum of the species. Feeding methods are similar both in ducklings and in adults. The birds fed mainly in shallow waters by head-dipping and up-ending. Diving as a feeding method is usual in non-breeding females and ducklings on deep lakes, and also for ducklings over two years old. Thus, the spectacled eider has a wider niche than the king eider.

**URL:** <Go to ISI>://BCI199294003122

**Reference Type:**  Journal Article

**Record Number:** 1679

**Author:** C. E. Korschgen, H. C. Gibbs and H. L. Mendall

**Year:** 1978

**Title:** Avian Cholera in Eider Ducks in Maine

**Journal:** Journal of Wildlife Diseases

**Volume:** 14

**Issue:** 2

**Pages:** 254-258

**Short Title:** Avian Cholera in Eider Ducks in Maine

**Accession Number:** BCI:BCI197866028176

**Keywords:** Common Eider; Somateria mollissima; Disease; Breeding Season;

**Abstract:** Outbreaks of avian cholera (Pasteurella multocida) occur frequently in common eiders (Somateria mollissima dresseri) in Maine [USA] during early summer. Studies over a 7 yr period show that over 90% of the loss occurred in incubating females and might be associated with their weakened condition because females do not feed during the incubation period. High nesting densities also may contribute to the losses. The exact source of P. multocida is unknown although carrier birds were found.

**URL:** <Go to ISI>://BCI197866028176

**Reference Type:**  Journal Article

**Record Number:** 871

**Author:** L. Kortegaard

**Year:** 1968

**Title:** Studies of the Breeding Biology of the Red-Breasted Merganser Mergus-Serrator in Vejlerne North Jutland Denmark Vertebrate Predation

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 62

**Issue:** 1

**Pages:** 37-67

**Short Title:** Studies of the Breeding Biology of the Red-Breasted Merganser Mergus-Serrator in Vejlerne North Jutland Denmark Vertebrate Predation

**Accession Number:** BCI:BCI196950034315

**Keywords:** Red-breasted merganser; Mergus serrator; Breeding Season;

**URL:** <Go to ISI>://BCI196950034315

**Reference Type:**  Journal Article

**Record Number:** 1662

**Author:** A. S. Koryakin

**Year:** 1982

**Title:** Some Features of Bird Behavior in Broods of Common Eider Somateria-Mollissima

**Journal:** Vestnik Leningradskogo Universiteta Biologiya

**Issue:** 4

**Pages:** 12-19

**Short Title:** Some Features of Bird Behavior in Broods of Common Eider Somateria-Mollissima

**Accession Number:** BCI:BCI198376069654

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Interrelations between members of common elder broods at Kandalaksha Bay (White Sea) are described. In the first 3-4 days after hatching specific bonds are established between female and ducklings which are based on mutual individual recognition of calls. Communication between members of an eider brood is based on auditory signals. Main groups of ducklings' calls are comfort and discomfort calls. The high level of synchronization of ducklings' activities within the brood is an important adaptation to brooding period. This synchrony depends on the age of the young and their number in the brood. Brooding period duration in eider at Kandalaksha Bay is 45-60 and more days.

**URL:** <Go to ISI>://BCI198376069654

**Reference Type:**  Journal Article

**Record Number:** 1642

**Author:** A. S. Koryakin

**Year:** 1987

**Title:** The Anthropogenic Disturbance Factor and Clutch Survival in the Eider Somateria-Mollissima L

**Journal:** Zhurnal Obshchei Biologii

**Volume:** 48

**Issue:** 5

**Pages:** 706-716

**Short Title:** The Anthropogenic Disturbance Factor and Clutch Survival in the Eider Somateria-Mollissima L

**Accession Number:** BCI:BCI198886068303

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** A model quantitatively describing the consequences of the disturbance factor action on survival of clutches in common eider has been proposed on the basis of empirical data. The main causes of damage are the abandoning of nests and provoking of predation. The possibility of clutch loss because of disturbance is the less the longer is the duration of incubation and the lower is the level of predation in the region of nesting. The clutch loss depends on both individual features of birds behavior (caution with respect to man) and species specific features (described by three constants in the model). Analysis of the model and data on other regions of eider nesting area demonstrate that adaptation of individuals of protected species to the disturbance factor is more perspective strategy of protection than complete isolation of nesting places.

**URL:** <Go to ISI>://BCI198886068303

**Reference Type:**  Journal Article

**Record Number:** 1023

**Author:** J. Koskimies

**Year:** 1957

**Title:** Variations in size and shape of eggs of the velvet scoter, Melanitta fusca (L. )

**Journal:** Arch Soc Zool Bot Fennicae Vanamo"

**Volume:** 12

**Issue:** (1)

**Pages:** 59-69

**Short Title:** Variations in size and shape of eggs of the velvet scoter, Melanitta fusca (L. )

**Accession Number:** BCI:BCI19583200042539

**Keywords:** White-winged Scoter; Melanitta fusca; Physiology; Breeding Season;

**Abstract:** This paper presents a statistical analysis of variation in size and shape of the eggs of the velvet scoter, Melanitta fusca, and a discussion of the causal relations and biological significance of these variations. The material consists of measurements of 82 clutches and 681 eggs from the years 1952-1955, including clutches of 2-4 successive years from 25 marked females. The variation was analyzed in relation to parentage, laying sequence, year, season, clutch size and age of the laying female. Different females consistently laid eggs of constant length, breadth and shape. This constancy was maintained over the entire 4-year period under review. The average breadth of the last eggs in the sequence (12 clutches analyzed) was significantly smaller than that of the other eggs. In spite of the long-term constancy of the individual egg dimensions, there is a significant tendency to minute parallel changes in egg breadth from year to year within the population studied. Possible correlations of size variations with laying season, clutch size and age of the female remain obscure. In the eggs of any 1 individual the variations in length and breadth are not correlated. In the female averages there is a significant positive correlation between length and breadth of the eggs. || ABSTRACT AUTHORS: Auth. summ

**URL:** <Go to ISI>://BCI19583200042539

**Reference Type:**  Journal Article

**Record Number:** 1024

**Author:** J. Koskimies

**Year:** 1957

**Title:** Behavior and ecology of the young and of the brood-rearing females of the velvet scoter. II

**Journal:** Ann Zool Soc Zool Bot Fennicae Vanamo"

**Volume:** 18

**Issue:** (9)

**Pages:** 1-69

**Short Title:** Behavior and ecology of the young and of the brood-rearing females of the velvet scoter. II

**Accession Number:** BCI:BCI19593300032505

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Breeding Season;

**Abstract:** The paper is based on observations in the outermost archipelago off the south coast of Finland in 194a-1957. The young broods tend to gather in sheltered shallow waters, their activity consisting of short alternating periods of feeding and rest. From the very first days of life, feeding is by bottom-diving. The young rest on land and are then primarily engaged in intensive grooming of plumage. Proximity of female to a group of young is necessary for normal preening to occur. The broods spend the night on shore, in cold weather the young ones mostly under the female. Family ties are very loose. In brood congregations resulting from inadequate numbers of suitable rearing areas in the archipelago, the imprinting of young to their mothers becomes disturbed, and the females cannot keep the broods apart. The females are aggressive towards one another and only one of them may stay with a combined brood. The young leave their own mother as a reaction to a female with stronger "mother-effect" and the latter remains entirely passive or even behaves aggressively. Giant broods resulting from a misreaction of the young have no positive biological value, are generally diffuse, and single young or small parentless groups of young often become separated from the family. Such young without social companions, are "nervously" active, abnormal in their feeding efforts, do not spend much time in care of plumage, and easily fall victim to predators (large gulls). Broodless females are gregarious and show slight interest in strange broods or single chicks, but appearance of predators increases their maternal behavior. Mortality of the young varied between 90 and 100 %, the principal factors being unfavorable weather, fluctuations in water temperature, and predation. The basic cause, however, is an inadequate adaptation to maritime conditions of the velvet scoter whose physiological and behavioral adaptations do not suit the conditions of the outer archipelago where it has settled only recently. The topography, extreme variations in water temperature, and predation by gulls are factors causing high brood mortality, and loose parent-young bonds further aggravate their effect. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19593300032505

**Reference Type:**  Journal Article

**Record Number:** 1022

**Author:** J. Koskimies

**Year:** 1958

**Title:** Juvenile mortality and its causes in the velvet scoter, melanitta fusca

**Journal:** Suomen Riista

**Volume:** 12

**Pages:** 70-88

**Short Title:** Juvenile mortality and its causes in the velvet scoter, melanitta fusca

**Accession Number:** BCI:BCI19603500017987

**Keywords:** White-winged Scoter; Melanitta fusca; Survival; Breeding Season;

**Abstract:** Summary of results of 1948-57 field studies, which were reported in more detail in papers listed in bibliography. Juvenile mortality in a closely controlled study area was 90-95%. Main direct factors were bad weather and fluctuations in water temperature, as well as predation. Basic reason for poor survival in the outer archipelago, however, is that this bird, originally an inhabitant of inland waters, is not adequately adapted to maritime conditions. || ABSTRACT AUTHORS: Courtesy Wildlife Rev. 94. 72. 1959

**URL:** <Go to ISI>://BCI19603500017987

**Reference Type:**  Journal Article

**Record Number:** 1027

**Author:** J. Koskimies and E. Routamo

**Year:** 1951

**Title:** Dyeing young waterfowl for research purposes Finnish with English summ.

**Journal:** Suomen Riista

**Volume:** 6

**Pages:** 156-194

**Short Title:** Dyeing young waterfowl for research purposes Finnish with English summ.

**Accession Number:** BCI:BCI19532700015386

**Keywords:** White-winged Scoter; Melanitta fusca; Techniques; Breeding Season;

**Abstract:** The method proposed by Evans (1951) is described, together with experiences obtained in experiments in Finland in summer 1951. 54 young velvet scoters (Melanitta fusca) were dyed and a maximum additional egg mortality of 4% was observed. There was no noticeable difference in the behavior of dyed and undyed ducklings nor in the reactions of adult velvet scoters towards them. || ABSTRACT AUTHORS: Auth. summ

**URL:** <Go to ISI>://BCI19532700015386

**Reference Type:**  Journal Article

**Record Number:** 1025

**Author:** J. Koskimies and E. Routamo

**Year:** 1953

**Title:** Breeding biology of the velvet scoter (Melanitta f. fusca)

**Journal:** Riistatieteellisia Julkaisuja

**Volume:** 10

**Pages:** 1-105

**Short Title:** Breeding biology of the velvet scoter (Melanitta f. fusca)

**Accession Number:** BCI:BCI19542800015113

**Keywords:** White-winged Scoter; Melanitta fusca; Productivity; Breeding Season; Habitat;

**Abstract:** This study covers 1948-52, and deals with the period from arrival in spring to hatching of young. The velvet scoter breeds along the Fennoscandian coasts, favoring the more protected zones. During the study period pairs increased from 0.5 to 1.3 per/ha. land area. Birds arrived on nesting grounds early in May, pairing already having occurred during migration. A typical nest lies between small rocks in bushes of Juniper under or between branched stems. Data from 23 banded females indicate that they return to the same islet each year. Average egg laying frequency was one egg per 40 hrs., and laying usually occurred in the early morning. Clutch size varied from 5 to 10, most commonly 8 to 10, and averaged 8.45. Clutches started earliest were largest, and decreased in size with progressive date of 1st egg. Red-breasted mergansers commonly dropped eggs in scoter nests, but they did not hatch. Incubation period varied from 26 to 29 days and averaged 27.5 days. Hatching in 70% of the cases occurred between July 8-14. Of 328 eggs, 8.1% remained unhatched. || ABSTRACT AUTHORS: W. Swank

**URL:** <Go to ISI>://BCI19542800015113

**Reference Type:**  Journal Article

**Record Number:** 2169

**Author:** Y. V. Krasnov, M. V. Gavrilo and A. A. Shavykin

**Year:** 2015

**Title:** STATUS, NUMBER AND MONITORING OF THE COMMON EIDER (SOMATERIA MOLLISSIMA) POPULATION IN THE BARENTS AND WHITE SEAS

**Journal:** Zoologichesky Zhurnal

**Volume:** 94

**Issue:** 1

**Pages:** 62-67

**Date:** Jan

**Short Title:** STATUS, NUMBER AND MONITORING OF THE COMMON EIDER (SOMATERIA MOLLISSIMA) POPULATION IN THE BARENTS AND WHITE SEAS

**ISSN:** 0044-5134

**DOI:** 10.7868/s0044513415010067

**Accession Number:** WOS:000350529000006

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, & Trends

**Abstract:** Breeding, moulting and wintering ranges of the common eider (Somateria mollissima) were mapped and described in the southern part of the Barents Sea region, including the White Sea population in the western White Sea and the Murmansk population in the northwestern White Sea and the southeastern Barents Sea. The current number was determined for both populations: it was the highest in the 2000s for the entire period of ornithological survey in the region since the 1950s. The only reliable method for determining the total population number was shown to be aerial survey from a helicopter. The best season for studying the White Sea population is March - early April (wintering); the most favourable period for investigating the Murmansk population is August (postbreeding/moulting). The population status of common eiders in the northern and eastern parts of the Barents Sea has not been defined yet. On the Franz-Josef Land, common eider is distributed sporadically, and its number was assessed using expert estimates. The current number of eider on the Novaya Zemlya is unknown. The helicopter-based aerial survey in late summer during postbreeding season is the only relevant method to obtain reliable estimates for the population of common eiders inhabiting the Franz-Josef Land and Novaya Zemlya.

**Notes:** Krasnov, Yu. V. Gavrilo, M. V. Shavykin, A. A.

**URL:** <Go to ISI>://WOS:000350529000006

**Reference Type:**  Journal Article

**Record Number:** 1304

**Author:** Y. V. Krasnov, M. V. Gavrilo, A. A. Shavykin and P. S. Vashchenko

**Year:** 2010

**Title:** Sex-Age Structure of the White Sea Endemic Population of Common Eiders Somateria mollisima

**Journal:** Doklady Akademii Nauk

**Volume:** 435

**Issue:** 4

**Pages:** 568-570

**Date:** Dec 2010

**Short Title:** Sex-Age Structure of the White Sea Endemic Population of Common Eiders Somateria mollisima

**Accession Number:** BCI:BCI201100179967

**Keywords:** Common Eider; Somateria mollissima;

**URL:** <Go to ISI>://BCI201100179967

**Reference Type:**  Journal Article

**Record Number:** 1323

**Author:** Y. V. Krasnov, G. A. Shklyarevitch and Y. I. Goryaev

**Year:** 2009

**Title:** Character and Peculiarities of Feeding of Common Eider (Somateria mollissima) in White Sea

**Journal:** Doklady Akademii Nauk

**Volume:** 427

**Issue:** 2

**Pages:** 282-285

**Date:** Jun 2009

**Short Title:** Character and Peculiarities of Feeding of Common Eider (Somateria mollissima) in White Sea

**Accession Number:** BCI:BCI200900549782

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**URL:** <Go to ISI>://BCI200900549782

**Reference Type:**  Journal Article

**Record Number:** 991

**Author:** D. G. Krementz, P. W. Brown, F. P. Kehoe and C. S. Houston

**Year:** 1997

**Title:** Population dynamics of white-winged scoters

**Journal:** Journal of Wildlife Management

**Volume:** 61

**Issue:** 1

**Pages:** 222-227

**Short Title:** Population dynamics of white-winged scoters

**Accession Number:** BCI:BCI199799470200

**Keywords:** White-winged Scoter; Melanitta fusca; Survival; Productivity; Population Dynamics; Breeding Season; Nonbreeding Seasons;

**Abstract:** A significant (P lt 0.01) decline between 1961 and 1993 in ratio of harvested young per adult in the Atlantic Flyway (age ratio) of white-winged scoters (Melanitta fusca) led us to examine annual survival rates and harvest of this species. Compared to waterfowl with similar life histories, black scoters (M. nigra) and surf scoters (M. perspicillata), the decline in age ratios of white-winged scoter age ratios was not significantly different (P = 0.11). Adult females banded at Redberry Lake, Saskatchewan that winter along both coasts, had high annual survival rates (0.773 +- 0.0176 (SE)). High harvest in the Atlantic Flyway was not followed by an increase in production (age ratios) the following year or 2, i.e., there was no short-term rebound in recruitment by the population. Harvest of white-winged scoters in the Atlantic Flyway was explained by the age ratio in the fall flight and by hunter effort.

**URL:** <Go to ISI>://BCI199799470200

**Reference Type:**  Journal Article

**Record Number:** 1903

**Author:** T. O. Kristjansson and J. E. Jonsson

**Year:** 2011

**Title:** Effects of down collection on incubation temperature, nesting behaviour and hatching success of common eiders (Somateria mollissima) in west Iceland

**Journal:** Polar Biology

**Volume:** 34

**Issue:** 7

**Pages:** 985-994

**Date:** Jul

**Short Title:** Effects of down collection on incubation temperature, nesting behaviour and hatching success of common eiders (Somateria mollissima) in west Iceland

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-010-0956-z

**Accession Number:** WOS:000291046900004

**Keywords:** common eider; somateria mollissima; Conservation; Productivity; Breeding Season

**Notes:** Times Cited: 3

Kristjansson, Thordur Orn Jonsson, Jon Einar

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**URL:** <Go to ISI>://WOS:000291046900004

**Reference Type:**  Journal Article

**Record Number:** 2170

**Author:** T. O. Kristjansson and J. E. Jonsson

**Year:** 2015

**Title:** Cooperative incubation behaviour in a super dense Common Eider Somateria mollissima colony

**Journal:** Bird Study

**Volume:** 62

**Issue:** 1

**Pages:** 146-149

**Date:** Jan

**Short Title:** Cooperative incubation behaviour in a super dense Common Eider Somateria mollissima colony

**ISSN:** 0006-3657

**DOI:** 10.1080/00063657.2014.993591

**Accession Number:** WOS:000349155200017

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** Capsule Common Eiders at Rif in west Iceland commonly show joint nest attendance, which may be an exaggerated behavioural response to the visual stimulus of many nests so close to their own nest. This represents a new insight into incubation behaviour in colonies with extremely high nest densities.

**Notes:** Kristjansson, Thordur Orn Jonsson, Jon Einar

**URL:** <Go to ISI>://WOS:000349155200017

**Reference Type:**  Journal Article

**Record Number:** 1904

**Author:** T. O. Kristjansson, J. E. Jonsson and J. Svavarsson

**Year:** 2013

**Title:** Spring diet of common eiders (Somateria mollissima) in BreiA degrees afjorA degrees ur, West Iceland, indicates non-bivalve preferences

**Journal:** Polar Biology

**Volume:** 36

**Issue:** 1

**Pages:** 51-59

**Date:** Jan

**Short Title:** Spring diet of common eiders (Somateria mollissima) in BreiA degrees afjorA degrees ur, West Iceland, indicates non-bivalve preferences

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-012-1238-8

**Accession Number:** WOS:000312729700005

**Keywords:** Common eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 1

Kristjansson, Thordur Orn Jonsson, Jon Einar Svavarsson, Jorundur

1

**URL:** <Go to ISI>://WOS:000312729700005

**Reference Type:**  Journal Article

**Record Number:** 2171

**Author:** T. O. Kristjansson, J. E. Jonsson and J. Svavarsson

**Year:** 2016

**Title:** Variation in nest composition and abundances of ectoparasites between nests in colonially breeding Common Eiders Somateria mollissima

**Journal:** Bird Study

**Volume:** 63

**Issue:** 3

**Pages:** 346-352

**Short Title:** Variation in nest composition and abundances of ectoparasites between nests in colonially breeding Common Eiders Somateria mollissima

**ISSN:** 0006-3657

**DOI:** 10.1080/00063657.2016.1182965

**Accession Number:** WOS:000383903900007

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Parasites; Behavior

**Abstract:** Capsule: The occurrence of high numbers of ectoparasites in nests of Common Eiders may be related to nest densities and nesting behaviour.Aims: To estimate abundances of ectoparasites and occurrence of blood-covered eggs, and relate those to nest bowl ages, nest bottom material and the incubation stages of eggs, in nests at two different Common Eider colonies.Methods: Nests were collected at Hvallatur and Rif, two sites at Breioafjorour, West Iceland, in June and July 2012. The nest bottom material was classified to vegetation species and invertebrates were identified to species when possible.Results: The flea Ceratophyllus garei was the dominant ectoparasite at both sites, with median abundances higher at Hvallatur than at Rif in June. In July, the mean abundance of fleas was higher than observed in June at Rif. There were positive relationships between the flea abundances and the incubation stages of the nests, the blood cover of the eggs and the type of nesting material. No relationship was observed between the age of nesting bowls and adult flea abundances.Conclusion: Disadvantages of large parasite loads on the later nesters (second clutch in each nest) at Rif may be compensated by shared nest attendance and the concurrent added time for preening for females while other females attend their nests.

**Notes:** Kristjansson, Thordur Orn Jonsson, Jon Einar Svavarsson, Jorundur

**URL:** <Go to ISI>://WOS:000383903900007

**Reference Type:**  Journal Article

**Record Number:** 1628

**Author:** W. B. Krohn and R. B. J. Owen

**Year:** 1988

**Title:** Validation of a Habitat Suitability Model for Eider Nesting Islands

**Journal:** Transactions of the Northeast Section of the Wildlife Society

**Volume:** 45

**Pages:** 18-26

**Short Title:** Validation of a Habitat Suitability Model for Eider Nesting Islands

**Accession Number:** BCI:BCI198988059743

**Keywords:** Common Eider; Somateria mollissima; Habitat; Breeding Season;

**Abstract:** Blumton et al. (1988) developed a Habitat Suitability Index (HSI) model designed to rank common eider (Somateria mollissima) nesting islands according to total number of nests. We collected disturbance and vegetation data for 34 coastal Maine [USA] islands to test the model's performance against (1) total nests per island, and (2) nests per vegetated hectare. Ranking of the model's output was significantly correlated with rankings of the two test criteria (P < 0.001), and model output was significantly correlated with both test criteria (P < 0.05). We recommend using the model to rank nesting islands or to determine good (.gtoreq. 10 nests) from poor (< 10 nests) islands. Because model precision was poor, we would not use the HSI model to predict numbers of nests on individual islands. The model is a first approximation of the relationship between common eiders and their nesting habitat.

**URL:** <Go to ISI>://BCI198988059743

**Reference Type:**  Journal Article

**Record Number:** 1905

**Author:** K. Krolaczyk, K. M. Kavetska, A. Stapf and E. Kalisinska

**Year:** 2012

**Title:** Streptocara formosensis Sugimoto, 1930 (Nematoda: Acuariidae) in wild ducks from the southern coast of the Baltic Sea

**Journal:** Helminthologia

**Volume:** 49

**Issue:** 4

**Pages:** 247-252

**Date:** Dec

**Short Title:** Streptocara formosensis Sugimoto, 1930 (Nematoda: Acuariidae) in wild ducks from the southern coast of the Baltic Sea

**ISSN:** 0440-6605

**DOI:** 10.2478/s11687-012-0046-6

**Accession Number:** WOS:000310745000009

**Keywords:** Sea Ducks; Parasites; Nonbreeding Seasons

**Notes:** Times Cited: 1

Krolaczyk, K. Kavetska, K. M. Stapf, A. Kalisinska, E.

Kavetska, Katarzyna /K-4001-2012

1

**URL:** <Go to ISI>://WOS:000310745000009

**Reference Type:**  Journal Article

**Record Number:** 1004

**Author:** S. Krueger and J. Richter

**Year:** 1987

**Title:** Remarkable Concentration of Velvet Scoters Melanitta-Fusca L. In Northern Upper Lusatia East Germany

**Journal:** Beitraege zur Vogelkunde

**Volume:** 33

**Issue:** 3-4

**Pages:** 224-225

**Short Title:** Remarkable Concentration of Velvet Scoters Melanitta-Fusca L. In Northern Upper Lusatia East Germany

**Accession Number:** BCI:BCI198834088925

**Keywords:** White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI198834088925

**Reference Type:**  Journal Article

**Record Number:** 104

**Author:** T. Krueger and S. Garthe

**Year:** 2002

**Title:** The occurrence of selected seabirds and coastal birds off Wangerooge in autumn: The influence of wind direction and wind force.

**Journal:** Journal fuer Ornithologie

**Volume:** 143

**Issue:** 2

**Pages:** 155-170

**Date:** April, 2002

**Short Title:** The occurrence of selected seabirds and coastal birds off Wangerooge in autumn: The influence of wind direction and wind force.

**Accession Number:** BCI:BCI200200360534

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Migration; Nonbreeding Seasons;

**Abstract:** Between 1995 and 1999 a study was made of the autumn migration of seabirds and coastal birds on the seaward side of Wangerooge Island (SE German Bight, East Frisian Islands; 53degree47'N 07degree54'E). Analyses are based on a total of 418 h on 118 days from 1 September to 15 November. Migration patterns in relation to wind direction and wind force are presented for 19 species. The patterns differed significantly from a hypothetical distribution. It proved possible to allocate the observed species to one of two groups, based on their occurrence patterns: 1. Those which migrated regularly and were wont to occur whatever the wind direction and wind force: divers, grebes, Great Cormorant, Common Shelduck, Barnacle Goose, Brent Goose, Great Scaup, Black Scoter, Common Eider, Sandwich Tern, Common/Arctic Tern, Little Gull, Common Guillemot and Razorbill. In general, their migration intensity is strongest during weak tailwinds (easterly winds) and during strong on-shore winds from W/NW. Plainly, the latter case is not due to actual increase in migration intensity but is rather the result of birds being pushed closer to the coast while migrating farther out at sea. 2. Seabirds such as Northern Fulmar, Leach's Petrel, Sooty Shearwater, Northern Gannet and skuas occur chiefly or exclusively during gale-force winds from W or NW (weather system after passage of cyclones). The reasons for the observed patterns are discussed.

**URL:** <Go to ISI>://BCI200200360534

**Reference Type:**  Journal Article

**Record Number:** 145

**Author:** J. Kube

**Year:** 1996

**Title:** Spatial and temporal variations in the population structure of the soft-shell clam Mya arenaria in the Pomeranian Bay (Southern Baltic Sea)

**Journal:** Journal of Sea Research

**Volume:** 35

**Issue:** 4

**Pages:** 335-344

**Short Title:** Spatial and temporal variations in the population structure of the soft-shell clam Mya arenaria in the Pomeranian Bay (Southern Baltic Sea)

**Accession Number:** BCI:BCI199799288268

**Keywords:** Sea Ducks - General; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The population structure of Mya arenaria has been investigated in the sublittoral zone of the Pomeranian Bay (southern Baltic Sea). Box-corer samples were collected during a 1.5-year period in 1993/94 to follow changes in size and age structure of the clam populations in different parts of the study area. Large spatial differences in population structure were found between the sheltered southwest of the Bay and the shallow and exposed Oder Bank in the centre. The stock of the Oder Bank consisted of two different clam types. A slow-growing cohort was assumed to be autochtonous on the Oder Bank, whereas a fast-growing one was assumed to have immigrated from the surrounding area. The contribution of the two cohorts to the total density varied seasonally. Because of bedload transport of clams, the contribution to the reduction of the clam stock by wintering sea ducks could not be quantified. In the southwest of the Pomeranian Bay erosion was of minor importance. High mortality rates during the first two years of life were assumed to be caused by predation. Mortality rates of older cohorts remained stable until old age. Variations in cohort strength were related to interannual differences in the reproductive success. A mild winter presumably lowers the reproductive success in the subsequent summer. Severe oxygen depletion in summer 1994 caused a strong reduction in the clam stock at stations deeper than 10 m.

**URL:** <Go to ISI>://BCI199799288268

**Reference Type:**  Journal Article

**Record Number:** 2172

**Author:** L. Kurvinen, M. Kilpi, M. Nordstrom and M. Ost

**Year:** 2016

**Title:** Drivers of decline and changed nest-site preference of the Baltic eider: an island-level analysis from south-western Finland

**Journal:** Ornis Fennica

**Volume:** 93

**Issue:** 1

**Pages:** 55-66

**Short Title:** Drivers of decline and changed nest-site preference of the Baltic eider: an island-level analysis from south-western Finland

**ISSN:** 0030-5685

**Accession Number:** WOS:000375520400007

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Habitat; Conservation; Abundance, Distribution, & Trends

**Abstract:** The recent large-scale decline of Eiders (Somateria mollissima) in the Baltic Sea is well documented by long-term population monitoring. One hypothesis to explain the decline is increased predation pressure during breeding, but because the decline has been steep and geographically broad, multiple drivers may be involved. Here we explore whether some of these hitherto unidentified drivers relate to the breeding habitat. To this end, we performed an analysis of long-term monitoring data from ca. 300 islands from the Archipelago Sea, SW Finland, representing five geographical sub-areas, during 1993-2012. We analysed population trends and whether nest-site preference changed over time. The results showed steep population declines in the sub-areas farthest from the mainland and a more moderate decline in the sub-area closest to the mainland. The presence of breeding gulls (Larus spp.) on the Eider breeding island had a consistently positive effect on Eider breeding numbers throughout the study period. In contrast, the presence of breeding White-tailed Sea Eagles (Haliaeetus albicilla) had a negative effect on breeding numbers, but only during the early study period when the Eagle breeding population was still small. Interestingly, the sign of the effect of the distance from the nearest neighbouring island on Eider breeding numbers changed over time. Eider breeding numbers positively correlated with island size and distance to neighbouring islands in the early period, whereas exposed large islands with islands nearby were positively associated with Eider breeding abundance during the late period. Future conservation efforts should shift from site-specific conservation to population-specific management due to the shift in nest-site preference. Furthermore, the positive influence of gulls warrants the adoption of conservation measures taking interspecific interactions into consideration.

**Notes:** Kurvinen, Lasse Kilpi, Mikael Nordstrom, Mikael Ost, Markus

**URL:** <Go to ISI>://WOS:000375520400007

**Reference Type:**  Journal Article

**Record Number:** 2173

**Author:** S. Y. Kwon, J. D. Blum, C. Y. Chen, D. E. Meattey and R. P. Mason

**Year:** 2014

**Title:** Mercury Isotope Study of Sources and Exposure Pathways of Methylmercury in Estuarine Food Webs in the Northeastern US

**Journal:** Environmental Science & Technology

**Volume:** 48

**Issue:** 17

**Pages:** 10089-10097

**Date:** Sep

**Short Title:** Mercury Isotope Study of Sources and Exposure Pathways of Methylmercury in Estuarine Food Webs in the Northeastern US

**ISSN:** 0013-936X

**DOI:** 10.1021/es5020554

**Accession Number:** WOS:000341229300020

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** We measured mercury (Hg) isotope ratios in sediments and various estuarine organisms (green crab, blue mussel, killifish, eider) to investigate methylmercury (MMHg) sources and exposure pathways in five Northeast coast (U.S.) estuaries. The mass independent Hg isotopic compositions (MIF; Delta Hg-199) of the sediments were linearly correlated with the sediment 1/Hg concentrations (Delta Hg-199: r(2) = 0.77, p < 0.05), but the mass dependent isotope compositions (MDF; delta Hg-202) were not (r(2) = 0.26, p = 0.16), reflecting inputs of anthropogenic Hg sources with varying delta Hg-202. The estuarine organisms all display positive Delta Hg-199 values (0.21 to 0.98 parts per thousand) indicating that MMHg is photodegraded to varying degrees (5-12%) prior to entry into the food web. The delta Hg-202 and Delta Hg-199 values of most organisms can be explained by a mixture of MMHg and inorganic Hg from sediments. At one contaminated site mussels have anomalously high delta Hg-202, indicating exposure to a second pool of MMHg, compared to sediment, crabs and fish. Eiders have similar Delta Hg-199 as killifish but much higher delta Hg-202, suggesting that there is an internal fractionation of delta Hg-202 in birds. Our study shows that Hg isotopes can be used to identify multiple anthropogenic inorganic Hg and MMHg sources and determine the degree of photodegradation of MMHg in estuarine food webs.

**Notes:** Kwon, Sae Yun Blum, Joel D. Chen, Celia Y. Meattey, Dustin E. Mason, Robert P.

**URL:** <Go to ISI>://WOS:000341229300020

**Reference Type:**  Journal Article

**Record Number:** 2174

**Author:** H. Kylin, J. Hammar, J. Mowrer, H. Bouwman, C. Edelstam, M. Olsson and S. Jensen

**Year:** 2015

**Title:** Persistent organic pollutants in biota samples collected during the Ymer-80 expedition to the Arctic

**Journal:** Polar Research

**Volume:** 34

**Short Title:** Persistent organic pollutants in biota samples collected during the Ymer-80 expedition to the Arctic

**ISSN:** 0800-0395

**DOI:** 10.3402/polar.v34.21129

**Article Number:** 21129

**Accession Number:** WOS:000363404400001

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** During the 1980 expedition to the Arctic with the icebreaker Ymer, a number of vertebrate species were sampled for determination of persistent organic pollutants. Samples of Arctic char (Salvelinus alpinus, n = 34), glaucous gull (Larus hyperboreus, n = 8), common eider (Somateria mollissima, n = 10), Brunnich's guillemot (Uria lomvia, n = 9), ringed seal (Pusa hispida, n = 2) and polar bear (Ursus maritimus, n = 2) were collected. With the exception of Brunnich's guillemot, there was a marked contamination difference of birds from western as compared to eastern/northern Svalbard. Samples in the west contained a larger number of polychlorinated biphenyl (PCB) congeners and also polychlorinated terphenyls, indicating local sources. Brunnich's guillemots had similar pollutant concentrations in the west and east/north; possibly younger birds were sampled in the west. In Arctic char, pollutant profiles from lake Linnevatn (n = 5), the lake closest to the main economic activities in Svalbard, were similar to profiles in Arctic char from the Shetland Islands (n = 5), but differed from lakes to the north and east in Svalbard (n = 30). Arctic char samples had higher concentrations of hexachlorocyclohexanes (HCHs) than the marine species of birds and mammals, possibly due to accumulation via snowmelt. Compared to the Baltic Sea, comparable species collected in Svalbard had lower concentrations of PCB and dichlorodiphenyltrichloroethane (DDT), but similar concentrations indicating long-range transport of hexachlorobenzene, HCHs and cyclodiene pesticides. In samples collected in Svalbard in 1971, the concentrations of PCB and DDT in Brunnich's guillemot (n = 7), glaucous gull (n = 2) and polar bear (n = 2) were similar to the concentrations found in 1980.

**Notes:** Kylin, Henrik Hammar, Johan Mowrer, Jacques Bouwman, Henk Edelstam, Carl Olsson, Mats Jensen, Soeren

**URL:** <Go to ISI>://WOS:000363404400001

**Reference Type:**  Journal Article

**Record Number:** 1906

**Author:** R. Laane, A. D. Vethaak, J. Gandrass, K. Vorkamp, A. Kohler, M. M. Larsen and J. Strand

**Year:** 2013

**Title:** Chemical contaminants in the Wadden Sea: Sources, transport, fate and effects

**Journal:** Journal of Sea Research

**Volume:** 82

**Pages:** 10-53

**Date:** Sep

**Short Title:** Chemical contaminants in the Wadden Sea: Sources, transport, fate and effects

**ISSN:** 1385-1101

**DOI:** 10.1016/j.seares.2013.03.004

**Accession Number:** WOS:000324223700003

**Keywords:** Common eider; Somateria mollissima; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 1

Laane, R. W. P. M. Vethaak, A. D. Gandrass, J. Vorkamp, K. Koehler, A. Larsen, M. M. Strand, J.

Vethaak, Andre/N-6562-2013; Strand, Jakob/H-4181-2011

Strand, Jakob/0000-0001-5756-9546

1

**URL:** <Go to ISI>://WOS:000324223700003

**Reference Type:**  Journal Article

**Record Number:** 1062

**Author:** D. L. Lacroix, S. Boyd, D. Esler, M. Kirk, T. Lewis and S. Lipovsky

**Year:** 2005

**Title:** Surf Scoters Melanitta perspicillata aggregate in association with ephemerally abundant polychaetes

**Journal:** Marine Ornithology

**Volume:** 33

**Issue:** 1

**Pages:** 61-64

**Short Title:** Surf Scoters Melanitta perspicillata aggregate in association with ephemerally abundant polychaetes

**Accession Number:** BCI:BCI200600407193

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200600407193

**Reference Type:**  Journal Article

**Record Number:** 1123

**Author:** D. L. Lacroix, R. B. Lanctot, J. A. Reed and T. L. McDonald

**Year:** 2003

**Title:** Effect of underwater seismic surveys on molting male Long-tailed Ducks in the Beaufort Sea, Alaska

**Journal:** Canadian Journal of Zoology

**Volume:** 81

**Issue:** 11

**Pages:** 1862-1875

**Date:** November 2003

**Short Title:** Effect of underwater seismic surveys on molting male Long-tailed Ducks in the Beaufort Sea, Alaska

**Accession Number:** BCI:BCI200400167388

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Behavior; Molt; Conservation; Nonbreeding Seasons;

**Abstract:** Large numbers of Long-tailed Ducks (Clangula hyemalis) (10 000-30 000) undergo a postnuptial wing molt along barrier islands of the Beaufort Sea, Alaska. To investigate the potential effects of underwater seismic activities on this species, we monitored the number and diving behavior of molting Long-tailed Ducks before, during, and after seismic activities in a seismic area and two control areas nearby between July and September 2001. Aerial surveys documented a decline in duck numbers in both seismic and control areas during the period of seismic activity. We used automated data-collection computers to monitor the presence and diving behavior of radio-equipped Long-tailed Ducks residing within 2.5 km of a series of computer setups located along the barrier islands and on the mainland. A statistical analysis based on a modified before-after control-impact approach found no difference in indices of site fidelity or diving intensity between the seismic area and two control areas. Thus, we found no effect of seismic activity on movements and diving behavior of molting Long-tailed Ducks. These results should be evaluated carefully, however, as logistical and ecological factors limited our ability to detect more subtle disturbance effects. We recommend additional studies on other bird species to fully understand the effects of underwater seismic testing.

**URL:** <Go to ISI>://BCI200400167388

**Reference Type:**  Journal Article

**Record Number:** 1063

**Author:** D. L. Lacroix, K. G. Wright and D. Kent

**Year:** 2004

**Title:** Observations of above-surface littoral foraging in two sea ducks, Barrow's Goldeneye, Bucephala islandica, and Surf Scoter, Melanitta perspicillata, in coastal southwestern British Columbia

**Journal:** Canadian Field-Naturalist

**Volume:** 118

**Issue:** 2

**Pages:** 264-265

**Date:** Apr-Jun04

**Short Title:** Observations of above-surface littoral foraging in two sea ducks, Barrow's Goldeneye, Bucephala islandica, and Surf Scoter, Melanitta perspicillata, in coastal southwestern British Columbia

**Accession Number:** BCI:BCI200510109575

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Surf Scoter; Melanitta perspicillata; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** Barrow's Goldeneyes (Bucephala islandica) and Surf Scorers (Melanitta perspicillata) were observed on four separate occasions, by three different observers, foraging on Bay Mussels (Mytilus trossulus) above the water surface. This unique foraging behaviour could be attributed to diurnal spring tides and reduced lower intertidal mussel abundance.

**URL:** <Go to ISI>://BCI200510109575

**Reference Type:**  Journal Article

**Record Number:** 111

**Author:** B. K. Lance, D. B. Irons, S. J. Kendall and L. L. McDonald

**Year:** 2001

**Title:** An evaluation of marine bird population trends following the Exxon Valdez oil spill, Prince William Sound, Alaska

**Journal:** Marine Pollution Bulletin

**Volume:** 42

**Issue:** 4

**Pages:** 298-309

**Date:** April, 2001

**Short Title:** An evaluation of marine bird population trends following the Exxon Valdez oil spill, Prince William Sound, Alaska

**Accession Number:** BCI:BCI200100286404

**Keywords:** Sea Ducks - General; Contaminants; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** We examined post-spill trends (1989-1998) of marine bird populations in Prince William Sound (PWS) following the Exxon Valdez oil spill (EVOS) to evaluate recovery of injured taxa. Two criteria were employed. First, we examined population trends of injured taxa only in the oiled area of PWS using regression models. Second, we examined population trends of injured taxa in the oiled area relative to the unoiled area using homogeneity of the slopes tests. We considered a population recovering if there was a positive trend using either criteria. We considered a population not recovering if there was no trend using either criteria or a negative trend in the oiled area. A significant negative trend in the oiled area relative to the unoiled area was considered a continuing and increasing effect. Most taxa for which injury was previously demonstrated were not recovering and some taxa showed evidence of increasing effects nine years after the oil spill. Four taxa (loons Gavia spp, Harlequin Duck Histrionicus histrionicus, Bufflehead Bucephala spp, and North-western Crow Corvus caurinus) showed weak to very weak evidence of recovery. None of these taxa showed positive trends in both winter and summer. Nine taxa (grebes Podiceps spp, cormorants Phalacrocorax spp, Black Oystercatcher Haematopus bachmani, Mew Gull Larus canus, Glaucous-winged Gull Larus glaucescens, terns Sterna spp, murres Uria spp, Pigeon Guillemot Cepphus columba, and murrelets Brachyramphus spp) showed no evidence of recovery during summer or winter. Four taxa (scoters Melanitta spp, mergansers Mergus spp, golden-eyes Bucephala spp, and Black-legged Kittiwake Rissa tridactyla) showed evidence of continuing, increasing effects. We showed evidence of slow recovery, lack of recovery, and divergent population trends in many taxa which utilize shoreline and nearshore habitats where oil is likely to persist. Potential lingering spill effects and natural variability appear to be acting in concert in delaying recovery of many PWS bird populations.

**URL:** <Go to ISI>://BCI200100286404

**Reference Type:**  Journal Article

**Record Number:** 1907

**Author:** E. W. Lance, A. C. Matz, M. K. Reeves and L. A. Verbrugge

**Year:** 2012

**Title:** Petroleum hydrocarbon contamination in Nelson Lagoon, Alaska, sampling three different matrices

**Journal:** Marine Pollution Bulletin

**Volume:** 64

**Issue:** 10

**Pages:** 2129-2134

**Date:** Oct

**Short Title:** Petroleum hydrocarbon contamination in Nelson Lagoon, Alaska, sampling three different matrices

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2012.07.031

**Accession Number:** WOS:000310929500031

**Keywords:** Steller's eider; Polysticta stelleri; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 1

Lance, Ellen W. Matz, Angela C. Reeves, Mari K. Verbrugge, Lori A.

1

**URL:** <Go to ISI>://WOS:000310929500031

**Reference Type:**  Journal Article

**Record Number:** 332

**Author:** R. Lanctot, B. Goatcher, K. Scribner, S. Talbot, B. Pierson, D. Esler and D. Zwiefelhofer

**Year:** 1999

**Title:** Harlequin duck recovery from the Exxon Valdez oil spill: A population genetics perspective

**Journal:** Auk

**Volume:** 116

**Issue:** 3

**Pages:** 781-791

**Date:** July, 1999

**Short Title:** Harlequin duck recovery from the Exxon Valdez oil spill: A population genetics perspective

**Accession Number:** BCI:BCI199900478748

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Delineation; Contaminants; Nonbreeding Seasons;

**Abstract:** Concerns about Harlequin Duck (Histrionicus histrionicus) population recovery following the Exxon Valdez oil spill led biologists to ask whether birds located in different molting and wintering areas belong to genetically distinct and, thus, demographically independent populations. Owing to the lack of direct observations of movements among marine areas, three classes of genetic markers that differed in mode of inheritance were used to evaluate the degree of genetic differentiation among wintering areas within Prince William Sound (PWS) and the Alaska Peninsula and Kodiak Archipelago (APKA). We could not reject the null hypothesis that the wintering aggregations within each region are composed of a single genetically panmictic population. Differences in genotype frequencies among wintering locations within PWS and APKA were low and nonsignificant for all three classes of markers. Furthermore, we saw no evidence for deviations in Hardy-Weinberg equilibrium or gametic disequilibriumbetween loci within a winter collection site as would be expected if these locales were composed of individuals from reproductively isolated (and genetically distinct) breeding locales. Finally, no evidence for significant structuring was noted between PWS and APKA. Lack of spatial genetic structuring could be due to the cumulative effects of low levels of gene flow over long time periods, low levels of gene flow by immature birds moving between marine habitats, or to episodic dispersal caused by habitat alteration (e.g. volcanic eruptions). Harlequin Ducks are likely to recolonize or enhance populations in areas recovering from environmental damage via emigration of birds from non-affected areas. Demographic studies suggest, however, that levels of movements are low, and that population recovery by emigration is a long-term process.

**URL:** <Go to ISI>://BCI199900478748

**Reference Type:**  Journal Article

**Record Number:** 1394

**Author:** R. B. Lanctot and J. S. Gleason

**Year:** 2006

**Title:** Alaskan oilfield development and glaucous gulls

**Journal:** Arctic

**Volume:** 59

**Issue:** 3

**Pages:** 334-336

**Date:** Sep 2006

**Short Title:** Alaskan oilfield development and glaucous gulls

**Accession Number:** BCI:BCI200700023953

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Breeding Season; Conservation;

**URL:** <Go to ISI>://BCI200700023953

**Reference Type:**  Journal Article

**Record Number:** 1514

**Author:** J. K. Larsen and M. Guillemette

**Year:** 2000

**Title:** Influence of annual variation in food supply on abundance of wintering common eiders Somateria mollissima

**Journal:** Marine Ecology Progress Series

**Volume:** 201

**Pages:** 301-309

**Date:** August 9, 2000

**Short Title:** Influence of annual variation in food supply on abundance of wintering common eiders Somateria mollissima

**Accession Number:** BCI:BCI200100197447

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Habitat; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We investigated how the annual variation in the abundance of wintering common eiders Somateria mollissima was related to the abundance of benthos over 4 yr. The study was conducted at 2 sites, Tuno Knob and Ringebjerg Sand, Denmark, from 1994 to 1998. Benthos was sampled along permanent transects in November, and common eiders counted and localized from observation towers during the winter. The benthic community was dominated by the blue mussel Mytilus edulis, with sizes varying with depth. Small and intermediary-sized individuals were primarily found in 0 to 6 m depth, and large individuals exclusively in 6 to 12 m depth. The pattern of variation in abundance of common eiders matched that of the benthos in 0 to 6 m depth, where they were mostly found, but not in 6 to 12 m depth. Based on a bioenergetic model of food consumption, we estimated that common eiders during the 3rd and 4th years exploited between 22 and 64% of the entire benthic community biomass in 0 to 6 m depth, compared to ltoreq3% in 6 to 12 m depth. We conclude that common eiders tracked annual variation in food abundance, primarily related to the presence of small and intermediary-sized blue mussels.

**URL:** <Go to ISI>://BCI200100197447

**Reference Type:**  Journal Article

**Record Number:** 1367

**Author:** J. K. Larsen and M. Guillemette

**Year:** 2007

**Title:** Effects of wind turbines on flight behaviour of wintering common eiders: implications for habitat use and collision risk

**Journal:** Journal of Applied Ecology

**Volume:** 44

**Issue:** 3

**Pages:** 516-522

**Date:** Jun 2007

**Short Title:** Effects of wind turbines on flight behaviour of wintering common eiders: implications for habitat use and collision risk

**Accession Number:** BCI:BCI200700411178

**Keywords:** Common Eider; Somateria mollissima; Habitat; Behavior; Conservation; Nonbreeding Seasons;

**Abstract:** 1.Wind energy is a fast-growing renewable energy source and many offshore wind parks will be erected in shallow waters (< 40 m deep) where various coastal bird species are found. The two main issues regarding offshore wind farms and birds are disturbance and collision risk. We studied the effect of wind turbines on the flight behaviour of wintering common eiders Somateria mollissima in order to identify the properties that cause disturbance and the factors that may increase their risk of collision.2. The study was conducted at Tuno Knob offshore wind park in the Kattegat, Denmark. We attracted birds though the use of decoys located at increasing distances from the wind park. To discriminate between the potential disturbance effect of the standing towers from that of the revolving rotor blades, wind turbines were switched on or off alternately during 10 experimental trials.3. Common eiders reacted strongly to the presence of wind turbines. The number of flying birds was significantly related to flight corridor location and position of the decoy group. That behavioural reaction was interpreted to be a consequence of their high speed and low-manoeuvrability flight occurring within the vertical height range of the wind turbines. The number of landing birds also reacted to the position of the decoy group in relation to proximity to the turbines, with the greatest effects observed within the wind park. Such avoidance behaviour might decrease use of otherwise suitable habitat.4. The movement and noise of rotors affected neither the number of common eiders flying within corridors nor the number of birds reacting to decoys. This suggests that the avoidance behaviour observed was caused by the presence of the structures themselves and that eiders use vision when avoiding human-made structures.5. Synthesis and applications. This study has demonstrated that common eiders avoid flying close to or into the Tuno Knob wind park. This behaviour may result in a reduction in habitat availability within and around wind parks, and raises concerns about the possible impact of the extensive development of large-scale wind parks in shallow offshore waters, which are the main feeding areas for sea ducks and other marine birds. Our results indicate that the disturbance effect of revolving rotor blades is negligible during daylight hours but highlights the need for studies to be carried out during hours of darkness and conditions of poor visibility (e.g. fog and snow). Until more insight is gained, we recommend caution when planning wind parks in areas of high sea duck densities.

**URL:** <Go to ISI>://BCI200700411178

**Reference Type:**  Journal Article

**Record Number:** 1414

**Author:** J. K. Larsen and B. Laubek

**Year:** 2005

**Title:** Disturbance effects of high-speed ferries on wintering sea ducks

**Journal:** Wildfowl

**Volume:** 55

**Pages:** 99-116

**Short Title:** Disturbance effects of high-speed ferries on wintering sea ducks

**Accession Number:** BCI:BCI200600253854

**Keywords:** Black Scoter; Melanitta nigra; Common Eider; Somateria mollissima; Conservation; Behavior; Nonbreeding Seasons;

**Abstract:** Human offshore activities are increasingly threatening waterbird conservation interests. The impacts of disturbance by high-speed ferries on Common Eiders Somateria mollissima and Common Scoters Melanitta nigra were studied at a wintering site in the Kattegat Sea, Denmark. Spatial patterns of winter site use, close-range distribution patterns relative to ferry passages and escape distances were examined using aerial surveys and ferry-based observations. For Common Eiders, there was a suggestion of major disturbance impacts, i.e. birds displacing in response to the passage of ferries, within 500-1,000 m of the ferry route: a considerable proportion of flocks (> 10%) located within 400 m took flight in response to a passing ferry, and distributional impacts, including birds responding by swimming, were occasionally suggested within a distance of 500-1,000 m. Although distributional impacts could not be demonstrated with statistical significance within the Hjelm area (partly because of an apparently Limited food supply in the area around the ferry route), it is concluded that highspeed ferry disturbance, had the potential to reduce significantly habitat use within 500 m of the ferry route. Common Scoters tended to take flight further from the ferry route than Common Eiders, however, data were Limited and no conclusions could be made on displacement distances or possible impacts on habitat use. The results show that high-speed ferries may be an important source of disturbance that should be given due attention when the cumulative effects of offshore activities on site use by sea ducks are considered.

**URL:** <Go to ISI>://BCI200600253854

**Reference Type:**  Journal Article

**Record Number:** 1368

**Author:** J. L. Larsen, J. Durinck and H. Skov

**Year:** 2007

**Title:** Trends in chronic marine oil pollution in Danish waters assessed using 22 years of beached bird surveys

**Journal:** Marine Pollution Bulletin

**Volume:** 54

**Issue:** 9

**Pages:** 1333-1340

**Date:** Sep 2007

**Short Title:** Trends in chronic marine oil pollution in Danish waters assessed using 22 years of beached bird surveys

**Accession Number:** BCI:BCI200800040886

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Common Eider; Somateria mollissima; Contaminants; Nonbreeding Seasons;

**Abstract:** Beached bird surveys provide an important tool for monitoring the level of oil pollution at sea, which is the most significant observable cause of death for a large number of waterbird species and pose a serious threat to wintering seabird populations. Linear regression analyses of oil rates from the Danish 22 year dataset show a decline in the oil pollution level in offshore areas of the eastern North Sea and Skagerrak and in near-shore parts of the Kattegat; but a worsening in the offshore areas of the Kattegat. These results raise concern for species such as common scoter, velvet scoter, eider and razorbill, for which the Kattegat serves as a globally important wintering area. It is recommended that surveillance for oil spills is intensified in inner Danish waters, and that action is taken to make responses towards offenders faster, and penalties for oil seepage higher. (c) 2007 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200800040886

**Reference Type:**  Journal Article

**Record Number:** 2261

**Author:** L. H. Larsen, K. Sagerup and S. Ramsvatn

**Year:** 2016

**Title:** The mussel path - Using the contaminant tracer, Ecotracer, in Ecopath to model the spread of pollutants in an Arctic marine food web

**Journal:** Ecological Modelling

**Volume:** 331

**Pages:** 77-85

**Date:** Jul

**Short Title:** The mussel path - Using the contaminant tracer, Ecotracer, in Ecopath to model the spread of pollutants in an Arctic marine food web

**ISSN:** 0304-3800

**DOI:** 10.1016/j.ecolmodel.2015.10.011

**Accession Number:** WOS:000376831700008

**Keywords:** King Eider; Somateria spectabilis; Trophic Interactions; Contaminants; Conservation

**Abstract:** As the polar ice cap is receding, shipping in the Arctic seas becomes easier, and both destination and Atlantic-Pacific transit shipping is expected to increase. Thereby, the risk of accidents increase. Immediate negative impacts are expected from oil spills through the acute mortality for marine organisms, especially from heavy fuel oil (HFO). Marine Diesel oil (MDO) is therefore suggested as a preferable fuel for ships operating in Arctic waters. However, Polycyclic Aromatic Hydrocarbons (PAHs) are toxic components in both types of fuel, are highly bioavailable and can transfer up the food chain. A spill of MDO following a shipwreck could therefore have impacts beyond the spill site and long after the diesel has spread and evaporated. We model the spread of PAHs from a fictitious spill of MDO in the Pechora Sea (South Eastern Barents Sea) using the contaminant tracer module Ecotracer, in the Ecopath modelling software. We address the effects on the food-web including long term effects by combining toxicology and food web modelling. Ecotracer assumes that pollutants follow the biomass passively through the system, and degradation of pollutants is following user specified rates. By combining in natura measurements of PAHs in seawater and in blue mussels (Mytilus edulis) recorded at an accidental MDO spill site, with experiments conducted on the red king crab (Paralithodes camtschaticus) and blue mussels, we derived values as inputs into the model. The Ecotracer predicted that the pollution in the mussels will spread throughout the food-web, especially to the top predators of mussels, king eider (Somateria spectabilis) and Atlantic walrus (Odobenus rosmarus rosmarus) and also from snow crab (Chionoecetes opilio) to seals and toothed whales. (C) 2015 Elsevier B.V. All rights reserved.

**Notes:** Larsen, Lars-Henrik Sagerup, Kjetil Ramsvatn, Silje

**URL:** <Go to ISI>://WOS:000376831700008

**Reference Type:**  Journal Article

**Record Number:** 2175

**Author:** K. Larsson, S. Hajdu, M. Kilpi, R. Larsson, A. Leito and P. Lyngs

**Year:** 2014

**Title:** Effects of an extensive Prymnesium polylepis bloom on breeding eiders in the Baltic Sea

**Journal:** Journal of Sea Research

**Volume:** 88

**Pages:** 21-28

**Date:** Apr

**Short Title:** Effects of an extensive Prymnesium polylepis bloom on breeding eiders in the Baltic Sea

**ISSN:** 1385-1101

**DOI:** 10.1016/j.seares.2013.12.017

**Accession Number:** WOS:000335871900003

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Abundance, Distribution, & Trends; Contaminants; Productivity

**Abstract:** The effects of an extensive bloom of the potentially toxic Prymnesium polylepis (Haptophyta) on breeding eiders (Somateria mollissima) in the Baltic Sea were analysed. Increasing abundances of the alternate stage P. polylepis was detected by a marine monitoring programme in the autumn 2007. The bloom peaked between March and May 2008 in the southern, central and northwestern Baltic Proper and abundances of up to 5 x 10(6) cells l(-1) were recorded. At several sites P. polylepis constituted between 30 and 90% of the total phytoplankton biovolume. The flagellate was only recorded in low numbers in the northeastern Baltic Proper and Gulf of Finland. The abundances were low in 2007, 2009 and 2010. In 28 eider colonies situated in the southern and central Baltic Proper, sharp and synchronous declines in the number of nesting eiders were observed from 2007 to 2008. In colonies on Gotland in the central Baltic Proper, a 76% decrease, from 6650 nests to 1620 nests, was followed by increases in 2009 and 2010, although not up to numbers observed in 2007. At Utklippan and Ertholmene in the southern Baltic Proper, the observed decreases of 55%, from 144 to 65 nests, and 36%, from 1660 to 1060 nests, respectively, between 2007 and 2008, were followed by increases in 2009 and 2010 up to the level observed in 2007. By contrast, no general decline of the number of nesting eiders was observed from 2007 to 2008 in 75 colonies in the northeastern Baltic Proper and Gulf of Finland. Hence, the spatial distribution of the P. polylepis bloom in 2008 closely matched the observed distribution of extensive non-breeding of female eiders. We suggest that the intensive spring bloom of P. polylepis, either through a toxic or non-toxic pathway, affected the main benthic food of eiders, i.e. blue mussels (Mytilus trossulus x Mytilus edulis), at pre-breeding foraging sites close to the breeding sites, and, subsequently, the body condition of adult female eiders and their breeding propensity. (C) 2014 The Authors. Published by Elsevier B.V. All rights reserved.

**Notes:** Larsson, K. Hajdu, S. Kilpi, M. Larsson, R. Leito, A. Lyngs, P.

**URL:** <Go to ISI>://WOS:000335871900003

**Reference Type:**  Journal Article

**Record Number:** 1114

**Author:** K. Larsson and L. Tyden

**Year:** 2005

**Title:** Effects of oil spills on wintering Long-tailed Ducks Clangula hyemalis at Hoburgs bank in central Baltic Sea between 1996197 and 2003104

**Journal:** Ornis Svecica

**Volume:** 15

**Issue:** 3

**Pages:** 161-171

**Short Title:** Effects of oil spills on wintering Long-tailed Ducks Clangula hyemalis at Hoburgs bank in central Baltic Sea between 1996197 and 2003104

**Accession Number:** BCI:BCI200600090785

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons;

**Abstract:** The Baltic Sea is an important marine area for wintering birds. Surveys in the 1990s showed that more than 25 % of the European Long-tailed Duck Clangula hyemalis population wintered at Hoburgs bank and east of Gotland. A shipping route with very frequent traffic goes from southwest Baltic Sea via Oland, Hoburgs bank and east of Gotland to the Gulf of Finland. In year 2000 about 58 500 ships passed east of Oland along this route. Hundreds of oils spills are registered along the route each year. Weekly surveys of oiled birds at southern Gotland and analyses of birds that had drown in fish nets showed that tens of thousands of Long-tailed Ducks were injured by oil each year in central Baltic Sea. Of 998 birds that drowned in fish nets at Hoburgs bank 11.8 % were found to have oil in the plumage. There was no clear relationship between the number of oiled birds observed and the number of registered oil spills in different years. Many sea duck have a life history in which variable or low productivity is compensated for by relatively high adult survival. This makes sea duck populations very susceptible to extra adult mortality caused by oil spills.

**URL:** <Go to ISI>://BCI200600090785

**Reference Type:**  Journal Article

**Record Number:** 777

**Author:** P. Larsson and A. Lindegren

**Year:** 1987

**Title:** Animals Need Not Be Killed to Reveal Their Body-Burdens of Chlorinated Hydrocarbons

**Journal:** Environmental Pollution

**Volume:** 45

**Issue:** 1

**Pages:** 73-78

**Short Title:** Animals Need Not Be Killed to Reveal Their Body-Burdens of Chlorinated Hydrocarbons

**Accession Number:** BCI:BCI198784072334

**Keywords:** Common merganser; Mergus merganser; Contaminants;

**Abstract:** The levels of persistent, lipophilic pollutants in different organs and body-fluids of birds are governed by partitioning, i.e. the levels are correlated. This implies that it may be possible to estimate the total body-burden of chlorinated hydrocarbons, without sacrificing the animals, by examining the levels in secretory fluid. This hypothesis was tested on the goosander, a fish-eating waterfowl. We found that levels of PCB and DDE in secretions from the uropyginal gland were linearly related to levels in the breast muscle. Thus, by estimating the amounts of persistent pollutants in water-repellent secretions, the total body-burden could be calculated.

**URL:** <Go to ISI>://BCI198784072334

**Reference Type:**  Journal Article

**Record Number:** 1348

**Author:** R. Larsson

**Year:** 2008

**Title:** Nest location fidelity in the Common Eider Somateria mollissima at Utklippan in the Baltic Sea

**Journal:** Ornis Svecica

**Volume:** 18

**Issue:** 2

**Pages:** 123-126

**Short Title:** Nest location fidelity in the Common Eider Somateria mollissima at Utklippan in the Baltic Sea

**Accession Number:** BCI:BCI200900006809

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Breeding Season;

**URL:** <Go to ISI>://BCI200900006809

**Reference Type:**  Journal Article

**Record Number:** 215

**Author:** R. Latham

**Year:** 1971

**Title:** Notes on Summering Sea Ducks on Eastern Long Island

**Journal:** Engelhardtia

**Volume:** 4

**Issue:** 4

**Pages:** 55

**Short Title:** Notes on Summering Sea Ducks on Eastern Long Island

**Accession Number:** BCI:BCI197208053926

**Keywords:** Sea Ducks - General;

**URL:** <Go to ISI>://BCI197208053926

**Reference Type:**  Journal Article

**Record Number:** 2176

**Author:** C. J. Latty, T. E. Hollmen, M. R. Petersen, A. N. Powell and R. D. Andrews

**Year:** 2016

**Title:** Biochemical and clinical responses of Common Eiders to implanted satellite transmitters

**Journal:** Condor

**Volume:** 118

**Issue:** 3

**Pages:** 489-501

**Date:** Aug

**Short Title:** Biochemical and clinical responses of Common Eiders to implanted satellite transmitters

**ISSN:** 0010-5422

**DOI:** 10.1650/condor-16-7.1

**Accession Number:** WOS:000383091000004

**Keywords:** Common Eider; Somateria mollissima; Behavior; Physiology

**Abstract:** Implanted biologging devices, such as satellite-linked platform transmitter terminals (PTTs), have been used widely to delineate populations and identify movement patterns of sea ducks. Although in some cases these ecological studies could reveal transmitter effects on behavior and mortality, experiments conducted under controlled conditions can provide valuable information to understand the influence of implanted tags on health and physiology. We report the clinical, mass, biochemical, and histological responses of captive Common Eiders (Somateria mollissima) implanted with PTTs with percutaneous antennas. We trained 6 individuals to dive 4.9 m for their food, allowed them to acclimate to this dive depth, and implanted them with PTTs. We collected data before surgery to establish baselines, and for 3.5 mo after surgery. The first feeding dive took place 22 hr after surgery, with 5 of 6 birds diving to the bottom within 35 hr of surgery. Plumage waterproofing around surgical sites was reduced <= 21 days after surgery. Mass; albumin; albumin: globulin ratio; aspartate aminotransferase; beta(1)-, beta(2)-, and gamma-globulins; creatine kinase; fecal glucocorticoid metabolites; heterophil: lymphocyte ratio; and packed cell volume changed from baseline on one or more of the postsurgery sampling dates, and some changes were still evident 3.5 mo after surgery. Our findings show that Common Eiders physiologically responded for up to 3.5 mo after surgical implantation of a PTT, with the greatest response occurring within the first few weeks of implantation. These responses support the need for postsurgery censor periods for satellite telemetry data and should be considered when designing studies and analyzing information from PTTs in sea ducks.

**Notes:** Latty, Christopher J. Hollmen, Tuula E. Petersen, Margaret R. Powell, Abby N. Andrews, Russel D.

**URL:** <Go to ISI>://WOS:000383091000004

**Reference Type:**  Journal Article

**Record Number:** 1209

**Author:** M. K. Laubhan and K. A. Metzner

**Year:** 1999

**Title:** Distribution and diurnal behavior of Steller's Eiders wintering on the Alaska Peninsula

**Journal:** Condor

**Volume:** 101

**Issue:** 3

**Pages:** 694-698

**Date:** Aug., 1999

**Short Title:** Distribution and diurnal behavior of Steller's Eiders wintering on the Alaska Peninsula

**Accession Number:** BCI:BCI199900405150

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Habitat; Behavior; Nonbreeding Seasons; Molt;

**Abstract:** We studied the distribution and activities of adult Steller's Eiders (Polysticta stelleri) during winter and spring on a deep-water embayment and a shallow lagoon along the Alaska Peninsula from September 1980 to May 1981. During the remigial molt, eiders were observed on Izembek Lagoon but not on Cold Bay. Following the flightless period, Izembek Lagoon continued to support 63-100% of eiders encountered during surveys. As ice cover on Izembek Lagoon increased, the number of birds decreased on Izembek Lagoon but increased on Cold Bay, suggesting that some eiders disperse to nearshore, deep-water habitats in close proximity to Izembek Lagoon during severe weather. Diurnal activity budgets indicated that the amount of time resting or engaged in aggression and alert activities was similar among locations, seasons, tidal stages, and sexes. In contrast, time spent foraging differed among seasons and locations but did not differ among tidal stages or sexes. Although time spent foraging wassimilar during winter and spring on Izembek Lagoon, eiders on Cold Bay foraged more during winter compared to spring. Synchronous diving was the dominant foraging strategy.

**URL:** <Go to ISI>://BCI199900405150

**Reference Type:**  Journal Article

**Record Number:** 1627

**Author:** T. Laurila

**Year:** 1988

**Title:** The Role of Genetic Factors on Clutch Size and Egg Dimensions in the Common Eider Somateria-Mollissima

**Journal:** Finnish Game Research

**Issue:** 45

**Pages:** 11-18

**Short Title:** The Role of Genetic Factors on Clutch Size and Egg Dimensions in the Common Eider Somateria-Mollissima

**Accession Number:** BCI:BCI198988079528

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** The amount of genetic variation in ecologically important characters can be used to predict the potential effect of natural selection of these traits. The proportion of genetic variation in clutch size and egg length and breadth in the eider was studied by estimating the repeatibility of these traits. The data comprised 18,388 eggs and 3846 clutches of 1209 ringed females having 2 to 7 clutches each. Estimation of the repeatabilty of egg dimensions was made using the measurements of 403 eggs in 91 clutches drawn from the original data. One-way analysis of variance was used to estimate the variance components needed for the estimation of repeatability. The estimate of repeatability was 0.31 .+-. 0.02 for clutch size, 0.49 .+-. 0.05 for egg length and 0.53 .+-. 0.05 for egg breadth. Previous estimates of genetic parameters obtained from wild bird populations, mostly from hole-nesting passerines, have been somewhat higher, averaging 0.4-0.5 for clutch size and 0.5-0.7 for egg dimensions. Estimates from waterfowl studies are comparable to those in this study. If the results are compared with the theory of animal breeding we can consider clutch size as a production trait with an intermediate proportion of genetic variation, and egg dimensions as quality traits with a high proportion of genetic variation. This suggests that these traits have enough genetic variation for a relatively rapid response to a potential directional selection.

**URL:** <Go to ISI>://BCI198988079528

**Reference Type:**  Journal Article

**Record Number:** 1622

**Author:** T. Laurila

**Year:** 1989

**Title:** Nest Site Selection in the Common Eider Somateria-Mollissima Differences between the Archipelago Zones

**Journal:** Ornis Fennica

**Volume:** 66

**Issue:** 3

**Pages:** 100-111

**Short Title:** Nest Site Selection in the Common Eider Somateria-Mollissima Differences between the Archipelago Zones

**Accession Number:** BCI:BCI199089057223

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** The nest site selection and reproductive traits were studied in Eiders breeding in three zones of the Finnish archipelago. These differed in the degree of isolation (safety from terrestrial predators), the vegetation and human disturbance. The data were gathered in summer 1988 and comprised 52 islands and 1057 Eider nests. Both the numbers of Eiders and their density were higher in the outer zone, where the birds bred on all the islands In the inner zone, they preferred the smaller and most isolated islands. The nests were located further from the water and more of them were covered in the outer zone than elsewhere. Outer zone Eiders bred earliest and were shyest, and their nests were least frequently robbed. These differences were probably due to the earlier break-up of the ice, better protection from terrestrial predators and weaker human disturbance in the outer zone. In general, covered nests contained more eggs than open ones. The Eiders laid later and more of their nests were robbed on disturbed than on undisturbed islands. On open (well-isolated and less disturbed) islands, the nest density was higher, breeding occurred earlier and fewer nests were robbed. In the principal component analysis, the first principal component (interpreted as safety from predators) accounted for 43% of the variation in nest density and 20% of the variation in the distance of the nest from the shore, the laying date and flushing distance. The second principal component (interpreted as island size) explained 40% of the variation in the distance of the nest from the shore and 10% of the variation in nest density. The third principal component (in terpreted as archipelago zone) explained 56% of the variation in clutch size and 20% of the variation in the laying date and flushing distance of female Eiders. The Eiders preferred well-isolated islands that were not disturbed by humans and had enough vegetation to offer cover for the nest; the type of island (open vs. wooded) was not important, but the islands fulfilling these conditions were mostly open. Eiders were able to breed successfully in all zones, but the inner zone seemed to be a poorer breeding habitat, as human disturbance and terrestrial predators reduced the number of islands suitable for nesting.

**URL:** <Go to ISI>://BCI199089057223

**Reference Type:**  Journal Article

**Record Number:** 1626

**Author:** T. Laurila and M. Hario

**Year:** 1988

**Title:** Environmental and Genetic Factors Influencing Clutch Size Egg Volume Date of Laying and Female Weight in the Common Eider Somateria-Molissima

**Journal:** Finnish Game Research

**Issue:** 45

**Pages:** 19-30

**Short Title:** Environmental and Genetic Factors Influencing Clutch Size Egg Volume Date of Laying and Female Weight in the Common Eider Somateria-Molissima

**Accession Number:** BCI:BCI198988079529

**Keywords:** Common Eider; Somateria mollissima; Productivity; Energetics and Nutrition; Breeding Season;

**Abstract:** The effect of environmental and genetic factors on clutch size, egg volume, date of laying and female weight, as well as the relationship between these traits were studied in the common eider (Somateria mollissima) in the Soderskar archipelago in the Gulf of Finland. Data on 370 females and 576 clutches were collected in 1981-85. The onset of breeding and female weight at the start of incubation seemed to mainly determined by the earliness or lateness of the particular spring in question. Within year, the date of laying affected egg volume and clutch size. Clutches laid later than the population mean had fewer and smaller eggs than those laid earlier than the population mean. Also, old breeders laid earlier and larger clutches than young breeders. In this study, heavy females at the start of incubation did not lay larger or more eggs nor earlier in relation to the population mean than lighter females. Females had genetically-determined preferences in the timing of breeding and a kind of "ideal" weights which they tried to attain. Temporal enviromental factors had the least influence on egg volume (repeatability, t, was about 70%), an intermediate effect on the date of laying and female weight (t .apprx. 40%), and the largest influence on clutch size (t .apprx. 30%).

**URL:** <Go to ISI>://BCI198988079529

**Reference Type:**  Journal Article

**Record Number:** 172

**Author:** K. Laursen

**Year:** 1989

**Title:** Estimates of Sea Duck Winter Populations of the Western Palearctic

**Journal:** Danish Review of Game Biology

**Volume:** 13

**Issue:** 6

**Pages:** 2-20

**Short Title:** Estimates of Sea Duck Winter Populations of the Western Palearctic

**Accession Number:** BCI:BCI198988035310

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The present knowledge of the flyway populations of five sea duck species wintering in Western Palaearctic is reviewed. The estimates are mainly based on midwinter counts organised by IWRB in collaboration with national coordinators. Additionally information from various surveys is incorporated. Midwinter population sizes are presently estimated at: Scaup Aythya marila 200,000 individuals; Eider Somateria mollissima 3 million; Long-tailed Duck Clangula hyemalis 2 million; Common Scoter Melanitta nigra 800,000, and Velvet Scoter Melanitta fusca 250,000 individuals. The flyway population of Scaup is unchanged compared to the estimate made in the early 1970's while numbers of Eider, Long-tailed Duck, Common Scoter and Velvet Scoter have risen during the same period. An increase in the population size of Eider has already been documented. More efficient covering of sea areas by aircrafts and boats may be the reason for higher numbers of the other species. To obtain more exact information about population size, trends and distributions of sea ducks, the following is recommended: (1) intensification of midwinter counts; and (2) inclusion of the utilisation of aircraft and boats in the Eastern and Southern Baltic, in the Southern North Sea, off the Iberian and Northwest African coasts, and in the Black Sea.

**URL:** <Go to ISI>://BCI198988035310

**Reference Type:**  Journal Article

**Record Number:** 175

**Author:** K. Laursen and J. Frikke

**Year:** 1987

**Title:** Winter Counts of Seabirds Off the Southwest Coast of Denmark

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 81

**Issue:** 3-4

**Pages:** 167-169

**Short Title:** Winter Counts of Seabirds Off the Southwest Coast of Denmark

**Accession Number:** BCI:BCI198885109469

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** In the eastern part of the North Sea, off the southwest coast of Denmark, four aerial surveys were performed in January and February 1986. The number of Common Scoter was estimated at 200,000, laying in two flocks, one west of Blavands Huk and one west of Romo/Sylt. The number of Eiders was estimated at 100,000 this is more than usual, and many individuals lay outside the Wadden Sea, probably due to an extensive ice cover here. An influx of Eiders from the likewise frozen Baltic Sea may have contributed to the number. Densities of divers were estimated at 0-4 per km2 with a mean of 1.8. The highest density was found 10-20 km from the coast at a water depth of 10-20 m. The auks varied between 0 and 4 per km2 with a mean of 0.7. The highest density was found 20-30 km from the coast at a depth of 15-20 m.

**URL:** <Go to ISI>://BCI198885109469

**Reference Type:**  Journal Article

**Record Number:** 51

**Author:** K. Laursen and J. Frikke

**Year:** 2006

**Title:** Assessment of sustainable management of staging waterbirds in the Danish Wadden Sea

**Journal:** Wildfowl

**Volume:** 56

**Pages:** 152-171

**Short Title:** Assessment of sustainable management of staging waterbirds in the Danish Wadden Sea

**Accession Number:** BCI:BCI200700194768

**Keywords:** Sea Ducks - General; Common Eider; Conservation; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** A large number of wildlife reserves have been established throughout Europe to protect migratory waterbirds. However, there has been little evaluation of whether they are being managed sustainably. The Danish Wadden Sea became a wildlife reserve in 1979 to manage hunting and public access to the site. This paper evaluates whether waterbirds are being managed in a sustainable manner, using the definition that bird numbers over the years should be either: 1) regulated by factors independent of human activity, or 2) be at least stable. The hypothesis was tested for 17 waterbird species, using 194 counts made from aircraft between 1980 and 2000 inclusive. The TrendSpotter programme was used to examine trends in numbers. Regression analysis with autoregressive error correction was used to assess the association between four factors (population size indices, population breeding success, plant primary production and biomass of Blue Mussel Mytilus edulis) thought to be affecting the numbers of waterbirds using the site each year. The results showed increasing trends in spring for Brent Goose Branta bernicla, Grey Plover Pluvialis squatarola and Bar-tailed Godwit Limosa lapponica, whereas numbers of Shelduck Tadorna tadorna, Pintail Anas acuta, Oystercatcher Haematopus ostralegus, Grey Plover, Curlew Numenius arquata and Common Gull Larus canus increased in autumn. Numbers of Brent Goose, Wigeon Anas penelope, Avocet Recurvirostra avocetta, Dunlin Calidris alpina, Bar-tailed Godwit, Black-headed Gun Larus ridibundus and Herring Gun L argentatus were all stable during autumn, as was Eider Somateria mollissima during winter. Mallard Anas platyrhynchos decreased during autumn, and the trends were uncertain for Teal Anas crecca and Knot Calidris canutus. Numbers of Brent Goose, Shelduck, Wigeon, Teal, Mallard and Avocet (during autumn) and Grey Plover (during spring) in the Danish Wadden Sea were correlated either with the population index, the breeding index or the primary production index. Thus numbers of seven species appear to be influenced by factors other than human activity in the Danish Wadden Sea, and the trends of 14 species were either stable or increasing. Moreover, for the five quarry species considered, numbers in the Danish Wadden Sea were either correlated with factors outside the area (Mallard, Pintail, Wigeon and Teal) or were stable despite a decrease in the total population size (Eider). Thus it is concluded that the wildlife reserve in the Danish Wadden Sea has been managed in a sustainable manner.

**URL:** <Go to ISI>://BCI200700194768

**Reference Type:**  Journal Article

**Record Number:** 1347

**Author:** K. Laursen and J. Frikke

**Year:** 2008

**Title:** Hunting from motorboats displaces Wadden Sea eiders Somateria mollissima from their favoured feeding distribution

**Journal:** Wildlife Biology

**Volume:** 14

**Issue:** 4

**Pages:** 423-433

**Date:** Dec 2008

**Short Title:** Hunting from motorboats displaces Wadden Sea eiders Somateria mollissima from their favoured feeding distribution

**Accession Number:** BCI:BCI200900189983

**Keywords:** Common Eider; Somateria mollissima; Conservation; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Hunting of ciders Somateria mollissima from motorboats is common in Danish marine waters, and to reduce hunting pressure oil ciders and other diving duck species in Denmark, motorboat hunting was banned within 42 marine sites covering an area of 2,934 km(2). although the effects of this regulation have to date not been examined. Our case study analyses the effects Of excluding motorboat hunting from an area of 682 km(2) of the Danish Wadden Sea (hereafter the 'Study Area') which also supported a large area of blue mussel beds, the preferred food for ciders. Our study covered the entire Danish Wadden Sea (total area 1,225 km(2)) during the hunting seasons (October-February) of 1980-2003 using 85 aerial surveys of ciders and motorboats used by hunters. Eider numbers increased by 56% in the Study Area following the ban oil motorboat hunting despite a 50% reduction in the eider flyway population over the same period. There was a significant negative relationship between the density of hunter motorboats and that of ciders on a small geographical scale (1.8-2.5 km). Motorboat hunting in the Study Area also affected eider distribution at larger geographical scales (4-12 km), displacing ciders from the Study Area offshore from the Wadden Sea into the North Sea. Following the ban on motorboat hunting, most ciders Occurred in the Study Area. Winter (21 December-31 January) body condition of ciders was greater in the Study Area than the body condition of ciders in the Offshore Area during autumn (20 October-20 December). Eider abundance relative to blue Mussel biomass significantly increased after motorboat hunting was banned ill the Study Area, but there was no such change during winter after the hunting ban. Since the ban on motorboat hunting in the Study Area, eider numbers throughout the entire Danish Wadden Sea seem to be regulated by total blue mussel biomass.

**URL:** <Go to ISI>://BCI200900189983

**Reference Type:**  Journal Article

**Record Number:** 26

**Author:** K. Laursen, J. Frikke and J. Kahlert

**Year:** 2008

**Title:** Accuracy of 'total counts' of waterbirds from aircraft in coastal waters

**Journal:** Wildlife Biology

**Volume:** 14

**Issue:** 2

**Pages:** 165-175

**Date:** Jun 2008

**Short Title:** Accuracy of 'total counts' of waterbirds from aircraft in coastal waters

**Accession Number:** BCI:BCI200800491574

**Keywords:** Sea Ducks - General; Techniques; Abundance, Distribution, and Trends;

**Abstract:** Estimating 'total counts' of waterbirds from aircraft is a widely used survey method, and we assessed the effectiveness of this method for geese, ducks, waders and gulls by comparing the results of counts from aircraft with ground counts in the Danish Wadden Sea during 1984-1998. In total, 47 counts were carried out in 12 counting sites and the results were compared for 18 waterbird species, which varied in abundance, flock size and degree of aggregation. Significantly greater numbers of waterbird species were identified from the ground than from aircraft (mean number: 16.1 vs 10.6 species). Depending on the accuracy of aerial counts compared to ground counts, the species were divided into three categories: a) brent goose Branta bernicla, shelduck Tadorna tadorna, mallard Anas platyrhynuchos, eider Somateria mollissima and oystercatcher Haematopus ostralegus had a high level of correspondence between densities obtained from ground and aerial counts (detection rate of >80% with no statistical difference between slopes and intercepts of the observed regression lines and the ideal lines (x = y), differences between mean densities of ground and aerial counts being < 15%); b) wigeon Anas penelope, teal A. crecca, grey plover Pluvialis squatarola, dunlin Calidris alpine, bar-tailed godwit Limosa lapponica, black-headed gull Larus ridibundus, common gull L. canus, herring gull L. argentatus, great black-backed gull L. marinus and common/arctic tern Sterna hirundo and S. paradisaea had a medium correspondence between densities obtained from the two platforms (detection rate of >55% with differences between the mean densities of ground and aerial counts of <30%; and c) redshank Tringa totanus, greenshank T. nebularia arquata and curlew Numenius arquata had a low correspondence between the densities obtained from the two platforms (detection rate of <55% and differences between the mean densities of ground and aerial counts of >30%). Species with a high and medium level of correspondence between the two platforms are mostly species that are numerous, of widespread occurrence, and found in large flocks. Species with a low correspondence are minority species, occurring scattered or in small flocks. We recommend to supplement aerial counts with ground counts at sites with mixed flocks of more dabbling duck species present to increase the accuracy of the count results.

**URL:** <Go to ISI>://BCI200800491574

**Reference Type:**  Journal Article

**Record Number:** 72

**Author:** K. Laursen, J. Kahlert and J. Frikke

**Year:** 2005

**Title:** Factors affecting escape distances of staging waterbirds

**Journal:** Wildlife Biology

**Volume:** 11

**Issue:** 1

**Pages:** 13-19

**Date:** Mar 05

**Short Title:** Factors affecting escape distances of staging waterbirds

**Accession Number:** BCI:BCI200510009100

**Keywords:** Sea Ducks - General; Behavior; Nonbreeding Seasons;

**Abstract:** Escape distances (EDs) have been used to study sensitivity of waterbirds to different sources of disturbance, to design reserves for waterbirds, and to define eco-targets for the Wadden Sea management plan. However, the use of ED as an index of sensitivity has been criticised because it can be highly variable. Although some factors affecting variation in the EDs of species have been studied, there is still a need for further analysis of factors that may affect it. In this study, we analysed the EDs of 19 waterbird species (geese, ducks, waders and gulls) exposed to a walking person (N = 1,37 1) during autumn and spring 19801984 under controlled conditions in the Danish Wadden Sea. We analysed how EDs varied between species in relation to body mass and hunting and within species in relation to flock size and weather conditions. EDs increased significantly with species body mass, and quarry species (dabbling ducks, curlew Numenius arquata, golden plover Pluvialis apricaria, common gull Larus canus and black-headed gull L. ridibundus) had longer EDs than non-quarry species when corrected for body mass. EDs increased with flock size in dabbling ducks and nine waterbird species in autumn and two waterbird species in spring. In autumn an inverse relationship was found between visibility and ED for dabbling ducks and five wader species. An inverse relationship was also found between wind force and ED for three wader species, but this relationship was found to be positive for two wader species. Several factors affected EDs, and EDs measured in one region may not apply to other regions. Based on our results it is recommended that reserve borders (core area and buffer zones) are designed to take into account mean EDs as well as variation in EDs, with respect to local disturbance levels, flock size and target species.

**URL:** <Go to ISI>://BCI200510009100

**Reference Type:**  Journal Article

**Record Number:** 2177

**Author:** K. Laursen and A. P. Moller

**Year:** 2014

**Title:** Long-Term Changes in Nutrients and Mussel Stocks Are Related to Numbers of Breeding Eiders Somateria mollissima at a Large Baltic Colony

**Journal:** Plos One

**Volume:** 9

**Issue:** 4

**Date:** Apr

**Short Title:** Long-Term Changes in Nutrients and Mussel Stocks Are Related to Numbers of Breeding Eiders Somateria mollissima at a Large Baltic Colony

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0095851

**Article Number:** e95851

**Accession Number:** WOS:000335504900010

**Keywords:** Common Eider; Somateria mollissima; Habitat; Abundance, Distribution, & Trends; Trophic Interactions; Productivity

**Abstract:** Background: The Baltic/Wadden Sea eider Somateria mollissima flyway population is decreasing, and this trend is also reflected in the large eider colony at Christianso situated in the Baltic Sea. This colony showed a 15-fold increase from 1925 until the mid-1990's, followed by a rapid decline in recent years, although the causes of this trend remain unknown. Most birds from the colony winter in the Wadden Sea, from which environmental data and information on the size of the main diet, the mussel Mytilus edulis stock exists. We hypothesised that changes in nutrients and water temperature in the Wadden Sea had an effect on the ecosystem affecting the size of mussel stocks, the principal food item for eiders, thereby influencing the number of breeding eider in the Christianso colony. Methodology/Principal Finding: A positive relationship between the amount of fertilizer used by farmers and the concentration of phosphorus in the Wadden Sea (with a time lag of one year) allowed analysis of the predictions concerning effects of nutrients for the period 1925-2010. There was (1) increasing amounts of fertilizer used in agriculture and this increased the amount of nutrients in the marine environment thereby increasing the mussel stocks in the Wadden Sea. (2) The number of eiders at Christianso increased when the amount of fertilizer increased. Finally (3) the number of eiders in the colony at Christianso increased with the amount of mussel stocks in the Wadden Sea. Conclusions/Significance: The trend in the number of eiders at Christianso is representative for the entire flyway population, and since nutrient reduction in the marine environment occurs in most parts of Northwest Europe, we hypothesize that this environmental candidate parameter is involved in the overall regulation of the Baltic/Wadden Sea eider population during recent decades.

**Notes:** Laursen, Karsten Moller, Anders Pape

**URL:** <Go to ISI>://WOS:000335504900010

**Reference Type:**  Journal Article

**Record Number:** 2178

**Author:** K. Laursen and A. P. Moller

**Year:** 2016

**Title:** Your tools disappear when you stop eating: phenotypic variation in gizzard mass of eiders

**Journal:** Journal of Zoology

**Volume:** 299

**Issue:** 3

**Pages:** 213-220

**Date:** Jul

**Short Title:** Your tools disappear when you stop eating: phenotypic variation in gizzard mass of eiders

**ISSN:** 0952-8369

**DOI:** 10.1111/jzo.12337

**Accession Number:** WOS:000379937100007

**Keywords:** Common Eider; Somateria mollissima; Physiology; Energetics and Nutrition

**Abstract:** Animals show phenotypic flexibility in their digestive system in response to seasonal changes in diet, activity, metabolic rate and reproduction. Many birds are capital breeders that alternate between periods of extensive feeding used for storage and periods of fasting during reproduction. Here, we analyzed the mass of the gizzard (gizzard mass without content) in 885 male and 348 female adult common eiders Somateria mollissima shot by Danish hunters during winter and spring in relation to alternating periods of foraging and fasting during reproduction. Gizzard mass of adult female eiders varied annually from 31g (N=25) during reproduction to 119g during pre-breeding (N=314), or almost a four-fold difference in mass. During winter, both male and female eiders with large gizzard mass had eaten a larger number of preferred blue mussels Mytilus edulis that constitute the main food. Adult female eiders with large gizzard mass had eaten larger but not more mussels. Individual adult females with large gizzard mass that had larger numbers of mussels in their gizzards were in superior body condition. These findings of phenotypic flexibility in gizzard mass show that individuals with larger gizzards consuming larger food items had an advantage in terms of superior body condition, potentially allowing for elevated reproductive success.

**Notes:** Laursen, K. Moller, A. P.

**URL:** <Go to ISI>://WOS:000379937100007

**Reference Type:**  Journal Article

**Record Number:** 2179

**Author:** K. Laursen, A. P. Moller and T. E. Holm

**Year:** 2016

**Title:** Dynamic group size and displacement as avoidance strategies by eiders in response to hunting

**Journal:** Wildlife Biology

**Volume:** 22

**Issue:** 4

**Pages:** 174-181

**Date:** Jul

**Short Title:** Dynamic group size and displacement as avoidance strategies by eiders in response to hunting

**ISSN:** 0909-6396

**DOI:** 10.2981/wlb.00197

**Accession Number:** WOS:000379228500006

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Behavior; Habitat

**Abstract:** Hunting by humans constitutes a major source of mortality that selects for avoidance strategies. Group formation in eiders Somateria mollissima in response to hunting from motorboats was studied in the Danish Wadden Sea as an avoidance strategy to humans. In autumn the birds' food demand and energy consumption are relatively low and the need for optimal feeding opportunities are not as essential as during winter. We tested the hypothesis that eiders aggregate in groups of variable size dependent on predation risk (hunting), season and site. During autumn at the preferred feeding sites eiders occur in small numbers and group size increase together with hunting activity. Opposite during winter, eiders occur in large numbers and group size decrease when hunting activity increase. Hunting activity displaced eiders to adjacent sites with no or low hunting intensity and low food availability where group size of eiders increase during both autumn and winter in relation to the overall hunting activity. The formation into larger groups when hunting activity increase is probably due to increasing effects of vigilance and dilution, whereas formation into smaller groups is assumed to reduce the eiders conspicuousness to hunters. This change in group size made it possible for eiders to forage in areas with high food availability and high hunting intensity, while minimizing the risk of being detected by hunters. When the largest numbers of hunters were present at the preferred feeding site, group sizes during both autumn and winter were 110-125 eiders, indicating an optimal group size in relation to hunting density. Eiders located outside preferred feeding sites were in poorer body condition, suggesting that displacement was a suboptimal decision caused by hunting. We conclude that eiders adopted regrouping and displacement as two different strategies during hunting. Both strategies are tradeoffs between the risks of being detected by hunters and killed, and the benefits of feeding on mussel stocks thereby increasing body condition and hence fitness.

**Notes:** Laursen, Karsten Moller, Anders Pape Holm-, Thomas Eske

**URL:** <Go to ISI>://WOS:000379228500006

**Reference Type:**  Journal Article

**Record Number:** 381

**Author:** J. L. Lavers, J. E. Thompson, C. A. Paszkowski and C. D. Ankney

**Year:** 2006

**Title:** Variation in size and composition of Bufflehead (Bucephala albeola) and Barrow's Goldeneye (Bucephala islandica) eggs

**Journal:** Wilson Journal of Ornithology

**Volume:** 118

**Issue:** 2

**Pages:** 173-177

**Date:** Jun 2006

**Short Title:** Variation in size and composition of Bufflehead (Bucephala albeola) and Barrow's Goldeneye (Bucephala islandica) eggs

**Accession Number:** BCI:BCI200600516207

**Keywords:** Bufflehead; Bucephala albeola; Barrow's Goldeneye; Bucephala islandica; Physiology; Energetics and Nutrition; Breeding Season;

**Abstract:** We investigated the relationships between egg nutrient constituents and fresh egg mass in Bufflehead (Bucephala albeola) and Barrow's Goldeneye (B. islandica). We found consistently positive relationships between egg mass and yolk, albumen, lipid, mineral, and water (absolute amounts); however, the proportions of nutrient components to fresh mass were highly variable in the eggs of both species (allometric relationships). In Bufflehead eggs, all components except mineral exhibited negative allometry with fresh egg mass. In Barrow's Goldeneye eggs, only mineral exhibited negative allometry, whereas yolk, lipid, and water all exhibited positive allometry with fresh egg mass. Overall, larger eggs of both species contained greater absolute amounts of nutrients; therefore, larger eggs were of better quality than smaller eggs. Nutrient content, however, was more highly correlated with mass in Barrow's Goldeneye eggs than in Bufflehead eggs. We propose that this may be due to the source of egg nutrients: because of their smaller body size, Buffleheads typically rely more on exogenous nutrients than Barrow's Goldeneyes.

**URL:** <Go to ISI>://BCI200600516207

**Reference Type:**  Journal Article

**Record Number:** 1303

**Author:** R. A. Lavoie, L. Champoux, J.-F. Rail and D. R. S. Lean

**Year:** 2010

**Title:** Organochlorines, brominated flame retardants and mercury levels in six seabird species from the Gulf of St. Lawrence (Canada): Relationships with feeding ecology, migration and molt

**Journal:** Environmental Pollution

**Volume:** 158

**Issue:** 6, Sp. Iss. SI

**Pages:** 2189-2199

**Date:** Jun 2010

**Short Title:** Organochlorines, brominated flame retardants and mercury levels in six seabird species from the Gulf of St. Lawrence (Canada): Relationships with feeding ecology, migration and molt

**Accession Number:** BCI:BCI201000376174

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Concentrations of organochlorines (OCs), brominated flame retardants (BFRs) and mercury (Hg) were measured in eggs of six seabird species breeding in the Gulf of St. Lawrence, Canada. Stable nitrogen (delta N-15) and carbon (delta C-13) isotopes were used as ecological tracers to measure trophic level and connectivity with benthos, respectively. Concentrations, patterns as well as ecological tracers varied significantly between species. The sum of polychlorinated biphenyls (Sigma PCBs) was the most important group measured in all seabird species based on concentration followed generally by the sum of chlorinated pesticides (Sigma CPs), the sum of brominated flame retardants (Sigma BFRs) and finally total Hg (THg). Sigma PCBs, Sigma CPs and Sigma BFRs increased with trophic level, whereas THg did not. Only Sigma BFRs increased with a higher connectivity with the benthos. Seabird species resident to the Great Lakes-St. Lawrence ecosystem showed higher Hg and BFR levels than migratory species. Molt patterns were used to explain variations of contaminant levels. (C) 2010 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000376174

**Reference Type:**  Journal Article

**Record Number:** 290

**Author:** J. Lazarus, I. R. Inglis and R. L. L. F. Torrance

**Year:** 2004

**Title:** Mate guarding conflict, extra-pair courtship and signalling in the harlequin duck, Histrionicus histrionicus

**Journal:** Behaviour

**Volume:** 141

**Issue:** Part 8

**Pages:** 1061-1078

**Date:** August 2004

**Short Title:** Mate guarding conflict, extra-pair courtship and signalling in the harlequin duck, Histrionicus histrionicus

**Accession Number:** BCI:BCI200500096149

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Breeding Season;

**Abstract:** Socially monogamous birds pursuing extra-pair reproductive strategies may be in conflict, both sexes seeking new mates or copulations outside the pair, while simultaneously attempting to prevent infidelity by the partner. Intra-pair conflicts are augmented by inter-pair conflicts when pairs meet, when all four individuals may be sexually attracted to one member of the other pair while seeking to prevent their mate from copulating, or deserting, with the other. We studied the dynamics, signalling and resolution of these conflicts in a field experiment with the harlequin duck, recording responses to single model birds of both sexes, and to model pairs. Both sexes mate guarded by placing themselves between the mate and a model competitor, and by signalling with the head nod display. Females were closer to model pairs than their mates. Female mate guarding responded adaptively to infidelity risk, increasing to models of paired females, single females and single females inviting copulation, respectively. Males head nodded to signal the goal of (extra-pair) copulation, pairing or mate switching. Courtship by unpaired males increased to models of paired females, single females and single females inviting copulation, respectively. Paired males courted these models equally, perhaps inhibited by the parallel increase in mate guarding of their mates. Males signalled mate guarding using the head nod more than females, but this predicted difference in mate guarding was not shown for the measure of relative proximity to the models. In spite of male extra-pair courtship the harlequin is strictly monogamous, due to female fidelity and close mate guarding. The use of models revealed mate guarding by females, and failed extra-pair reproductive attempts by males, neither of which were apparent from observational studies alone.

**URL:** <Go to ISI>://BCI200500096149

**Reference Type:**  Journal Article

**Record Number:** 1135

**Author:** J. O. Leafloor, J. E. Thompson and C. D. Ankney

**Year:** 1996

**Title:** Body mass and carcass composition of fall migrant Oldsquaws

**Journal:** Wilson Bulletin

**Volume:** 108

**Issue:** 3

**Pages:** 567-572

**Short Title:** Body mass and carcass composition of fall migrant Oldsquaws

**Accession Number:** BCI:BCI199699244615

**Keywords:** Long-tailed Duck; Clangula hyemalis; Energetics and Nutrition; Migration; Nonbreeding Seasons;

**Abstract:** We investigated body and organ mass and carcass composition of twenty-seven migrant Oldsquaws (Clangula hyemalis) killed when they collided with power transmission lines in northeastern Ontario in October 1986. Comparison of the first principal component (PC1) from eight structural measurements indicated that adult male Oldsquaws were structurally larger than females; however, organ weights did not differ between sexes when PC1 was included as a covariate (ANCOVA, P gt 0.05 in all cases). Carcass composition was similar to that reported for spring migrants. Ash-free lean dry weight (AFLDW) and ash were positively related to structural size, but did not differ between sexes when PC1 was included as a covariate. Lipids comprised 17.5 % of whole body mass of females and 14.1% of males and were sufficient to fuel migration at least to the next likely staging area in the Great Lakes. Fall migrant Oldsquaws must have stored substantial lipid and protein reserves after breeding, suggesting that offshore feeding areas in James and Hudson Bay are critical.

**URL:** <Go to ISI>://BCI199699244615

**Reference Type:**  Journal Article

**Record Number:** 2221

**Author:** D. I. Lebedeva, G. A. Yakovleva and E. P. Ieshko

**Year:** 2015

**Title:** Nematodes in the mallard (Anas platyrhynchos Linnaeus, 1758) and the common goldeneye (Bucephala clangula Linnaeus, 1758) (Anatidae) from Northern Europe

**Journal:** Parasitology Research

**Volume:** 114

**Issue:** 10

**Pages:** 3935-3937

**Date:** Oct

**Short Title:** Nematodes in the mallard (Anas platyrhynchos Linnaeus, 1758) and the common goldeneye (Bucephala clangula Linnaeus, 1758) (Anatidae) from Northern Europe

**ISSN:** 0932-0113

**DOI:** 10.1007/s00436-015-4697-3

**Accession Number:** WOS:000360860900043

**Keywords:** Common Goldeneye; Bucephala clangula; Parasites

**Abstract:** There are first data on nematodes of Anas platyrhynchos Linnaeus, 1758 (mallard) and Bucephala clangula Linnaeus, 1758 (common goldeneye) from Northern Europe (Ladoga Lake region). The ducks were found to be infected with nine nematode species. A. platyrhynchos hosted eight nematode species and B. clangula was host to four nematode species. All species except Capillaria anatis were found in the region for the first time. Nematodes Amidostomum acutum, Streptocara crassicauda, and Tetrameres fissispina parasitized on both hosts and were the most abundant. The biggest number of parasites revealed was biohelminths with a direct life cycle.

**Notes:** Lebedeva, Daria I. Yakovleva, Galina A. Ieshko, Evgeny P.

**URL:** <Go to ISI>://WOS:000360860900043

**Reference Type:**  Journal Article

**Record Number:** 237

**Author:** S. V. LeBourdais, R. C. Ydenberg and D. Esler

**Year:** 2009

**Title:** Fish and harlequin ducks compete on breeding streams

**Journal:** Canadian Journal of Zoology

**Volume:** 87

**Issue:** 1

**Pages:** 31-40

**Date:** Jan 2009

**Short Title:** Fish and harlequin ducks compete on breeding streams

**Accession Number:** BCI:BCI200900196153

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Breeding Season;

**Abstract:** We investigated interactions among harlequin ducks (Histrionicus histrionicus ( L., 1758)), fish, and their shared aquatic insect prey. We measured flow variability, benthic aquatic prey abundance, fish presence, and breeding density of harlequins on eight rivers in the Southern Coast Mountain Range in British Columbia, Canada, in 2003 and 2004. Rivers with lower flow variability had higher abundance of aquatic insects. Densities of harlequins and fish presence on the rivers were both significantly and positively related to insect abundance, but path analysis revealed a strong negative correlation between them. We interpret this as an indirect interaction between harlequins and fish mediated by anti-predator behaviour of insects in the presence of fish, which reduces insect availability, rather than as a reduction in the abundance of aquatic insects through consumption by fishes. We hypothesize that the ongoing and widespread introduction of fish into historically fishless waters throughout North America may have contributed to the current low productivity and recruitment measured in populations of harlequins by reducing quality of breeding habitat.

**URL:** <Go to ISI>://BCI200900196153

**Reference Type:**  Journal Article

**Record Number:** 2180

**Author:** P. Legagneux, L. L. Berzins, M. Forbes, N. J. Harms, H. L. Hennin, S. Bourgeon, H. G. Gilchrist, J. Bety, C. Soos, O. P. Love, J. T. Foster, S. Descamps and G. Burness

**Year:** 2014

**Title:** No selection on immunological markers in response to a highly virulent pathogen in an Arctic breeding bird

**Journal:** Evolutionary Applications

**Volume:** 7

**Issue:** 7

**Pages:** 765-773

**Date:** Aug

**Short Title:** No selection on immunological markers in response to a highly virulent pathogen in an Arctic breeding bird

**ISSN:** 1752-4571

**DOI:** 10.1111/eva.12180

**Accession Number:** WOS:000341637100005

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior; Disease; Productivity

**Abstract:** In natural populations, epidemics provide opportunities to look for intense natural selection on genes coding for life history and immune or other physiological traits. If the populations being considered are of management or conservation concern, then identifying the traits under selection (or markers') might provide insights into possible intervention strategies during epidemics. We assessed potential for selection on multiple immune and life history traits of Arctic breeding common eiders (Somateria mollissima) during annual avian cholera outbreaks (summers of 2006, 2007 & 2008). We measured prelaying body condition, immune traits, and subsequent reproductive investment (i.e., clutch size) and survival of female common eiders and whether they were infected with Pasteurella multocida, the causative agent of avian cholera. We found no clear and consistent evidence of directional selection on immune traits; however, infected birds had higher levels of haptoglobin than uninfected birds. Also, females that laid larger clutches had slightly lower immune responses during the prelaying period reflecting possible downregulation of the immune system to support higher costs of reproduction. This supports a recent study indicating that birds investing in larger clutches were more likely to die from avian cholera and points to a possible management option to maximize female survival during outbreaks.

**Notes:** Legagneux, Pierre Berzins, Lisha L. Forbes, Mark Harms, Naomi Jane Hennin, Holly L. Bourgeon, Sophie Gilchrist, H. G. Bety, Joel Soos, Catherine Love, Oliver P. Foster, Jeffrey T. Descamps, Sebastien Burness, Gary

Si

**URL:** <Go to ISI>://WOS:000341637100005

**Reference Type:**  Journal Article

**Record Number:** 1908

**Author:** A. Lehikoinen and K. Jaatinen

**Year:** 2012

**Title:** Delayed autumn migration in northern European waterfowl

**Journal:** Journal of Ornithology

**Volume:** 153

**Issue:** 2

**Pages:** 563-570

**Date:** Apr

**Short Title:** Delayed autumn migration in northern European waterfowl

**ISSN:** 0021-8375

**DOI:** 10.1007/s10336-011-0777-z

**Accession Number:** WOS:000304734700033

**Keywords:** Common eider; Somateria mollissima; migration; Nonbreeding Seasons

**Notes:** Times Cited: 6

Lehikoinen, Aleksi Jaatinen, Kim

Jaatinen, Kim/A-3221-2011

7

**URL:** <Go to ISI>://WOS:000304734700033

**Reference Type:**  Journal Article

**Record Number:** 1909

**Author:** A. Lehikoinen, K. Jaatinen, A. V. Vahatalo, P. Clausen, O. Crowe, B. Deceuninckk, R. Hearn, C. A. Holt, M. Hornman, V. Keller, L. Nilsson, T. Langendoen, I. Tomankova, J. Wahl and A. D. Fox

**Year:** 2013

**Title:** Rapid climate driven shifts in wintering distributions of three common waterbird species

**Journal:** Global Change Biology

**Volume:** 19

**Issue:** 7

**Pages:** 2071-2081

**Date:** Jul

**Short Title:** Rapid climate driven shifts in wintering distributions of three common waterbird species

**ISSN:** 1354-1013

**DOI:** 10.1111/gcb.12200

**Accession Number:** WOS:000319963500008

**Keywords:** Common eider; Somateria mollissima; Abundance, Distribution, and Trends; Nonbreeding Seasons

**Notes:** Times Cited: 0

Lehikoinen, Aleksi Jaatinen, Kim Vahatalo, Anssi V. Clausen, Preben Crowe, Olivia Deceuninckk, Bernard Hearn, Richard Holt, Chas A. Hornman, Menno Keller, Verena Nilsson, Leif Langendoen, Tom Tomankova, Irena Wahl, Johannes Fox, Anthony D.

Fox, Anthony/I-7465-2013; Jaatinen, Kim/A-3221-2011; Clausen, Preben/J-5276-2013

0

**URL:** <Go to ISI>://WOS:000319963500008

**Reference Type:**  Journal Article

**Record Number:** 1346

**Author:** A. Lehikoinen, M. Ost, T. Hollmen and M. Kilpi

**Year:** 2008

**Title:** Does Sex-Specific Duckling Mortality Contribute to Male Bias in Adult Common Eiders?

**Journal:** Condor

**Volume:** 110

**Issue:** 3

**Pages:** 574-578

**Date:** Aug 2008

**Short Title:** Does Sex-Specific Duckling Mortality Contribute to Male Bias in Adult Common Eiders?

**Accession Number:** BCI:BCI200900002643

**Keywords:** Common Eider; Somateria mollissima; Survival; Productivity; Breeding Season;

**Abstract:** Adult sex ratios of waterfowl often show male bias, usually explained by differential female mortality during breeding. However, the sex ratio among first-winter Common Eiders (Somateria mollissima) in Europe is already male biased; thus, the breeding mortality hypothesis cannot be the sole explanation for this phenomenon. To clarify when the observed male bias originally arises, we studied the sex ratio of hatched eider ducklings and the sex ratio of ducklings found dead prior to fledging in a wild and free-ranging population. The hatching sex ratio did not deviate from equal (50% females, n = 418). In contrast, the sex ratio of duckling carcasses was female biased (59%, n = 118), suggesting that survival of female ducklings is lower than that of males. Consequently, the adult-male bias found in many ducks may be established already during the early phases of life, despite an equal sex ratio at hatching.

**URL:** <Go to ISI>://BCI200900002643

**Reference Type:**  Journal Article

**Record Number:** 1149

**Author:** T. Leipe and J. Scabell

**Year:** 1990

**Title:** Rolling Flock Movement of Foraging Long-Tailed Ducks Clangula-Hyemalis

**Journal:** Vogelwelt

**Volume:** 111

**Issue:** 6

**Pages:** 224-229

**Short Title:** Rolling Flock Movement of Foraging Long-Tailed Ducks Clangula-Hyemalis

**Accession Number:** BCI:BCI199191083189

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior; Nonbreeding Seasons;

**Abstract:** A special behaviour of Long-tailed Ducks in large flocks enables them to investigate unknown submarine food resources in a highly efficient way. The foraging formation moves like a roll in a fixed direction. The ducks at the back of the flock continuously fly to the front of the searching formation and dive to the sea bottom. When a profitable food patch had been located, the rolling movement comes to a halt and the ducks concentrate over the foot patch. During several winters we observed such behaviour in the Greifswalder Boden area of the southwestern Baltic Sea coast. Here Long-tailed Ducks exploit especially fresh deposits of herring spawn. The rate of sea bottom search by a flock of ca. 5000 individuals can reach up to 60-80 hectars per hour.

**URL:** <Go to ISI>://BCI199191083189

**Reference Type:**  Journal Article

**Record Number:** 446

**Author:** L.-V. Lemelin, M. Darveau, L. Imbeau and D. Bordage

**Year:** 2010

**Title:** Wetland Use and Selection by Breeding Waterbirds in the Boreal Forest of Quebec, Canada

**Journal:** Wetlands

**Volume:** 30

**Issue:** 2

**Pages:** 321-332

**Date:** Apr 2010

**Short Title:** Wetland Use and Selection by Breeding Waterbirds in the Boreal Forest of Quebec, Canada

**Accession Number:** BCI:BCI201000402916

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** Wetlands of remote forested landscapes of Quebec support numerous species of breeding waterbirds yet species-habitat associations remain poorly quantified. From 1990 to 2005, we conducted systematic helicopter surveys of breeding waterfowl and common loons (Gavia immer) across a 540,000-km(2) forested region of Quebec. Data from this survey were used to investigate local habitat use and selection by waterbirds, based on a wetland classification system derived from digital forestry maps. Detailed indicated-breeding-pair (IBP) distributions were developed for broad aquatic, wetland, and shoreline habitat types. We also estimated selection ratios within groups of similar habitat types. Small (<= 8 ha), connected ponds were highly used and selected by five dabbling duck species and by wood duck (Aix sponsa), Canada goose (Branta canadensis), ring-necked duck (Aythya collaris), hooded merganser (Lophodytes cucullatus), common goldeneye (Bucephala clangula), and Barrow's goldeneye (B. islandica). Dabbling duck species, wood duck, and Canada goose made extensive use of streams (25-41% of all IBP). Community organization was mainly driven by openness of aquatic habitat and water movement, i.e., from lentic to lotic habitats. Failure to include streams in waterfowl surveys and habitat mapping could produce biased estimates of wetland habitat use and selection in the boreal forest.

**URL:** <Go to ISI>://BCI201000402916

**Reference Type:**  Journal Article

**Record Number:** 913

**Author:** M. Leopold, H. Baptist, P. Wolf and H. Offringa

**Year:** 1995

**Title:** Common Scoters Melanitta nigra in The Netherlands

**Journal:** Limosa

**Volume:** 68

**Issue:** 2

**Pages:** 49-64

**Short Title:** Common Scoters Melanitta nigra in The Netherlands

**Accession Number:** BCI:BCI199598464841

**Keywords:** Black Scoter; Melanitta nigra; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The Common Scoter has long been known as a common migrant and winter visitor along the Dutch coast. Good estimates of numbers staging in Dutch waters were lacking however, due to the elusive habits of the species. From incidental records gleaned from literature, its status in the past was reconstructed. At the turn of the century the species was a "very common" bird along the coast, but quantitative data are lacking. In the first half of this century groups of tens of thousands of birds were seen migrating or swimming on several occasions, and the species commonly washed up as oil-victim, indicating common and widespread occurrence in coastal waters. In the 1960's the first aerial and ship surveys were carried out in the Wadden Sea area. These indicated that some 40 000 Common Scoters wintered in the western Wadden Sea. Moreover, there were several sightings of large ( gt 10 000) groups in the adjacent North Sea. In the 1970's, surveys in the Wadden Sea showed that numbers of wintering scorers had declined to a maximum of 8000. In the Delta area, where numbers of ducks were monitored by plane from 1975 onward, some 15-25 000 birds wintered in the 1970's and early 1980's. In those years there were few surveys along the coasts of the Dutch mainland and the Frisian Islands and most information comes from seawatching sites. Records of groups of 5000 or more were rare, and only in 1978 around 10 000 were recorded at one site (Tab. 1 and 2). From 1985 onward, the whole Dutch coast was surveyed by plane, and shipboard surveys were carried out in 1989-93. In the Delta area, large numbers (c. 20 000) returned in the winters of 1986-88 after a low in the early 1980's (Fig. 1), but numbers declined again after a large land reclamation project was carried out in the ducks' favourite area. Off mainland Holland numbers were generally low, but in the winter of 1986/87 about 60 000 Common Scoters were found wintering here. The coastal waters north of the Frisian Islands became the most important area in the early 1990's (Fig. 2). In 1989/90 c. 10 000 Common Scorers wintered near Schiermonnikoog, and in the winters of 1990-93, 100-135 000 wintered in this area, at first off Schiermonnikoog and later off Terschelling. Numbers that remain in Dutch waters in summer are less well documented. After an old record (1888) of uncountable numbers moulting in the Wadden Sea near Schiermonnikoog, moulting birds were not seen in any numbers for over 100 years. In the 1970's moulted feathers were found "in considerable numbers" at Schiermonnikoog, but moulting ducks were not seen. Only in 1991 groups of moulting Common Scoters were found: 550 in the Delta area and c. 11 000 and 250 in the North Sea off Terschelling and Rottum, respectively. Therefore, Common Scoters should be considered as (moulting) summering birds in rather large numbers in The Netherlands, at least in some years. A rich supply of the clam Spisula subtruncata was present at all locations where the scoters wintered in large numbers since 1987, and this bivalve is now the most important food items for the ducks. From 1992 to 1994 this food source also attracted Dutch shellfishermen. Their activities disturbed the ducks and drove them away from their favourite site off Terschelling. This branch of fishery is ill-regulated, and it seems capable of destroying the ducks' feeding grounds. A set of regulations, by which shellfishery in the areas where the ducks winter in a given year is closed, is recommended. Other improvements of the management of seaducks in The Netherlands would include specific vigilance for oil pollution in areas with concentrations of seaducks.

**URL:** <Go to ISI>://BCI199598464841

**Reference Type:**  Report

**Record Number:** 2375

**Author:** C. Lepage and D. Bordage

**Year:** 2013

**Title:** Status of Quebec waterfowl populations, 2009

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 525

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Status of Quebec waterfowl populations, 2009

**Keywords:** Common Eider; King Eider; Black Scoter; White-winged Scoter; Surf Scoter; Barrow’s Goldeneye; Common Goldeneye; Bufflehead; Long-tailed Duck; Harlequin Duck; Common Merganser; Red-breasted Merganser; Hooded Merganser; Somateria mollissima; Somateria spectabilis; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Bucephala clangula; Bucephala albeola; Clangula hyemalis; Histrionicus histrionicus; Mergus merganser; Mergus serrator; Lophodytes cucullatus; Abundance, Distribution, & Trends

**Abstract:** Status of Quebec Waterfowl Populations, 2009 is intended to provide an up-to-date picture of

the status of waterfowl species in Quebec. This publication has for each of the 37 species

annually present (as a breeder, a migrant or a winterer) in the province a text that provides an

overview of seasonal occurrence, an assessment of provincial and continental population

trends, a description of conservation issues, and the importance of the role played by Quebec in

its conservation.

The Anserini tribe (geese) includes six species that are observed regularly in Quebec. However,

the only common breeder is the Canada Goose, which is also an abundant migrant. During

migration, while the Snow Goose (Greater subspecies) and Brant pass in large numbers, the

Greater White-fronted Goose, Ross’s Goose, Snow Goose (Lesser subspecies) and Cackling

Goose are more observed in small numbers.

The tribe Cygnini (swans) is represented by two species that breed in Quebec, but only the

Tundra Swan is a regular breeder. The Mute Swan, despite an extraordinary breeding record, is

mainly observed irregularly and in small numbers.

The tribe Anatini (dabbling ducks) includes nine species that are regular breeders in Quebec.

While most of the species in this tribe are originally Prairie natives (Gadwall, American Wigeon,

Mallard, Blue-winged Teal, Northern Shoveler and Northern Pintail), the American Black Duck,

Wood Duck and Green-winged Teal are intimately linked to forest habitats. The American Black

Duck breeds exclusively in northeastern North America.

The Aythyini tribe (diving ducks) is composed of five species regularly observed in Quebec.

Mostly associated with the Prairies, the Canvasback (migrant only) and Redhead are present

only in small numbers in the province. While the Greater Scaup and Lesser Scaup breed mainly

in the northern half of Quebec, the Ring-necked Duck has a fairly continuous and uniform

distribution in Quebec, and is therefore present in large numbers.

The tribe Mergini (sea ducks) is represented by 13 species that breed regularly in Quebec, with

a number of them present even in winter. This is a highly variable group generally associated

with marine environments during a sizeable portion of their annual cycle. The Surf Scoter,

Bufflehead, Common Goldeneye, Barrow’s Goldeneye, Hooded Merganser and Common

Merganser prefer the boreal forest. The King Eider, Harlequin Duck, White-winged Scoter, Black

Scoter, Long-tailed Duck and Red-breasted Merganser inhabit primarily the taiga or tundra, and

the Common Eider breeds in colonies in island and coastal environments. Two species of

Mergini are considered of special concern on the List of Wildlife Species at Risk in Canada:

Harlequin Duck (Eastern Population) and Barrow’s Goldeneye (Eastern Population).

Lastly, the tribe Oxyurini (stiff-tailed ducks) includes only one species breeding in Quebec, the

Ruddy Duck.

The waterfowl species for which Quebec has an important responsibility—based on the Quebec

proportion of breeding or migrant numbers compared to North American numbers—are the

following: Snow Goose (Greater subspecies), Brant (Atlantic Population), Canada Goose

(Atlantic and North Atlantic populations), American Black Duck, Common Eider (dresseri and

borealis subspecies), Harlequin Duck (Eastern Population), Black Scoter, Barrow’s Goldeneye

(Eastern Population), Hooded Merganser, Common Merganser and Red-breasted Merganser.

**Reference Type:**  Journal Article

**Record Number:** 1075

**Author:** L. Lesage, A. Reed and J.-P. L. Savard

**Year:** 1996

**Title:** Plumage developement and growth of wild Surf Scoter Melanitta perspicillata ducklings

**Journal:** Wildfowl

**Volume:** 47

**Pages:** 198-203

**Short Title:** Plumage developement and growth of wild Surf Scoter Melanitta perspicillata ducklings

**Accession Number:** BCI:BCI201000234385

**Keywords:** Surf Scoter; Melanitta perspicillata; Physiology; Breeding Season;

**Abstract:** The plumage development and growth of wild Surf Scoter ducklings were studied in a 640 ha boreal forest lake in Quebec by observing and photographing free-ranging individuals and by examining live-caught birds. During their first three to five days, Surf Scoter ducklings were uniformly dark with few distinctive markings. Subsequently, the appearance of a pale-coloured cheek patch added some contrast to their pattern but they remained generally undistinctive through to fledging, at which time they were quite similar in size, appearance and colouration to the female parent. Subtle differences in the shape, size and colouration of the cheek patch, and neck posture (head held close to body or erect), were useful clues to distinguish age classes in the field. Body mass increased from about 44 to 817 g during the 55-day period between hatching and fledging, whereas head length increased from 41 to 97 mm. Few differences in plumage development or growth pattern were noted from studies of other duck species.

**URL:** <Go to ISI>://BCI201000234385

**Reference Type:**  Journal Article

**Record Number:** 1046

**Author:** L. Lesage, A. Reed and J.-P. L. Savard

**Year:** 2008

**Title:** Duckling survival and use of space by surf scoter (Melanitta perspicillata) broods

**Journal:** Ecoscience

**Volume:** 15

**Issue:** 1

**Pages:** 81-88

**Short Title:** Duckling survival and use of space by surf scoter (Melanitta perspicillata) broods

**Accession Number:** BCI:BCI200800343213

**Keywords:** Surf Scoter; Melanitta perspicillata; Survival; Habitat; Breeding Season;

**Abstract:** Knowledge of many aspects of the breeding ecology of surf scoters (Melanitta perspicillata) is still lacking, partly due to the remoteness of the boreal forest regions where they commonly breed. Documentation of duckling survival and use of space by broods is important in understanding population dynamics and habitat requirements of waterfowl. These aspects were documented at Lake Malbaie (Quebec, Canada) in 1994 and 1995. Duckling mortality was estimated at 65% in 1994 and 55% in 1995 and was probably influenced by weather conditions shortly after hatch. Females with broods showed a strong preference for portions of the lake with water depths < 2 m and where islands or wooded shorelines offered protection from dominant winds; both of these factors reduced wave amplitude, which may have facilitated food acquisition for ducklings. Home ranges of 7 broods accompanied by marked females varied in size from 28 to 173 ha (mean 94.5 +/- 7.5 ha).

**URL:** <Go to ISI>://BCI200800343213

**Reference Type:**  Journal Article

**Record Number:** 1074

**Author:** L. Lesage, J.-P. L. Savard and A. Reed

**Year:** 1997

**Title:** A simple technique to capture breeding adults and broods of surf scoters, Melanitta perspicillata

**Journal:** Canadian Field-Naturalist

**Volume:** 111

**Issue:** 4

**Pages:** 657-659

**Date:** Oct.-Dec., 1997

**Short Title:** A simple technique to capture breeding adults and broods of surf scoters, Melanitta perspicillata

**Accession Number:** BCI:BCI199800079544

**Keywords:** Surf Scoter; Melanitta perspicillata; Techniques; Breeding Season;

**Abstract:** We used mist nets strung above and below the water surface to capture pairs prior to and during nest initiation, and to capture ducklings during brood-rearing. We discuss possible modifications of this technique to improve its effectiveness for capturing Surf Scoters and other diving ducks.

**URL:** <Go to ISI>://BCI199800079544

**Reference Type:**  Journal Article

**Record Number:** 1008

**Author:** Z. Lewartowski, T. Stawarczyk and A. Winiecki

**Year:** 1986

**Title:** The Occurrence of Scaup Aythya-Marila Eider Somateria-Mollissima Long-Tailed Duck Clangula-Hyemalis Common Scoter Melanitta-Nigra Velvet Scoter Melanitta-Fusca in Inland Areas in Poland

**Journal:** Acta Ornithologica (Warsaw)

**Volume:** 22

**Issue:** 1

**Pages:** 51-92

**Short Title:** The Occurrence of Scaup Aythya-Marila Eider Somateria-Mollissima Long-Tailed Duck Clangula-Hyemalis Common Scoter Melanitta-Nigra Velvet Scoter Melanitta-Fusca in Inland Areas in Poland

**Accession Number:** BCI:BCI198784012724

**Keywords:** White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The analysis of the occurrence of five sea duck species in inland areas in Poland is based mainly on data on their visits, gathered in the seasons 1945/46 to 1982/83. It has been found that velvet scoters occurred most frequently (267 sightings), followed by scaups (262), while long-tailed ducks (127) and common scoters (123) were clearly less frequent, eiders being the least frequent of them all (47 appearances). All these species visited areas in Poland, except high mountains, the largest number of occurrences having been recorded for Wielkopolska and Silesia (about 65% jointly). In some seasons the appearance of some of the species, especially of the velvet scoter and common scoter, was of the nature of invasion. Four species occurred most frequently and abundantly in autumn, and their peak numbers were recorded most frequently in November. Their wintering, spring and summer visits were much less frequent. The eider occurred equally frequently and in equal numbers in different months, being relatively numerous also in May and June. Inland regions were penetrated most frequently by single individuals or small flocks of several birds each, most of which were individuals in female plumage (68-92%), exept eiders, the males of which were more frequently encountered (64%). Visiting birds stayed most often on lakes and large rivers, slightly less often on dam reservoirs, and rather rarely on ponds. The main factor causing visits of sea ducks in inland regions of Poland was storms on the southern Baltic, most frequent in autumn and winter months.

**URL:** <Go to ISI>://BCI198784012724

**Reference Type:**  Journal Article

**Record Number:** 1051

**Author:** T. L. Lewis, D. Esler and W. S. Boyd

**Year:** 2007

**Title:** Effects of predation by sea ducks on clam abundance in soft-bottom intertidal habitats

**Journal:** Marine Ecology Progress Series

**Volume:** 329

**Pages:** 131-144

**Short Title:** Effects of predation by sea ducks on clam abundance in soft-bottom intertidal habitats

**Accession Number:** BCI:BCI200700300228

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Recent studies have documented strong, top-down predation effects of sea ducks on mussel populations in rocky intertidal communities. However, the impact of these gregarious predators in soft-bottom communities has been largely unexplored. We evaluated effects of predation by wintering surf scoters Melanitta perspicillata and white-winged scoters M, fusca on clam populations in soft-bottom intertidal habitats of the Strait of Georgia, British Columbia. Specifically, we documented spatial and temporal variation in clam density (clams m(-2)), scoter diet composition, and the consequences of scoter predation on clam abundance. Of the 3 most numerous clams, Manila clams Venerupis philippinarum and varnish clams Nuttallia obscurata were the primary prey items of both scoter species, while clams of the genus Macoma were rarely consumed by scoters. Between scoter arrival in the fall and departure in the spring, Manila clams decreased in density at most sample sites, while varnish clam densities did not change or declined slightly. Our estimates of numbers of clams consumed by scoters accounted for most of the observed declines in combined abundance of Manila and varnish clams, despite the presence of numerous other vertebrate and invertebrate species known to consume clams. For Macoma spp., we detected an over-winter increase in density, presumably due to growth of clams too small to be retained by our sieve (< 5 mm) during fall sampling, in addition to the lack of predation pressure by scoters. These results illustrate the strong predation potential of scoters in soft-bottom intertidal habitats, as well as their potentially important role in shaping community structure.

**URL:** <Go to ISI>://BCI200700300228

**Reference Type:**  Journal Article

**Record Number:** 1052

**Author:** T. L. Lewis, D. Esler and W. S. Boyd

**Year:** 2007

**Title:** Foraging behaviors of Surf Scoters and White-winged Scoters during spawning of Pacific herring

**Journal:** Condor

**Volume:** 109

**Issue:** 1

**Pages:** 216-222

**Date:** Feb 2007

**Short Title:** Foraging behaviors of Surf Scoters and White-winged Scoters during spawning of Pacific herring

**Accession Number:** BCI:BCI200700198717

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Winter diets of Surf (Melanitta perspicillata) and White-winged Scoters (M. fusca) are composed primarily of bivalves. During spawning of Pacific herring (Clupea pallasi) in early spring, scoters shift their diets to herring eggs. Using radiotelemetry, we contrasted scoter foraging behaviors between winter and herring spawning periods. Scoters increased their dive durations during herring spawning, likely to maximize the amount of roe consumed per dive; in winter, dives were typically terminated upon clam capture. Scoters spent approximately 5011,, less time foraging (min underwater hr(-1)) and decreased their dive rate (dives hr(-1)) by 70% when feeding on roe. The observed reduction in time spent foraging was presumably caused by the abundance of herring eggs, and thus a reduction in prey search-time. Scoters were able to meet energetic requirements with reduced effort, despite potentially increased demands related to spring fattening. Less time spent foraging may also allow more time for premigratory courtship behaviors.

**URL:** <Go to ISI>://BCI200700198717

**Reference Type:**  Journal Article

**Record Number:** 1045

**Author:** T. L. Lewis, D. Esler and W. S. Boyd

**Year:** 2008

**Title:** Foraging behavior of Surf Scoters (Melanitta perspicillata) and White-winged Scoters (M-fusca) in relation to clam density: Inferring food availability and habitat quality

**Journal:** Auk

**Volume:** 125

**Issue:** 1

**Pages:** 149-157

**Date:** Jan 2008

**Short Title:** Foraging behavior of Surf Scoters (Melanitta perspicillata) and White-winged Scoters (M-fusca) in relation to clam density: Inferring food availability and habitat quality

**Accession Number:** BCI:BCI200800472874

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Behavior; Trophic Interactions; Habitat; Nonbreeding Seasons;

**Abstract:** Birds are known to modify their foraging behavior in relation to food availability. Once understood, these relationships can be used to draw inferences about relative food availability and habitat quality. We measured foraging behavior of Surf Scoters (Melanitta perspicillata) and White-winged Scoters (M. fusca) feeding on clams during winter in the Strait of Georgia, British Columbia, to evaluate the relative quality of the foraging landscape for wintering scoters. Because clam biomass does not increase appreciably during winter through growth or recruitment, scoters are faced with a depleting and potentially exhaustible food supply. Along with this temporal variation, clam densities vary widely by site. We considered the influence of variation in clam density on scoter foraging behavior, along with other factors known to affect foraging in other sea duck species, such as season, sex, age, and environmental attributes. Clam-capture success (clams captured per dive) and foraging effort (minutes underwater per hour) of Surf Scoters were not related to variation in clam density. Clam-capture success of White-winged Scoters was unrelated to clam density; however, their foraging effort was negatively related to clam density, though varying by only 4 min across the range of observed clam densities. For both species, foraging behavior was generally more strongly related to other factors, especially seasonal and age effects. These results suggest that (1) observed variation in clam density was relatively minor from the perspective of foraging scorers and (2) our study site constituted high-quality winter habitat in which scoters were not constrained by food availability.

**URL:** <Go to ISI>://BCI200800472874

**Reference Type:**  Journal Article

**Record Number:** 1061

**Author:** T. L. Lewis, D. Esler, W. S. Boyd and R. Zydelis

**Year:** 2005

**Title:** Nocturnal foraging behavior of wintering surf scoters and White-winged Scoters

**Journal:** Condor

**Volume:** 107

**Issue:** 3

**Pages:** 637-647

**Date:** Aug 2005

**Short Title:** Nocturnal foraging behavior of wintering surf scoters and White-winged Scoters

**Accession Number:** BCI:BCI200510248523

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Behavior; Nonbreeding Seasons;

**Abstract:** We studied the nocturnal foraging behavior of Surf Scoters (Melanitta perspicillata) and White-winged Scoters (Melanitta fusca) during winter in coastal British Columbia, Canada. Using radio telemetry, we collected nocturnal and diurnal data documenting the frequency of foraging dives and the location of scoters in relation to their intertidal foraging grounds. We found that dive foraging rarely occurred during nocturnal periods for either species. Only 2% of nocturnal observation blocks for both scoter species contained diving, compared with 98% of diurnal observation blocks. This corresponded to an average of only 0.1 min spent underwater per half-hour observation block during the night and over 7 min during the day. Both species of scoters were located farther offshore and in deeper waters during nocturnal hours, indicating that they were not using intertidal foraging areas at night. Our results suggest that Surf Scoters and White-winged Scoters face daylight-imposed limits on the amount of available foraging time. These potential day-length restrictions should be considered when reviewing human activities that potentially alter the amount of available foraging time or food supplies in winter habitats.

**URL:** <Go to ISI>://BCI200510248523

**Reference Type:**  Journal Article

**Record Number:** 2324

**Author:** T. L. Lewis, M. S. Lindberg, J. A. Schmutz, M. R. Bertram and A. J. Dubour

**Year:** 2015

**Title:** Species Richness and Distributions of Boreal Waterbird Broods in Relation to Nesting and Brood-Rearing Habitats

**Journal:** Journal of Wildlife Management

**Volume:** 79

**Issue:** 2

**Pages:** 296-310

**Date:** Feb

**Short Title:** Species Richness and Distributions of Boreal Waterbird Broods in Relation to Nesting and Brood-Rearing Habitats

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.837

**Accession Number:** WOS:000348639700013

**Keywords:** White-winged Scoter; Melanitta fusca; Breeding Season; Habitat; Trophic Interactions

**Abstract:** Identification of ecological factors that drive animal distributions allows us to understand why distributions vary temporally and spatially, and to develop models to predict future changes to populations-vital tools for effective wildlife management and conservation. For waterbird broods in the boreal forest, distributions are likely driven by factors affecting quality of nesting and brood-rearing habitats, and the influence of these factors may extend beyond singles species, affecting the entire waterbird community. We used occupancy models to assess factors influencing species richness of waterbird broods on 72 boreal lakes, along with brood distributions of 3 species of conservation concern: lesser scaup (Aythya affinis), white-winged scoters (Melanitta fusca), and horned grebe (Podiceps auritus). Factors examined included abundance of invertebrate foods (Amphipoda, Diptera, Gastropoda, Hemiptera, Odonata), physical lake attributes (lake area, emergent vegetation), water chemistry (nitrogen, phosphorus, chlorophyll a concentrations), and nesting habitats (water edge, non-forest cover). Of the 5 invertebrates, only amphipod density was related to richness and occupancy, consistently having a large and positive relationship. Despite this importance to waterbirds, amphipods were the most patchily distributed invertebrate, with 17% of the study lakes containing 70% of collected amphipods. Lake area was the only other covariate that strongly and positively influenced species richness and occupancy of scaup, scoters, and grebes. All 3 water chemistry covariates, which provided alternative measures of lake productivity, were positively related to species richness but had little effect on scaup, scoter, and grebe occupancy. Conversely, emergent vegetation was negatively related to richness, reflecting avoidance of overgrown lakes by broods. Finally, nesting habitats had no influence on richness and occupancy, indicating that, at a broad spatial scale, brood distributions are largely driven by the presence of quality brood-rearing lakes, not nesting habitats. Our findings are relevant to generating conservation plans or management goals; specifically, boreal lakes with abundant amphipods and surface areas >25ha are important habitat for waterbird broods and merit conservation, especially given the patchy distribution of amphipods. Moreover, these high quality brood-rearing lakes are much rarer, and thus more constraining, than are quality nesting habitats, which are likely abundant in the boreal. (c) 2015 The Wildlife Society.

**Notes:** Lewis, Tyler L. Lindberg, Mark S. Schmutz, Joel A. Bertram, Mark R. Dubour, Adam J.

**URL:** <Go to ISI>://WOS:000348639700013

**Reference Type:**  Journal Article

**Record Number:** 624

**Author:** R. J. Limpert

**Year:** 1980

**Title:** Homing Success of Adult Buffleheads Bucephala-Albeola to a Maryland USA Wintering Site

**Journal:** Journal of Wildlife Management

**Volume:** 44

**Issue:** 4

**Pages:** 905-908

**Short Title:** Homing Success of Adult Buffleheads Bucephala-Albeola to a Maryland USA Wintering Site

**Accession Number:** BCI:BCI198120024725

**Keywords:** Bufflehead; Bucephala albeola; Dispersal; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI198120024725

**Reference Type:**  Journal Article

**Record Number:** 25

**Author:** O. E. Lind, A. Kelber and R. H. H. Kroger

**Year:** 2008

**Title:** Multifocal optical systems and pupil dynamics in birds

**Journal:** Journal of Experimental Biology

**Volume:** 211

**Issue:** 17

**Pages:** 2752-2758

**Date:** Sep 1 2008

**Short Title:** Multifocal optical systems and pupil dynamics in birds

**Accession Number:** BCI:BCI200800579199

**Keywords:** Sea Ducks - General; Physiology;

**Abstract:** In animal eyes of the camera type longitudinal chromatic aberration causes defocus that is particularly severe in species with short depth of focus. In a variety of vertebrates, multifocal optical systems compensate for longitudinal chromatic aberration by concentric zones of different refractive powers. Since a constricting circular pupil blocks peripheral zones, eyes with multifocal optical systems often have slit pupils that allow light to pass through all zones, irrespective of the state of pupil constriction. Birds have circular pupils and were therefore assumed to have monofocal optical systems. We examined the eyes of 45 species (12 orders) of bird using videorefractometry, and the results are surprising: 29 species (10 orders) have multifocal systems, and only five species (five orders) have monofocal systems. The results from 11 species (four orders) are inconclusive. We propose that pupils 'switching' between being fully opened (multifocal principle) to maximally closed (pinhole principle) can make multifocal optical systems useful for animals with circular pupils. Previous results indicate that mice have both multifocal optical systems and switching pupils. Our results suggest that parrots may use a similar mechanism. By contrast, owl pupils responded weakly to changes in illumination and stayed remarkably wide even in full daylight. Moreover, the parrots opened their pupils at higher light levels than owls, which correlates with the differences in sensitivity between diurnal and nocturnal eyes.

**URL:** <Go to ISI>://BCI200800579199

**Reference Type:**  Journal Article

**Record Number:** 811

**Author:** A. Lindroth and E. V. A. Bergstom

**Year:** 1959

**Title:** Notes on the feeding technique of the goosander in streams

**Journal:** Rept Inst Freshwater Res Drottningholm

**Volume:** 40

**Pages:** 165-175

**Short Title:** Notes on the feeding technique of the goosander in streams

**Accession Number:** BCI:BCI19603500051929

**Keywords:** Common merganser; Mergus merganser; Behavior;

**Abstract:** Four Mergus m. merganser ducklings were observed in a stream tank from 9 weeks of age through development of underwater feeding excursions. When swimming at surface, mergansers move their legs alternately but while diving strokes are simultaneous and vary around the horizontal plane. Jerking of the head permits stationary observations to detect moving objects. Objects moving near the substrate appear to be observed more than those in open water. Holes and niches under rocks were examined by probing with the bill. Small trout and salmon may be almost completely eliminated from an area leaving only those in the most secure niches. ABSTRACT AUTHORS: K. D. Carlander

**URL:** <Go to ISI>://BCI19603500051929

**Reference Type:**  Journal Article

**Record Number:** 783

**Author:** B. Little and R. W. Furness

**Year:** 1985

**Title:** Long-Distance Molt Migration by British Uk Goosanders Mergus-Merganser

**Journal:** Ringing and Migration

**Volume:** 6

**Issue:** 2

**Pages:** 77-82

**Short Title:** Long-Distance Molt Migration by British Uk Goosanders Mergus-Merganser

**Accession Number:** BCI:BCI198681110042

**Keywords:** Common merganser; Mergus merganser; Migration; Molt; Nonbreeding Seasons;

**Abstract:** Dye-marking and ringing of drake Goosanders after their breeding activities were completed in Britain has proved the existence of a moult migration to the Tana estuary in north Norway. Counts of moulting drakes in Finnmark and estimates of the sizes of breeding and winter populations suggest that almost all drake Goosanders in western Europe moult in this one area.

**URL:** <Go to ISI>://BCI198681110042

**Reference Type:**  Journal Article

**Record Number:** 1910

**Author:** G. Liu, L. Z. Zhou and C. M. Gu

**Year:** 2012

**Title:** Complete sequence and gene organization of the mitochondrial genome of scaly-sided merganser (Mergus squamatus) and phylogeny of some Anatidae species

**Journal:** Molecular Biology Reports

**Volume:** 39

**Issue:** 3

**Pages:** 2139-2145

**Date:** Mar

**Short Title:** Complete sequence and gene organization of the mitochondrial genome of scaly-sided merganser (Mergus squamatus) and phylogeny of some Anatidae species

**ISSN:** 0301-4851

**DOI:** 10.1007/s11033-011-0961-5

**Accession Number:** WOS:000301107800009

**Keywords:** Scaly-sided Merganser; Mergus squamatus; Taxonomy

**Notes:** Times Cited: 1

Liu, Gang Zhou, Li-zhi Gu, Chang-ming

1

**URL:** <Go to ISI>://WOS:000301107800009

**Reference Type:**  Journal Article

**Record Number:** 12

**Author:** X. Liu and K. W. Wirtz

**Year:** 2010

**Title:** Managing coastal area resources by stated choice experiments

**Journal:** Estuarine Coastal and Shelf Science

**Volume:** 86

**Issue:** 3, Sp. Iss. SI

**Pages:** 512-517

**Date:** Feb 10 2010

**Short Title:** Managing coastal area resources by stated choice experiments

**Accession Number:** BCI:BCI201000204912

**Keywords:** Sea Ducks - General; Contaminants; Conservation;

**Abstract:** In many coastal regions, oil spills can be considered as one of the most important and certainly the most noticeable forms of marine pollution. Efficient contingency management responding to oil spills on waters, which aims at minimizing pollution effects on coastal resources, turns out to be critically important. Such a decision making highly depends on the importance attributed to different coastal economic and ecological resources. Economic uses can, in principal, be addressed by standard measures such as value added. However, there is a missing of market in the real world for natural goods. Coastal resources such as waters and beach cannot be directly measured in money terms, which increases the risk of being neglected in a decision making process. This paper evaluates these natural goods of coastal environment in a hypothetical market by employing stated choice experiments. Oil spill management practice in German North Sea is used as an example. Results from a pilot survey show that during a combat process, beach and eider ducks are of key concerns for households. An environmental friendly combat option has to be a minor cost for households. Moreover, households with less children, higher monthly income and a membership of environmental organization are more likely to state that they are willing to pay for combat option to prevent coastal resources from an oil pollution. Despite that choice experiments require knowledge of designing questionnaire and statistical skills to deal with discrete choices and conducting a survey is time consumed, the results have important implications for oil spill contingency management. Overall, such a stated preference method can offer useful information for decision makers to consider coastal resources into a decision making process and can further contribute to finding a cost-effective oil preventive measure, also has a wide application potential in the field of Integrated Coastal Zone Management (ICZM). (C) 2009 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000204912

**Reference Type:**  Journal Article

**Record Number:** 171

**Author:** B. C. Livezey

**Year:** 1989

**Title:** Phylogenetic Relationships and Incipient Flightlessness of the Extinct Auckland Islands Merganser

**Journal:** Wilson Bulletin

**Volume:** 101

**Issue:** 3

**Pages:** 410-435

**Short Title:** Phylogenetic Relationships and Incipient Flightlessness of the Extinct Auckland Islands Merganser

**Accession Number:** BCI:BCI198988117096

**Keywords:** Sea Ducks - General; Taxonomy;

**Abstract:** Phylogenetic relationships and evidence for pectoral reduction in the extinct Aukland Islands Merganser (Mergus australis) were investigated using a plumage-based phylogenetic analysis of the six Recent species of merganser and morphometric comparisons of study skins and skeletal specimens. The hypothesized phylogeny indicates that M. australis diverged from the other Mergus immediately after the Hooded Merganser (Lophodytes cucullatus) and is a member of a basal grade of comparatively small, southern hemisphere mergansers; the Brazilian Merganser (M. octosetaceus) branched next and is the sister-group to the larger, more derived, northern hemisphere species of Mergus. M. australis was unique in its natal and adult plumage characters, including the sexually monochromatic plumage of adults. Morphometric analyses revealed that M. australis was the smallest member of its genus but possessed the longest bills and relatively short wings and tails. Based on regression estimates of body mass and wing area for M. australis, the species had estimated wing-loadings which exceed those for other Mergini and approach the threshold of flightlessness hypothesized by Meunier (1951). Skeletal comparisons confirmed that M. australis had exceptionally long bills, and this also revealed that the species possessed relatively short wing elements and scapulae, as well as sterna characterized by shallow carinae and small caudal widths. These morphological characteristics, hypothesized phylogenetic relationships, and ecological information for M. australis are compared to the typical correlates of insularity in waterfowl listed by Weller (1980), and the evolutionary implications of these characteristics are considered [Other species discussed include M. serrator, M. squamatus, and M. merganser.].

**URL:** <Go to ISI>://BCI198988117096

**Reference Type:**  Journal Article

**Record Number:** 149

**Author:** B. C. Livezey

**Year:** 1995

**Title:** Phylogeny and evolutionary ecology of modern seaducks (Anatidae: Mergini)

**Journal:** Condor

**Volume:** 97

**Issue:** 1

**Pages:** 233-255

**Short Title:** Phylogeny and evolutionary ecology of modern seaducks (Anatidae: Mergini)

**Accession Number:** BCI:BCI199598182504

**Keywords:** Sea Ducks - General; Taxonomy;

**Abstract:** Phylogenetic relationships of modern seaducks (Mergini) were investigated using a cladistic analysis of 137 morphological characters. The analysis produced a single tree (consistency index = 0.692, excluding autapomorphies) with complete resolution of the relationships among the 25 taxa recognized. Phylogenetic inferences include: (1) the eiders (Polysticta and Somateria) constitute a monophyletic group and are the sister-group of other Mergini; (2) the remaining generic groups of Mergini, sequenced in order of increasingly close relationship, are Histrionicus, Melanitta + Camptorhynchus, Clangula, Bucephala + Mergellus, Lophodytes, and Mergus; (3) Somateria is monophyletic with S. fischeri the sister-group of its congeners; (4) the black scoters (Melanitta nigra-group) are the sister-group of other scoters; (5) the Bufflehead (Bucephala albeola) is the sister-group of the goldeneyes (B. clangula and B. islandica); and (6) relationships among mergansers are as presented by Livezey (1989). Bootstrapping revealed that the placement of the Smew as the sister-group of the goldeneyes is only weakly supported, and ancillary analyses revealed that this placement is only one step shorter than its reduction to a trichotomy with the goldeneyes and mergansers (including Lophodytes). A phylogenetic classification of modem seaducks is presented. The Harlequin Duck (H. histrionicus), Long-tailed Duck (Clangula hyemalis), and Steller's Eider (Polysticta stelleri) are highly autapomorphic. Evolutionary patterns of selected ecomorphological characteristics - including body mass, sexual size dimorphism, clutch size, relative clutch mass, nest site, diet, diving method, formation of creches, and biogeography - are examined with respect to the phylogenetic hypothesis.

**URL:** <Go to ISI>://BCI199598182504

**Reference Type:**  Book Section

**Record Number:** 1641

**Author:** A. R. Lock

**Year:** 1987

**Title:** A Census of Common Eiders Breeding in Labrador and the Maritime Provinces Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 30-38

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** A Census of Common Eiders Breeding in Labrador and the Maritime Provinces Canada

**Accession Number:** BCI:BCI198834004259

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI198834004259

**Reference Type:**  Journal Article

**Record Number:** 876

**Author:** L. N. Locke, J. B. DeWitt, C. M. Menzie and J. A. Kerwin

**Year:** 1964

**Title:** A merganser die-off associated with larval Eustrongylides

**Journal:** Avian Dis

**Volume:** 8

**Issue:** (3)

**Pages:** 420-427

**Short Title:** A merganser die-off associated with larval Eustrongylides

**Accession Number:** BCI:BCI19654600022487

**Keywords:** Red-breasted merganser; Mergus serrator; Parasites; Contaminants;

**Abstract:** A die-off of red-breasted mergansers on Lake Holly, Virginia Beach, Virginia, was found to be due to a larval Eustrongylides. Massive tissue destruction and hemorrhage was produced by the migration of the larval Eustrongylides. Earlier stages of the same Eustrongylides were found in eastern mosquitofish and silversides upon which the mergansers had been feeding. In addition, residues of DDT were found in mosquitofish, gizzard shad, and 5 mergansers collected from Lake Holly, and in the tissues of 2 mergansers from Back Bay, Virginia. However, the information available was insufficient to establish the significance of these residue levels. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19654600022487

**Reference Type:**  Journal Article

**Record Number:** 122

**Author:** J. P. Loegering and R. G. Anthony

**Year:** 1999

**Title:** Distribution, abundance, and habitat association of riparian-obligate and -associated birds in the Oregon Coast Range

**Journal:** Northwest Science

**Volume:** 73

**Issue:** 3

**Pages:** 168-185

**Date:** Aug., 1999

**Short Title:** Distribution, abundance, and habitat association of riparian-obligate and -associated birds in the Oregon Coast Range

**Accession Number:** BCI:BCI199900445866

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Habitat; Breeding Season; Abundance, Distribution, and Trends;

**Abstract:** We studied the abundance, distribution, and habitat associations of the aquatic-foraging riparian-associated vertebrate community along four stream basins transecting managed forests in the Oregon Coast Range, 1992-1994. The riparian-associated community we observed consisted primarily of birds with few observations of mammals. Belted kingfishers (Ceryle alcyon), American dippers (Cinclus mexicanus), great blue herons (Ardea herodias), and mallards (Anas platyrhynchos) comprised >85% of these observations, but we observed only one group (gtoreq1 individual observed together) from this community for each kilometer of stream surveyed. Bird abundances among years were not different (all P > 0.05). Species distribution was affected by stream order, stream basin, and season in each species, but to varying degrees. Belted kingfishers, common mergansers (Mergus merganser), great blue herons, green herons (Butorides striatus), and mallards were more abundant in larger, 6th-orderstreams than in smaller, 4th-order streams (P < 0.05). Dippers used step channel units disproportionally more and riffles disproportionately less than expected (P < 0.5). Similarly, kingfishers used fewer riffles and more pool channel units than was expected (P < 0.5). Key habitat components that were predictive of use were species specific. Most notably, the presence of a forested riparian area, streamside trees, and valley walls that constrain the stream were important predictors of use by the three most abundant species; dippers, kingfishers, and great blue herons. Monitoring programs to assess populations of these species in mountainous habitat must be sensitive to the potential effects of stream order, basin, and season and encompass a large spatial and temporal extent.

**URL:** <Go to ISI>://BCI199900445866

**Reference Type:**  Journal Article

**Record Number:** 1031

**Author:** E. K. Lok, D. Esler, J. Y. Takekawa, S. W. De La Cruz, W. S. Boyd, D. R. Nysewander, J. R. Evenson and D. H. Ward

**Year:** 2011

**Title:** Stopover Habitats of Spring Migrating Surf Scoters in Southeast Alaska

**Journal:** Journal of Wildlife Management

**Volume:** 75

**Issue:** 1

**Pages:** 92-100

**Date:** Jan 2011

**Short Title:** Stopover Habitats of Spring Migrating Surf Scoters in Southeast Alaska

**Accession Number:** BCI:BCI201100215551

**Keywords:** Surf Scoter; Melanitta perspicillata; Habitat; Migration; Nonbreeding Seasons; SDJV funded

**Abstract:** Habitat conditions and nutrient reserve levels during spring migration have been suggested as important factors affecting population declines in waterfowl, emphasizing the need to identify key sites used during spring and understand habitat features and resource availability at stopover sites. We used satellite telemetry to identify stopover sites used by surf scoters migrating through southeast Alaska during spring. We then contrasted habitat features of these sites to those of random sites to determine habitat attributes corresponding to use by migrating scoters. We identified 14 stopover sites based on use by satellite tagged surf scoters from several wintering sites. We identified Lynn Canal as a particularly important stopover site for surf scoters originating throughout the Pacific winter range; approximately half of tagged coastally migrating surf scoters used this site, many for extended periods. Stopover sites were farther from the mainland coast and closer to herring spawn sites than random sites, whereas physical shoreline habitat attributes were generally poor predictors of site use. The geography and resource availability within southeast Alaska provides unique and potentially critical stopover habitat for spring migrating surf scoters. Our work identifies specific sites and habitat resources that deserve conservation and management consideration. Aggregations of birds are vulnerable to human activity impacts such as contaminant spills and resource management decisions. This information is of value to agencies and organizations responsible for emergency response planning, herring fisheries management, and bird and ecosystem conservation. (C) 2011 The Wildlife Society.

**URL:** <Go to ISI>://BCI201100215551

**Reference Type:**  Journal Article

**Record Number:** 1912

**Author:** E. K. Lok, D. Esler, J. Y. Takekawa, S. W. De La Cruz, W. S. Boyd, D. R. Nysewander, J. R. Evenson and D. H. Ward

**Year:** 2012

**Title:** Spatiotemporal associations between Pacific herring spawn and surf scoter spring migration: evaluating a 'silver wave' hypothesis

**Journal:** Marine Ecology Progress Series

**Volume:** 457

**Pages:** 139-150

**Short Title:** Spatiotemporal associations between Pacific herring spawn and surf scoter spring migration: evaluating a 'silver wave' hypothesis

**ISSN:** 0171-8630

**DOI:** 10.3354/meps09692

**Accession Number:** WOS:000306755000011

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Habitat; Migration; Nonbreeding Seasons; SDJV funded

**Notes:** Times Cited: 0

Lok, Erika K. Esler, Daniel Takekawa, John Y. De La Cruz, Susan W. Boyd, W. Sean Nysewander, David R. Evenson, Joseph R. Ward, David H.

0

**URL:** <Go to ISI>://WOS:000306755000011

**Reference Type:**  Journal Article

**Record Number:** 1044

**Author:** E. K. Lok, M. Kirk, D. Esler and W. S. Boyd

**Year:** 2008

**Title:** Movements of Pre-migratory Surf and White-winged Scoters in Response to Pacific Herring Spawn

**Journal:** Waterbirds

**Volume:** 31

**Issue:** 3

**Pages:** 385-393

**Date:** Sep 2008

**Short Title:** Movements of Pre-migratory Surf and White-winged Scoters in Response to Pacific Herring Spawn

**Accession Number:** BCI:BCI200900035950

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Dispersal; Habitat; Trophic Interactions; Nonbreeding Seasons; SDJV funded

**Abstract:** We documented the movement and distribution patterns of wintering Surf Scoters (Melanitta perspicillata) and White-winged Scoters (Melanitta fusca) in relation to herring spawn events in the Strait of Georgia, British Columbis. Radio-telemetry and surveys were conducted in Baynes Sound, an important wintering area where scoters feed primarily on clams. In early March, herring spawn events in areas adjacent to Baynes Sound provide a short-term pulse of abundant and easily accessible food, which could affect habitat use by wintering scoters from Baynes Sound. Radio-marked Surf Scoters and White-winged Scoters exhibited limited movements during winter, in contrast to the spring herring spawn season, when both scoter species moved greater distances to access herring eggs. Most individuals were located near spawning locations at least once during the spawning season, and the majority of telemetry locations were close to spawning sites, with Surf Scoters showing a higher association with spawn for both metrics. A marked decrease (66-98%) in the abundance of both scoter species in Baynes Sound was observed coincident with spawn initiation in adjacent sites. We conclude that scoters altered their movement and habitat use patterns in spring to take advantage of herring roe, an energy-rich food source. This dramatic change in behaviour suggests that herring spawn may be of particular importance to these species.

**URL:** <Go to ISI>://BCI200900035950

**Reference Type:**  Journal Article

**Record Number:** 753

**Author:** B. R. Loken, C. N. Spencer and W. O. Granath, Jr.

**Year:** 1995

**Title:** Prevalence and transmission of cercariae causing schistosome dermatitis in Flathead Lake, Montana

**Journal:** Journal of Parasitology

**Volume:** 81

**Issue:** 4

**Pages:** 646-649

**Short Title:** Prevalence and transmission of cercariae causing schistosome dermatitis in Flathead Lake, Montana

**Accession Number:** BCI:BCI199598475293

**Keywords:** Common merganser; Mergus merganser; Parasites; Breeding Season;

**Abstract:** Numerous studies have been conducted on swimmer's itch, but very few have been in Montana and none on Flathead Lake, the largest, natural freshwater lake in the western United States. We conducted a study to determine the prevalence of hosts transmitting cercariae causing swimmer's itch in this lake. Hosts for this life cycle were determined by direct observation of fresh waterfowl fecal material for the presence of miracidia, and snails for the presence of cercariae. Swimmer's itch-producing cercariae were verified directly by placing various species on the arms of human volunteers and waiting for a reaction. Results of the study were further substantiated using a controlled experiment in which snails were individually infected with miracidia from the suspected waterfowl host and then checked for infection after a 6-wk incubation period. Our findings show that the common merganser (Mergus merganser) and the snail Stagnicola elrodi were natural hosts of the swimmer's itch parasite (Trichobilharzia ocellata) with prevalences of 84% and 2.0%, respectively. To our knowledge this is the first documented case of S. elrodi transmitting the swimmer's itch cercariae.

**URL:** <Go to ISI>://BCI199598475293

**Reference Type:**  Journal Article

**Record Number:** 1584

**Author:** S. H. Lorentsen, T. Anker-Nilssen, R. T. Kroglund and J. E. Ostnes

**Year:** 1993

**Title:** An assessment of the effects on seabirds of oil exploration in the Norwegian part of the Skagerrak

**Journal:** NINA (Norsk Institutt for Naturforskning) Forskningsrapport

**Volume:** 0

**Issue:** 39

**Pages:** 1-84

**Short Title:** An assessment of the effects on seabirds of oil exploration in the Norwegian part of the Skagerrak

**Accession Number:** BCI:BCI199396033712

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Conservation;

**Abstract:** This report presents the results of an assessment of the effects on seabirds of possible petroleum exploration in the North Sea east of 7 degree E (Skagerrak). Relative index values for the direct effects of oil spills were calculated by combining oil spill simulations with the distribution of the valued ecosystem components, Common Eider and auks, and their vulnerability indexes, using the analysis system SIMPACT. Based on these results and other considerations, recommendations for limiting possible drilling activity are given.

**URL:** <Go to ISI>://BCI199396033712

**Reference Type:**  Journal Article

**Record Number:** 1913

**Author:** P. H. Loring, P. W. C. Paton, S. R. McWilliams, R. A. McKinney and C. A. Oviatt

**Year:** 2013

**Title:** Densities of Wintering Scoters in Relation to Benthic Prey Assemblages in a North Atlantic Estuary

**Journal:** Waterbirds

**Volume:** 36

**Issue:** 2

**Pages:** 144-155

**Date:** Jun

**Short Title:** Densities of Wintering Scoters in Relation to Benthic Prey Assemblages in a North Atlantic Estuary

**ISSN:** 1524-4695

**Accession Number:** WOS:000320345000003

**Keywords:** Surf Scoter; white-winged Scoter; Black Scoter; Melanitta fusca; Melanitta nigra; Melanitta perspicillata; habitat; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Loring, Pamela H. Paton, Peter W. C. McWilliams, Scott R. McKinney, Richard A. Oviatt, Candace A.

0

**URL:** <Go to ISI>://WOS:000320345000003

**Reference Type:**  Journal Article

**Record Number:** 2129

**Author:** P. H. Loring, P. W. C. Paton, J. E. Osenkowski, S. G. Gilliland, J. P. L. Savard and S. R. McWilliams

**Year:** 2014

**Title:** Habitat Use and Selection of Black Scoters in Southern New England and Siting of Offshore Wind Energy Facilities

**Journal:** Journal of Wildlife Management

**Volume:** 78

**Issue:** 4

**Pages:** 645-656

**Date:** May

**Short Title:** Habitat Use and Selection of Black Scoters in Southern New England and Siting of Offshore Wind Energy Facilities

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.696

**Accession Number:** WOS:000336028100009

**Keywords:** Black Scoter; Melanitta americana; Nonbreeding season; Migration; Habitat; Conservation

**Abstract:** The southern New England continental shelf is an important region for black scoters (Melanitta americana) during winter and migratory staging periods and a priority area for developing offshore wind energy facilities. However, little is known about the migration phenology and habitat use of black scoters in this portion of their range and this information is necessary to assess potential risks to black scoters during the marine spatial planning process. In this regional black scoter study over 2 winters, we used satellite telemetry and spatial modeling techniques to estimate migratory timing and length of stay, quantify winter home range size and site fidelity between winters, examine key habitat characteristics associated with core-use areas, and map relative probabilities of use across a 3,800-km(2) marine spatial planning area for 2 proposed offshore renewable energy facilities. Black scoters spent nearly 5 months in southern New England, with wide variation among individuals in the size of winter utilization distributions (range 16-12,367 km(2)). Approximately 50% of the tagged birds returned to southern New England during the subsequent winter and had variable fidelity to core-use areas occupied the previous winter. During both winters, black scoter core-use areas were located closer to shore, at shallower water depths, with coarser sediment grain size and higher probability of hard-bottom occurrence relative to available areas. Resource selection functions classified the majority of a nearshore 5-turbine, 34-km(2) renewable energy zone off Block Island as high probability of use by black scoters, whereas an offshore 200-turbine, 667-km(2) federal lease block zone was classified as low to medium-low probability of selection. Wind energy facilities, such as the Block Island site, constructed in relatively shallow (<20m deep), nearshore habitats (<5 km) over hard-bottomed or coarse-sand substrate could displace some foraging black scoters wintering in this region, whereas the larger federal lease block zone located farther offshore is more likely to affect scoters dispersing among core-use areas and during migration between wintering and breeding grounds. (C) 2014 The Wildlife Society.

**Notes:** Loring, Pamela H. Paton, Peter W. C. Osenkowski, Jason E. Gilliland, Scott G. Savard, Jean-Pierre L. Mcwilliams, Scott R.

**URL:** <Go to ISI>://WOS:000336028100009

**Reference Type:**  Journal Article

**Record Number:** 398

**Author:** L. W. Lougheed, A. Breault and D. B. Lank

**Year:** 1999

**Title:** Estimating statistical power to evaluate ongoing waterfowl population monitoring

**Journal:** Journal of Wildlife Management

**Volume:** 63

**Issue:** 4

**Pages:** 1359-1369

**Date:** Oct., 1999

**Short Title:** Estimating statistical power to evaluate ongoing waterfowl population monitoring

**Accession Number:** BCI:BCI199900539419

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Techniques; Breeding Season;

**Abstract:** The probability of failing to detect a trend when 1 exists has been considered only rarely in the interpretation of monitoring studies. Retrospective power analysis accomplishes this assessment. We apply retrospective power analysis to evaluate both population trends and survey design in the waterfowl surveys conducted by the Canadian Wildlife Service and others around Riske Creek, British Columbia. Eleven of 18 species showed long-term (17 yr) and short-term (10 yr) trends. For the remaining 7 species, the long-term analysis had sufficient power (0.8) to have detected at least a 5% annual change, had 1 existed, which supported the conclusion that little change occurred. However, statistical power and detectable effects varied considerably among species, with a range of 3-14 years of data needed to be able to detect a 5% annual trend. When we used the shorter-term dataset, power was reduced below acceptable levels for 4 of the 7 species failing to show a trend. It would be a mistake toconclude that the numbers of these 4 species were not changing. Statistical power was highest for the species for which the surveys were originally designed, Barrow's goldeneye (Bucephala islandica) and mallards (Anas platyrhynchos), which had narrow confidence intervals and relatively small minimum detectable trends. In contrast, blue-winged teal (Anas discors), gadwall (Anas strepera), green-winged teal (Anas crecca), northern pintail (Anas acuta), and northern shoveler (Anas clypeata) had relatively large minimum detectable trends and wide confidence intervals. Much of the power of these surveys was due to repeated surveying within seasons. For most species, power increased substantially by including up to 4 surveys as replicate observations within a year, but power increased little when data from a fifth or sixth survey were included.

**URL:** <Go to ISI>://BCI199900539419

**Reference Type:**  Journal Article

**Record Number:** 1322

**Author:** O. P. Love, H. G. Gilchrist, J. Bety, K. E. Wynne-Edwards, L. Berzins and T. D. Williams

**Year:** 2009

**Title:** Using life-histories to predict and interpret variability in yolk hormones

**Journal:** General and Comparative Endocrinology

**Volume:** 163

**Issue:** 1-2

**Pages:** 169-174

**Date:** Aug-Sep 2009

**Short Title:** Using life-histories to predict and interpret variability in yolk hormones

**Accession Number:** BCI:BCI200900474343

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Variation in yolk hormones is assumed to provide the plasticity necessary for mothers to individually optimize reproductive decisions via changes in offspring phenotype, the benefit being to maximise fitness. However, rather than routinely expecting adaptive variation within all species, the pattern and magnitude of yolk hormone deposition should theoretically relate to variation in life-histories. Here we present data on intra-clutch variation in yolk corticosterone in three species along a developmental continuum (European starling (Sturnus vulgaris): fully altricial; black guillemot (Cepphus grylle): semi-precocial; common eider (Somateria mollissima): fully precocial) to examine how and why variation in life-histories might relate to the evolution of variation in yolk steroids. Starlings and guillemots showed a significant increase in yolk corticosterone across the laying sequence; however, we found no pattern within eider clutches. Moreover, starlings showed the largest difference (94.6%) in yolk corticosterone between first- and last-laid eggs, whereas guillemots showed a moderate difference (58.9%). Despite these general species-specific patterns, individuals showed marked variation in the intra-clutch patterns of yolk corticosterone within each species indicating potential differences in intra-clutch flexibility among females. It is well documented that exposure to elevated yolk glucocorticoids reduces offspring quality at birth/hatching in many taxa and it has therefore been proposed that elevated yolk levels may modulate offspring competition and/or facilitate brood reduction under harsh conditions in birds. Our data suggests that intra-clutch variation in yolk corticosterone has the potential to act as an adaptive maternal effect in species where modulation of competition between nest-bound offspring would benefit mothers (starlings and guillemots). However, in precocial species where mothers would not benefit from a modulation of offspring quality, intra-clutch variation in yolk hormones may play little or no adaptive role. While future phylogenetically-controlled studies will be helpful in examining questions of adaptive mechanisms once more data on yolk corticosterone becomes available, our results nonetheless suggest that research on the evolutionary role of yolk hormones can benefit by a prior! incorporating species-specific life-history-driven hypotheses. (C) 2008 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI200900474343

**Reference Type:**  Journal Article

**Record Number:** 1302

**Author:** O. P. Love, H. G. Gilchrist, S. Descamps, C. A. D. Semeniuk and J. Bety

**Year:** 2010

**Title:** Pre-laying climatic cues can time reproduction to optimally match offspring hatching and ice conditions in an Arctic marine bird

**Journal:** Oecologia (Berlin)

**Volume:** 164

**Issue:** 1

**Pages:** 277-286

**Date:** Sep 2010

**Short Title:** Pre-laying climatic cues can time reproduction to optimally match offspring hatching and ice conditions in an Arctic marine bird

**Accession Number:** BCI:BCI201000537261

**Keywords:** Common Eider; Somateria mollissima; Behavior; Productivity; Breeding Season;

**Abstract:** Individuals breeding in seasonal environments are under strong selection to time reproduction to match offspring demand and the quality of the post-natal environment. Timing requires both the ability to accurately interpret the appropriate environmental cues, and the flexibility to respond to inter-annual variation in these cues. Determining which cues are linked to reproductive timing, what these cues are predicting and understanding the fitness consequences of variation in timing, is therefore of paramount interest to evolutionary and applied ecologists, especially in the face of global climate change. We investigated inter-annual relationships between climatic variation and the timing of reproduction in Canada's largest breeding population of Arctic common eiders (Somateria mollissima) in East Bay, Nunavut. Warmer spring temperatures predicted both earlier mean annual laying dates and the earlier ice-free conditions required by ducklings for post-natal growth. Warmer springs had higher variation in this temperature cue, and the population laying distribution became increasingly positively-skewed in warmer summers, potentially indicating that more low-quality females had the opportunity to commence laying in warmer years. Females that timed laying to match duckling hatching just prior to fully ice-free conditions obtained the highest duckling survival probability. Inter-annual data on repeated breeding attempts revealed that the individuals examined show a similar degree of laying flexibility in response to climatic variation; however, there was significant individual variation in the absolute timing of laying within an average year. This work sheds light on how reproductive timing is related to and influenced by variation in local climate and provides vital information on how climate-related variation in reproductive timing influence a fitness measure in an Arctic species. Results are especially relevant to future work in polar environments given that global climatic changes are predicted to be most intense at high latitudes.

**URL:** <Go to ISI>://BCI201000537261

**Reference Type:**  Journal Article

**Record Number:** 2290

**Author:** J. R. Lovvorn, E. M. Anderson, A. R. Rocha, W. W. Larned, J. M. Grebmeier, L. W. Cooper, J. M. Kolts and C. A. North

**Year:** 2014

**Title:** Variable wind, pack ice, and prey dispersion affect the long-term adequacy of protected areas for an Arctic sea duck

**Journal:** Ecological Applications

**Volume:** 24

**Issue:** 2

**Pages:** 396-412

**Date:** Mar

**Short Title:** Variable wind, pack ice, and prey dispersion affect the long-term adequacy of protected areas for an Arctic sea duck

**ISSN:** 1051-0761

**DOI:** 10.1890/13-0411.1

**Accession Number:** WOS:000331405700014

**Keywords:** Spectacled Eider; Somateria fischeri; Nonbreeding season; Trophic Interactions; Abundance, Distribution, & Trends; Habitat

**Abstract:** With changing climate, delineation of protected areas for sensitive species must account for long-term variability and geographic shifts of key habitat elements. Projecting the future adequacy of protected areas requires knowing major factors that drive such changes, and how readily the animals adjust to altered resources. In the Arctic, the viability of habitats for marine birds and mammals often depends on sea ice to dissipate storm waves and provide platforms for resting. However, some wind conditions (including weak winds during extreme cold) can consolidate pack ice into cover so dense that air-breathing divers are excluded from the better feeding areas. Spectacled Eiders (Somateria fischeri) winter among leads (openings) in pack ice in areas where densities of their bivalve prey are quite high. During winter 2009, however, prevailing winds created a large region of continuous ice with inadequate leads to allow access to areas of dense preferred prey. Stable isotope and fatty acid biomarkers indicated that, under these conditions, the eiders did not diversify their diet to include abundant non-bivalve taxa but did add a smaller, less preferred, bivalve species. Consistent with a computer model of eider energy balance, the body fat of adult eiders in 2009 was 33-35% lower than on the same date (19 March) in 2001 when ice conditions allowed access to higher bivalve densities. Ice cover data suggest that the eiders were mostly excluded from areas of high bivalve density from January to March in about 30% of 14 winters from 1998 to 2011. Thus, even without change in total extent of ice, shifts in prevailing winds can alter the areal density of ice to reduce access to important habitats. Because changes in wind-driven currents can also rearrange the dispersion of prey, the potential for altered wind patterns should be an important concern in projecting effects of climate change on the adequacy of marine protected areas for diving endotherms in the Arctic.

**Notes:** Lovvorn, James R. Anderson, Eric M. Rocha, Aariel R. Larned, William W. Grebmeier, Jacqueline M. Cooper, Lee W. Kolts, Jason M. North, Christopher A.

**URL:** <Go to ISI>://WOS:000331405700014

**Reference Type:**  Journal Article

**Record Number:** 1914

**Author:** J. R. Lovvorn, S. E. W. De La Cruz, J. Y. Takekawa, L. E. Shaskey and S. E. Richman

**Year:** 2013

**Title:** Niche overlap, threshold food densities, and limits to prey depletion for a diving duck assemblage in an estuarine bay

**Journal:** Marine Ecology Progress Series

**Volume:** 476

**Pages:** 251-+

**Short Title:** Niche overlap, threshold food densities, and limits to prey depletion for a diving duck assemblage in an estuarine bay

**ISSN:** 0171-8630

**DOI:** 10.3354/meps10104

**Accession Number:** WOS:000315465900019

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Lovvorn, James R. De La Cruz, Susan E. W. Takekawa, John Y. Shaskey, Laura E. Richman, Samantha E.

0

**URL:** <Go to ISI>://WOS:000315465900019

**Reference Type:**  Journal Article

**Record Number:** 1230

**Author:** J. R. Lovvorn, J. M. Grebmeier, L. W. Cooper, J. K. Bump and S. E. Richman

**Year:** 2009

**Title:** Modeling marine protected areas for threatened eiders in a climatically changing Bering Sea

**Journal:** Ecological Applications

**Volume:** 19

**Issue:** 6

**Pages:** 1596-1613

**Date:** Sep 2009

**Short Title:** Modeling marine protected areas for threatened eiders in a climatically changing Bering Sea

**Accession Number:** BCI:BCI200900523335

**Keywords:** Spectacled Eider; Somateria fischeri; Conservation; Habitat; Nonbreeding Seasons;

**Abstract:** Delineating protected areas for sensitive species is a growing challenge as changing climate alters the geographic pattern of habitats as well as human responses to those shifts. When human impacts are expected within projected ranges of threatened species, there is often demand to demarcate the minimum habitat required to ensure the species' persistence. Because diminished or wide-ranging populations may not occupy all viable (and needed) habitat at once, one must identify thresholds of resources that will support the species even in unoccupied areas. Long-term data on the shifting mosaic of critical resources may indicate ranges of future variability. We addressed these issues for the Spectacled Eider (Somateria fischeri), a federally threatened species that winters in pack ice of the Bering Sea. Changing climate has decreased ice cover and severely reduced the eiders' benthic prey and has increased prospects for expansion of bottom trawling that may further affect prey communities. To assess long-term changes in habitats that will support eiders, we linked data on benthic prey, sea ice, and weather from 1970 to 2001 with a spatially explicit simulation model of eider energy balance that integrated field, laboratory, and remote-sensing studies. Areas estimated to have prey densities adequate for eiders in 1970-1974 did not include most areas that were viable 20 years later (1993-1994). Unless the entire area with adequate prey in 1993-1994 had been protected, the much reduced viable area in 1999-2001 might well have been excluded. During long non-foraging periods (as at night), eiders can save much energy by resting on ice vs. floating on water; thus, loss of ice cover in the future might substantially decrease the area in which prey densities are adequate to offset the eiders' energy needs. For wide-ranging benthivores such as eiders, our results emphasize that fixed protected areas based on current conditions can be too small or inflexible to subsume long-term shifts in habitat conditions. Better knowledge of patterns of natural disturbance experienced by prey communities, and appropriate allocation of human disturbance over seasons or years, may yield alternative strategies to large-scale closures that may be politically and economically problematic.

**URL:** <Go to ISI>://BCI200900523335

**Reference Type:**  Journal Article

**Record Number:** 999

**Author:** J. R. Lovvorn and D. R. Jones

**Year:** 1991

**Title:** Body Mass Volume and Buoyancy of Some Aquatic Birds and Their Relation to Locomotor Strategies

**Journal:** Canadian Journal of Zoology

**Volume:** 69

**Issue:** 11

**Pages:** 2888-2892

**Short Title:** Body Mass Volume and Buoyancy of Some Aquatic Birds and Their Relation to Locomotor Strategies

**Accession Number:** BCI:BCI199293127416

**Keywords:** White-winged Scoter; Melanitta fusca; Sea Ducks - General; Common Eider; Somateria mollissima; Physiology;

**Abstract:** Body mass, volume, and buoyancy of diving ducks, surface-feeding ducks, auklets, cormorants, and gulls were measured by means of water displacement. Relations of volume and buoyancy to body mass in surface-feeding ducks were linear and did not differ from those of diving ducks if scoters and eiders were excluded. These large-bodies sea ducks (scoters and eiders) had buoyancies 22-28% above values predicted by the common linear regression for surface-feeding ducks and smaller dividing ducks. Thus, scoters and eiders have larger respiratory or plumage air volumes relative to body mass. Although relations of volume and buoyancy to body mass were similar among most ducks, volumes and buoyancies of gulls were much higher, and those of cormorants much lower, than those of ducks. Volumes and buoyancies of auklets were the same as those of ducks of similar mass. The significance to locomotion of the buoyancy of restrained birds depends on predive expiration and ptilosuppression, and reduced buoyancy from compression of air spaces at foraging depths typical for the species.

**URL:** <Go to ISI>://BCI199293127416

**Reference Type:**  Journal Article

**Record Number:** 1759

**Author:** J. R. Lovvorn and G. A. Liggins

**Year:** 2002

**Title:** Interactions of body shape, body size and stroke-acceleration patterns in costs of underwater swimming by birds

**Journal:** Functional Ecology

**Volume:** 16

**Issue:** 1

**Pages:** 106-112

**Date:** February, 2002

**Short Title:** Interactions of body shape, body size and stroke-acceleration patterns in costs of underwater swimming by birds

**Accession Number:** BCI:BCI200200229290

**Keywords:** King Eider; Somateria spectabilis; Physiology;

**Abstract:** 1. For birds, mammals and turtles, costs of swimming by foot propulsion are usually much higher than for propulsion by wings or foreflippers. The propulsive efficiency with which limbs impart thrust to the water is greater for lift-based wings than for drag-based feet, but different acceleration patterns during oscillatory strokes may also alter total drag on the body fuselage (head and trunk). 2. Because wing propulsion allows thrust on both upstroke and downstroke, whereas foot propulsion in many species (perhaps excepting grebes) has little or no thrust on the upstroke, foot propulsion requires higher speeds during a smaller fraction of the stroke to maintain the same mean speed. Because drag increases non-linearly with increasing speed, higher instantaneous speeds in drag-based foot propulsion may cause greater total drag on the body fuselage. 3. Tow-tank measurements have shown that foot-propelled birds that swim with long necks extended have lower fuselage drag at high speeds than do wing-propelled birds that swim with necks retracted. This difference might reduce the higher costs of drag-based foot propulsion, but such effects must be evaluated in the context of drag at a range of speeds throughout oscillatory strokes. 4. In quasi-steady models of horizontal swimming underwater, stroke-acceleration curves for both foot and wing propulsion were applied to a range of bird shapes and sizes. Higher fuselage drag during foot propulsion increased mechanical costs of transport (MCOT, J kg-1 m-1) by 26-40% in various species. Thus, a large fraction of the different costs of wing and foot propulsion might be explained in terms of drag on the body fuselage, independently of the propulsive efficiency of stroking limbs. 5. When drag curves for different body shapes were combined with different oscillatory stroking patterns, swimming with a long neck extended did not reduce the higher total drag associated with drag-based foot propulsion. Thus, although size and shape can affect drag measured at different constant speeds, effects of drag on locomotor costs depend much more on stroke-acceleration patterns of different swimming modes.

**URL:** <Go to ISI>://BCI200200229290

**Reference Type:**  Journal Article

**Record Number:** 1915

**Author:** J. R. Lovvorn, R. H. Mossotti, J. J. Wilson and D. McKay

**Year:** 2012

**Title:** Eiders in offshore pack ice show previously unknown courtship behavior: acceleration of readiness for a constrained breeding period?

**Journal:** Polar Biology

**Volume:** 35

**Issue:** 7

**Pages:** 1087-1095

**Date:** Jul

**Short Title:** Eiders in offshore pack ice show previously unknown courtship behavior: acceleration of readiness for a constrained breeding period?

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-012-1156-9

**Accession Number:** WOS:000304623600011

**Keywords:** Spectacled Eider; somateria fischeri; Behavior; Nonbreeding Seasons

**Notes:** Times Cited: 0

Lovvorn, James R. Mossotti, Regina H. Wilson, Joseph J. McKay, David

0

**URL:** <Go to ISI>://WOS:000304623600011

**Reference Type:**  Journal Article

**Record Number:** 1916

**Author:** J. R. Lovvorn, M. F. Raisbeck, L. W. Cooper, G. A. Cutter, M. W. Miller, M. L. Brooks, J. M. Grebmeier, A. C. Matz and C. M. Schaefer

**Year:** 2013

**Title:** Wintering eiders acquire exceptional Se and Cd burdens in the Bering Sea: physiological and oceanographic factors

**Journal:** Marine Ecology Progress Series

**Volume:** 489

**Pages:** 245-+

**Short Title:** Wintering eiders acquire exceptional Se and Cd burdens in the Bering Sea: physiological and oceanographic factors

**ISSN:** 0171-8630

**DOI:** 10.3354/meps10439

**Accession Number:** WOS:000323941000019

**Keywords:** Spectacled Eider; Somateria fischeri; Contaminants; Physiology; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Lovvorn, James R. Raisbeck, Merl F. Cooper, Lee W. Cutter, Gregory A. Miller, Micah W. Brooks, Marjorie L. Grebmeier, Jacqueline M. Matz, Angela C. Schaefer, Cortney M.

Cooper, Lee/E-5251-2012; Grebmeier, Jacqueline/L-9805-2013

0

**URL:** <Go to ISI>://WOS:000323941000019

**Reference Type:**  Journal Article

**Record Number:** 1240

**Author:** J. R. Lovvorn, S. E. Richman, J. M. Grebmeier and L. W. Cooper

**Year:** 2003

**Title:** Diet and body condition of spectacled eiders wintering in pack ice of the Bering Sea

**Journal:** Polar Biology

**Volume:** 26

**Issue:** 4

**Pages:** 259-267

**Date:** April 2003

**Short Title:** Diet and body condition of spectacled eiders wintering in pack ice of the Bering Sea

**Accession Number:** BCI:BCI200300276559

**Keywords:** Spectacled Eider; Somateria fischeri; Energetics and Nutrition; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Spectacled eiders (Somateria fischeri) winter among leads in the Bering Sea pack ice, where they dive 40-70 m for benthic prey. During the first icebreaker cruises into that area, esophagi of collected eiders contained only clams, mostly Nuculana radiata, with no trace of the once-dominant Macoma calcarea. Alternative prey used elsewhere (snails, amphipods, other bivalves) were available but not eaten. Eiders ate mainly N. radiata 18-24 mm long, although M. calcarea of this length contained 62% more energy. Percent body lipid of eiders averaged 12+-3% (SD) for 26 adult males and 14+-3% for 12 adult females. Mean body mass (+-SE) of these males in late March (1,688+-21 g) was higher than reported for 53 males after arriving at breeding areas in late May (1,494+-14 g). Body mass of these females (1,550+-35 g) was lower (but not significantly) than reported for 11 females upon arrival at breeding sites (1,623+-46 g). In 1999, the last spectacled eiders left the wintering area on 21 April, 4-8 weeks before their typical arrival at breeding sites. Their location is unknown in the interim, when habitats used appear critical to acquiring reserves for reproduction.

**URL:** <Go to ISI>://BCI200300276559

**Reference Type:**  Journal Article

**Record Number:** 2298

**Author:** J. R. Lovvorn, A. R. Rocha, S. C. Jewett, D. Dasher, S. Oppel and A. N. Powell

**Year:** 2015

**Title:** Limits to benthic feeding by eiders in a vital Arctic migration corridor due to localized prey and changing sea ice

**Journal:** Progress in Oceanography

**Volume:** 136

**Pages:** 162-174

**Date:** Aug

**Short Title:** Limits to benthic feeding by eiders in a vital Arctic migration corridor due to localized prey and changing sea ice

**ISSN:** 0079-6611

**DOI:** 10.1016/j.pocean.2015.05.014

**Accession Number:** WOS:000358626900011

**Keywords:** Common Eider; King Eider; Spectacled Eider; Steller’s Eider; Somateria mollissima; Somateria spectabilis; Somateria fischeri; Polysticta stelleri; Nonbreeding season; Habitat; Energetics and Nutrition

**Abstract:** Four species of threatened or declining eider ducks that nest in the Arctic migrate through the northeast Chukchi Sea, where anticipated industrial development may require prioritizing areas for conservation. In this nearshore corridor (10-40 m depth), the eiders' access to benthic prey during the spring is restricted to variable areas of open water within sea ice. For the most abundant species, the king eider (Somateria spectabilis), stable isotopes in blood cells, muscle, and potential prey indicate that these eiders ate mainly bivalves when traversing this corridor. Bivalves there were much smaller than the same taxa in deeper areas of the northern Bering Sea, possibly due to higher mortality rates caused by ice scour in shallow water; future decrease in seasonal duration of fast ice may increase this effect. Computer simulations suggested that if these eiders forage for >15 h/day, they can feed profitably at bivalve densities >200 m(-2) regardless of water depth or availability of ice for resting. Sampling in 2010-2012 showed that large areas of profitable prey densities occurred only in certain locations throughout the migration corridor. Satellite data in April-May over 13 years (2001-2013) indicated that access to major feeding areas through sea ice in different segments of the corridor can vary from 0% to 100% between months and years. In a warming and increasingly variable climate, unpredictability of access may be enhanced by greater effects of shifting winds on unconsolidated ice. Our results indicate the importance of having a range of potential feeding areas throughout the migration corridor to ensure prey availability in all years. Spatial planning of nearshore industrial development in the Arctic, including commercial shipping, pipeline construction, and the risk of released oil, should consider these effects of high environmental variability on the adequacy of habitats targeted for conservation. (C) 2015 Elsevier Ltd. All rights reserved.

**Notes:** Lovvorn, James R. Rocha, Aariel R. Jewett, Stephen C. Dasher, Douglas Oppel, Steffen Powell, Abby N.

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**URL:** <Go to ISI>://WOS:000358626900011

**Reference Type:**  Journal Article

**Record Number:** 1228

**Author:** J. R. Lovvorn, J. J. Wilson, D. McKay, J. K. Bump, L. W. Cooper and J. M. Grebmeier

**Year:** 2010

**Title:** Walruses Attack Spectacled Eiders Wintering in Pack Ice of the Bering Sea

**Journal:** Arctic

**Volume:** 63

**Issue:** 1

**Pages:** 53-56

**Date:** Mar 2010

**Short Title:** Walruses Attack Spectacled Eiders Wintering in Pack Ice of the Bering Sea

**Accession Number:** BCI:BCI201000236848

**Keywords:** Spectacled Eider; Somateria fischeri; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We observed walruses (Odobenus rosmarus) pursuing spectacled eiders (Somateria fischeri) within pack ice of the Bering Sea, 70-90 km from the nearest land. We used both direct observations from a helicopter and, a heligimbal camera system that can film animals from a helicopter at high altitudes. The eiders were in monospecific flocks of thousands of birds within large leads. The walruses apparently tried to catch the eiders from below; the eiders responded with a "flash expansion" (explosive radial movement), wing-flapping and running along the water surface to escape. Disturbance by individual walruses could restrict flocks of thousands of birds to small portions of the open water. In eight such events that we witnessed over 75 min of observations, we were unable to confirm that walruses captured any of these full-grown, flight-capable eiders. However, the high rate of attacks and the eiders' dramatic escape response suggest that walruses can at times be effective predators on them, and may affect the eiders' dispersion and energy balance.

**URL:** <Go to ISI>://BCI201000236848

**Reference Type:**  Journal Article

**Record Number:** 478

**Author:** I. Ludwichowski, R. Barker and S. Braeger

**Year:** 2002

**Title:** Nesting area fidelity and survival of female Common Goldeneyes Bucephala clangula: Are they density-dependent?

**Journal:** Ibis

**Volume:** 144

**Issue:** 3

**Pages:** 452-460

**Date:** July, 2002

**Short Title:** Nesting area fidelity and survival of female Common Goldeneyes Bucephala clangula: Are they density-dependent?

**Accession Number:** BCI:BCI200200458808

**Keywords:** Common Goldeneye; Bucephala clangula; Population Dynamics; Survival; Dispersal; Breeding Season;

**Abstract:** The breeding histories of 218 female Common Goldeneyes Bucephala clangula were recorded between 1971 and 2000 in a study area in Schleswig-Holstein, northern Germany. Females were first recorded breeding at a median age of 2 years usually in their area of hatching (philopatry). One hundred and two of 140 females (73%) re-nested only in one of the 13 nesting areas (clusters of nestboxes) for all their known life of up to 13 breeding seasons. The remaining 38 individuals moved between different nesting areas at least once between breeding attempts. The two oldest females were still breeding at a minimum age of 15 years (i.e. 13 years between first and last recorded breeding attempt). Temporal variations in annual survival rates of adult females could best be explained by a model with annual survival rate varying independently and randomly about a mean of 0.830 (se=+-0.023) with an estimated sd of +-0.092 (95% CI=0.064, 0.138). No trend in the annual survival rate was detected over the study period of 30 years, although the presence of a moderate trend could not be ruled out. The absence of any discernible trend in survival at a time when the population size increased substantially indicates little, if any, density-dependence in survival of female Goldeneyes during this study.

**URL:** <Go to ISI>://BCI200200458808

**Reference Type:**  Journal Article

**Record Number:** 144

**Author:** W. Luebcke and H. Stiebel

**Year:** 1996

**Title:** 25 Years of International Waterbird Count in the Edersee area (winter term 1970/71 to 1994/95)

**Journal:** Vogelkundliche Hefte Edertal

**Volume:** 0

**Issue:** 22

**Pages:** 7-24

**Short Title:** 25 Years of International Waterbird Count in the Edersee area (winter term 1970/71 to 1994/95)

**Accession Number:** BCI:BCI199699147798

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Within the framework of the International Waterbird Count the Edersee area (Germany) was regularly controlled from 1970/71 to 1994/95. During the last 25 years a positive tendency in the number of some common waterbird species led to an increase of the entire inventory of resting and overwintering waterbirds (p lt 0.001). A distinct increase was reported for the great crested grebe Podiceps cristatus, the tufted duck Aythya fuligula, the common goldeneye Bucephala clangula, the common merganser Mergus merganser, and the cormorant Phalacrocorax carbo. In comparison with Hesse (Germany) the Edersee area is very important with regard to the whooper swan Cygnus cygnus, the common merganser Mergus merganser, the common goldeneye Bucephala clangula, and the little grebe Tachybaptus ruficollis. While in the 1970 decade the artificial lake near Affoldern (Germany) compared to the Edersee attracted nearly 70 per cent of the waterbirds, the ratio has changed to almost 1 to 1 in the last seven years.

**URL:** <Go to ISI>://BCI199699147798

**Reference Type:**  Journal Article

**Record Number:** 1036

**Author:** R. Lukeman, Y.-X. Li and L. Edelstein-Keshet

**Year:** 2010

**Title:** Inferring individual rules from collective behavior

**Journal:** Proceedings of the National Academy of Sciences of the United States of America

**Volume:** 107

**Issue:** 28

**Pages:** 12576-12580

**Date:** Jul 13 2010

**Short Title:** Inferring individual rules from collective behavior

**Accession Number:** BCI:BCI201000472875

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior; Nonbreeding Seasons;

**Abstract:** Social organisms form striking aggregation patterns, displaying cohesion, polarization, and collective intelligence. Determining how they do so in nature is challenging; a plethora of simulation studies displaying life-like swarm behavior lack rigorous comparison with actual data because collecting field data of sufficient quality has been a bottleneck. Here, we bridge this gap by gathering and analyzing a high-quality dataset of flocking surf scoters, forming well-spaced groups of hundreds of individuals on the water surface. By reconstructing each individual's position, velocity, and trajectory, we generate spatial and angular neighbor-distribution plots, revealing distinct concentric structure in positioning, a preference for neighbors directly in front, and strong alignment with neighbors on each side. We fit data to zonal interaction models and characterize which individual interaction forces suffice to explain observed spatial patterns. Results point to strong short-range repulsion, intermediate-range alignment, and longer-range attraction (with circular zones), as well as a weak but significant frontal-sector interaction with one neighbor. A best-fit model with such interactions accounts well for observed group structure, whereas absence or alteration in any one of these rules fails to do so. We find that important features of observed flocking surf scoters can be accounted for by zonal models with specific, well-defined rules of interaction.

**URL:** <Go to ISI>://BCI201000472875

**Reference Type:**  Journal Article

**Record Number:** 2307

**Author:** R. Lukernan

**Year:** 2014

**Title:** Ordering dynamics in collectively swimming Surf Scoters

**Journal:** Journal of Theoretical Biology

**Volume:** 355

**Pages:** 151-159

**Date:** Aug

**Short Title:** Ordering dynamics in collectively swimming Surf Scoters

**ISSN:** 0022-5193

**DOI:** 10.1016/j.jtbi.2014.03.014

**Accession Number:** WOS:000337865100017

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior

**Abstract:** One striking feature of collective motion in animal groups is a high degree of alignment among individuals, generating polarized motion. When order is lost, the dynamic process of reorganization, directly resulting from the individual interaction rules, provides significant information about both the nature of the rules, and how these rules affect the functioning of the collective. By analyzing trajectories of collectively swimming Surf Scoters (Melanitta perspicillata) during transitions between order and disorder, I find that individual speed and polarization are positively correlated in time, such that individuals move more slowly in groups exhibiting lower alignment. A previously validated zone-based model framework is used to specify interactions that permit repolarization while maintaining group cohesion and avoiding collisions. Polarization efficiency is optimized under the constraints of cohesion and collision-avoidance for alignment-dominated propulsion (versus autonomous propulsion), and for repulsion an order of magnitude larger than attraction and alignment. The relative strengths of interactions that optimize polarization also quantitatively recover the speed-polarization dependence observed in the data. Parameters determined here through optimizing polarization efficiency are essentially the same as those determined previously from a different approach: a best-fit model for polarized Surf Scoter movement data. The rules governing these flocks are therefore robust, accounting for behavior across a range of order and structure, and also highly responsive to perturbation. Flexibility and efficient repolarization offers an adaptive explanation for why specific interactions in such animal groups are used. (C) 2014 Elsevier Ltd. All rights reserved.

**Notes:** Lukernan, Ryan

**URL:** <Go to ISI>://WOS:000337865100017

**Reference Type:**  Journal Article

**Record Number:** 560

**Author:** H. G. Lumsden, R. E. Page and M. Gauthier

**Year:** 1980

**Title:** Choice of Nest Boxes by Common Goldeneyes Bucephala-Clangula in Ontario Canada

**Journal:** Wilson Bulletin

**Volume:** 94

**Issue:** 4

**Pages:** 497-505

**Short Title:** Choice of Nest Boxes by Common Goldeneyes Bucephala-Clangula in Ontario Canada

**Accession Number:** BCI:BCI198172007336

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Techniques;

**Abstract:** Choices among boxes offering a variety of features were recorded for goldeneyes in a series of controlled experiments in northern Ontario. Goldeneyes preferred boxes with black interiors, large entrance holes (13 .times. 10 cm) and a depth of at least 33 cm. Compass orientation, alignment with a tree trunk and species of tree on which the boxes were situated were not factors in selection.

**URL:** <Go to ISI>://BCI198172007336

**Reference Type:**  Journal Article

**Record Number:** 564

**Author:** H. G. Lumsden and R. Wenting

**Year:** 1976

**Title:** Common Goldeneyes Hatching from Cracked Eggs

**Journal:** Auk

**Volume:** 93

**Issue:** 4

**Pages:** 833-835

**Short Title:** Common Goldeneyes Hatching from Cracked Eggs

**Accession Number:** BCI:BCI197713018652

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI197713018652

**Reference Type:**  Journal Article

**Record Number:** 1301

**Author:** A. P. Lusignan, K. R. Mehl, I. L. Jones and M. L. Gloutney

**Year:** 2010

**Title:** Conspecific Brood Parasitism in Common Eiders (Somateria Mollissima): Do Brood Parasites Target Safe Nest Sites?

**Journal:** Auk

**Volume:** 127

**Issue:** 4

**Pages:** 765-772

**Date:** Oct 2010

**Short Title:** Conspecific Brood Parasitism in Common Eiders (Somateria Mollissima): Do Brood Parasites Target Safe Nest Sites?

**Accession Number:** BCI:BCI201100021976

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Several hypotheses have been proposed to explain the evolution of conspecific brood parasitism (CBP), and recent studies suggest that nest predation may be an important factor in shaping this behavior. We assessed whether individuals that engage in parasitic laying preferentially deposit their eggs in safe nest sites (i.e., risk assessment hypothesis). We tested the predictions of this hypothesis using a population of Common Eiders (Somateria mollissima dresseri) nesting at Table Bay, Labrador, Canada, in 2007. Common Eiders at this location nest in three habitats (dense woody vegetation, open grassy vegetation, and nest shelters) that vary in their exposure to avian predators. We used isoelectric focusing electrophoresis of egg albumen to quantify the frequency and distribution of CBP among habitats. Nest-site safety did not explain patterns of CBP among habitats, given that nests in dense woody vegetation had the highest probability of survival (0.70; 95% confidence interval [CI]: 0.50-0.89) yet had the lowest frequency of CBP (33%). There was also no indication that parasitized and nonparasitized nests differed in their probability of nest survival (0.65 [95% CI: 0.41-0.83] vs. 0.58 [95% CI: 0.33-0.80]). We propose explanations for why our data did not support the risk assessment hypothesis. Received 20 October 2009, accepted 8 April 2010.

**URL:** <Go to ISI>://BCI201100021976

**Reference Type:**  Journal Article

**Record Number:** 1665

**Author:** S. Lysfjord

**Year:** 1981

**Title:** Polymorphus-Minutus Acanthocephala a Common Parasite in Common Eider Somateria-Mollissima in Norway

**Journal:** Fauna (Oslo)

**Volume:** 34

**Issue:** 3

**Pages:** 126-128

**Short Title:** Polymorphus-Minutus Acanthocephala a Common Parasite in Common Eider Somateria-Mollissima in Norway

**Accession Number:** BCI:BCI198273077814

**Keywords:** Common Eider; Somateria mollissima; Parasites; Breeding Season;

**Abstract:** Nine common eider S. mollissima from the Rost archipelago in northern Norway were examined for parasites in summer 1980 in order to evaluate the parasite fauna of Norwegian sea birds. All birds were infested with P. minutus, and in 5 of them > 400 specimens were localized. Weight loss may be caused by the parasite.

**URL:** <Go to ISI>://BCI198273077814

**Reference Type:**  Journal Article

**Record Number:** 898

**Author:** C. MacKinnon and A. Kennedy

**Year:** 2006

**Title:** An observation of the spring 2006 migration of Black Scoter Melanitta nigra, in Northumberland Strait, interrupted by the Confederation Bridge, New Brunswick - Prince Edward Island

**Journal:** Canadian Field-Naturalist

**Volume:** 120

**Issue:** 2

**Pages:** 233-234

**Date:** Apr-Jun 2006

**Short Title:** An observation of the spring 2006 migration of Black Scoter Melanitta nigra, in Northumberland Strait, interrupted by the Confederation Bridge, New Brunswick - Prince Edward Island

**Accession Number:** BCI:BCI200800036041

**Keywords:** Black Scoter; Melanitta nigra; Migration; Nonbreeding Seasons;

**Abstract:** An observation from the bridge of a flock of Black Scoters suggests that, nine years after construction, the 12.9 km Confederation Bridge may still be a partial barrier to bird migration. Only 3 of 18 scoters (16.7%) crossed over the structure during the observation period.

**URL:** <Go to ISI>://BCI200800036041

**Reference Type:**  Journal Article

**Record Number:** 1917

**Author:** C. M. MacKinnon and A. C. Kennedy

**Year:** 2011

**Title:** Migrant Common Eider, Somateria mollissima, Collisions with Power Transmission Lines and Shortwave Communication Towers on the Tantramar Marsh in Southeastern New Brunswick

**Journal:** Canadian Field-Naturalist

**Volume:** 125

**Issue:** 1

**Pages:** 41-46

**Date:** Jan-Mar

**Short Title:** Migrant Common Eider, Somateria mollissima, Collisions with Power Transmission Lines and Shortwave Communication Towers on the Tantramar Marsh in Southeastern New Brunswick

**ISSN:** 0008-3550

**Accession Number:** WOS:000295746000010

**Keywords:** Common eider; somateria mollissima; Conservation; Migration; Nonbreeding Seasons

**Notes:** Times Cited: 0

MacKinnon, Colin M. Kennedy, Andrew C.

0

**URL:** <Go to ISI>://WOS:000295746000010

**Reference Type:**  Journal Article

**Record Number:** 845

**Author:** C. P. Madenjian and S. W. Gabrey

**Year:** 1995

**Title:** Waterbird predation on fish in western Lake Erie: A bioenergetics model application

**Journal:** Condor

**Volume:** 97

**Issue:** 1

**Pages:** 141-153

**Short Title:** Waterbird predation on fish in western Lake Erie: A bioenergetics model application

**Accession Number:** BCI:BCI199598183793

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** To better understand the role of piscivorous waterbirds in the food web of western Lake Erie, we applied a bioenergetics model to determine their total fish consumption. The important nesting species included the Herring Gull (Larus argentatus), Ring-billed Gull (L. delawarensis), Double-crested Cormorant (Phalacrocorax auritus), Great Blue Heron (Ardea herodias), Black-crowned Night-Heron (Nycticorax nycticorax), and Great Egret (Casmerodius albus). The impact of migrant waterbirds, including the Red-breasted Merganser (Mergus serrator), on western Lake Erie fish biomass was also considered in the analysis. According to the modeling results, during the early 1990s, piscivorous waterbirds consumed 13,368 tonnes of fish from western Lake Erie each year. This tonnage was equivalent to 15.2% of the prey fish biomass needed to support the walleye (Stizostedion vitreum) population in western Lake Erie during a single growing season. The model application was useful in quantifying energy flow between birds and fish in a large lake ecosystem.

**URL:** <Go to ISI>://BCI199598183793

**Reference Type:**  Journal Article

**Record Number:** 2182

**Author:** M. Maftei, S. E. Davis and M. L. Mallory

**Year:** 2015

**Title:** Assessing regional populations of ground-nesting marine birds in the Canadian High Arctic

**Journal:** Polar Research

**Volume:** 34

**Short Title:** Assessing regional populations of ground-nesting marine birds in the Canadian High Arctic

**ISSN:** 0800-0395

**DOI:** 10.3402/polar.v34.25055

**Article Number:** 25055

**Accession Number:** WOS:000352422000001

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Abundance, Distribution, & Trends

**Abstract:** The Queens Channel region of Nunavut is an ecologically distinct area within the Canadian High Arctic consisting of an extensive archipelago of small, low-lying gravel islands throughout which form several localized but highly productive polynyas. We used aerial survey and colony-monitoring data to assess regional-and colony-level fluctuations in the number of birds in this region between 2002 and 2013. Regional and colony-specific monitoring suggested that common eider (Somateria mollissima) numbers are increasing, while numbers of Arctic terns (Sterna paradisaea) may be in decline. Based on these data, we suggest that even infrequent comprehensive surveys are more useful than annual monitoring at specific sites in generating an accurate assessment of ground-nesting seabird populations at the regional level, and that dramatic fluctuations at individual colonies probably belie the overall stability of regional populations.

**Notes:** Maftei, Mark Davis, Shanti E. Mallory, Mark L.

**URL:** <Go to ISI>://WOS:000352422000001

**Reference Type:**  Journal Article

**Record Number:** 164

**Author:** K. G. Magnusson

**Year:** 1992

**Title:** Birds of the Thingvallavatn Area

**Journal:** Oikos

**Volume:** 64

**Issue:** 1-2

**Pages:** 381-395

**Short Title:** Birds of the Thingvallavatn Area

**Accession Number:** BCI:BCI199294118107

**Keywords:** Sea Ducks - General; Red-breasted merganser; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** This paper is a general description of the birdlife of Thingvallavatn [Iceland] and the surrounding area. Most of the data were collected during regular surveys of the lake in 1988 and 1989, but considerable use was made of earlier data collected by the author and of information from local farmers. The main emphasis is on the waterbirds, but landbirds occurring regularly in the area are also discussed. The distribution and estimated numbers of the various species of waterbirds are given as well as their seasonal variation in numbers. The numbers of breeding waterbirds are rather small, but numbers increase considerably in autumn due to an influx of migrating birds, with total numbers reaching a few hundred in autumn and early winter. In particular, 50 or more great northern divers stay on the lake in October-December as well as 200-400 red-breasted mergansers. The changes in the avifauna of the area are discussed and possible causes mentioned.

**URL:** <Go to ISI>://BCI199294118107

**Reference Type:**  Journal Article

**Record Number:** 646

**Author:** C. Maisonneuve

**Year:** 2003

**Title:** Importance of large diameter trees and snags for cavity nesting ducks and raptors in the northern forests of Quebec

**Journal:** Vogelwarte

**Volume:** 42

**Issue:** 1-2

**Pages:** 60

**Date:** Juli 2003

**Short Title:** Importance of large diameter trees and snags for cavity nesting ducks and raptors in the northern forests of Quebec

**Accession Number:** BCI:BCI200400010444

**Keywords:** Common merganser; Mergus merganser; Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI200400010444

**Reference Type:**  Journal Article

**Record Number:** 737

**Author:** M. Mallory and K. Metz

**Year:** 1999

**Title:** Common merganser: Mergus merganser

**Journal:** Birds of North America

**Issue:** 442

**Pages:** 1-27

**Short Title:** Common merganser: Mergus merganser

**Accession Number:** BCI:BCI200000128671

**Keywords:** Common merganser; Mergus merganser; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200000128671

**Reference Type:**  Book

**Record Number:** 2367

**Author:** M. L. Mallory

**Year:** 2015

**Title:** Site fidelity, breeding habitats, and the reproductive strategies of sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 337-364

**Short Title:** Site fidelity, breeding habitats, and the reproductive strategies of sea ducks

**Keywords:** Breeding season; Survival; Habitat; Behavior

**Abstract:** Reproductive strategies describe how species allocate resources to produce offspring and include time and energy invested in nest site choice, egg production, incubation, nest defense, and chick rearing. Sea ducks exhibit considerable variation in all of these parameters but typically have high annual survival, high natal and breeding site fidelity, and variable annual reproductive success compared to other groups of waterfowl. Collectively, these traits make sea ducks susceptible to anthropogenic threats including habitat change, and many populations are in decline.

**Reference Type:**  Journal Article

**Record Number:** 1107

**Author:** M. L. Mallory, J. Akearok, N. R. North, D. V. Weseloh and S. Lair

**Year:** 2006

**Title:** Movements of Long-tailed Ducks wintering on Lake Ontario to breeding areas in Nunavut, Canada

**Journal:** Wilson Journal of Ornithology

**Volume:** 118

**Issue:** 4

**Pages:** 494-501

**Date:** Dec 2006

**Short Title:** Movements of Long-tailed Ducks wintering on Lake Ontario to breeding areas in Nunavut, Canada

**Accession Number:** BCI:BCI200700180312

**Keywords:** Long-tailed Duck; Clangula hyemalis; Migration; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** We used implanted satellite transmitters to track the northbound (spring) and southbound (fall) migration and possible breeding locations of three Long-tailed Ducks (Clangula hyemalis) wintering on western Lake Ontario in Ontario, Canada. The birds exhibited short, rapid migration movements punctuated by extended periods of up to 30 days at staging areas. For much of the nesting period (similar to 10 June to 10 July), the birds remained inland of western Hudson Bay in Nunavut. During fall migration, they circumnavigated Hudson Bay to its eastern coast, opposite the coast they had followed in spring, for a mean travel distance of 6,760 km. Identification of these previously unknown, key migration sites fills some important information gaps on Long-tailed Ducks in eastern Canada, and it augments what is known about important coastal marine habitats in the Arctic.

**URL:** <Go to ISI>://BCI200700180312

**Reference Type:**  Journal Article

**Record Number:** 2183

**Author:** M. L. Mallory, B. M. Braune, G. J. Robertson, H. G. Gilchrist, C. D. Mallory, M. R. Forbes and R. Wells

**Year:** 2014

**Title:** Increasing cadmium and zinc levels in wild common eiders breeding along Canada's remote northern coastline

**Journal:** Science of the Total Environment

**Volume:** 476

**Pages:** 73-78

**Date:** Apr

**Short Title:** Increasing cadmium and zinc levels in wild common eiders breeding along Canada's remote northern coastline

**ISSN:** 0048-9697

**DOI:** 10.1016/j.scitotenv.2013.12.102

**Accession Number:** WOS:000333772500009

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** The common eider (Somateria mollissima) is an abundant sea duck breeding around the circumpolar Arctic, and is an important component of subsistence and sport harvest in some regions. We determined hepatic cadmium (Cd) and zinc (Zn) concentrations in the livers of breeding females sampled during three time periods including 1992/3, 2001/2 and 2008 at three sites spanning 53.7 degrees N-75.8 degrees N in the eastern Canadian Arctic. At all sites, concentrations of both Cd and Zn increased similar to 300% over this time period. The reasons for this rapid increase in concentrations are unclear. (c) 2013 Elsevier B.V. All rights reserved.

**Notes:** Mallory, Mark L. Braune, Birgit M. Robertson, Gregory J. Gilchrist, H. Grant Mallory, Conor D. Forbes, Mark R. Wells, Regina

**URL:** <Go to ISI>://WOS:000333772500009

**Reference Type:**  Journal Article

**Record Number:** 1436

**Author:** M. L. Mallory, B. M. Braune, M. Wayland, H. G. Gilchrist and D. L. Dickson

**Year:** 2004

**Title:** Contaminants in common elders (Somateria mollissima) of the Canadian Arctic

**Journal:** Environmental Reviews

**Volume:** 12

**Issue:** 4

**Pages:** 197-218

**Short Title:** Contaminants in common elders (Somateria mollissima) of the Canadian Arctic

**Accession Number:** BCI:BCI200600020078

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**URL:** <Go to ISI>://BCI200600020078

**Reference Type:**  Journal Article

**Record Number:** 297

**Author:** M. L. Mallory, A. J. Fontaine and J. Akearok

**Year:** 2003

**Title:** Status of the Harlequin Duck Histrionicus histrionicus on Baffin Island, Nunavut, Canada

**Journal:** Wildfowl

**Volume:** 54

**Pages:** 95-102

**Short Title:** Status of the Harlequin Duck Histrionicus histrionicus on Baffin Island, Nunavut, Canada

**Accession Number:** BCI:BCI200400435135

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The eastern North American Harlequin Duck Histrionicus histrionicus is a small, uncommon seaduck that was last recorded on Baffin Island, Nunavut, Canada, in 1931. Between 1999 and 2001, Inuit hunters and elders were interviewed and river and coastal surveys were conducted to determine whether this duck still occurred on Baffin Island. Inuit community knowledge indicated that this species still inhabited the southeastern part of the island (Meta Incognita Peninsula), but that it may occasionally be found further north than previously reported. Several hunters from Kimmirut also reported observing females with broods. Only three individuals were found near Igaluit during surveys, suggesting that the species is uncommon and dispersed. None the less, this represents the first evidence in 70 years that this species is still extant on the island.

**URL:** <Go to ISI>://BCI200400435135

**Reference Type:**  Journal Article

**Record Number:** 252

**Author:** M. L. Mallory, A. J. Fontaine, J. A. Akearok and H. G. Gilchrist

**Year:** 2008

**Title:** Harlequin Ducks in Nunavut

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 15-18

**Short Title:** Harlequin Ducks in Nunavut

**Accession Number:** BCI:BCI200900160410

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season; Abundance, Distribution, and Trends;

**Abstract:** The distribution and abundance of the Harlequin Duck (Histrionicus histrionicus) is poorly known in Arctic Canada. The limited historical information on this species is summarized, and new field surveys and interviews with Inuit hunters in 1998-2002 were also conducted. Recent data confirmed that Harlequins still occur on Baffin Island and are breeding. The majority of new data on this duck come from the Kimmirut area of southeastern Baffin Island, where surveys in the 1930s also found the species. However, it occurs as far west as Cape Dorset, and as far north as Clyde River. Few birds were observed during recent field surveys, Suggesting that the population on Baffin Island is small and dispersed. Future monitoring of Harlequin Ducks in Nunavut will probably be best accomplished rising community-based surveys by hunters.

**URL:** <Go to ISI>://BCI200900160410

**Reference Type:**  Journal Article

**Record Number:** 92

**Author:** M. L. Mallory and H. G. Gilchrist

**Year:** 2003

**Title:** Marine birds breeding in Penny Strait and Queens Channel, Nunavut, Canada

**Journal:** Polar Research

**Volume:** 22

**Issue:** 2

**Pages:** 399-403

**Short Title:** Marine birds breeding in Penny Strait and Queens Channel, Nunavut, Canada

**Accession Number:** BCI:BCI200400217397

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Surveys of breeding birds on small islands in Penny Strait and Queens Channel, Nunavut Territory, Canada, were conducted in July 2002 and 2003. Approximately 3600 marine birds were observed, with the most common species being Arctic terns (Sterna paradisaea, N=2400) and common eiders (Somateria mollissima borealis, N=620). We observed no Ross's gulls (Rhodostethia rosea) in either year, and we found ivory gulls (Pagophila eburnea) only in 2003, even though these species commonly bred here in the 1970s. This previously unsurveyed region supports numerous breeding marine birds, but reproductive success on these small islands may be dependent on annual ice conditions and consequent movements of Arctic foxes (Alopex lagopus).

**URL:** <Go to ISI>://BCI200400217397

**Reference Type:**  Journal Article

**Record Number:** 71

**Author:** M. L. Mallory and H. G. Gilchrist

**Year:** 2005

**Title:** Marine birds of the Hell Gate Polynya, Nunavut, Canada

**Journal:** Polar Research

**Volume:** 24

**Issue:** 1-2

**Pages:** 87-93

**Short Title:** Marine birds of the Hell Gate Polynya, Nunavut, Canada

**Accession Number:** BCI:BCI200510154772

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends;

**Abstract:** The importance of the Hell Gate Polynya to marine birds in High Arctic Canada has not been assessed for two decades. Our breeding season surveys in 2002-04 found 19 species of marine birds using the polynya, in annual numbers perhaps reaching 25 000 individuals. The site appears to support nationally significant populations of northern fulmar (Fulmarus glacialis), Thayer's gull (Larus thayeri) and High Arctic brant (Branta bernicla hrota), as well as locally important numbers of other species including common eiders (Somateria mollissima borealis) and black guillemots (Cepphus grylle). The polynya may be particularly important for migration, as many species are observed here earlier than elsewhere in the High Arctic.

**URL:** <Go to ISI>://BCI200510154772

**Reference Type:**  Journal Article

**Record Number:** 1762

**Author:** M. L. Mallory, H. G. Gilchrist, S. E. Jamieson, G. J. Robertson and D. G. Campbell

**Year:** 2001

**Title:** Unusual migration mortality of King Eiders in central Baffin Island

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 3

**Pages:** 453-456

**Date:** December, 2001

**Short Title:** Unusual migration mortality of King Eiders in central Baffin Island

**Accession Number:** BCI:BCI200200056797

**Keywords:** King Eider; Somateria spectabilis; Survival; Migration; Nonbreeding Seasons;

**Abstract:** In October 1999, approximately 110 King Eiders (Somateria spectabilis) were found on the ground in the middle of Baffin Island, indicating that these birds had been following an overland migration. The composition of the flock was mixed in both sex (44% female, 56% male) and age of birds (62% hatch year, 38% after hatch year). Approximately 40 birds flew off after resting for six days on the frozen ground. Of the remaining birds that died, predators ate about 15, and 55 were recovered by staff from a local radar site. All eider carcasses carried fat reserves, although there were differences in body mass related to age and sex. Most birds had injuries consistent with crashing into an object at high speed, but in the absence of any obvious vertical obstacles in this region, it appears that this flock flew into the ground during conditions of poor visibility, perhaps facilitated by the formation of cataracts in their eyes.

**URL:** <Go to ISI>://BCI200200056797

**Reference Type:**  Journal Article

**Record Number:** 2184

**Author:** M. L. Mallory, C. M. Little, E. S. Boyd, J. Ballard, K. H. Elliott, H. G. Gilchrist, J. M. Hipfner, A. Petersen and D. Shutler

**Year:** 2015

**Title:** Leucocyte profiles of Arctic marine birds: correlates of migration and breeding phenology

**Journal:** Conservation Physiology

**Volume:** 3

**Date:** Jun

**Short Title:** Leucocyte profiles of Arctic marine birds: correlates of migration and breeding phenology

**ISSN:** 2051-1434

**DOI:** 10.1093/conphys/cov028

**Article Number:** cov028

**Accession Number:** WOS:000375197900001

**Keywords:** Common Eider; Somateria mollissima; Physiology

**Abstract:** Most Arctic marine birds are migratory, wintering south of the limit of annual pack ice and returning north each year for the physiologically stressful breeding season. The Arctic environment is changing rapidly due to global warming and anthropogenic activities, which may influence the timing of breeding in relation to arrival times following migration, as well as providing additional stressors (e.g. disturbance from ships) to which birds may respond. During stressful parts of their annual cycle, such as breeding, birds may reallocate resources so that they have increased heterophil-to-lymphocyte ratios in their white blood cell (leucocyte) profiles. We analysed leucocyte profiles of nine species of marine birds to establish reference ranges for these species in advance of future Arctic change. Leucocyte profiles tended to cluster among taxonomic groups across studies, suggesting that reference values for a particular group can be established, and within species there was evidence that birds from colonies that had to migrate farther had higher heterophil-to-lymphocyte ratios during incubation than those that did not have to travel as far, particularly for species with high wing loading.

**Notes:** Mallory, Mark L. Little, Catherine M. Boyd, Ellen S. Ballard, Jennifer Elliott, Kyle H. Gilchrist, H. Grant Hipfner, J. Mark Petersen, Aevar Shutler, Dave

**URL:** <Go to ISI>://WOS:000375197900001

**Reference Type:**  Journal Article

**Record Number:** 762

**Author:** M. L. Mallory and H. G. Lumsden

**Year:** 1994

**Title:** Notes on egg laying and incubation in the Common Merganser

**Journal:** Wilson Bulletin

**Volume:** 106

**Issue:** 4

**Pages:** 757-759

**Short Title:** Notes on egg laying and incubation in the Common Merganser

**Accession Number:** BCI:BCI199598118482

**Keywords:** Common merganser; Mergus merganser; Breeding Season;

**URL:** <Go to ISI>://BCI199598118482

**Reference Type:**  Journal Article

**Record Number:** 670

**Author:** M. L. Mallory, H. G. Lumsden and R. A. Walton

**Year:** 1993

**Title:** Nesting habits of Hooded Mergansers Mergus cucullatus in northeastern Ontario

**Journal:** Wildfowl

**Volume:** 44

**Pages:** 101-107

**Short Title:** Nesting habits of Hooded Mergansers Mergus cucullatus in northeastern Ontario

**Accession Number:** BCI:BCI201000201423

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**Abstract:** We studied the nesting habits of Hooded Mergansers in northeastern Ontario. Twelve females exhibited vigorous nest defence from early incubation onwards; seven incubating females spent 85.3% of their day on the nest, taking an average of 4.7 recesses each day, each with an average duration of 60 minutes. They lost up to 16% body mass during incubation. Our results confirm earlier studies which suggested that interspecific nest parasitism is a common feature of Hooded Mergansers nesting biology.

**URL:** <Go to ISI>://BCI201000201423

**Reference Type:**  Journal Article

**Record Number:** 2185

**Author:** M. L. Mallory, L. Mahon, M. D. Tomlik, C. White, G. R. Milton and I. Spooner

**Year:** 2015

**Title:** Colonial Marine Birds Influence Island Soil Chemistry Through Biotransport of Trace Elements

**Journal:** Water Air and Soil Pollution

**Volume:** 226

**Issue:** 3

**Date:** Mar

**Short Title:** Colonial Marine Birds Influence Island Soil Chemistry Through Biotransport of Trace Elements

**ISSN:** 0049-6979

**DOI:** 10.1007/s11270-015-2314-9

**Article Number:** 31

**Accession Number:** WOS:000351102400024

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** Marine birds are important vectors of nutrient and contaminant transfer from sea to land. In eastern Nova Scotia, Canada, colonial marine birds nest on specific nearshore islands within archipelagoes, and we predicted that soils on islands with bird colonies would have higher concentrations of selected trace elements (notably K, Ca, As, Cd, Cu, Pb, Se, Hg, and Zn) than soils on islands without colonies. In this study, common eider (Somateria mollissima), Leach's storm petrel (Oceanodroma leucorhoa), black guillemot (Cepphus grylle), double-crested cormorant (Phalacrocorax auritus), great black-backed gull (Larus marinus), and herring gull (Larus argentatus) were considered to be the principal avian vectors for contaminant transfer. Results indicate that soils from islands with bird colonies had unique chemical compositions and commonly displayed elevated concentrations of K, Ca, Cu, Se, and Zn when compared to islands without colonies. Thus, marine birds feeding in the nearby marine zone move pollutants and nutrients from the ocean to nesting islands, potentially influencing habitat quality for coastal terrestrial species.

**Notes:** Mallory, Mark L. Mahon, Lewis Tomlik, Molly D. White, Chris Milton, G. Randy Spooner, Ian

**URL:** <Go to ISI>://WOS:000351102400024

**Reference Type:**  Journal Article

**Record Number:** 657

**Author:** M. L. Mallory and D. K. McNicol

**Year:** 1998

**Title:** Movements on the nest during incubation by cavity-nesting waterfowl

**Journal:** Wildfowl

**Volume:** 48

**Issue:** 0

**Pages:** 127-134

**Date:** 1997 (1998)

**Short Title:** Movements on the nest during incubation by cavity-nesting waterfowl

**Accession Number:** BCI:BCI199800174987

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**Abstract:** We studied rates of movement on nests by wild, incubating Common Goldeneyes and Hooded Mergansers nesting in north-east Ontario in relation to ambient temperature and stage of incubation. Goldeneyes moved least frequently on the nest at all times. For both species, time intervals between movements were longer for overnight incubation sessions, and intervals remained relatively constant through incubation for morning, afternoon and overnight sessions (except for overnight sessions of Goldeneyes which increased). Our results suggest that ambient temperature influences on-nest activities of cavity-nesting ducks differently than ground-nesting species, and that there is a general relationship between body size and movements on the nest for waterfowl.

**URL:** <Go to ISI>://BCI199800174987

**Reference Type:**  Journal Article

**Record Number:** 658

**Author:** M. L. Mallory, D. K. McNicol, R. A. Walton and M. Wayland

**Year:** 1998

**Title:** Risk-taking by incubating Common Goldeneyes and Hooded Mergansers

**Journal:** Condor

**Volume:** 100

**Issue:** 4

**Pages:** 694-701

**Date:** Nov., 1998

**Short Title:** Risk-taking by incubating Common Goldeneyes and Hooded Mergansers

**Accession Number:** BCI:BCI199900007442

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**Abstract:** We studied nest defense by Common Goldeneyes (Bucephala clangula) and Hooded Mergansers (Lophodytes cucullatus) nesting near Sudbury, Canada between 1989-1995. As incubation proceeded, female Common Goldeneyes took greater risks by allowing the observer to approach the nest more closely before flushing, landing closer to the nest after flushing, vocalizing more commonly when flushed, and giving more broken wing or distraction displays. Hooded Merganser females exhibited relatively strong defense at all stages, including giving distraction displays much earlier in incubation. An index of all four behaviors increased for each species as incubation proceeded. Nest defense by these cavity-nesting ducks differed from patterns known for ground-nesting waterfowl, perhaps due to effects of nest location, predation type and intensity, and nest parasitism. Future nest defense studies should consider the overall suite of behaviors that comprise parental strategies for defending their nests and/or offspring.

**URL:** <Go to ISI>://BCI199900007442

**Reference Type:**  Journal Article

**Record Number:** 525

**Author:** M. L. Mallory, D. K. McNicol and P. J. Weatherhead

**Year:** 1994

**Title:** Habitat quality and reproductive effort of common goldeneyes nesting near Sudbury, Canada

**Journal:** Journal of Wildlife Management

**Volume:** 58

**Issue:** 3

**Pages:** 552-560

**Short Title:** Habitat quality and reproductive effort of common goldeneyes nesting near Sudbury, Canada

**Accession Number:** BCI:BCI199497416647

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Contaminants; Productivity; Breeding Season;

**Abstract:** To determine whether common goldeneyes (Bucephala clangula) responded to habitat alteration caused by acid rain, we examined how female goldeneyes allocated reproductive effort in relation to the quality of their nesting lake in an acid-stressed region near Sudbury, Ontario, during 1988-90. Goldeneyes are primarily insectivorous, and we predicted that higher quality females (i.e., heavier or with previous breeding experience) or females nesting on lakes with abundant aquatic invertebrates (i.e., without fish and often acidic in our study area) would allocate more resources to their clutch. Early nesting females laid clutches of greater mass than did late nesting females (P = 0.008), and females nesting on higher quality lakes lacking fish laid heavier clutches than did females nesting on lower quality lakes containing fish (P 0.03, after controlling for effects of clutch initiation date). Variation in clutch mass was achieved primarily by varying the number of eggs laid, although females with breeding experience tended to lay larger eggs (P = 0.07). Female goldeneyes nesting in apparent high quality habitats invest more in their clutches than do females nesting in low quality habitats, supporting the prediction that goldeneyes may derive short-term benefits when breeding in fishless habitats because of reduced competition with fish for common prey. However, the long-term consequences for goldeneye populations breeding in acid-stressed habitats remain uncertain.

**URL:** <Go to ISI>://BCI199497416647

**Reference Type:**  Journal Article

**Record Number:** 647

**Author:** M. L. Mallory, A. Taverner, B. Bower and D. Crook

**Year:** 2002

**Title:** Wood duck and hooded merganser breeding success in nest boxes in Ontario

**Journal:** Wildlife Society Bulletin

**Volume:** 30

**Issue:** 2

**Pages:** 310-316

**Date:** Summer, 2002

**Short Title:** Wood duck and hooded merganser breeding success in nest boxes in Ontario

**Accession Number:** BCI:BCI200200510224

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Productivity; Breeding Season;

**Abstract:** Wood ducks (Aix sponsa) and hooded mergansers (Lophodytes cucullatus) are common breeders in nest boxes in eastern Canada, but few studies have compared the breeding biology of these northern nesting birds to that of birds nesting to the south in the United States. We studied the breeding success of these species nesting in boxes near Ottawa, Ontario, Canada between 1986-1999. For wood ducks, mean annual box occupancy was 69% and mean clutch size was 12 eggs, with 60% of eggs hatched in a typical year. For nests with at least one egg hatching, hatching success was 83%. For hooded mergansers, mean box occupancy was 10% and mean clutch size was 10 eggs, with 64% of eggs hatched in an average year. For successful nests, hatching success was 87%. For both species, fewer eggs were hatched in years when the nest-box breeding population laid higher numbers of eggs. Despite the fact that this nest-box population was located near the northern limit of the wood duck breeding range, our results suggest that the basic nesting parameters of this population were similar to those of populations farther south.

**URL:** <Go to ISI>://BCI200200510224

**Reference Type:**  Journal Article

**Record Number:** 495

**Author:** M. L. Mallory, R. A. Walton and D. K. McNicol

**Year:** 1999

**Title:** Influence of intraspecific competition and habitat quality on diurnal activity budgets of breeding common goldeneyes

**Journal:** Ecoscience

**Volume:** 6

**Issue:** 4

**Pages:** 481-486

**Short Title:** Influence of intraspecific competition and habitat quality on diurnal activity budgets of breeding common goldeneyes

**Accession Number:** BCI:BCI200000217797

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Habitat; Breeding Season;

**Abstract:** We examined how female common goldeneyes (Bucephala clangula) allocated time to various activities throughout the breeding cycle, and how time allocation was influenced by habitat quality (presence of fish competitors) and intraspecific competition. Before incubation and during incubation recesses, females spent 73% or more of observed time foraging, but brood defence became the dominant behaviour during brood-rearing (43%). Females preferentially used lakes with few or no fish at all stages of the breeding cycle. Females sharing lakes with other goldeneyes spent significantly more time alert, in social interactions, and diving for food, and less time resting than females occupying lakes solely with their mate. Our results show that the amount of time female goldeneyes spend in various activities may be determined primarily by their metabolic requirements at each stage of breeding, but that habitat quality and intraspecific competition also influence how females allocate their time.

**URL:** <Go to ISI>://BCI200000217797

**Reference Type:**  Journal Article

**Record Number:** 1437

**Author:** M. L. Mallory, M. Wayland, B. M. Braune and K. G. Drouillard

**Year:** 2004

**Title:** Trace elements in marine birds, Arctic hare and ringed seals breeding near Qikiqtarjuaq, Nunavut, Canada

**Journal:** Marine Pollution Bulletin

**Volume:** 49

**Issue:** 1-2

**Pages:** 135-141

**Date:** July 2004

**Short Title:** Trace elements in marine birds, Arctic hare and ringed seals breeding near Qikiqtarjuaq, Nunavut, Canada

**Accession Number:** BCI:BCI200400461493

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**URL:** <Go to ISI>://BCI200400461493

**Reference Type:**  Journal Article

**Record Number:** 673

**Author:** M. L. Mallory and P. J. Weatherhead

**Year:** 1990

**Title:** Effects of Nest Parasitism and Nest Location on Eggshell Strength in Waterfowl

**Journal:** Condor

**Volume:** 92

**Issue:** 4

**Pages:** 1031-1039

**Short Title:** Effects of Nest Parasitism and Nest Location on Eggshell Strength in Waterfowl

**Accession Number:** BCI:BCI199191071032

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology; Breeding Season;

**Abstract:** We examined the relationship between brood parasitism, nest location, egg shape, and eggshell thickness in waterfowl species. We found that within and across tribes, parasitic species did not have significantly rounder eggs or thicker shells than nonparasitic species. However, cavity-nesting species have both rounder eggs and thicker eggshells than open-nesting species. Cavity-nesting waterfowl may require stronger eggs because they often nest in sites that are too small or are irregularly shaped, thereby increasing the jostling of eggs against one another when the female enters or exits the nest. Using data for the Hooded Merganser (Lophodytes cucullatus), the species with the roundest egg and the proportionally thickest shell of all extant waterfowl, we found no evidence for a cost of increased eggshell strength, at least with regard to incubation period and egg hatchability. We also were unable to explain why Hooded Mergansers lay eggs like billiard balls.

**URL:** <Go to ISI>://BCI199191071032

**Reference Type:**  Journal Article

**Record Number:** 536

**Author:** M. L. Mallory and P. J. Weatherhead

**Year:** 1993

**Title:** Observer effects on common goldeneye nest defense

**Journal:** Condor

**Volume:** 95

**Issue:** 2

**Pages:** 467-469

**Short Title:** Observer effects on common goldeneye nest defense

**Accession Number:** BCI:BCI199345021937

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI199345021937

**Reference Type:**  Journal Article

**Record Number:** 537

**Author:** M. L. Mallory and P. J. Weatherhead

**Year:** 1993

**Title:** Incubation rhythms and mass loss of common goldeneyes

**Journal:** Condor

**Volume:** 95

**Issue:** 4

**Pages:** 849-859

**Short Title:** Incubation rhythms and mass loss of common goldeneyes

**Accession Number:** BCI:BCI199497087134

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Energetics and Nutrition; Breeding Season;

**Abstract:** We examined simultaneously incubation rhythms and mass loss of 16 female Common Goldeneyes (Bucephala clangula). On average, female goldeneyes spent 81% of the day incubating eggs, and took 2.7 recesses per day, each lasting an average of 114 min. Females began incubation approximately 20% heavier than the lowest body mass they reached over the incubation period, a slightly greater mass loss than predicted for ducks their size. Goldeneye incubation behaviors were similar to those reported for other Mergini, and were consistent with the general relationship between body size and incubation behavior in waterfowl. Females differed in how they varied their incubation behavior in response to incubation patterns on the previous day and environmental factors, although females typically responded to warmer temperatures by spending more time off the nest. Female goldeneyes appeared to manage their mass loss by modifying their incubation behavior. Females tended to lose less mass on days following more substantial mass loss, and once females approached their minimum mass they spent more time off the nest. However, not all females were successful in this approach. Two females may have deserted their nests because they had relatively high mass loss ( gt 20%) and reached a low body mass (about 600 g), and thus could not maintain incubation sufficient to hatch their eggs without putting themselves at further risk.

**URL:** <Go to ISI>://BCI199497087134

**Reference Type:**  Journal Article

**Record Number:** 669

**Author:** M. L. Mallory and P. J. Weatherhead

**Year:** 1993

**Title:** Responses of nesting mergansers to parasitic common goldeneye eggs

**Journal:** Animal Behaviour

**Volume:** 46

**Issue:** 6

**Pages:** 1226-1228

**Short Title:** Responses of nesting mergansers to parasitic common goldeneye eggs

**Accession Number:** BCI:BCI199497116782

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199497116782

**Reference Type:**  Journal Article

**Record Number:** 535

**Author:** M. L. Mallory, P. J. Weatherhead, D. K. McNicol and M. E. Wayland

**Year:** 1993

**Title:** Nest site selection by common goldeneyes in response to habitat features influenced by acid precipitation

**Journal:** Ornis Scandinavica

**Volume:** 24

**Issue:** 1

**Pages:** 59-64

**Short Title:** Nest site selection by common goldeneyes in response to habitat features influenced by acid precipitation

**Accession Number:** BCI:BCI199396002859

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Behavior; Contaminants; Breeding Season;

**Abstract:** The choice of nest sites is an important component of breeding behavior because it can influence reproductive success. We examined the effects of habitat quality on nest site selection by Common Goldeneyes Bucephala clangula in an acid-stressed area near Sudbury, Ontario. Females used fishless wetlands more often prior to incubation, and nested more frequently in nest boxes erected on these wetlands. Within fishless wetlands, female goldeneyes preferred boxes on wetlands that were more isolated from other waterbodies. We conclude that goldeneyes selected high quality, fishless wetlands because these habitats provide an abundant supply of invertebrate foods needed for reproduction.

**URL:** <Go to ISI>://BCI199396002859

**Reference Type:**  Journal Article

**Record Number:** 224

**Author:** T. H. Manning and A. H. MacPherson

**Year:** 1952

**Title:** Birds of the east James Bay coast between Long Point and Cape Jones

**Journal:** Canadian Field Nat

**Volume:** 66

**Issue:** (1)

**Pages:** 1-35

**Short Title:** Birds of the east James Bay coast between Long Point and Cape Jones

**Accession Number:** BCI:BCI19532700014923

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** A list of birds is presented based on observations and collections made between June 26 and Sept. 2, 1950, along the e. James Bay coast between Long Point and Cape Jones, Canada. The topography and vegetation of the main collecting stations are described. Detailed data are given on population densities of the following spp. Common Loon, Gavia i. immer; Black Duck, Anas rubripes; Hudson Bay Eider, Somateria mollissima sedentaria; White-winged Scoter, Melanitta deglandi; Surf Scoter, Melanitta perspicillata; American Scoter, Oidemia nigra americana; American Merganser, Mergus merganser americanus, and Red-breasted Merganser, Mergus serrator serrator; Osprey, Pandion haliaetus carolinensis; Ungava Willow Ptarmigan, Lagopus 1. ungavus; Greater Yellow-legs, Totanus melanoleucas; Herring Gull, Larus argentatus smithsonianus; Arctic Tern, Sterna paradisaea; Nearctic Mandt's Guillemot, Cepphus grylle ultimus; Northern Horned Lark, Eremophila a. alpestris; Labrador Jay, Perisoreus canadensis nigricapillus; Black-backed Robin, Turdus migratorius nigrideus; Eastern Ruby-crowned Kinglet, Regulus c. calendula: American Pipit, Anthus spinoletta rubescens; Northern Yellow Warbler, Dendroica petechia amnicola; Eastern Myrtle Warbler, Dendroica c. coronata; Common Redpoll, Acanthis f. flammea; Churchill Savannah Sparrow, Passerculus sandwichensis oblitus; Slate-coloured Junco, Junco h. hyemalis; Eastern Tree Sparrow, Spizella a. arborea; White-crowned Sparrow, Zonotrichia 1. leucophrys; White-throated Sparrow, Z. albtcollis; Eastern fox Sparrow, Passerella i. iliaca; and Lincoln's Sparrow, Melospiza 1. lincolnii. || ABSTRACT AUTHORS: H. A. Senn

**URL:** <Go to ISI>://BCI19532700014923

**Reference Type:**  Journal Article

**Record Number:** 11

**Author:** S. Marche and T. van den Berg

**Year:** 2010

**Title:** Evaluation of Rapid Antigen Detection Kits for the Diagnosis of Highly Pathogenic Avian Influenza H5N1 Infection

**Journal:** Avian Diseases

**Volume:** 54

**Issue:** 1, Suppl. S

**Pages:** 650-654

**Date:** Mar 2010

**Short Title:** Evaluation of Rapid Antigen Detection Kits for the Diagnosis of Highly Pathogenic Avian Influenza H5N1 Infection

**Accession Number:** BCI:BCI201000310204

**Keywords:** Sea Ducks - General; Disease; Techniques;

**Abstract:** Early detection of highly pathogenic (HP) strains of avian influenza, especially the HP H5N1, is important in terms of controlling and minimizing the spread of the virus. Several rapid antigen detection kits that are able to detect influenza A viruses in less than 1 hr are commercially available, but only a few of them have been evaluated. In this study, four commercially available rapid tests for veterinary usage and two tests for human usage were evaluated and compared. The evaluation of the detection limits of the different tests established with serial dilution of HP H5N1 indicated that most of them have a detection limit of about 10(5) to 10(6) 50% tissue culture infectious dose/ml. None of the tests was able to detect virus in oral and cloacal swabs 24 hr post-experimental infection of specific-pathogen-free chickens with HP H5N1. However, 48 hr postinfection, almost all of the rapid tests were able to detect infected birds (dead or alive). Moreover, organs were also successful samples for detection of H5N1 with the rapid tests. Unexpectedly, the specificity was not very high for some tests. However, in general in this study, the tests for veterinary usage showed better sensitivity. To conclude, these tests offer good indicative value in the event of an outbreak, but as a result of their low sensitivity and some aspecific reactions, test results always need to be confirmed by other methods.

**URL:** <Go to ISI>://BCI201000310204

**Reference Type:**  Journal Article

**Record Number:** 713

**Author:** S. P. Marinkovic, S. B. Skoric, Z. S. Popovic and M. V. Nikcevic

**Year:** 2008

**Title:** Research on long-term colonization of goosander (Mergus merganser Linneaus, 1758) with reference to habitat availability

**Journal:** Archives of Biological Sciences

**Volume:** 60

**Issue:** 3

**Pages:** 501-506

**Short Title:** Research on long-term colonization of goosander (Mergus merganser Linneaus, 1758) with reference to habitat availability

**Accession Number:** BCI:BCI200800540020

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** This article presents data on long-term colonization of goosander in Western Serbia and Eastern Republic of Srpska (on five oligotrophic reservoirs formed by the Drina River) based on continuous counting since the first observation of nesting in 1987. The total number of breeding pairs and their distribution in neighboring habitats continuously increased from year to year, suggesting that expansion of the population is still below the limit of the habitat. The decrease in population which occurred in certain years was due to environmental or anthropogenic influence.

**URL:** <Go to ISI>://BCI200800540020

**Reference Type:**  Journal Article

**Record Number:** 849

**Author:** M. Marquiss and K. Duncan

**Year:** 1993

**Title:** Variation in the abundance of red-breasted mergansers Mergus serrator on a Scottish river in relation to season, year, river hydrography, salmon density and spring culling

**Journal:** Ibis

**Volume:** 135

**Issue:** 1

**Pages:** 33-41

**Short Title:** Variation in the abundance of red-breasted mergansers Mergus serrator on a Scottish river in relation to season, year, river hydrography, salmon density and spring culling

**Accession Number:** BCI:BCI199395095437

**Keywords:** Red-breasted merganser; Mergus serrator; Abundance, Distribution, and Trends; Productivity; Breeding Season;

**Abstract:** Red-breasted Mergansers Mergus serrator were counted in the river North Esk, Scotland (UK), and on the sea nearby, 1987-1990. Pairs arrived at the river estuary from early winter, but the main influx to freshwater took place in late April and in May, when breeding pairs dispersed far upriver. Females began incubation from late May. Most young hatched in July and fledged by late September. Males left the river in June and congregated at an offshore moulting site, their numbers peaking in August, and dispersed rapidly in September. Breeding density and total duckling production decreased with incresing distance up-stream, decreasing river width and increasing gradient and elevation. The total number of breeding pairs and their distribution on the river were similar from year to year, despite variable numbers killed, suggesting a stable breeding population near the upper limit the habitat would support in those years. It also suggested that killing mergansers in April was an ineffective way to reduce the population. The spatial variation in merganser breeding density was not correlated with the density of their main spring food, parr of salmon Salmo salar, but could have been related to its availability. The production of well-grown ducklings varied annually and was inversely correlated with river flow during the main period of hatch. It is argued that Red-breasted Mergansers breed late in the year because the hatching of ducklings in July coincides with an abundance of their food, large aquatic invertebrates and tiny juvenile fish.

**URL:** <Go to ISI>://BCI199395095437

**Reference Type:**  Journal Article

**Record Number:** 760

**Author:** M. Marquiss and K. Duncan

**Year:** 1994

**Title:** Diurnal activity patterns of Goosanders Mergus merganser on a Scottish river system

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 209-221

**Short Title:** Diurnal activity patterns of Goosanders Mergus merganser on a Scottish river system

**Accession Number:** BCI:BCI201000234410

**Keywords:** Common merganser; Mergus merganser; Behavior; Nonbreeding Seasons;

**Abstract:** Goosanders were counted as they, arrived and departed from overnight communal roosts. All birds left the roost before sunrise and returned from 50 minutes prior to, until 10 minutes after sunset. Relative to sunset, they arrived later on short midwinter days, and earlier on the longer days of February and March. Goosanders did not roost communally from April to August, except in May, in an area where males gathered prior to their leaving to moult. The diurnal behaviour of Goosanders, quantified using three methods, showed that most of the daytime was spent foraging and loafing. Foraging peaked in the first two hours of the day, decreasing thereafter for adults, less so for birds in their first winter, and least for ducklings. Calculations of total daily foraging times suggested adults fed for 34 hours, Young birds for 5-6 hours and duckling.,; for about 10 hours. Total time spent flying could not be estimated accurately, though there was significant seasonal variation in the frequency with which it was recorded. Other behavioural activities included social interaction which was overt as birds gathered to roost, suggesting communal roosting provided an important venue for pair-formation.

**URL:** <Go to ISI>://BCI201000234410

**Reference Type:**  Journal Article

**Record Number:** 761

**Author:** M. Marquiss and K. Duncan

**Year:** 1994

**Title:** Seasonal switching between habitats and changes in abundance of Goosanders Mergus merganser within a Scottish river system

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 198-208

**Short Title:** Seasonal switching between habitats and changes in abundance of Goosanders Mergus merganser within a Scottish river system

**Accession Number:** BCI:BCI201000234409

**Keywords:** Common merganser; Mergus merganser; Habitat; Dispersal; Nonbreeding Seasons; Breeding Season;

**Abstract:** Systematic weekly counts during 1988, in five wetland habitats within the Dee watershed, showed that Goosanders were most abundant on the upper river in spring and summer, on the lower river in late summer, autumn and winter, and on lochs in late winter and spring. Many birds were in pairs in winter and spring, but adult males were absent from June to October, when the population was successively dominated by females, then females with broods, then juveniles. Most females nested for tip tributaries and moved downstream with small ducklings to nursery areas on the main stem Once grown, juveniles possibly moved downstream again before they dispersed from the watershed. Counts on a sample of river sections in mid-April quantified a strong inverse relationship between Goosander density and elevation, and the total population then was estimated to be 173 (including about 61 pairs). A census of the whole river in July estimated a population of 278 birds (including 32 broods) and in December, 66 birds. It is argued that the use of various habitats was associated with food availability, security from predators, pairing and nesting.

**URL:** <Go to ISI>://BCI201000234409

**Reference Type:**  Journal Article

**Record Number:** 747

**Author:** G. Martel

**Year:** 1996

**Title:** Growth rate and influence of predation risk on territoriality in juvenile coho salmon (Oncorhynchus kisutch)

**Journal:** Canadian Journal of Fisheries and Aquatic Sciences

**Volume:** 53

**Issue:** 3

**Pages:** 660-669

**Short Title:** Growth rate and influence of predation risk on territoriality in juvenile coho salmon (Oncorhynchus kisutch)

**Accession Number:** BCI:BCI199699101110

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Juveniles of species in which size influences survival should be selected to optimize their growth rate. Although the defense of feeding territories is a common foraging tactic among stream-dwelling salmonids, the direct benefits of territoriality in terms of growth rate have seldom been demonstrated in these fish. I followed individually marked juvenile coho salmon, Oncorhynchus kisurch, for 3 months in field enclosures. Territorial fish grew faster than nonterritorial fish (floaters) confined to the same area. Territorial juveniles face a growth mortality trade-off when predators are present, since the movements associated with territorial defense may increase their risk of being detected by predators. When piscivorous birds (common mergansers, Mergus merganser) were present upstream, territorial coho rarely left their territories, but did decrease the average duration of their aggressive interactions and movements, and the total amount of time they devoted to territorial activities and to moving. Some fish also allowed intruders to approach more closely before intercepting them. There were, however, no effects attributable to the frequency at which fish were exposed to a predator.

**URL:** <Go to ISI>://BCI199699101110

**Reference Type:**  Journal Article

**Record Number:** 765

**Author:** G. Martel and L. M. Dill

**Year:** 1993

**Title:** Feeding and aggressive behaviours in juvenile coho salmon (Oncorhynchus kisutch) under chemically-mediated risk of predation

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 32

**Issue:** 6

**Pages:** 365-370

**Short Title:** Feeding and aggressive behaviours in juvenile coho salmon (Oncorhynchus kisutch) under chemically-mediated risk of predation

**Accession Number:** BCI:BCI199396073873

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Juvenile coho salmon (Oncorhynchus kisutch) spend the first year of their lives in their natal streams, where they may often hold feeding territories. They also face significant risk of predation by birds and fish, and should alter their behaviour to reduce risk of mortality when these predators are present. Although there is laboratory evidence that coho react to predator visual stimuli, chemoreception of avian predator presence has not previously been reported. We tested the influence of chemical stimuli of common merganser (Mergus merganser), preying on juvenile coho, on two aspects of coho territorial behaviour, foraging and aggression, in flow-through aquaria. After a mixture of merganser- and coho-conditioned water was introduced into the system, juvenile coho significantly reduced their attack distance on drifting prey. The fish also significantly decreased their aggressive behaviour directed towards mirrors (total number of acts, intensity of acts and time spent) when the same odour was present. They did not change their behaviour in either experiment after control introductions of water treated with fish alone. These results are interpreted within the framework of a trade-off between juvenile growth and mortality.

**URL:** <Go to ISI>://BCI199396073873

**Reference Type:**  Journal Article

**Record Number:** 752

**Author:** G. Martel and L. M. Dill

**Year:** 1995

**Title:** Influence of Movement of Coho Salmon (Oncorhynchus kisutch) Parr on Their Detection by Common Mergansers (Mergus merganser)

**Journal:** Ethology

**Volume:** 99

**Issue:** 2

**Pages:** 139-149

**Short Title:** Influence of Movement of Coho Salmon (Oncorhynchus kisutch) Parr on Their Detection by Common Mergansers (Mergus merganser)

**Accession Number:** BCI:BCI199598218496

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** A common reaction in juvenile salmonids that detect predators is to decrease activity. To test whether there is a survival advantage to reduced movement under such circumstances, juvenile coho salmon (Oncorbynchus kisutch) were placed with common mergansers (Mergus merganser) under laboratory conditions that precluded crypsis. Mergansers were more likely to attack fish that moved than fish that remained stationary, and the relation between the lag time for detection by the birds and fish movement rate is best described as inversely exponential. The lag time for detection was not correlated with fish size. The risk of detection of prey by visual predators should be determined by both predator and prey behaviour, but our results suggest that in this case prey behaviour is more important. In the field, territorial coho juveniles do feed more and grow faster than other, nonterritorial fish. They also spend a smaller proportion of their time moving. The present experiment suggests that territorial coho may also suffer less mortality than non-territorial fish, which would lower their ratio of mortality risk to growth rate.

**URL:** <Go to ISI>://BCI199598218496

**Reference Type:**  Journal Article

**Record Number:** 2299

**Author:** P. D. Martin, D. C. Douglas, T. Obritschkewitsch and S. Torrence

**Year:** 2015

**Title:** Distribution and movements of Alaska-breeding Steller's Eiders in the nonbreeding period

**Journal:** Condor

**Volume:** 117

**Issue:** 3

**Pages:** 341-353

**Date:** Aug

**Short Title:** Distribution and movements of Alaska-breeding Steller's Eiders in the nonbreeding period

**ISSN:** 0010-5422

**DOI:** 10.1650/condor-14-165.1

**Accession Number:** WOS:000359738900004

**Keywords:** Steller’s Eider; Polysticta stelleri; Nonbreeding season; Molt; Migration; Habitat

**Abstract:** Steller's Eiders (Polysticta stelleri) that breed in Alaska, USA, are listed as threatened under the U.S. Endangered Species Act (ESA), yet the degree to which these individuals segregate during the nonbreeding period from conspecifics that nest in Russia is unknown. Likewise, very little is known about the timing of use and distribution of autumn migration routes, stopover sites, and molting and wintering areas by the Alaska-breeding population. To address this information need, we implanted 14 Steller's Eiders with satellite transmitters in 2000 and 2001 at their primary Alaskan breeding grounds near Barrow. We found no evidence for segregation of the Alaska-breeding population in midwinter because locations were well-distributed along the Alaska Peninsula, congruent with prevailing knowledge about the wintering distribution of Steller's Eiders that breed in Russia. During the wing molt, from late August to early October, 7 of 13 individuals used Kuskokwim Shoals, corroborating the importance of this area and its designation as critical habitat under the ESA. Steller's Eiders are generally described as preferring shallow waters <10 m deep, but our winter tracking data clearly documented occupancy of deeper offshore waters. Steller's Eiders frequently used up to 30-m deep water almost exclusively at night during winter. We speculate that nighttime occupancy of deeper water habitats may be for resting and/or for consumption of zooplankton species, such as euphausiids, that are abundant and well known for their nocturnal vertical migrations in the water column.

**Notes:** Martin, Philip D. Douglas, David C. Obritschkewitsch, Tim Torrence, Shannon

**URL:** <Go to ISI>://WOS:000359738900004

**Reference Type:**  Journal Article

**Record Number:** 524

**Author:** P. R. Martin and B. M. Di Labio

**Year:** 1994

**Title:** Natural hybrids between the Common Goldeneye, Bucephala clangula, and barrow's Goldeneye, B. islandica

**Journal:** Canadian Field-Naturalist

**Volume:** 108

**Issue:** 2

**Pages:** 195-198

**Short Title:** Natural hybrids between the Common Goldeneye, Bucephala clangula, and barrow's Goldeneye, B. islandica

**Accession Number:** BCI:BCI199598120184

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Taxonomy;

**Abstract:** Most records of hybrid Common times Barrow's goldeneyes are of male alternate-plumaged birds, probably reflecting bias with respect to identification and possibly a greater abundance of hybrids in this plumage. The male alternate plumage is the only hybrid plumage to be acceptably described. Hybrids in this plumage appear fairly uniform as a group, exhibiting intermediate characteristics between the two parent species. Hybrid records are geographically widespread, originating from all three distinct regions of overlap. An increase in the number of hybrid records in the past 40 years is obscured by an increase in the number of observers in the field, as well as improved optical equipment. Despite these biases, a recent increase in the incidences of hybridization in British Columbia may exist.

**URL:** <Go to ISI>://BCI199598120184

**Reference Type:**  Journal Article

**Record Number:** 1321

**Author:** E. A. Masden, D. T. Haydon, A. D. Fox, R. W. Furness, R. Bullman and M. Desholm

**Year:** 2009

**Title:** Barriers to movement: impacts of wind farms on migrating birds

**Journal:** ICES Journal of Marine Science

**Volume:** 66

**Issue:** 4

**Pages:** 746-753

**Date:** May 2009

**Short Title:** Barriers to movement: impacts of wind farms on migrating birds

**Accession Number:** BCI:BCI200900291469

**Keywords:** Common Eider; Somateria mollissima; Migration; Conservation; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Advances in technology and engineering are enhancing the contribution that wind power makes to renewable energy generation. Wind farms, both operational and in planning, can be expected to impact negatively on wildlife populations, particularly birds. We propose a novel approach to assess the impacts through the energetic costs of avoidance behaviour for a long-distance, migratory seaduck. Flight trajectories were recorded using surveillance radar at a Danish offshore wind farm with emphasis placed on the 200 000+ migrating common eiders that pass through the area annually. Minimum distance to wind farm and curvature of trajectories were compared pre- and post-construction. Additional costs of the avoidance response were estimated using an avian energetic model. The curvature of eider trajectories was greatest post-construction and within 500 m of the wind farm, with a median curvature significantly greater than pre-construction, suggesting that the birds adjusted their flight paths in the presence of the wind farm. Additional distance travelled as a consequence of the wind farm's presence was ca. 500 m and trivial compared with the total costs of a migration episode of 1400 km. However, construction of further wind farms along the migration route could have cumulative effects on the population, especially when considered in combination with other human actions.

**URL:** <Go to ISI>://BCI200900291469

**Reference Type:**  Journal Article

**Record Number:** 1918

**Author:** E. A. Masden, R. Reeve, M. Desholm, A. D. Fox, R. W. Furness and D. T. Haydon

**Year:** 2012

**Title:** Assessing the impact of marine wind farms on birds through movement modelling

**Journal:** Journal of the Royal Society Interface

**Volume:** 9

**Issue:** 74

**Pages:** 2120-2130

**Date:** Sep

**Short Title:** Assessing the impact of marine wind farms on birds through movement modelling

**ISSN:** 1742-5689

**DOI:** 10.1098/rsif.2012.0121

**Accession Number:** WOS:000306750500009

**Keywords:** Common eider; Somateria mollissima; Migration; Conservation; Nonbreeding Seasons

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Masden, Elizabeth A. Reeve, Richard Desholm, Mark Fox, Anthony D. Furness, Robert W. Haydon, Daniel T.

Fox, Anthony/I-7465-2013; Desholm, Mark/J-5980-2013

4

**URL:** <Go to ISI>://WOS:000306750500009

**Reference Type:**  Journal Article

**Record Number:** 1133

**Author:** T. Y. Mashima, W. J. Fleming and M. K. Stoskopf

**Year:** 1998

**Title:** Metal concentrations in oldsquaw (Clangula hyemalis) during an outbreak of avian cholera, Chesapeake Bay, 1994

**Journal:** Ecotoxicology

**Volume:** 7

**Issue:** 2

**Pages:** 107-111

**Date:** April, 1998

**Short Title:** Metal concentrations in oldsquaw (Clangula hyemalis) during an outbreak of avian cholera, Chesapeake Bay, 1994

**Accession Number:** BCI:BCI199800278969

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Disease; Nonbreeding Seasons;

**Abstract:** Forty out of 41 oldsquaw carcasses collected during a 3 month avian cholera outbreak in Chesapeake Bay, USA, in 1994 were culture positive for Pasteurella multocida. Pasteurella-positive birds collected in February had greater (p ltoreq 0.05) mean (geometric) liver concentrations of cadmium (7.35 versus 3.71 mug per g dry weight) and lower concentrations of selenium (9.90 versus 12.5 mug per g dry weight) than Pasteurella-positive birds collected during March and April. The mercury content of the livers and cadmium content of the kidneys did not differ (p > 0.05) between birds collected early in the die-off and those collected in March and April. The liver and kidney concentrations of metals in the Pasteurella-positive birds collected in 1994 were compared to apparently healthy oldsquaw (n = 67) collected from Chesapeake Bay during 1985-1987, because healthy oldsquaw were not collected during the avian cholera outbreak in 1994. Compared to the apparently healthy oldsquaw collected in 1985-1987, the mean concentrations of cadmium (liver 4.32 versus 2.65 mug per g dry weight and kidney 22.7 versus 11.5 mug per g dry weight) were greater (p ltoreq 0.05) in the oldsquaw which succumbed to avian cholera in 1994. In contrast, the liver concentrations of selenium (11.9 versus 17.8 mug per g dry weight) and mercury (0.389 versus 1.83 mug per g dry weight) were lower (p ltoreq 0.05) in the birds from the 1994 die-off than for the apparently healthy oldsquaw collected in 1985-1987. Three birds from the 1985-1987 cohort and none of the birds from the 1994 cohort had liver lead concentrations greater than 4 mug per g dry weight. The results of this study indicate a possible link between high cadmium tissue concentrations and susceptibility to avian cholera in oldsquaw.

**URL:** <Go to ISI>://BCI199800278969

**Reference Type:**  Journal Article

**Record Number:** 116

**Author:** C. F. Mason and S. M. Macdonald

**Year:** 2000

**Title:** Numbers of wintering waterbirds on rivers in eastern England

**Journal:** Wildfowl

**Volume:** 51

**Pages:** 215-219

**Short Title:** Numbers of wintering waterbirds on rivers in eastern England

**Accession Number:** BCI:BCI200100159906

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Waterbirds were counted on three occasions during the winter of 1999-2000 on 22 1-km reaches of river in north Essex and south Suffolk, eastern England. Fourteen species were recorded but only five were frequent: Little Grebe (Tachybaptus ruficollis), Mute Swan (Cygnus olor), Mallard (Anas platyrhynchos), Moorhen (Gallinula chloropus), and Coot (Fulica atra). Mallard was the most numerous species. All five species except Little Grebe congregated at places where they were fed by the public. Only Little Grebe showed an increase in numbers over the winter. Of eight habitat variables measured, only river width was consistently related positively, to waterbird numbers. Despite low densities, it is estimated that riverine populations of Little Grebe, Mute Swan, Mallard and Moorhen in the study area are likely to be larger overall than those on the main reservoirs and estuaries in the catchment.

**URL:** <Go to ISI>://BCI200100159906

**Reference Type:**  Journal Article

**Record Number:** 33

**Author:** J. W. Mason, G. J. McChesney, W. R. McIver, H. R. Carter, J. Y. Takekawa, R. T. Golightly, J. T. Ackerman, D. L. Orthmeyer, W. M. Perry, J. L. Yee, M. O. Pierson and M. D. McCrary

**Year:** 2007

**Title:** At-sea distribution and abundance of seabirds off southern California: A 20-year comparison

**Journal:** Studies in Avian Biology

**Issue:** 33

**Pages:** 1-101

**Short Title:** At-sea distribution and abundance of seabirds off southern California: A 20-year comparison

**Accession Number:** BCI:BCI200700309065

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** We conducted aerial at-sea and coastal surveys to examine the distribution and abundance of seabirds off southern California, from Cambria, California, to the Mexican border. From May 1999-January 2002, we flew 102 d, covered > 54,640 km of transect lines, and conducted nine complete surveys of southern California in January, May, and September. We identified 54 species comprising 12 families and counted > 135,000 individuals. Seabird densities were greater along island and mainland coastlines than at sea and were usually greatest in January surveys. Densities were greatest at sea near the northern Channel Islands in January and north of Point Conception in May, and lowest in the southwestern portion of the Southern California Bight in all survey months. On coastal transects, seabird densities were greatest along central and southern portions of the mainland coastline from Point Arguello to Mexico. We estimated that 981,000 +/- 144,000 ((x) over bar +/- SE) seabirds occurred in the study area in January, 862,000 95,000 in May, and 762,000 72,000 in September. California Gulls (Larus californicus), Western Grebes (Aechniophorus occidentalis), and Cassin's Auklets (Ptychoramphus aleuticus) were most abundant in January surveys at sea, whereas Sooty and Short-tailed shearwaters (Puffinus griseus and P. tenuirostris), phalaropes (Phalaropus spp.), and Western Gulls (Larus. occidentalis) were most abundant in May and September surveys. On coastal transects, California Gulls, Western Grebes, Western Gulls, and Surf Scoters (Melanitta perspicillata) were most abundant in January; Western Grebes, Western Gulls, Surf Scoters, and Brown Pelicans (Pelecanus occidentalis) were most abundant in May; and Sooty Shearwaters, Short-tailed Shearwaters, Western Gulls, Western Grebes, Brown Pelicans, and Heermann's Gulls (Larus heermanni) were most abundant in September. Compared to historical seabird densities collected in the same area two decades ago (1975-1978 and 1980-1983), abundance was lower by 14% in January, 57% in May, and 42% in September. Common Murres (Uria aalge, >= 75% in each season), Sooty Shearwaters, (55% in May, 27% in September), and Bonaparte's Gulls (L. philadelphia, >= 95% in each season) had lower densities. Conversely, Brown Pelicans (167% overall), Xantus's Murrelets (Synthliboramphus hypoleucus; 125% overall), Cassin's Auklets (100% overall), Ashy Storm-Petrels (Oceanodroma homochroa, 450% overall) and Western Gulls (55% in May), and Brandt's Cormorants (Phalacrocorax penicillatus, 450% in September) had greater densities. Our results indicate that seabird abundance has declined off the southern California coast in the past two decades, and these declines may be warning signs of environmental degradation in the region or effects of larger forces such as climate change.

**URL:** <Go to ISI>://BCI200700309065

**Reference Type:**  Journal Article

**Record Number:** 2325

**Author:** A. K. Matczuk, M. Krawiec and A. Wieliczko

**Year:** 2015

**Title:** A new duck circovirus sequence, detected in velvet scoter (Melanitta fusca) supports great diversity among this species of virus

**Journal:** Virology Journal

**Volume:** 12

**Date:** Aug

**Short Title:** A new duck circovirus sequence, detected in velvet scoter (Melanitta fusca) supports great diversity among this species of virus

**ISSN:** 1743-422X

**DOI:** 10.1186/s12985-015-0352-y

**Article Number:** 121

**Accession Number:** WOS:000359423700001

**Keywords:** White-winged Scoter; Melanitta fusca; Disease

**Abstract:** Background: The aim of this study was to investigate the presence of circoviruses in wild bird populations, in Poland. Circoviruses possess immuno-suppressive properties and might interfere with the health of wild birds. Method: 83 birds, which belonged to 23 species, were tested with broad-range, nested PCR. The obtained PCR products were sequenced and new primers designed, to analyse the full-length, viral genome. A phylogenetic analysis was conducted, to find any relationship to known circoviruses. Results: The circovirus DNA sequence was found in 4 birds. All samples originated from the velvet scoter (Melanitta fusca) a marine duck from the Merginae sub-family. Birds which tested positive for the circovirus were found dead in fishing nets, off the Baltic coast. During post-mortem examination, carcasses of two of the scoters showed only light emaciation, while the two other birds appeared healthy. The obtained, full-length, circovirus sequence revealed 1,988 nucleotides and the presence of typical features (i.e. Cap, Rep and ORF3). Nucleotide similarity to other duck circoviruses was 84 to 86 %. Phylogenetic analysis of the complete genome and cap gene, indicated that the new circovirus is related to known duck circoviruses, especially to sub-types sometimes referred to as duck circovirus genotype 1, but not genotype 2. Conclusions: In this study, we have reported a new duck circovirus sequence detected in the velvet scoter, a species of marine duck. Sequence comparison and phylogenetic analysis of the new virus sequence support previous reports that duck circovirus (DuCV) is a species with a high degree of diversity. The viral sequence obtained from the velvet scoter suggests that DuCV may infect birds from the Anatinae sub-family. More studies are needed to prove if the velvet scoter and other marine ducks act as a reservoir for DuCV.

**Notes:** Matczuk, Anna Karolina Krawiec, Marta Wieliczko, Alina

**URL:** <Go to ISI>://WOS:000359423700001

**Reference Type:**  Journal Article

**Record Number:** 331

**Author:** D. D. Mather and D. Esler

**Year:** 1999

**Title:** Evaluation of bursal depth as an indicator of age class of Harlequin Ducks

**Journal:** Journal of Field Ornithology

**Volume:** 70

**Issue:** 2

**Pages:** 200-205

**Date:** Spring, 1999

**Short Title:** Evaluation of bursal depth as an indicator of age class of Harlequin Ducks

**Accession Number:** BCI:BCI199900417669

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Physiology; Nonbreeding Seasons;

**Abstract:** We contrasted the estimated age class of recaptured Harlequin Ducks (Histrionicus histrionicus) (n = 255) based on bursal depth with expected age class based on bursal depth at first capture and time since first capture. Although neither estimated nor expected ages can be assumed to be correct, rates of discrepancies between the two for within-year recaptures indicate sampling error, while between-year recaptures test assumptions about rates of bursal involution. Within-year, between-year, and overall discrepancy rates were 10%, 24%, and 18%, respectively. Most (86%) between-year discrepancies occurred for birds expected to be after-third-year (ATY) but estimated to be third-year (TY). Of these ATY-TY discrepancies, 22 of 25 (88%) birds had bursal depths of 2 or 3 mm. Further, five of six between-year recaptures that were known to be ATY but estimated to be TY had 2 mm bursas. Reclassifying birds with 2 or 3 mm bursas as ATY resulted in reduction in between-year (24% to 10%) and overall (18% to 11%) discrepancy rates. We conclude that age determination of Harlequin Ducks based on bursal depth, particularly using our modified criteria, is a relatively consistent and reliable technique.

**URL:** <Go to ISI>://BCI199900417669

**Reference Type:**  Journal Article

**Record Number:** 1180

**Author:** S. Mathiasson

**Year:** 1970

**Title:** Numbers and Distribution of Long-Tailed Wintering Ducks in Northern Europe

**Journal:** British Birds

**Volume:** 63

**Issue:** 10

**Pages:** 414-424

**Short Title:** Numbers and Distribution of Long-Tailed Wintering Ducks in Northern Europe

**Accession Number:** BCI:BCI197107045642

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197107045642

**Reference Type:**  Journal Article

**Record Number:** 1435

**Author:** C. W. Matson, J. C. Franson, T. Hollmen, M. Kilpi, M. Hario, P. L. Flint and J. W. Bickham

**Year:** 2004

**Title:** Evidence of chromosomal damage in common eiders (Somateria mollissima) from the Baltic Sea

**Journal:** Marine Pollution Bulletin

**Volume:** 49

**Issue:** 11-12

**Pages:** 1066-1071

**Date:** December 2004

**Short Title:** Evidence of chromosomal damage in common eiders (Somateria mollissima) from the Baltic Sea

**Accession Number:** BCI:BCI200500090514

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Common eiders nesting in the Baltic Sea are exposed to generally high levels of contaminants including potentially genotoxic polycyclic aromatic hydrocarbons and organochlorines. Blood samples were collected from eiders at eight sites in the Baltic Sea and two sites in the Beaufort Sea. DNA content variation was estimated using the flow cytometric method, and subsequently utilized as a biomarker of genetic damage. We observed no significant differences in genetic damage among populations within either the Baltic or Beaufort Seas. However, eider populations from the Baltic Sea had significantly elevated estimates of genetic damage compared to populations from the Beaufort Sea. Copyright 2004 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200500090514

**Reference Type:**  Journal Article

**Record Number:** 1513

**Author:** F. R. Mattig, H.-U. Roesner, K. Giessing and P. H. Becker

**Year:** 2000

**Title:** Environmental chemicals in eggs of Dunlins (Calidris alpina) from Northern Norway compared to eggs of coastal bird species breeding in the Wadden Sea

**Journal:** Journal fuer Ornithologie

**Volume:** 141

**Issue:** 3

**Pages:** 361-369

**Date:** Juni, 2000

**Short Title:** Environmental chemicals in eggs of Dunlins (Calidris alpina) from Northern Norway compared to eggs of coastal bird species breeding in the Wadden Sea

**Accession Number:** BCI:BCI200000406802

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Owing to the international importance of the Wadden Sea for waders and waterfowl a long-term program to monitor chemical contamination of birds breeding in the Wadden Sea has been established in the early 1980s with Oystercatcher (Haematopus ostralegus) and Common Tern (Sterna hirundo) as monitor species. However, numbers of birds breeding in the area are only 10% compared to numbers of birds using it as a wintering, moulting or staging area, and little is known about contamination of those non-breeding birds. In 1993 we compared contamination levels in eggs from eight species (Shelduck Tadorna tadorna; Eider Somateria mollissima; Oystercatcher; Avocet Recurvirostra avosetta; Redshank Tringa totanus; Black-headed Gull Larus ridibundus; Herring Gull Larus argentatus; Common Tern) breeding at the island of Spiekeroog (German Wadden Sea) with those from Dunlins (Calidris alpina alpina) breeding in Northern Norway (Gamvik). It is known that many Dunlin from this area use the German Wadden Sea for staging. We analyzed contaminant levels of 21 industrial chemicals (PCBs, HCB, Moschusxylol, Octachlorstyrol, Mercury) and biocides (DDT and metabolites, HCH-Isomers, Bromocyclen). Common Tern and Herring Gull eggs reached highest SIGMA-PCB levels whereas mercury had the highest concentrations in eggs of Eider, Oystercatcher and Common Tern as well as SIGMA-DDT in eggs of Black-headed Gull. Bromocyclen could not be detected in eggs of the breeding species, whereas Moschusxylol was found in 29% of the eggs and Octachlorostyrol in 57%. Contaminant levels were in most cases above the levels given by German law for eggs used for human food but are probably not high enough to show an effect on the breeding success of the different species. In comparison to these results contaminant levels in eggs of Dunlins from Northern Norway were low and showed a similar chemical pattern as for migrating waders breeding in the Wadden Sea detected. For the first time Bromocyclen residues could be detected in bird eggs.

**URL:** <Go to ISI>://BCI200000406802

**Reference Type:**  Journal Article

**Record Number:** 1530

**Author:** K. Mawhinney and A. W. Diamond

**Year:** 1999

**Title:** Using radio-transmitters to improve estimates of gull predation on Common Eider ducklings

**Journal:** Condor

**Volume:** 101

**Issue:** 4

**Pages:** 824-831

**Date:** Nov., 1999

**Short Title:** Using radio-transmitters to improve estimates of gull predation on Common Eider ducklings

**Accession Number:** BCI:BCI200000051285

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Techniques; Breeding Season;

**Abstract:** We quantified the efficacy of using pellet numbers to estimate predation rates on Common Eider (Somateria mollissima) ducklings by Great Black-backed Gulls (Larus marinus) by using eider ducklings fitted with radio transmitters. Ducklings fitted with radio-transmitters were no more vulnerable to gull predation than were other ducklings. The recovery of radio-transmitters attached to eider ducklings and subsequently retrieved from Great Black-backed Gull pellets suggests that traditional methods of estimating the number of eider ducklings eaten by gulls from the remains found in pellets at gull nests and loafing areas underestimates the true number eaten by gulls by a factor of 5-17. Previous low estimates of eider duckling mortality on the Wolves Archipelago, Bay of Fundy cannot be explained by movements of broods to the mainland coast.

**URL:** <Go to ISI>://BCI200000051285

**Reference Type:**  Journal Article

**Record Number:** 1345

**Author:** E. E. Maxwell

**Year:** 2008

**Title:** Ossification sequence of the avian order Anseriformes, with comparison to other precocial birds

**Journal:** Journal of Morphology

**Volume:** 269

**Issue:** 9

**Pages:** 1095-1113

**Date:** Sep 2008

**Short Title:** Ossification sequence of the avian order Anseriformes, with comparison to other precocial birds

**Accession Number:** BCI:BCI200800667677

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Ossification sequences are poorly known for most amniotes, and yet they represent an important source of morphogenetic, phylogenetic, and life history information. Here, the author describes the ossification sequences of three ducks, the Common Eider Somateria mollissima dresseri, the Pekin Duck Anas platyrhynchos, and the Muscovy Duck Cairina moschata. Sequence differences exist both within and among these species, but are generally minor. The Common Eider has the most ossified skeleton prior to hatching, contrary to what is expected in a subarctic migrant species. This may be attributed to a tradeoff between growth rate and locomotory performance. Growth rate is higher in hatchlings with more cartilaginous skeletons, but this may compromise locomotion. No major ossification sequence differences were observed in the craniofacial skeleton when compared with Galliformes, which suggests that the influence of adult morphology on ossification sequence might be relatively minor in many taxa. Galliformes and Anseriformes, while both highly ossified at hatching, differ in the location of their late-stage ossification centers. In Anseriformes, these are most often located in the appendicular skeleton, whereas in Galliformes they are in the thoracic region and form the ventilatory apparatus.

**URL:** <Go to ISI>://BCI200800667677

**Reference Type:**  Journal Article

**Record Number:** 523

**Author:** E. J. Mazak and H. J. Macisaac

**Year:** 1994

**Title:** Dietary exposure to organic contaminants of waterfowl that consume zebra mussels

**Journal:** American Zoologist

**Volume:** 34

**Issue:** 5

**Pages:** 60A

**Short Title:** Dietary exposure to organic contaminants of waterfowl that consume zebra mussels

**Accession Number:** BCI:BCI199699029329

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199699029329

**Reference Type:**  Journal Article

**Record Number:** 593

**Author:** E. J. Mazak, H. J. Macisaac, M. R. Servos and R. Hesslein

**Year:** 1997

**Title:** Influence of feeding habits on organochlorine contaminant accumulation in waterfowl on the Great Lakes

**Journal:** Ecological Applications

**Volume:** 7

**Issue:** 4

**Pages:** 1133-1143

**Date:** Nov., 1997

**Short Title:** Influence of feeding habits on organochlorine contaminant accumulation in waterfowl on the Great Lakes

**Accession Number:** BCI:BCI199800013008

**Keywords:** Bufflehead; Bucephala albeola; Contaminants; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Zebra mussels (Dreissena polymorpha) are an important component of benthic communities in the Great Lakes and are exploited by a host of predators, including waterfowl. In this study, we analyze diet content and stable isotope and organochlorine contaminant patterns in Lesser Scaup (Aythya affinis), Greater Scaup (Aythya marila), Bufflehead (Bucephala albeola), Redhead (Aythya americana), Canvasback (Aythya valisineria), and Mallard (Anas platyrhynchos) collected from three sites (Fighting Island, western Lake Erie, Big Creek) in the lower Great Lakes. Lesser and Greater Scaup from Fighting Island were classified as either zebra mussel (gtoreq67% of diet) or macrophyte (gtoreq85% of diet) consumers. Bufflehead, Canvasback, Mallard, and Redhead consumed mainly (gtoreq89%) macrophyte at Fighting Island. Zebra mussel was the principal food of Lesser Scaup (>99%), Greater Scaup (97%), and Bufflehead (72%) in western Lake Erie. Stable isotope analysis revealed enrichment of delta15N in Lesser Scaup (gtoreq2.24%), Greater Scaup (gtoreq1.28%), and Bufflehead (gtoreq0.63%) that exploited mussels relative to conspecifics with macrophyte diets and relative to mussel prey. Representative contaminants of low (hexachlorobenzene (HCB)), moderate (PCB (polychlorinated biphenyl) 153), and high (PCB 180) hydrophobicity were examined in waterfowl. Lipid-normalized concentrations of PCBs 153 and 180 were significantly higher in scaup and Bufflehead that consumed Dreissena than in individuals that ate mainly macrophytes. Among taxa that consumed primarily Dreissena, concentrations of PCBs 153 and 180 were significantly higher in individuals from Lake Erie than in those Fighting Island. Principal components analysis revealed broad differences in contaminant patterns of waterfowl based principally on diet. Results from this study illustrate that Dreissena has become a primary food source of some waterfowl in the lower Great Lakes and serves as an effective conduit for transfer of persistent organic contaminants to higher trophic levels.

**URL:** <Go to ISI>://BCI199800013008

**Reference Type:**  Journal Article

**Record Number:** 1554

**Author:** D. F. McAlpine

**Year:** 1996

**Title:** Common eider, Somateria mollissima, incubates Gadwall, Anas strepera, eggs: A case of clutch adoption due to human disturbance?

**Journal:** Canadian Field-Naturalist

**Volume:** 110

**Issue:** 4

**Pages:** 707-708

**Short Title:** Common eider, Somateria mollissima, incubates Gadwall, Anas strepera, eggs: A case of clutch adoption due to human disturbance?

**Accession Number:** BCI:BCI199799542538

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior;

**Abstract:** A female Common Eider (Somateria mollissima) was observed on a hatching clutch of Gadwall (Anas strepera) eggs on an island in the Bay of Fundy. This aberrant behaviour may have been related to eider egg predation by gulls, rates of which had been increased by human activity on the island.

**URL:** <Go to ISI>://BCI199799542538

**Reference Type:**  Journal Article

**Record Number:** 1252

**Author:** B. J. McCaffery, M. L. Wege and C. A. Nicolai

**Year:** 1999

**Title:** Spring migration of Spectacled Eiders at Cape Romanzof, Alaska

**Journal:** Western Birds

**Volume:** 30

**Issue:** 3

**Pages:** 167-173

**Short Title:** Spring migration of Spectacled Eiders at Cape Romanzof, Alaska

**Accession Number:** BCI:BCI200000013583

**Keywords:** Spectacled Eider; Somateria fischeri; Migration; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200000013583

**Reference Type:**  Journal Article

**Record Number:** 664

**Author:** T. C. McCall, T. P. Hodgman, D. R. Diefenbach and R. B. Owen, Jr.

**Year:** 1996

**Title:** Beaver populations and their relation to wetland habitat and breeding waterfowl in Maine

**Journal:** Wetlands

**Volume:** 16

**Issue:** 2

**Pages:** 163-172

**Short Title:** Beaver populations and their relation to wetland habitat and breeding waterfowl in Maine

**Accession Number:** BCI:BCI199699100587

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Habitat; Breeding Season;

**Abstract:** The influence of beaver (Castor canadensis) trapping on beaver and waterfowl densities and wetland habitat is not well understood, and this information is needed by managers trying to balance beaver densities and harvest and complaints of nuisance beaver with the abundance of wetlands and waterfowl. During 1988-92 in south-central Maine, we determined the density of beaver colonies and beaver harvest, wetland characteristics, and density of breeding pairs of waterfowl on a 111-k,2 site recently closed to beaver trapping and a similar site open to trapping. Density of beaver colonies increased from 0.15 to 0.32/km-2 (113%) on the untrapped site but changed little (0.19-0.20/km-2) on the trapped site. The number of beaver dams maintained by beaver and the density of beaver colonies were correlated on the untrapped site (r = 0.99, n = 4, P = 0.009) but not on the trapped site (r = -0.18, n = 4, P = 0.820). Number of wetlands was correlated with the density of beaver colonies during 1989-92 on the untrapped site (r = 0.92, n = 4, P = 0.081) but not on the trapped site (r = -0.13, n = 4, P = 0.875). Total surface area of water on the untrapped site increased from 115 to 158 ha (36%); surface area of water remained stable on the trapped area. Species of waterfowl that increased on the untrapped site included Canada geese (Branta canadensis) (4-9/100 km-2), hooded metgansers (Lophodytes cucullatus) (23-29/100 km-2), and mallards (Anas platyrhynchos) (7-12/100 km-2). Numbers of wetlands used by pairs of each species of waterfowl increased on the untrapped site. Overall, a gtoreq 1-year closure of beaver trapping is sufficient to increase the density of beaver colonies, whereas a 2-3 year closure is necessary to increase wetland habitat. More than 3-4 years may be required to begin influencing the density of waterfowl and number of wetlands used by waterfowl.

**URL:** <Go to ISI>://BCI199699100587

**Reference Type:**  Journal Article

**Record Number:** 746

**Author:** J. H. I. McCaw, P. J. Zwank and R. L. Steiner

**Year:** 1996

**Title:** Abundance, distribution, and behavior of common mergansers wintering on a reservoir in southern New Mexico

**Journal:** Journal of Field Ornithology

**Volume:** 67

**Issue:** 4

**Pages:** 669-679

**Short Title:** Abundance, distribution, and behavior of common mergansers wintering on a reservoir in southern New Mexico

**Accession Number:** BCI:BCI199799362772

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Arrival dates, mean numbers, departure dates, and proportion of adult males differed for Common Mergansers (Mergus merganser) on Caballo Reservoir between winters of 1992-1993 and 1993-1994. Wintering Common Mergansers spent daylight hours loafing (58.6%), sleeping (17.5%), flying (5.7%), preening (4.0%), stretching (4.0%) and swimming (3.8%). Feeding accounted for lt 4% of daily activity. Diet of Common Mergansers consisted solely of large gizzard shad (Dorosoma cepedianum) during the first winter, but was predominantly threadfin shad (D. potenense) during the second winter. The change in diet was probably a result of most gizzard shad having grown too large to be eaten by Common Merganser by the second winter. Fish caught in gill net samples during both winters were predominately gizzard shad. Other fish netted were: white bass (Morone chrysops), walleye (Stizostedion vitreum), channel catfish (Ictalurus punctatus), and common carp (Cyprinus carpio). We suggest that managers should promote consistent annual recruitment of shad to provide a reliable food source for wintering Common Mergansers.

**URL:** <Go to ISI>://BCI199799362772

**Reference Type:**  Journal Article

**Record Number:** 303

**Author:** N. A. McCutchen

**Year:** 2002

**Title:** The response of stonefly (Plecoptera) nymphs to seasonal increases in predation risk

**Journal:** Canadian Journal of Zoology

**Volume:** 80

**Issue:** 6

**Pages:** 967-972

**Date:** June, 2002

**Short Title:** The response of stonefly (Plecoptera) nymphs to seasonal increases in predation risk

**Accession Number:** BCI:BCI200200478695

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Behavior; Breeding Season;

**Abstract:** The main objective of this study was to determine if predation risk accounted for the patterns of stonefly (Plecoptera) nymph abundance in the Maligne Valley watershed, Jasper National Park, Alberta. Seasonal declines in nymph density corresponded to increased use of the Maligne Lake Outlet and Lower Maligne River by harlequin ducks (Histrionicus histrionicus). Neither decline represented a shift from aperiodic to nocturnal use of surface rocks. Rather, rock use remained aperiodic throughout the season despite increases in risk. The decline that occurred in the Maligne Lake Outlet also did not represent a shift from small to large surface rocks. These results, when combined with the results of an odor experiment, suggest that nymphs tend to avoid surface rocks when in the presence of harlequin ducks. Nymph density did not decline seasonally in the Middle Maligne River, a site free of harlequin ducks but inhabited year-round by brook char (Salvelinus fontinalis) and rainbow trout (Onchorhynchus mykiss). Nymphs in this site as well as those exposed to char odor were nocturnally biased in their use of the substrate surface. Overall, predation risk appears to play a strong role in the patterns of stonefly nymph abundance in the Maligne Valley watershed, although not in the way originally expected.

**URL:** <Go to ISI>://BCI200200478695

**Reference Type:**  Journal Article

**Record Number:** 288

**Author:** N. A. McCutchen and R. C. Ydenberg

**Year:** 2005

**Title:** Harlequin Duck Histrionicus histrionicus distribution and stonefly nymph availability in the Maligne Valley watershed - a preliminary study

**Journal:** Wildfowl

**Volume:** 55

**Pages:** 75-82

**Short Title:** Harlequin Duck Histrionicus histrionicus distribution and stonefly nymph availability in the Maligne Valley watershed - a preliminary study

**Accession Number:** BCI:BCI200600253852

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The relationship between Harlequin Duck Histrionicus histrionicus distribution and stonefly (Plecoptera) nymph availability in the Maligne Valley watershed, Jasper National Park, Canada, was investigated from 1999 to 2000. Invertebrate sampling and duck counts were concentrated in the Maligne Lake Outlet (MLO), Middle Maligne River and Lower Maligne River. Harlequin Ducks were more likely to use the two sites with high nymph availability (MLO and Lower Maligne) than the site with low nymph availability (Middle Maligne). The relationship between Harlequin Duck distribution and other invertebrates was Less consistent. These results suggest that stonefly nymphs play an important role in the distribution of Harlequin Ducks in the Maligne watershed.

**URL:** <Go to ISI>://BCI200600253852

**Reference Type:**  Journal Article

**Record Number:** 690

**Author:** F. B. McGilvrey

**Year:** 1966

**Title:** Nesting of hooded mergansers Lophodytes cucullatus on the Patuxent Wildlife Research Center, Laurel, Maryland

**Journal:** Auk

**Volume:** 83

**Issue:** (3)

**Pages:** 477-479

**Short Title:** Nesting of hooded mergansers Lophodytes cucullatus on the Patuxent Wildlife Research Center, Laurel, Maryland

**Accession Number:** BCI:BCI19664700119984

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Breeding Season;

**URL:** <Go to ISI>://BCI19664700119984

**Reference Type:**  Journal Article

**Record Number:** 852

**Author:** K. P. McHugh, C. S. Madsen and S. R. De Kloet

**Year:** 1990

**Title:** A Highly Repeated Retropseudogene-Like Sequence in DNA of the Red-Breasted Merganser Mergus-Serrator

**Journal:** Gene (Amsterdam)

**Volume:** 87

**Issue:** 2

**Pages:** 193-198

**Short Title:** A Highly Repeated Retropseudogene-Like Sequence in DNA of the Red-Breasted Merganser Mergus-Serrator

**Accession Number:** BCI:BCI199090027920

**Keywords:** Red-breasted merganser; Mergus serrator; Techniques;

**Abstract:** Two highly repeated nucleotide sequences (RBMI and RBMII) cloned from an EcoRI digest of DNA of the redbreasted merganser (Mergus serrator) account for approx. 5 to 10% of the DNA of M. serrator and the closely related Mergus merganser. Complete DNA digestion of seven members of the Mergini with EcoRI produces distinct, relatively species-specific patterns of a few high-Mr (> 1.5 kb) fragments of RBMI-like material. In such digests RBMII forms ladder-type patterns with monomers of approx. 200 bp. The sequence of a cloned 2.6-kg RBMI fragment from M. serrator contains several extended (up to 70 bp) and modified poly(dA) sequences, two open reading frames in opposite orientation to the longest poly(dA) sequence and two direct 10-bp repeats suggesting that RBMI is a rearranged retropseudogene-like element.

**URL:** <Go to ISI>://BCI199090027920

**Reference Type:**  Journal Article

**Record Number:** 1088

**Author:** R. W. McKelvey, I. Robertson and P. E. Whitehead

**Year:** 1980

**Title:** Effect of Nonpetroleum Oil Spills on Wintering Birds near Vancouver British-Columbia Canada

**Journal:** Marine Pollution Bulletin

**Volume:** 11

**Issue:** 6

**Pages:** 169-171

**Short Title:** Effect of Nonpetroleum Oil Spills on Wintering Birds near Vancouver British-Columbia Canada

**Accession Number:** BCI:BCI198070075312

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Spills of vegetable oils at Vancouver habor have caused greater losses of birds than spills of petroleum oils. Vegetable oils affect birds by feather wetting but do not exhibit odor and slick characteristics of petroleum oils. Because most vegetable oils are edible their potential danger to aquatic birds may go unnoticed; sites of storage and transhipment of vegetable oils may be overlooked in oil spill contigency planning. The birds studied included Western grebe (Podiceps occidentalis), gull (Larus glaucescens), Barrow's goldeneye (Bucephala islandica), surf scoter (Melanitta perspicillata) and scaup (Aythya spp.).

**URL:** <Go to ISI>://BCI198070075312

**Reference Type:**  Journal Article

**Record Number:** 585

**Author:** R. A. McKinney and S. R. McWilliams

**Year:** 2005

**Title:** A new model to estimate daily energy expenditure for wintering waterfowl

**Journal:** Wilson Bulletin

**Volume:** 117

**Issue:** 1

**Pages:** 44-55

**Date:** Mar 2005

**Short Title:** A new model to estimate daily energy expenditure for wintering waterfowl

**Accession Number:** BCI:BCI200510192680

**Keywords:** Bufflehead; Bucephala albeola; Energetics and Nutrition; Behavior; Nonbreeding Seasons;

**Abstract:** Current models to estimate daily energy expenditure (DEE) for free-living birds are limited to either those that use fixed thermoregulatory costs or those that more accurately estimate thermoregulatory costs, but require extensive and often logistically difficult measurements. Here, we propose a model based on basal metabolic rate (BMR), activity budgets, and site-specific energetic costs of thermoregulation that requires only simple measures of ambient temperature and wind speed to provide estimates of DEE. We use the model to calculate the DEE of Buffleheads (Bucephola albeola) wintering at six habitats that afford differing degrees of protection from exposure within Narragansett Bay, Rhode Island. Bufflehead activity budget data collected during the winters of 2001-2002 and 2002-2003, along with average temperatures and wind speeds at the sites, were used to calculate DEE that ranged from 46.9 to 52.4 kJ/hr and increased with increasing wind speed. The energetic cost of thermoregulation composed as much as 28% of total DEE and increased with wind speed. Our DEE values were 13.4% higher, and thermoregulatory costs were up to 2x higher than those calculated using an existing model that incorporates fixed thermoregulatory costs. We also saw an increase in feeding activity with increasing wind speed; sensitivity analysis of the effects of wind speed and feeding activity showed that a 1 m/sec increase in wind speed at our sites increased DEE by 2.5%, whereas a corresponding increase in feeding activity increased DEE by 4.5%. This suggests that in temperate winter habitats, increased feeding activity may have a greater impact on Bufflehead DEE than wind exposure. Site-specific model estimates of DEE could also provide additional insight into the relative contribution of environmental conditions and changes in waterfowl behavior to DEE.

**URL:** <Go to ISI>://BCI200510192680

**Reference Type:**  Journal Article

**Record Number:** 275

**Author:** R. A. McKinney, S. R. McWilliams and M. A. Charpentier

**Year:** 2007

**Title:** Habitat characteristics associated with the distribution and abundance of Histrionicus histrionicus (Harlequin Ducks) wintering in southern New England

**Journal:** Northeastern Naturalist

**Volume:** 14

**Issue:** 2

**Pages:** 159-170

**Short Title:** Habitat characteristics associated with the distribution and abundance of Histrionicus histrionicus (Harlequin Ducks) wintering in southern New England

**Accession Number:** BCI:BCI200700483673

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Nonbreeding Seasons;

**Abstract:** Histrionicus histrionicus (Harlequin Ducks) that winter along the east coast of North America are listed as a Population of special concern in Canada, and they use several coastal wintering sites in southern New England that are subject to varying degrees of urbanization. We studied patterns of habitat use by Harlequin Ducks at 12 known wintering sites in southern New England. An average of 327 +/- 114 Harlequin Ducks were found at the sites during the winters of 2001-2003. More Harlequin Ducks wintered at sites south of Cape Cod, MA that had greater mol tusk (709,133 +/- 504,568 versus 97, 154 +/- 72.427 kcal ha(-1)) and crustacean (27,907 +/- 16,312 versus 1412 +/- 1675 kcal ha(-1)) prey energy density, and a higher index of hunting activity (2.4 +/- 1.2 versus 1.4 +/- 0.5) than sites to the north. We used logistic regression analysis at 12 sites inhabited by Harlequin Ducks and 12 nearby sites of similar geomorphology that did not Support Harlequin Ducks to identify habitat characteristics that best explained their distribution in southern New England. Our analysis identified two habitat characteristics that affected the likelihood a site was used by Harlequin Ducks: 1) the proportion of residential, commercial, and industrial land use within a 100-m radius of the perimeter of the site; and 2) distance to the nearest Harlequin Duck wintering site. However, other factors. including those related to their extremely low population size, need to also be considered as recommendations are developed for the conservation of east coast Harlequin Ducks.

**URL:** <Go to ISI>://BCI200700483673

**Reference Type:**  Journal Article

**Record Number:** 2326

**Author:** R. A. McKinney, K. B. Raposa and C. L. Trocki

**Year:** 2015

**Title:** Status and Distribution of Wintering Waterfowl in Narragansett Bay, Rhode Island, 2005-2014

**Journal:** Northeastern Naturalist

**Volume:** 22

**Issue:** 4

**Pages:** 730-745

**Date:** Dec

**Short Title:** Status and Distribution of Wintering Waterfowl in Narragansett Bay, Rhode Island, 2005-2014

**ISSN:** 1092-6194

**DOI:** 10.1656/045.022.0410

**Accession Number:** WOS:000370899000007

**Keywords:** Common Eider; Black Scoter; White-winged Scoter; Surf Scoter; Barrow’s Goldeneye; Common Goldeneye; Bufflehead; Long-tailed Duck; Harlequin Duck; Common Merganser; Red-breasted Merganser; Hooded Merganser; Somateria mollissima; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Bucephala clangula; Bucephala albeola; Clangula hyemalis; Histrionicus histrionicus; Mergus merganser; Mergus serrator; Lophodytes cucullatus; Nonbreeding season; Abundance, Distribution, & Trends

**Abstract:** Surveys of wintering waterfowl can aid in both identifying estuarine habitats currently being used by species of conservation concern so that the sites can be targeted for protection and restoration, and in providing a baseline assessment from which the effects of future changes in wintering habitat can be assessed. In an effort to better understand the local distribution of wintering waterfowl during the period 2005-2014, we undertook a study of waterfowl abundance and distribution in Narragansett Bay, RI, a moderate-sized estuary located in the northeastern US within the Atlantic Flyway. Overall waterfowl abundance in the Bay ranged from 15,002 individuals in 2006 to 26,163 individuals in 2010 and averaged 20,062 +/- 3393 individuals over the 10-y period. Species richness ranged from 1.80 to 10.8 per site; most of the sites with high species richness were located in the Upper Bay. Based on our counts from 67 ground locations, the Narragansett Bay waterfowl community was dominated by Aythya affinis (Lesser Scaup) and A. marila (Greater Scaup), Branta bernicla (Brant), and Branta canadensis (Canada Geese) over the survey period. Waterfowl-community composition indicated that the Upper Bay, an environment characterized by low wave-energy, shallow coves, sheltered embayments, and salt marshes, supported mostly dabbling ducks, geese, and swans. The Lower Bay, an environment characterized by higher wave-energy, rocky shorelines, and deeper open-water habitats, supported mostly sea ducks and other diving-duck species. Abundance over the survey period was relatively stable, and observed patterns of waterfowl distribution suggest that conservation actions to maintain shallow-water habitats, including efforts to protect and restore salt marsh habitat, will help to maintain resources needed by many of the waterfowl species wintering in the Bay.

**Notes:** McKinney, Richard A. Raposa, Kenneth B. Trocki, Carol L.

**URL:** <Go to ISI>://WOS:000370899000007

**Reference Type:**  Journal Article

**Record Number:** 1393

**Author:** L. McKinnon, H. G. Gilchrist and K. T. Scribner

**Year:** 2006

**Title:** Genetic evidence for kin-based female social structure in common eiders (Somateria mollissima)

**Journal:** Behavioral Ecology

**Volume:** 17

**Issue:** 4

**Pages:** 614-621

**Date:** Jul-Aug 2006

**Short Title:** Genetic evidence for kin-based female social structure in common eiders (Somateria mollissima)

**Accession Number:** BCI:BCI200600366893

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Kin-based social groups are commonly studied among cooperatively breeding species but have been less studied in "nontraditional" group breeding systems. We investigated the presence of kin-based sociality among females in the common eider (Somateria mollisima), a colonial nesting sea duck that exhibits high levels of natal philopatry in females. Previous studies of female sociality in common eiders have been restricted to observations during brood rearing. However, aggregations of female common ciders are also observed during other periods of the life cycle such as colony arrival and nesting. Here we apply a novel, empirical framework using molecular markers and field sampling to genetically characterize female social groups at several stages of the common eider life cycle. When compared with mean estimates of interindividual relatedness for the entire colony, significantly higher levels of relatedness were found between females within groups arriving to the colony in flight, between females and nearest neighbors at the time of nest site selection, and between groups of females departing the colony with ducklings. Both full-sibling and half-sibling equivalent relationships were also found within these groups. Therefore, throughout each of several stages including in-flight colony arrival, nesting, and brood rearing, we provide the first genetically confirmed evidence of female kin-based social groups in common ciders and anseriformes in general.

**URL:** <Go to ISI>://BCI200600366893

**Reference Type:**  Journal Article

**Record Number:** 1221

**Author:** F. McKnney

**Year:** 1965

**Title:** The spring behavior of wild Steller Eiders

**Journal:** Condor

**Volume:** 67

**Issue:** (4)

**Pages:** 273-290

**Short Title:** The spring behavior of wild Steller Eiders

**Accession Number:** BCI:BCI19664700045504

**Keywords:** Steller's eider; Polysticta stelleri; Behavior; Nonbreeding Seasons;

**Abstract:** The behavior of Polysticta stelleri (Anatidae) was studied during April and May at 2 wintering areas on the Alaska Peninsula. The birds were highly social when feeding and resting, often massing in tightly packed rafts. When diving for food, the members of a flock submerged almost simultaneously. In courting parties, males performed several distinct displays and frequently made pre-flight movements and Short Flights. In contrast to courting parties of Somateria mollissima, which often dive, those of Polysticta often took to the air. Pairs made deliberate fights away from the flock to copulate. After copulation, the pair often returned immediately to the flock. Pre-copulatory displays are less conspicuous than those of Somateria. Strong tendencies to flock densely and to fly readily probably have survival value against aerial predators, and these tendencies appear to have affected feeding, pairing, and copulatory behavior. Some differences between the displays of Polysticta and Somateria are thought to have resulted from selection pressure tending to reduce conspicuousness in the former species. ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19664700045504

**Reference Type:**  Journal Article

**Record Number:** 178

**Author:** M. A. McLaren and W. G. Alliston

**Year:** 1985

**Title:** Effects of Snow and Ice on Waterfowl Distribution in the Central Canadian Arctic Islands

**Journal:** Arctic

**Volume:** 38

**Issue:** 1

**Pages:** 43-52

**Short Title:** Effects of Snow and Ice on Waterfowl Distribution in the Central Canadian Arctic Islands

**Accession Number:** BCI:BCI198580066463

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Habitat; Breeding Season; Nonbreeding Seasons;

**Abstract:** Aerial surveys were conducted in 1974 and 1975 to determine distribution and abundance of waterfowl along the coasts of Somerset, Cornwallis, Little Cornwallis,and Byam Martin islands, Boothia Peninsula, and parts of Prince of Wales. Devon,Bathurst, and Melville islands. Waterfowl nested normally in 1975 but were prevented from doing so in 1974 by a late thaw. In 1974 Barrow Strait was ice free by 1 June. Densities of most species were lowest in spring 1975 than in 1974, when inhospitable conditions inland forced the birds to concentrate in coastal areas. In late summer brant (Branta bernicla) and oldsquaw (Clangula hyemalis) numbers were > in 1975 than in 1974; Brant left the central high Arctic in midsummer 1974, but the reason for the smaller numbers of Oldsquaw is not evident. Both snow geese (Chen caerulescens) and eiders (Somateria spp.) were more abundant in late summer 1974 than in 1975. Many snow geese moved to southeastern Somerset Island and adjacent waters to molt in 1974. In 1975 many eiders and snow geese remained at inland locations with their broods. Queens Channel, northern Somerset Island and Bellot Strait were important to waterfowl irrespective of spring phenology. Melville and Byam Martin islands were used by brant, and Canada geese (B. canadensis) occurred mainly on the Boothia Peninsula. Snow geese were abundant in both years in southeastern Somerset Island, particularly near Creswell Bay, where both breeding and molting occurred. Coastal waters of Barrow Strait, Prince Regent Inlet and the Gulf of Boothia were heavily used by oldsquaw in spring and summer, and Crooked Lake, Prince of Wales Island, was used by many molting oldsquaw in both years. Common eiders (S. mollisima) occurred principally in Queens Channel, Barrow Strait and near Bellot Strait; king eiders (S. spectabilis) concentrated in the same areas but were more widely distributed throughout the study area.

**URL:** <Go to ISI>://BCI198580066463

**Reference Type:**  Journal Article

**Record Number:** 1163

**Author:** P. L. McLaren and M. A. McLaren

**Year:** 1982

**Title:** Waterfowl Populations in Eastern Lancaster Sound and Western Baffin Bay Canada

**Journal:** Arctic

**Volume:** 35

**Issue:** 1

**Pages:** 149-157

**Short Title:** Waterfowl Populations in Eastern Lancaster Sound and Western Baffin Bay Canada

**Accession Number:** BCI:BCI198376017148

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Molt; Migration; Breeding Season; Nonbreeding Seasons;

**Abstract:** The seasonal distributions of oldsquaws (Clangula hyemalis), common eiders (Somateria mollissima) and king eiders (S. spectabilis) were determined through aerial surveys in eastern Lancaster Sound (1976, 1978 and 1979) and northwestern Baffin Bay (1978 and 1979). Sightings of geese are summarized. The major spring influx of both eiders occurs about the 2nd wk of May but most oldsquaws do not arrive until the 1st half of June. In spring, all 3 species are rare in offshore areas, are most abundant along coasts in the northern half of the study area and tend to depart to nesting areas during the last week of June. Oldsquaws molt along coasts of Lancaster Sound and northwestern Baffin Bay, but both species of eiders undertake molt migrations. Three waves of eider out-migration were detected in 1976 and 1978. Distribution and movements within the study area are related to probable migration routes and ice conditions.

**URL:** <Go to ISI>://BCI198376017148

**Reference Type:**  Journal Article

**Record Number:** 629

**Author:** W. D. McLaren

**Year:** 1969

**Title:** Further Data on Interspecific Competition at a Joint Bufflehead Goldeneye Nest Site

**Journal:** Canadian Field-Naturalist

**Volume:** 83

**Issue:** 1

**Pages:** 59-60

**Short Title:** Further Data on Interspecific Competition at a Joint Bufflehead Goldeneye Nest Site

**Accession Number:** BCI:BCI196905056686

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI196905056686

**Reference Type:**  Journal Article

**Record Number:** 1664

**Author:** D. B. McNair

**Year:** 1981

**Title:** Common Eider Somateria-Mollissima Plays Possum

**Journal:** Wilson Bulletin

**Volume:** 93

**Issue:** 4

**Pages:** 559-560

**Short Title:** Common Eider Somateria-Mollissima Plays Possum

**Accession Number:** BCI:BCI198223046873

**Keywords:** Common Eider; Somateria mollissima; Behavior;

**URL:** <Go to ISI>://BCI198223046873

**Reference Type:**  Journal Article

**Record Number:** 661

**Author:** D. K. McNicol, R. A. Walton and M. L. Mallory

**Year:** 1997

**Title:** Monitoring nest box use by cavity-nesting ducks on acid-stressed lakes in Ontario, Canada

**Journal:** Wildlife Biology

**Volume:** 3

**Issue:** 1

**Pages:** 1-12

**Short Title:** Monitoring nest box use by cavity-nesting ducks on acid-stressed lakes in Ontario, Canada

**Accession Number:** BCI:BCI199799688818

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Abundance, Distribution, and Trends; Contaminants; Habitat; Breeding Season;

**Abstract:** Nest boxes erected on 75 small lakes near Sudbury, Canada were monitored annually between 1987 and 1996 to measure the response of cavity-nesting waterfowl to changing chemical and biological conditions of their nesting habitat from the effects of acidification. Nest boxes were used mainly by common goldeneyes Bucephala clangula and hooded mergansers Lophodytes cucullatus, although a few were occupied by common mergansers Mergus merganser and wood ducks Aix sponsa. Use by hooded mergansers and wood ducks increased from 1987 to 1996, while use by goldeneyes remained stable. Patterns in nest box use reflected general population trends observed in the area. Interspecific nest parasitism also increased to 33% of all nests in 1996, probably a consequence of more hooded merganser nests. Clutch size, nesting and hatching success of goldeneye and hooded merganser eggs were similar to values reported for conspecifics in other studies. Overall, interspecific nest parasitism did not appear to affect the nesting success of either species. Although goldeneyes nested more often on fishless lakes early in the study, overall, fish presence, pH-value, lake area and connectivity were not related to nesting attempts or measures of nesting success for either species. Therefore, it is believed that for common goldeneyes and hooded mergansers currently breeding in the acid-stressed Sudbury area, habitat characteristics have little influence on nest site selection, particularly when compared to their documented effects on brood-rearing. However, monitoring of nest boxes may prove a less expensive method than aerial surveys to track population responses of cavity-nesting species to chemical improvements.

**URL:** <Go to ISI>://BCI199799688818

**Reference Type:**  Journal Article

**Record Number:** 769

**Author:** L. N. Measures

**Year:** 1988

**Title:** The Development and Pathogenesis of Eustrongylides-Tubifex Nematoda Dioctophymatoidea in Piscivorous Birds

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 10

**Pages:** 2223-2232

**Short Title:** The Development and Pathogenesis of Eustrongylides-Tubifex Nematoda Dioctophymatoidea in Piscivorous Birds

**Accession Number:** BCI:BCI198987029654

**Keywords:** Red-breasted merganser; Mergus serrator; Hooded Merganser; Lophodytes cucullatus; Common merganser; Mergus merganser; Parasites;

**Abstract:** Experimental infections of laboratory-raised birds supported field data indicating that Common Mergansers (Mergus merganser L.) (prevalence = 20.8%, mean intensity = 3.2) and Red-breasted Mergansers (Mergus serrator L.) (prevalence = 4.0%, mean intensity = 1) are important hosts of Eustrongylides tubifex in Ontario. Fourth-stage larvae from naturally infected fish were used to infect birds. In birds, the fourth moult occurred 2 days postinfection and adult worms retained the fourth-stage cuticle. In experimentally infected mergansers, E. tubifex developed in the tunica muscularis of the proventriculus, eliciting raised, oval tumors. Worms matured rapidly, produced eggs 10 to 17 days postinfection, and then degenerated. Tumors resolved rapidly in the proventriculus which returned to its normal condition by approximately 30 days postinfection. Worms were sometimes found in aberrant locations such as the gizzard and liver but this occurred less frequently in Common Mergansers and Red-breasted Mergansers than in other experimentally infected birds (Hooded Mergansers (Mergus cucullatus L.), Great Blue Heron (Ardea herodias L.), Double-crested Cormorants (Phalacrocorax auritus (Lesson)), and domestic ducks (Anas platyrhynchos L.)).

**URL:** <Go to ISI>://BCI198987029654

**Reference Type:**  Journal Article

**Record Number:** 770

**Author:** L. N. Measures

**Year:** 1988

**Title:** Epizootiology Pathology and Description of Eustrongylides-Tubifex Nematoda Dioctophymatoidea in Fish

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 10

**Pages:** 2212-2222

**Short Title:** Epizootiology Pathology and Description of Eustrongylides-Tubifex Nematoda Dioctophymatoidea in Fish

**Accession Number:** BCI:BCI198987029653

**Keywords:** Common merganser; Mergus merganser; Parasites; Nonbreeding Seasons;

**Abstract:** In Guelph Lake, a man-made reservoir in Ontario, Canada, prevalence of larval Eustrongylides tubifex in pumpkinseed (Lepomis gibbosus), rock bass (Ambloplites rupestris), and yellow perch (Perca flavescens) was 12.9% and mean intensity ranged from 1 to 1.8. Larvae were encapsulated on the mesentery of fish. Pumpkinseed and yellow perch were the important fish hosts in Guelph Lake as most larvae in these fish were alive. In contrast, 40% of larvae in rock bass were dead and calcified. Third- and fourth-stage larvae from naturally infected fish are described. Larvae in the three species of fish elicited a granulomatous inflammatory reaction. Attempts to transfer third-stage larvae from experimentally infected oligochaetes and third-stage larvae from naturally infected fish to laboratory-reared pumpkinseed were unsuccessful. Fourth-stage larvae from naturally infected fish were transferred successfully to pumpkinseed. Eutropic lakes such as Guelph Lake are particularly suitable enzootic areas because of the abundant populations of tubificid intermediate hosts and the presence of fish hosts such as pumpkinseed and perch. The advanced stage and development of larvae (to the fourth stage) in fish likely represents an adaptation for a parasite that occurs in a migratory host such as Common Mergansers (Mergus merganser), which frequent Guelph Lake for only about 1 month in spring and fall.

**URL:** <Go to ISI>://BCI198987029653

**Reference Type:**  Journal Article

**Record Number:** 771

**Author:** L. N. Measures

**Year:** 1988

**Title:** Revision of the Genus Eustrongylides Jagerskiold 1909 Nematoda Dioctopymatoidea of Piscivorous Birds

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 4

**Pages:** 885-895

**Short Title:** Revision of the Genus Eustrongylides Jagerskiold 1909 Nematoda Dioctopymatoidea of Piscivorous Birds

**Accession Number:** BCI:BCI198886059852

**Keywords:** Common merganser; Mergus merganser; Parasites;

**Abstract:** The genus Eustrongylides Jagerskiold, 1909 (Namatoda: Dioctophymatoidea) is revised based on examination of adult E. tubifex from experimentally infected Common Mergansers (Mergus merganser) and specimens of Eustrongylides spp. from various museums. Only three species are considered distinguishable: E. tubifex (Nitzsch in Rudolphi, 1819) Jagerskiold, 1909 (the type species), E. ignotus Jagerskiold, 1909, and E. excisus Jagerskiold, 1909. All three species are redescribed. Eustrongylides perpapillatus Jagerskiold, 1909 is regarded as a synonym of E. tubifex. Eustrongylides formosensis Sugimoto, 1933, E. indicus Ali, 1971, E. phalacrocoracis Johnston and Mawson, 1941, E. plotinus Johnston and Mawson, 1941, E. tricolor Sugimoto, 1931, and E. excisus amoyensis Hoeppli, Hsu, and Wu, 1929 are regarded as synonyms of E. excisus. Nine additional species are considered species inquirendae; [Eustrongylides spinispiculum, E. wenrichi, E. gadepsis, E. acrochordi, E. sinicus, E. rubrum, E. papillosus, E. mergorum and E. africanus].

**URL:** <Go to ISI>://BCI198886059852

**Reference Type:**  Journal Article

**Record Number:** 2187

**Author:** D. E. Meattey, L. Savoy, J. Beuth, N. Pau, K. O'Brien, J. Osenkowski, K. Regan, B. Lasorsa and I. Johnson

**Year:** 2014

**Title:** Elevated mercury levels in a wintering population of common eiders (Somateria mollissima) in the northeastern United States

**Journal:** Marine Pollution Bulletin

**Volume:** 86

**Issue:** 1-2

**Pages:** 229-237

**Date:** Sep

**Short Title:** Elevated mercury levels in a wintering population of common eiders (Somateria mollissima) in the northeastern United States

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2014.07.015

**Accession Number:** WOS:000342860100037

**Keywords:** Common Eider; Somateria mollissima; Contaminants

**Abstract:** In North America and Europe, sea ducks are important indicators of ecological health and inshore marine pollution. To explore spatial variation in mercury accumulation in common eiders in the northeastern United States, we compared concentrations of total mercury in common eider blood at several New England locations between 1998 and 2013. Eider food items (mollusks) were collected and analyzed to determine if mercury concentrations in eider blood were indicative of local mercury bioavailability. Eiders from Plum Island Sound, MA had a significantly higher mean blood mercury concentration (0.83 mu g/g) than those in other locations. Mean mercury levels in this population were also nearly three times higher than any blood mercury concentrations reported for common eiders in published literature. We observed consistent patterns in eider blood mercury and blue mussel mercury concentrations between sites, suggesting a tentative predictive quality between the two species. (C) 2014 Elsevier Ltd. All rights reserved.

**Notes:** Meattey, Dustin E. Savoy, Lucas Beuth, Josh Pau, Nancy O'Brien, Kathleen Osenkowski, Jason Regan, Kevin Lasorsa, Brenda Johnson, Ian

**URL:** <Go to ISI>://WOS:000342860100037

**Reference Type:**  Journal Article

**Record Number:** 791

**Author:** E. R. Meek and B. Little

**Year:** 1977

**Title:** Ringing Studies of Goosanders in Northumberland

**Journal:** British Birds

**Volume:** 70

**Issue:** 7

**Pages:** 273-283

**Short Title:** Ringing Studies of Goosanders in Northumberland

**Accession Number:** BCI:BCI197713093598

**Keywords:** Common merganser; Mergus merganser;

**URL:** <Go to ISI>://BCI197713093598

**Reference Type:**  Journal Article

**Record Number:** 792

**Author:** E. R. Meek and B. Little

**Year:** 1977

**Title:** The Spread of the Goosander in Britain and Ireland

**Journal:** British Birds

**Volume:** 70

**Issue:** 6

**Pages:** 229-237

**Short Title:** The Spread of the Goosander in Britain and Ireland

**Accession Number:** BCI:BCI197713082417

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI197713082417

**Reference Type:**  Journal Article

**Record Number:** 2019

**Author:** R. J. Meese

**Year:** 1993

**Title:** EFFECTS OF PREDATION BY BIRDS ON GOOSENECK BARNACLE POLLICIPES-POLYMERUS SOWERBY DISTRIBUTION AND ABUNDANCE

**Journal:** Journal of Experimental Marine Biology and Ecology

**Volume:** 166

**Issue:** 1

**Pages:** 47-64

**Short Title:** EFFECTS OF PREDATION BY BIRDS ON GOOSENECK BARNACLE POLLICIPES-POLYMERUS SOWERBY DISTRIBUTION AND ABUNDANCE

**Notes:** MEESE, RJ

**Reference Type:**  Journal Article

**Record Number:** 1741

**Author:** K. R. Mehl and R. T. Alisauskas

**Year:** 2007

**Title:** King eider (Somateria spectabilis) brood ecology: Correlates of duckling survival

**Journal:** Auk

**Volume:** 124

**Issue:** 2

**Pages:** 606-618

**Date:** Apr 2007

**Short Title:** King eider (Somateria spectabilis) brood ecology: Correlates of duckling survival

**Accession Number:** BCI:BCI200700391789

**Keywords:** King Eider; Somateria spectabilis; Survival; Dispersal; Breeding Season;

**Abstract:** Events during duckling growth can influence waterfowl population dynamics. To gain insight into King Eider (Somateria spectabilis) brood ecology, we monitored 111 and 46 individually marked ducklings from broods of 23 and 11 radiomarked King Eiders during 2000 and 2001, respectively. We used capture-mark-resight data to model apparent survival of King Eider ducklings and broods, and multistratum analysis to estimate probabilities of (1) movement among habitats and (2) apparent survival of ducklings that used various habitats. In addition, we recorded length of stay for 7 and 18 radiomarked females with failed nesting attempts during 2000 and 2001, respectively. Complete loss of individual broods accounted for 84% of all duckling mortality (106 of 126 mortalities), with most brood loss (74%; 17 of 23 broods lost) within the first two days after hatch. Estimated apparent survival of ducklings to 24 days of age was 0.10 (95% CI: 0.05 to 0.15). Apparent survival of broods was estimated to be 0.31 (95% CI: 0.13 to 0.50). Our data suggested an interaction between female size and hatch date, whereby larger females whose ducklings also hatched earlier raised more ducklings than either small females or those with ducklings that hatched later. Overland brood movements >= 1 km occurred in both years, and survival was greatest for ducklings on smaller ponds away from the central nesting area at Karrak Lake, Nunavut. Females that experienced nest failure and total brood loss left the study area earlier than females with surviving ducklings.

**URL:** <Go to ISI>://BCI200700391789

**Reference Type:**  Journal Article

**Record Number:** 1753

**Author:** K. R. Mehl, R. T. Alisauskas, K. A. Hobson and D. K. Kellett

**Year:** 2004

**Title:** To winter East or West? Heterogeneity in winter philopatry in a central-Arctic population of King Eiders

**Journal:** Condor

**Volume:** 106

**Issue:** 2

**Pages:** 241-251

**Date:** May 2004

**Short Title:** To winter East or West? Heterogeneity in winter philopatry in a central-Arctic population of King Eiders

**Accession Number:** BCI:BCI200400372979

**Keywords:** King Eider; Somateria spectabilis; Population Delineation; Dispersal; Productivity; Breeding Season; Nonbreeding Seasons;

**Abstract:** We used banding data from King Eiders (Somateria spectabilis) at Karrak Lake, Nunavut, Canada, during 2001 and 2002 in conjunction with analysis of naturally occurring stable isotopes (13C, 15N) from feathers to connect winter and breeding areas of individuals. We also investigated the occurrence of winter philopatry among nesting females, and examined cross-seasonal effects of wintering area on subsequent breeding. Isotopic data suggested that 66-73% of this central-arctic breeding population wintered to the west (i.e., Bering Sea and North Pacific) and the remaining 24-37% wintered to the east (i.e., west Greenland, northwest Atlantic). In contrast, limited band recoveries from hunter-killed King Eiders marked at the same breeding location suggested that about 56% of individuals were shot in eastern wintering areas. These differences likely reflect stronger hunting pressures along the coast of Greenland, which result in more band recoveries for this area. Our results suggest that female King Eiders were not strongly philopatric to wintering areas among years. Individuals that wintered in western seas initiated nests 1.9 days earlier and had slightly larger clutches during early initiation relative to females that wintered in the east. Nest parasitism appeared to be biased toward earlier nesters, many of which wintered in the west. Female condition during incubation did not vary by wintering area. Our results have important implications for gene flow and for potentially associating wintering-area conditions with overall demography and individual fitness of King Eiders.

**URL:** <Go to ISI>://BCI200400372979

**Reference Type:**  Journal Article

**Record Number:** 1748

**Author:** K. R. Mehl, R. T. Alisauskas, K. A. Hobson and F. R. Merkel

**Year:** 2005

**Title:** Linking breeding and wintering areas of king eiders: Making use of polar isotopic gradients

**Journal:** Journal of Wildlife Management

**Volume:** 69

**Issue:** 3

**Pages:** 1297-1304

**Date:** Jul 2005

**Short Title:** Linking breeding and wintering areas of king eiders: Making use of polar isotopic gradients

**Accession Number:** BCI:BCI200600097384

**Keywords:** King Eider; Somateria spectabilis; Population Delineation; Techniques; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200600097384

**Reference Type:**  Journal Article

**Record Number:** 1604

**Author:** F. Mehlum

**Year:** 1991

**Title:** Breeding Population Size of the Common Eider Somateria-Mollissima in Kongsfjorden Svalbard Arctic Ocean 1981-1987

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 21-30

**Short Title:** Breeding Population Size of the Common Eider Somateria-Mollissima in Kongsfjorden Svalbard Arctic Ocean 1981-1987

**Accession Number:** BCI:BCI199192122758

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The breeding population size of the Common Eider Somateria mollissima was censused during a seven year period (1981-1987) in Kongsfjorden, Svalbard. The total number of breeding pairs fluctuated between 1,000 and 3,400 depending on the sea-ice conditions in the fjord. In seasons with late breakup of sea-ice in the fjord (1981 and 1986), fewer Eiders occupied their breeding islands than in seasons with early breakup. The proportion of breeding pairs on each island also varied with the years. In years with early ice breakup and snow-melt the major part of the Eiders nested at relatively low density on the largest island in the area. In years with late breakup and snow melt, most of the breeding birds inhabited the smaller and outermost islands. Egg clutch sizes varied with egg-laying dates, with the smallest clutches late in the season.

**URL:** <Go to ISI>://BCI199192122758

**Reference Type:**  Journal Article

**Record Number:** 1606

**Author:** F. Mehlum

**Year:** 1991

**Title:** Egg Predation in a Breeding Colony of the Common Eider Somateria-Mollissima in Kongsfjorden Svalbard Arctic Ocean

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 37-46

**Short Title:** Egg Predation in a Breeding Colony of the Common Eider Somateria-Mollissima in Kongsfjorden Svalbard Arctic Ocean

**Accession Number:** BCI:BCI199192122759

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season; Trophic Interactions;

**Abstract:** Egg predation was studied in a colony of Common Eiders Somateria mollissima in Svalbard during three breeding seasons, 1982-1984. The colony was located on the small island Mietheholmen (3700 m2) and was inacessible to the Arctic Fox Alopex lagopus after the late spring breakup of the surrounding sea-ice. Egg-laying started after the island was free of ice. The main predators on Eider egg was the Glaucous Gull Larus Hyperboreus. Based on mean daily egg predation rates during different parts of the breeding period, an estimate of the total egg loss was made. A total of 41.5, 77.9 and 77.9% of all eggs laid were subject to predation or in other ways lost during the 25-day incubation period in the three breeding seasons 1982-1984 respectively. The lowest predation rate was registered in the most densely populated parts of the colony. All predation observed occurred while the female was away from the nest for short rest bouts on the sea.

**URL:** <Go to ISI>://BCI199192122759

**Reference Type:**  Journal Article

**Record Number:** 1919

**Author:** F. Mehlum

**Year:** 2012

**Title:** Effects of sea ice on breeding numbers and clutch size of a high arctic population of the common eider Somateria mollissima

**Journal:** Polar Science

**Volume:** 6

**Issue:** 1

**Pages:** 143-153

**Date:** Apr

**Short Title:** Effects of sea ice on breeding numbers and clutch size of a high arctic population of the common eider Somateria mollissima

**ISSN:** 1873-9652

**DOI:** 10.1016/j.polar.2012.03.004

**Accession Number:** WOS:000315303700013

**Keywords:** Common eider; somateria mollissima; Productivity; Breeding Season

**Notes:** Times Cited: 2

Mehlum, Fridtjof

2

SI

**URL:** <Go to ISI>://WOS:000315303700013

**Reference Type:**  Journal Article

**Record Number:** 1605

**Author:** F. Mehlum, L. Neilsen and I. Gjertz

**Year:** 1991

**Title:** Effect of Down Harvesting on Nesting Success in a Colony of the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 47-50

**Short Title:** Effect of Down Harvesting on Nesting Success in a Colony of the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean

**Accession Number:** BCI:BCI199192122760

**Keywords:** Common Eider; Somateria mollissima; Conservation; Productivity; Breeding Season;

**Abstract:** The effect of down harvesting in a high arctic colony of breeding Eiders Somateria mollissima was studied in Svalbard in 1987. An experiment was conducted with three groups of harvested nests and one control group of unharvested nests. The nests were harvested in the first half, or in both halves of the incubation period. A total of 716 nests were included in the experiment. No difference in nest success of egg loss was recorded between harvested and unharvested nests.

**URL:** <Go to ISI>://BCI199192122760

**Reference Type:**  Journal Article

**Record Number:** 851

**Author:** P. L. Meininger and K. De Kraker

**Year:** 1992

**Title:** Red-Breasted Merganser as a Breeding Bird in the Southwest Netherlands 1987-1991

**Journal:** Limosa

**Volume:** 65

**Issue:** 2

**Pages:** 49-51

**Short Title:** Red-Breasted Merganser as a Breeding Bird in the Southwest Netherlands 1987-1991

**Accession Number:** BCI:BCI199294093557

**Keywords:** Red-breasted merganser; Mergus serrator; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Until 1977, Red-breasted Mergansers were found breeding at least twelve times in The Netherlands, always in the Wadden Sea area. Between 1977 and 1991 this species has bred annually in the Delta area of the SW-Netherlands, with a maximum of 11-12 pairs in 1988 (table 1). In this area Red-breasted Mergansers breed along recently dammed sea-arms, along fresh waters as well as along salt waters. Considering the fact that more areas will develop into potentially suitable breeding sites in the near future, a further increase in breeding numbers is expected.

**URL:** <Go to ISI>://BCI199294093557

**Reference Type:**  Journal Article

**Record Number:** 70

**Author:** W. Meissner

**Year:** 2005

**Title:** Birds as victims of marine oil pollution

**Journal:** Wiadomosci Ekologiczne

**Volume:** 51

**Issue:** 1

**Pages:** 17-34

**Date:** 05

**Short Title:** Birds as victims of marine oil pollution

**Accession Number:** BCI:BCI200510050703

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Oil enters the marine environment from different sources: from vessels, pipelines and offshore exploration platforms. Amount of oil spills entering marine environment decreases gradually, but oil slicks are still significant danger for marine animals, also for birds. Oil spills have resulted in the death of a large number of seabirds (Table I), which are very sensitive to both internal and external affects of crude oil and its refined products. The overall result of efforts to rehabilitate oiled birds is poor.In many countries the extent of chronic oil pollution along a given shoreline is assessed by conducting systematic beached bird surveys, and determining the number and percentage of birds found that are oiled. The percentage of found oiled birds is considered to indicate the risk to birds of becoming oiled at sea, and thus to represent between-year fluctuations in the amount of oil spilled in marine environment. Moreover, species structure of oiled birds indicates the zone in which oil was spilled. Occurrence of seaducks or auks among victims of oil pollution suggests that spill entered sea waters far from the coastline, where these species are more abundant. On the other hand, dominance of swans, dabbling ducks and coots with absence of seaducks and auks indicates that source of pollution was localised close to the shoreline.Researches conducted along the Polish coast showed, that the amount of oil in marine waters of Polish Baltic zone was much lower that 30 years ago (Fig. 1).

**URL:** <Go to ISI>://BCI200510050703

**Reference Type:**  Journal Article

**Record Number:** 953

**Author:** W. Meissner

**Year:** 2010

**Title:** Seasonal changes in numbers and distribution of the Long-tailed Duck Clangula hyemalis, Common Scoter Melanitta nigra and Velvet Scoter M. fusca near the Cape Rozewie

**Journal:** Ornis Polonica

**Volume:** 51

**Issue:** 4

**Pages:** 275-284

**Short Title:** Seasonal changes in numbers and distribution of the Long-tailed Duck Clangula hyemalis, Common Scoter Melanitta nigra and Velvet Scoter M. fusca near the Cape Rozewie

**Accession Number:** BCI:BCI201100384775

**Keywords:** Long-tailed Duck; Clangula hyemalis; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Seasonal changes in numbers and distribution of the Long-tailed Duck Clangula hyemalis, Common Scoter Melanitta nigra and Velvet Scoter M. fusca near the Cape Rozewie. In 2003-2004 a study was conducted aiming to assess the seasonal changes in number and distribution of the three common sea-duck species. The research was carried out on the Baltic Sea between Bialogora and Wladystawowo in the two zones: coastal and open-sea zone. Birds were counted from a ship along the same routes. The number of Long-tailed Ducks Clangula hyemalis was the highest in autumn (maximum 42000 incl.), and subsequently declined. The species reached high numbers in both zones. The Common Scoter Melanitta nigra ocurred mostly in coastal zone. Its number fluctuated considerably throughout the season, and reached a peak of 3300 Md. (in both zones) on 5th April 2004. The Velvet Scoter M. fusca was much more abundant in open-sea zone, and reached a peak in autumn (9500 id.). In autum the highest densities of the clucks were found in a narrow belt of shallow waters of coastal zone, while in winter and spring most birds were concentrated in north-eastern part of the studied area with deeper waters. The most plausible reason for the desertion of coastal-zone was over-exploitation of mussel populations, which constitute the main food of the clucks. Deeper waters in open-sea zone offer high densities of benthic organisms, although diving there is more costly in terms of energy. Changes in the numbers of Long-tailed Ducks could result from both the end of autumn migration and movements of some birds to open-sea zone.

**URL:** <Go to ISI>://BCI201100384775

**Reference Type:**  Journal Article

**Record Number:** 1920

**Author:** W. Meissner, I. Fischer and S. Bzoma

**Year:** 2012

**Title:** Changes in the body composition of Velvet Scoters (Melanitta fusca) wintering in the Gulf of Gdansk

**Journal:** Oceanological and Hydrobiological Studies

**Volume:** 41

**Issue:** 3

**Pages:** 11-16

**Date:** Sep

**Short Title:** Changes in the body composition of Velvet Scoters (Melanitta fusca) wintering in the Gulf of Gdansk

**ISSN:** 1730-413X

**DOI:** 10.2478/s13545-012-0023-1

**Accession Number:** WOS:000305987500002

**Keywords:** white-winged Scoter; Melanitta fusca; energetics and Nutrition; Nonbreeding Seasons

**Notes:** Times Cited: 0

Meissner, Wlodzimierz Fischer, Izabela Bzoma, Szymon

Meissner, Wlodzimierz/A-3657-2008

Meissner, Wlodzimierz/0000-0002-1259-2838

0

**URL:** <Go to ISI>://WOS:000305987500002

**Reference Type:**  Journal Article

**Record Number:** 32

**Author:** W. Meissner and P. Rydzkowski

**Year:** 2007

**Title:** Wintering of waterfowl in the Bay of Gdansk in the season 2005/2006

**Journal:** Notatki Ornitolgiczne

**Volume:** 48

**Issue:** 2

**Pages:** 143-147

**Short Title:** Wintering of waterfowl in the Bay of Gdansk in the season 2005/2006

**Accession Number:** BCI:BCI200800442449

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The ice cover appeared in January. Till mid-March the ice covered the inner section of the Puck Bay from the Reda river mouth to Kuznica village. In October large number of the Coot Fulica atra was noted. This species showed significant fluctuations in numbers during the last 22 years. Peak numbers of wintering Coots occurred at the turn of the 1980s and 1990s, when a few exceptionally mild winters appeared subsequently. In February the number of the Goldeneye Bucephala clangula reached 30 thousand. 22.7 thousand (76%) of which stayed in the mouth section of the Vistula river. This was the highest winter concentration of this species noted in Poland, which consisted of 5-7% of the European wintering population. Similarly to the previous seasons, the number of wintering Mute Swans Cygnus olor exceeded 5 thousand individuals, which is ca 2% of the population wintering in north-western Europe. The numbers of Goosanders Mergus merganser were also exceptionally large. The results indicate high importance of the western part of the Gulf of Gdansk for wintering waterbirds. In February the coastal zone supported 91800 waterbirds, except gulls. The numbers of gulls at rubbish dumps lower than usual might be a result of organized human disturbance. The number of gulls along the coast remained stable and, with an exception in January 2004, fluctuated at the level of 7-8 thousand individuals.

**URL:** <Go to ISI>://BCI200800442449

**Reference Type:**  Journal Article

**Record Number:** 78

**Author:** W. Meissner and C. Wojcik

**Year:** 2004

**Title:** Wintering of waterfowl on the Bay of Gdansk in the season 2003/2004

**Journal:** Notatki Ornitolgiczne

**Volume:** 45

**Issue:** 3

**Pages:** 203-206

**Short Title:** Wintering of waterfowl on the Bay of Gdansk in the season 2003/2004

**Accession Number:** BCI:BCI200510286248

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The Bay of Gdansk was iced only during the January control, the ice covering the whole inner part of the Puck Bay. A small area in the mouth of the Reda River that was free of ice grouped ca 25 thousand birds; including 19 700 Tufted Ducks Aythya fuligula, 1 200 Coots Fulica atra and 1 200 Mallards Anas platyrhynchos, which constituted respectively 78, 61 and 52% of all representatives of these species observed during this control. In comparison with two preceding seasons, a decline in the abundance of wintering Mute Swans Cygnus olor and Goosanders Mergus merganser was recorded. The number of gulls at the rubbish dumps exceeded considerably the values noted along the shore of the Gdansk Bay. Like in the previous seasons, an absolute dominant in the group concerned was the Herring Gull Larus argentatus.

**URL:** <Go to ISI>://BCI200510286248

**Reference Type:**  Journal Article

**Record Number:** 1746

**Author:** H. Meltofte

**Year:** 2006

**Title:** Populations and breeding performance of divers, geese and ducks at Zackenberg, northeast Greenland, 1995-2005

**Journal:** Wildfowl

**Volume:** 56

**Pages:** 129-151

**Short Title:** Populations and breeding performance of divers, geese and ducks at Zackenberg, northeast Greenland, 1995-2005

**Accession Number:** BCI:BCI200700194767

**Keywords:** Long-tailed Duck; Clangula hyemalis; King Eider; Somateria spectabilis; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Monitoring at Zackenberg (74 degrees 30'N, 20 degrees 30'W) since 1995 has provided for the first time long-term data on population trends and breeding performance for a number of high-arctic waterbird species in Greenland. Breeding populations of Red-throated Diver Gavia stellata and Long-tailed Duck Clangulahyemalis were relative stable from year to year, whereas breeding success varied with the abundance of Arctic Fox Alopex, lagopus and Collared Lemming Dicrostonyx groenlandicus. Average nest survival in Red-throated Diver was 18% between 1996 and 2005, and at least five pairs produced a total of about 29 potentially fledged young, or at least 0.5 per pair per year-most of them in two years with few Arctic Foxes. Long-tailed Duck bred successfully in only one year, a year with many Arctic Foxes but also much alternative prey in the form of Collared Lemmings. Few pairs of King Eider Somateria spectabilis were found, and these had poor breeding success. Between four and 32 pairs of Barnacle Geese Branta leucopsis brought their goslings into the study area from nearby colonies each year. An average of about 0.6% of the goslings disappeared per day during the fledging period. More than 500 immature Icelandic Pink-footed Geese Anser brachyrhynchus moulted in the study area at the beginning of the study period, but most disappeared after a few years in spite of attempts to protect them from human disturbance. There is some indication that numbers of both Pink-footed Goose and Long-tailed Duck at Zackenberg have declined since the 1960s.

**URL:** <Go to ISI>://BCI200700194767

**Reference Type:**  Journal Article

**Record Number:** 158

**Author:** H. Meltofte, J. Blew, J. Frikke, H.-U. Roesner and C. Smit

**Year:** 1994

**Title:** Numbers and distribution of waterbirds in the Wadden Sea

**Journal:** Ophelia

**Volume:** 0

**Issue:** SUPPL. 6

**Pages:** 344

**Short Title:** Numbers and distribution of waterbirds in the Wadden Sea

**Accession Number:** BCI:BCI199598015846

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI199598015846

**Reference Type:**  Journal Article

**Record Number:** 1670

**Author:** H. L. Mendall

**Year:** 1980

**Title:** Intergradation of Eastern American Common Eiders

**Journal:** Canadian Field-Naturalist

**Volume:** 94

**Issue:** 3

**Pages:** 286-292

**Short Title:** Intergradation of Eastern American Common Eiders

**Accession Number:** BCI:BCI198171001279

**Keywords:** Common Eider; Somateria mollissima; Taxonomy; Physiology;

**Abstract:** Bill measurements were taken of adult females of 3 ssp. of North American common eiders: Somateria mollissima dresseri, S. m. borealis and S. m. sedentaria and also S. m. borealis-S. m. dresseri intergrades, as an aid in recognizing these races. Live birds and fresh specimens were primarily from Labrador, Newfoundland [Canada], and Maine [USA], and museum skins were from various parts of their ranges. Of 4 bill measurements used, the culmen midline length commonly given in avian literature was the least helpful. Total bill length and or the distance from the nostril to the posterior extension of the frontal lobe permitted separation (P < 0.05) of most individuals of the various subspecies and population groups, including intergrades. Facial feather patterns and plumage coloration varied too much to be reliable as criteria for racial identification. Intergradation between S. m. borealis and S. m. dresseri occurs regularly on the central Labrador coast, and S. m. borealis probably also intergrades with other subspecies where their breeding ranges overlap.

**URL:** <Go to ISI>://BCI198171001279

**Reference Type:**  Book Section

**Record Number:** 1640

**Author:** H. L. Mendall

**Year:** 1987

**Title:** Identification of Eastern Races of the Common Eider

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 82-88

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Identification of Eastern Races of the Common Eider

**Accession Number:** BCI:BCI198834004264

**Keywords:** Common Eider; Somateria mollissima; Taxonomy;

**URL:** <Go to ISI>://BCI198834004264

**Reference Type:**  Journal Article

**Record Number:** 1651

**Author:** H. L. Mendall, A. E. Hutchinson and R. B. Owen

**Year:** 1984

**Title:** Nesting by Injured Common Eiders Somateria-Mollissima-Dresseri

**Journal:** Wilson Bulletin

**Volume:** 96

**Issue:** 2

**Pages:** 305-306

**Short Title:** Nesting by Injured Common Eiders Somateria-Mollissima-Dresseri

**Accession Number:** BCI:BCI198528009948

**Keywords:** Common Eider; Somateria mollissima; Breeding Season;

**URL:** <Go to ISI>://BCI198528009948

**Reference Type:**  Journal Article

**Record Number:** 1996

**Author:** V. M. Mendonca, D. G. Raffaelli and P. R. Boyle

**Year:** 2007

**Title:** Interactions between shorebirds and benthic invertebrates at Culbin Sands lagoon, NE Scotland: Effects of avian predation on their prey community density and structure

**Journal:** Scientia Marina

**Volume:** 71

**Issue:** 3

**Pages:** 579-591

**Date:** Sep

**Short Title:** Interactions between shorebirds and benthic invertebrates at Culbin Sands lagoon, NE Scotland: Effects of avian predation on their prey community density and structure

**Notes:** Mendonca, Vanda Mariyam Raffaelli, David George Boyle, Peter R.

**Reference Type:**  Journal Article

**Record Number:** 1991

**Author:** B. A. Menge and D. N. L. Menge

**Year:** 2013

**Title:** Dynamics of coastal meta-ecosystems: the intermittent upwelling hypothesis and a test in rocky intertidal regions

**Journal:** Ecological Monographs

**Volume:** 83

**Issue:** 3

**Pages:** 283-310

**Date:** Aug

**Short Title:** Dynamics of coastal meta-ecosystems: the intermittent upwelling hypothesis and a test in rocky intertidal regions

**DOI:** 10.1890/12-1706.1

**Notes:** Menge, Bruce A. Menge, Duncan N. L.

**Reference Type:**  Journal Article

**Record Number:** 1583

**Author:** J. B. Mercer and H. T. Hammel

**Year:** 1993

**Title:** The shivering response during cross-circulation in the common eider duck (Somateria mollissima)

**Journal:** Acta Physiologica Scandinavica

**Volume:** 148

**Issue:** 3

**Pages:** 327-334

**Short Title:** The shivering response during cross-circulation in the common eider duck (Somateria mollissima)

**Accession Number:** BCI:BCI199396094028

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**Abstract:** The possible role of humoral factors in the control of shivering in the common eider duck (Somateria mollissima) was investigated using a cross-circulation technique. Pairs of animals were coupled so that the arterial system of one animal was connected to the venous system of the other. The rate of blood transferral was 12.8 ml min-1. By adequate heparinization of the extracorporal blood supply, cross-circulation could be maintained for periods of up to 12 h. The temperature of blood entering each animal (T-inlet) was controlled by heat exchangers. During control experiments T-inlet was maintained at a temperature close to normal body temperature. During cooling experiments T-inlet was maintained at c. 20 degree C. Changes in metabolic heat production and oesophageal temperature in response to blood cooling were measured in cross-circulated pairs of animals cooled simultaneously or individually. Based on analysis of the metabolic responses under the different experimental situations, no evidence was found to indicate that blood-borne substances are involved in the shivering response in these animals.

**URL:** <Go to ISI>://BCI199396094028

**Reference Type:**  Journal Article

**Record Number:** 651

**Author:** M. T. Merendino, C. D. Ankney and R. K. Ross

**Year:** 2000

**Title:** A helicopter-based survey of waterfowl broods in central Ontario

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 2

**Pages:** 296-300

**Date:** April-June, 2000

**Short Title:** A helicopter-based survey of waterfowl broods in central Ontario

**Accession Number:** BCI:BCI200100021844

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The Precambrian shield region of central Ontario supports numerous breeding waterfowl, but only localized attempts to document broad production have been undertaken. During summers of 1990 and 1991, we conducted brood surveys, via helicopter, on 13 100-km2 (10 km X 10 km) survey plots. The most common broods were Mallard, Black Duck, Wood Duck, Hooded Merganser, and Ring-necked Duck. Observations of these species were in proportion to, or greater than, expected frequencies compared to abundance of breeding pairs. Class IIb-III brood sizes for all species were similar to those reported from ground surveys in other areas of eastern Canada and the United States. Peak hatching for all species occurred from 1 June to 15 July. Based on numbers of breeding waterfowl and the general agreement between brood and pair ratios, considerable waterfowl production likely occurs in central Ontario. We suggest that brood surveys in central Ontario start no earlier than 25 June and end by 25 July. Surveys are expensive, so effort should be stratified based on breeding pair densities. For cost-effectiveness, a single survey in late July may provide a reliable production index for both early and late-nesting species.

**URL:** <Go to ISI>://BCI200100021844

**Reference Type:**  Journal Article

**Record Number:** 1433

**Author:** F. R. Merkel

**Year:** 2004

**Title:** Evidence of population decline in common eiders breeding in Western Greenland

**Journal:** Arctic

**Volume:** 57

**Issue:** 1

**Pages:** 27-36

**Date:** March 2004

**Short Title:** Evidence of population decline in common eiders breeding in Western Greenland

**Accession Number:** BCI:BCI200400278745

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** In the Arctic, there is great concern for several eider populations, including the northern common eider (Samateria mollissima borealis) breeding in Canada and Greenland. In 1998-2001, extensive ground surveys were conducted on 937 potential nesting islands in West Greenland, covering most of the districts of Ilulissat, Uummannaq, and Upernavik (69degree15' N to 74degree05'N). On 216 islands within 106 eider colonies, 4097 468 active nests were identified. In 15 colonies where comparable and well-documented surveys were conducted approximately 40 years ago, the study shows a population decline of 81% (from 3361 to 624 nests). A rough comparison shows that of 51 eider colonies surveyed in 1920, 1960, or 1965, 71% either were gone or had declined in breeding numbers when resurveyed in 1998-2001. At the colony level, the 1998-2001 surveys revealed large year-to-year variations in nesting numbers. The reason for the overall decline is not clear. However, there is circumstantial evidence that harvest of common eiders in West Greenland is a key factor. The results urgently call for more cautious management of the northern common eider population.

**URL:** <Go to ISI>://BCI200400278745

**Reference Type:**  Journal Article

**Record Number:** 1752

**Author:** F. R. Merkel

**Year:** 2004

**Title:** Impact of hunting and gillnet fishery on wintering eiders in Nuuk, southwest Greenland

**Journal:** Waterbirds

**Volume:** 27

**Issue:** 4

**Pages:** 469-479

**Date:** December 2004

**Short Title:** Impact of hunting and gillnet fishery on wintering eiders in Nuuk, southwest Greenland

**Accession Number:** BCI:BCI200500102495

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Conservation; Nonbreeding Seasons;

**Abstract:** Commercial harvests of the Common Eider (Somateria mollissima) and King Eider (S. spectabilis) was studied at the local market in Nuuk (southwest Greenland) during the hunting season (Oct-May) in 2000 and 2001. The goal was to quantify composition (species, sex and age), sources (hunting or bycatch), and spatio-temporal distribution of the harvest. Hunting within 30 km of the city was the source of 98% of all eiders sent to market from October until March. In contrast, bycatch in gillnets accounted for 52% of the eiders brought to the market in March and April. In April, most bycatch were from remote fjord habitat;. which seem to hold a high proportion of adult Common Eiders. As measured by the removal of potential reproductive eiders, the spring harvest (April and May) was critical for the Common Eider, while the impact of harvest was highest during midwinter (January and February) for the King Eider. Sympatric distributions within hunting areas complicate management of both specie. Spring hunting and gillnet bycatch are of high management concern.

**URL:** <Go to ISI>://BCI200500102495

**Reference Type:**  Journal Article

**Record Number:** 1300

**Author:** F. R. Merkel

**Year:** 2010

**Title:** Evidence of Recent Population Recovery in Common Eiders Breeding in Western Greenland

**Journal:** Journal of Wildlife Management

**Volume:** 74

**Issue:** 8

**Pages:** 1869-1874

**Date:** Nov 2010

**Short Title:** Evidence of Recent Population Recovery in Common Eiders Breeding in Western Greenland

**Accession Number:** BCI:BCI201100026230

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Conservation; Breeding Season;

**Abstract:** Severe population declines were reported for common eiders (Somateria mollissima) in western Greenland over the period 1960-2000. A monitoring program, concurrent with more restrictive hunting regulations on common eiders, revealed breeding numbers increasing by 212%, from 2,558 active nests in 2000 to 7,982 nests in 2007. Though it was not possible to directly link harvest reduction and population growth in West Greenland, a similar increase in breeding numbers in Canada was correlated with the harvest reduction in Greenland and linked to increasing adult survival and recruitment of first-time breeders, and a similar explanation is suggested for West Greenland. The study emphasizes that appropriate restrictions in hunting can be efficient in wildlife management and that common eiders can sustain dramatic rates of increase during population regrowth. It also shows that cost-efficient monitoring programs can be established through cooperation with local residents.

**URL:** <Go to ISI>://BCI201100026230

**Reference Type:**  Journal Article

**Record Number:** 1392

**Author:** F. R. Merkel, K. Falk and S. E. Jamieson

**Year:** 2006

**Title:** Effect of embedded lead shot on body condition of common eiders

**Journal:** Journal of Wildlife Management

**Volume:** 70

**Issue:** 6

**Pages:** 1644-1649

**Date:** Dec 2006

**Short Title:** Effect of embedded lead shot on body condition of common eiders

**Accession Number:** BCI:BCI200700217736

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Conservation; Nonbreeding Seasons;

**Abstract:** During waterfowl hunting a large number of birds are shot but not instantly killed. Some will die within a few days as a direct consequence of heavy injuries, whereas another proportion is only lightly injured and will survive for an extended period of time although their survival may still be affected. We predicted that embedded body shot (when not instantly lethal) will cause reduced body condition among common eiders (Somateria mollissima), as we assumed such birds to be physical disadvantaged (e.g., as to mobility and foraging) from their injuries. Among birds collected during 3 winters (2000-2002) by Inuit hunters and fishermen in Nuuk, southwest Greenland, we X-rayed and dissected 762 common eiders to extract information about embedded lead shot and body condition. After adjusting for structural body size, year and date of sampling, habitat, and sampling method, we found that embedded lead shot had a significant effect on juvenile body condition. Wounded juvenile birds carried on average 19% less fat than unwounded juveniles. In accordance with a priori predictions, we did not detect an impact of wounding on the body condition of immature and adult birds. For most of these older birds, the shooting incidence took place > 1 year before they were collected, and the insignificant test results indicated the absence of a long-term effect on body condition once birds survived the initial effect of wounding. For juvenile birds, the wounding effect most likely added to other causes of mortality; however, additional knowledge about natural mortality is required to estimate the net consequence on population dynamic.

**URL:** <Go to ISI>://BCI200700217736

**Reference Type:**  Journal Article

**Record Number:** 1365

**Author:** F. R. Merkel, S. E. Jamieson, K. Falk and A. Mosbech

**Year:** 2007

**Title:** The diet of common eiders wintering in Nuuk, Southwest Greenland

**Journal:** Polar Biology

**Volume:** 30

**Issue:** 2

**Pages:** 227-234

**Date:** Jan 2007

**Short Title:** The diet of common eiders wintering in Nuuk, Southwest Greenland

**Accession Number:** BCI:BCI200700053227

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Southwest Greenland provides wintering grounds for 70% (similar to 460,000) of the northern common eider (Somateria mollissima borealis) population. From 241 gullet samples (esophagus and proventriculus content) collected over three winters (1999-2002) near Nuuk, we identified 39 species consumed by the eiders. In contrast to studies elsewhere, fresh mass of the diet was dominated by soft-bottom species: the bivalve Mya eideri (32.8%) and the polychaete Pectinaria spp. (24.2%). The hard-bottom blue mussel (Mytilus edulis), usually the dominant prey of common eiders, was only the fourth most important diet species (7.5%). Overall, bivalves accounted for 56% of the diet. Twenty-seven prey species were minor foods with aggregate fresh mass of only 5.5%. Diets of males and females were similar, whereas juveniles consumed greater mass of crustaceans and less of bivalves. Diet diversity was higher in mid-winter than late winter, and higher in coastal habitats than in fjords. Within one important wintering area the results indicate that optimal size of blue mussels may be depleted over winter.

**URL:** <Go to ISI>://BCI200700053227

**Reference Type:**  Journal Article

**Record Number:** 1921

**Author:** F. R. Merkel and K. L. Johansen

**Year:** 2011

**Title:** Light-induced bird strikes on vessels in Southwest Greenland

**Journal:** Marine Pollution Bulletin

**Volume:** 62

**Issue:** 11

**Pages:** 2330-2336

**Date:** Nov

**Short Title:** Light-induced bird strikes on vessels in Southwest Greenland

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2011.08.040

**Accession Number:** WOS:000297393800020

**Keywords:** sea ducks; Conservation

**Notes:** Times Cited: 2

Merkel, Flemming Ravn Johansen, Kasper Lambert

Merkel, Flemming/J-7409-2013

2

**URL:** <Go to ISI>://WOS:000297393800020

**Reference Type:**  Journal Article

**Record Number:** 1344

**Author:** F. R. Merkel and A. Mosbech

**Year:** 2008

**Title:** Diurnal and Nocturnal Feeding Strategies in Common Eiders

**Journal:** Waterbirds

**Volume:** 31

**Issue:** 4

**Pages:** 580-586

**Date:** Dec 2008

**Short Title:** Diurnal and Nocturnal Feeding Strategies in Common Eiders

**Accession Number:** BCI:BCI200900175826

**Keywords:** Common Eider; Somateria mollissima; Behavior; Habitat; Nonbreeding Seasons;

**Abstract:** Feeding activity of wintering Common Eiders (Somateria mollissima) was conducted in Southwest Greenland. Behavioral observations were made at two wintering sites, a fjord habitat and an outer coastal habitat, at which habitat characteristics and human activities differed considerably. In the coastal area where hunting and fishing was common and foraging typically occurred 0.5 to one km from the shore eiders were identified as primarily diurnal feeders. They also foraged during twilight periods, but only rarely at night. In constrast, in the fjord where human disturbance was rare and foraging occurred very close to the shore (< 50 m) adult ciders fed only during twilight and at flight. During daytime, birds gathered in large communal roosts in open water away front feeding areas. Occasionally, feeding was initiated by juveniles during daytime, but was discontinued due to interactions with White-tailed Eagles (Haliaeetus albicilla groenlandicus) and suggests that nocturnal feeding is an anti-predator mechanism. More experienced adult birds in the fjord did not attempt feeding during daylight hours. Large Communal roosts observed at deep waters during previous aerial surveys suggest that nocturnal feeding maybe common throughout the fjords in Southwest Greenland. Received 10 January 2007 accepted 1 April 2007.

**URL:** <Go to ISI>://BCI200900175826

**Reference Type:**  Journal Article

**Record Number:** 103

**Author:** F. R. Merkel, A. Mosbech, D. Boertmann and L. Grondahl

**Year:** 2002

**Title:** Winter seabird distribution and abundance off south-western Greenland, 1999

**Journal:** Polar Research

**Volume:** 21

**Issue:** 1

**Pages:** 17-36

**Short Title:** Winter seabird distribution and abundance off south-western Greenland, 1999

**Accession Number:** BCI:BCI200200543995

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** South-western Greenland constitutes an internationally important wintering area for many seabird species. Several species of management concern have a predominantly near-coastal distribution, though available information about seabird numbers is mostly confined to offshore waters. Here we report on extensive aerial surveys conducted in March 1999, covering the coastal waters (up to 15-20 km from the mainland coast) and fjords of south-west Greenland. The most widespread and numerous species were estimated as 463 000 common eiders (Somateria mollissima), 153 000 king eiders (S. spectabilis), 125 000 thick-billed murres (Uria lomvia), 94 000 long-tailed ducks (Clangula hyemalis), and 12 000 black guillemots (Cepphus grylle). A total of 19 bird species were recorded. The estimates for common eider and long-tailed duck approximately represent the entire winter population in south-western Greenland while estimates for the other species represent only an unknown proportion since their distribution continues further offshore. Waters around Nuuk and within the Julianehabsbugten (Julianehab Bay) area were identified as areas of high seabird density. A large proportion of the common eider population was aggregated in the fjord systems (22%), calling attention to the importance of fjords for this species. In contrast, pelagic seabird species appear to be absent from the fjords. The large winter population of common eider reveals the importance of south-western Greenland as a key wintering area for the eastern Canadian breeding population. The western Greenland breeding population is the only other contributor, probably amounting to no more than 15 000 pairs.

**URL:** <Go to ISI>://BCI200200543995

**Reference Type:**  Journal Article

**Record Number:** 1740

**Author:** F. R. Merkel, A. Mosbech, S. E. Jamieson and K. Falk

**Year:** 2007

**Title:** The diet of king eiders wintering in Nuuk, Southwest Greenland, with reference to sympatric wintering common eiders

**Journal:** Polar Biology

**Volume:** 30

**Issue:** 12

**Pages:** 1593-1597

**Date:** Nov 2007

**Short Title:** The diet of king eiders wintering in Nuuk, Southwest Greenland, with reference to sympatric wintering common eiders

**Accession Number:** BCI:BCI200700591725

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Coastal and offshore waters of Southwest Greenland are internationally important wintering areas for king eiders (Somateria spectabilis) breeding in eastern Canadian Arctic and in northwestern Greenland. This paper presents the first assessment of their winter diet. Based on esophageal-proventricular samples from 26 females (13 juveniles and 13 older birds) and 15 males (11 juveniles and four older birds) collected in 2000-2002 (November-May) in coastal waters of Nuuk, we identified 28 prey species. The diet consisted of almost equal proportions (aggregate fresh mass) of polychaetes, echinoderms, crustaceans and molluscs. The dominant prey species were Pectinaria spp. (26.8%), Strongylocentrotus droebachiensis (18.4%), Mya eideri (11.2%) and Hyas araneus (9.7%). The polychaetes have previously been identified as important prey for eiders in Greenland, but apparently not outside Greenland. Compared with a diet study of common eiders Somateria mollissima from the same wintering area, the king eiders consumed significantly less bivalves and significantly more echinoderms. This difference corresponded with observations that common eiders were feeding in shallow waters, while king eiders were feeding in deeper waters farther from the shore. Benthic surveys are needed to confirm that diet corresponds with prey availability.

**URL:** <Go to ISI>://BCI200700591725

**Reference Type:**  Journal Article

**Record Number:** 1320

**Author:** F. R. Merkel, A. Mosbech and F. Riget

**Year:** 2009

**Title:** Common Eider Somateria mollissima feeding activity and the influence of human disturbances

**Journal:** Ardea

**Volume:** 97

**Issue:** 1

**Pages:** 99-107

**Date:** Spr 2009

**Short Title:** Common Eider Somateria mollissima feeding activity and the influence of human disturbances

**Accession Number:** BCI:BCI200900568154

**Keywords:** Common Eider; Somateria mollissima; Behavior; Conservation; Nonbreeding Seasons;

**Abstract:** We studied the impact of human disturbances on the feeding activities of Common Eiders Somateria mollissima wintering in Southwest Greenland. Eider activity and human disturbances (fast moving, open boats) were recorded during 9 days of observations in mid and late winter 2002. When most heavily disturbed, the feeding activity in the study area was reduced up to 60% on a daily basis. At the same time locomotion activity tripled. Logistic regression analyses showed that eiders attempted to compensate for lost feeding opportunities by rescheduling more feeding to periods where feeding conditions were relatively less profitable with respect to other variables. When undisturbed, eiders avoided feeding during high tide and intensified feeding at the start and at the end of the day, but these tendencies were levelled out if eiders were disturbed. When disturbed, the time interval and the distance to the last disturbance were both significant explanatory variables for the feeding activity. There was a cumulative effect of repeated disturbances on the feeding activity if disturbances were close in time and space (<1 h, <1 km). The day with the highest number of disturbances coincided with observations of nocturnal feeding the following night and may indicate that a critical threshold of disturbances was reached where eiders could not rely on a diurnal feeding strategy.

**URL:** <Go to ISI>://BCI200900568154

**Reference Type:**  Journal Article

**Record Number:** 1391

**Author:** F. R. Merkel, A. Mosbech, C. Sonne, A. Flagstad, K. Falk and S. E. Jamieson

**Year:** 2006

**Title:** Local movements, home ranges and body condition of Common Eiders Somateria mollissima wintering in Southwest Greenland

**Journal:** Ardea

**Volume:** 94

**Issue:** 3, Sp. Iss. SI

**Pages:** 639-650

**Short Title:** Local movements, home ranges and body condition of Common Eiders Somateria mollissima wintering in Southwest Greenland

**Accession Number:** BCI:BCI200700408473

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** We examined local movements, home ranges and body condition of wintering Northern Common Eiders Somateria niollissima borealis in Southwest Greenland from late winter until spring migration in 2000 and 2001. At key marine habitats at coastal areas and in the inner fjord system of Nuuk, we implanted 33 Eiders with satellite transmitters and collected Eider carcasses for body condition analyses. Most Eiders exhibited strong site fidelity during the study period with a mean 95% home range size of 67.8 km(2) and a mean core area (50%) of 8.1 km2. Diurnal movements peaked at dawn and dusk when birds presumably moved between feeding areas and roosting sites. Roosting occurred near daytime activity centres, on average 1.7 kin apart. Among birds marked at coastal habitats only between 8% and 29% also used the inner fjord habitats, despite high levels of hunting at the coastal area. Birds that did move to the inner fjord system did not return to the coastal area. These findings accentuate the need for managing wintering Common Eiders in Southwest Greenland also at a local scale, taking site fidelity into account. The body condition of adult fjord birds was either equal or superior to that of coastal birds. However, within-years and betweenyears-variation in body condition were larger for fjord birds, suggesting that they were challenged by a higher unpredictability at the local scale. Observations indicate that differences in habitat characteristics and the behaviour of avian predators may limit the exchange of Eiders between the coastal area and the inner fjord system. Our study suggests that often Eiders build up body reserves for the breeding season elsewhere; in three of four cases adult body condition declined from late winter to early spring.

**URL:** <Go to ISI>://BCI200700408473

**Reference Type:**  Journal Article

**Record Number:** 1299

**Author:** N. Michelutti, J. M. Blais, M. L. Mallory, J. Brash, J. Thienpont, L. E. Kimpe, M. S. V. Douglas and J. P. Smol

**Year:** 2010

**Title:** Trophic position influences the efficacy of seabirds as metal biovectors

**Journal:** Proceedings of the National Academy of Sciences of the United States of America

**Volume:** 107

**Issue:** 23

**Pages:** 10543-10548

**Date:** Jun 8 2010

**Short Title:** Trophic position influences the efficacy of seabirds as metal biovectors

**Accession Number:** BCI:BCI201000401819

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** Seabirds represent a well documented biological transport pathway of nutrients from the ocean to the land by nesting in colonies and providing organic subsidies (feces, carcasses, dropped food) to these sites. We investigated whether seabirds that feed at different trophic levels vary in their potency as biovectors of metals, which can bioaccumulate through the marine foodweb. Our study site, located on a small island in Arctic Canada, contains the unique scenario of two nearby ponds, one of which receives inputs almost exclusively from upper trophic level piscivores (Arctic terns, Sterna paradisaea) and the other mainly from lower trophic level molluscivores (common eiders, Somateria mollissima). We used dated sediment cores to compare differences in diatoms, metal concentrations and also stable isotopes of nitrogen (delta N-15), which reflect trophic position. We show that the seabirds carry species-specific mixtures of metals that are ultimately shunted to their nesting sites. For example, sediments from the tern-affected pond recorded the highest levels of delta N-15 and the greatest concentrations of metals that are known to bioaccumulate, including Hg and Cd. In contrast, the core from the eider-affected site registered lower delta N-15 values, but higher concentrations of Pb, Al, and Mn. These metals have been recorded at their greatest concentrations in eiders relative to other seabirds, including Arctic terns. These data indicate that metals may be used to track seabird population dynamics, and that some metal tracers may even be species-specific. The predominance of large seabird colonies on every continent suggests that similar processes are operating along coastlines worldwide.

**URL:** <Go to ISI>://BCI201000401819

**Reference Type:**  Journal Article

**Record Number:** 1271

**Author:** P. G. Mickelson

**Year:** 1975

**Title:** Breeding Biology of Cackling Geese and Associated Species on the Yukon Kuskokwim Delta Alaska USA

**Journal:** Wildlife Monographs

**Issue:** 45

**Pages:** 1-35

**Short Title:** Breeding Biology of Cackling Geese and Associated Species on the Yukon Kuskokwim Delta Alaska USA

**Accession Number:** BCI:BCI197661036348

**Keywords:** Spectacled Eider; Somateria fischeri; Breeding Season;

**URL:** <Go to ISI>://BCI197661036348

**Reference Type:**  Journal Article

**Record Number:** 996

**Author:** J. Mikola, M. Miettinen, E. Lehikoinen and K. Lehtila

**Year:** 1994

**Title:** The effects of disturbance caused by boating on survival and behaviour of velvet scoter Melanitta fusca ducklings

**Journal:** Biological Conservation

**Volume:** 67

**Issue:** 2

**Pages:** 119-124

**Short Title:** The effects of disturbance caused by boating on survival and behaviour of velvet scoter Melanitta fusca ducklings

**Accession Number:** BCI:BCI199497170919

**Keywords:** White-winged Scoter; Melanitta fusca; Productivity; Behavior; Conservation; Trophic Interactions; Breeding Season;

**Abstract:** We studied the consequences of human disturbance and gull predation on brood survival of velvet scoter Melanitta fusca in the Archipelago of South-West Finland in 1990 and 1991. Each brood was exposed to disturbance by boats on average 8.5 times a day in 1990 and 3.5 times a day in 1991. Disturbance lengthened the swimming distances of ducklings and reduced the time used for feeding. Broods disturbed more frequently than average were smaller than those disturbed less frequently. At least 60% of ducklings died before the age of three weeks. The common predators of ducklings in the study area are the herring gull Larus argentatus and the great black-backed gull Larus marinus. The daily predation rate by gulls on velvet scoter ducklings was 4.7%, which means that 56% of ducklings are caught by gulls during the first three weeks. The frequency of gull attacks was 3.5 times higher in disturbed than in undisturbed situations.

**URL:** <Go to ISI>://BCI199497170919

**Reference Type:**  Journal Article

**Record Number:** 102

**Author:** P. Milberg, L. Gezelius, I. Blindow, L. Nilsson and T. Tyrberg

**Year:** 2002

**Title:** Submerged vegetation and the variation in the autumn waterfowl community at Lake Takern, southern Sweden

**Journal:** Ornis Fennica

**Volume:** 79

**Issue:** 2

**Pages:** 72-81

**Short Title:** Submerged vegetation and the variation in the autumn waterfowl community at Lake Takern, southern Sweden

**Accession Number:** BCI:BCI200200468431

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** We analysed data from 25 years of standardised mid-September counts of waterfowl at eutrophic Lake Takern, southern Sweden. For eight species, counts were compared with a national index constructed from similar counts at numerous lakes and coastal sites. For Crested Grebes and Mute Swans there was a correlation between counts at Lake Takern and the national index, suggesting that they simultaneously vary in number over a large geographic area. Indirect gradient analysis (PCA) revealed a strong temporal trend in the data, which was covaried out in a partial PCA to expose residual patterns. This ordination separated Pochards and Tufted Ducks at on end of the first axis from Cormorants and Goosanders at the other. A direct gradient analysis, with biomass of submerged macrophytes (recorded for 14 of the 25 years) as the sole environmental variable, showed that bird species composition varied significantly with plant biomass. The piscivores, Cormorants and Goosanders, were abundant in years with small amounts of plant biomass, while several species were most abundant in years with large amounts. Our analyses suggest that the abundance of submerged macrophytes is an important determinant of the bird community composition in eutrophic lakes.

**URL:** <Go to ISI>://BCI200200468431

**Reference Type:**  Journal Article

**Record Number:** 1190

**Author:** A. K. Miles, P. L. Flint, K. A. Trust, M. A. Ricca, S. E. Spring, D. E. Arrieta, T. Hollmen and B. W. Wilson

**Year:** 2007

**Title:** Polycyclic aromatic hydrocarbon exposure in Steller's eiders (Polysticta stelleri) and harlequin ducks (Histronicus histronicus) in the eastern Aleutian Islands, Alaska, USA

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 26

**Issue:** 12

**Pages:** 2694-2703

**Date:** Dec 2007

**Short Title:** Polycyclic aromatic hydrocarbon exposure in Steller's eiders (Polysticta stelleri) and harlequin ducks (Histronicus histronicus) in the eastern Aleutian Islands, Alaska, USA

**Accession Number:** BCI:BCI200800114225

**Keywords:** Harlequin duck; Histrionicus histrionicus; Steller's eider; Polysticta stelleri; Contaminants; Nonbreeding Seasons;

**Abstract:** Seaducks may be affected by harmful levels of polycyclic aromatic hydrocarbons (PAHs) at seaports near the Arctic. As an indicator of exposure to PAHs, we measured hepatic enzyme 7-ethoxyresorufin-O-deethylase activity (EROD) to determine cytochrome P4501A induction in Steller's eiders (Polysticta stelleri) and Harlequin ducks (Histronicus histronicus) from Unalaska, Popof, and Unga Islands (AK, USA) in 2002 and 2003. We measured PAHs and organic contaminants in seaduck prey samples and polychlorinated biphenyl congeners in seaduck blood plasma to determine any relationship to EROD. Using Akaike's information criterion, species and site differences best explained EROD patterns: Activity was higher in Harlequin ducks than in Steller's eiders and higher at industrial than at nonindustrial sites. Site-specific concentrations of PAHs in blue mussels ([Mytilus trossilus] seaduck prey; PAH concentrations higher at Dutch Harbor, Unalaska, than at other sites) also was important in defining EROD patterns. Organochlorine compounds rarely were detected in prey samples. No relationship was found between polychlorinated biphenyl congeners in avian blood and EROD, which further supported inferences derived from Akaike's information criterion. Congeners were highest in seaducks from a nonindustrial or reference site, contrary to PAH patterns. To assist in interpreting the field study, 15 captive Steller's ciders were dosed with a PAH known to induce cytochrome P4501A. Dosed, captive Steller's ciders had definitive induction, but results indicated that wild Steller's eiders were exposed to PAHs or other inducing compounds at levels greater than those used in laboratory studies. Concentrations of PAHs in blue mussels at or near Dutch Harbor (similar to 1,180-5,980 ng/g) approached those found at highly contaminated sites (similar to 4,100-7,500 ng/g).

**URL:** <Go to ISI>://BCI200800114225

**Reference Type:**  Journal Article

**Record Number:** 1739

**Author:** E. H. Miller, J. Williams, S. E. Jamieson, H. G. Gilchrist and M. L. Mallory

**Year:** 2007

**Title:** Allometry, bilateral asymmetry and sexual differences in the vocal tract of common eiders Somateria mollissima and king eiders S-spectabilis

**Journal:** Journal of Avian Biology

**Volume:** 38

**Issue:** 2

**Pages:** 224-233

**Date:** Mar 2007

**Short Title:** Allometry, bilateral asymmetry and sexual differences in the vocal tract of common eiders Somateria mollissima and king eiders S-spectabilis

**Accession Number:** BCI:BCI200700226743

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Physiology;

**Abstract:** Intraspecific sexual differences, high variation, and positive allometry of sexually-selected external display structures are common. Many sexually-selected anatomical specializations occur in the avian vocal tract but intraspecific variation and allometry have been investigated little. The tracheal bulla bulla syringealis occurs in males of most duck species. We quantified variation and size-scaling of the bulla, plus sexual differences in size of trachea, bronchi, and vocal muscles, for 62 common eiders Somateria mollissima and 51 king eiders S. spectabilis. Trends were similar in both species. Bullar ossification and definitive size occurred early in life: bullar size did not differ between first-year and older males. Bullar size did not vary more than size of other body parts (CVs of 3.4-7.0% for bullar length and breadth). Bullar size scaled to body size with negative allometry or isometry. Vocal muscles were 10-50% thicker in males than females, a much greater sexual difference than in body size (CVs of 3-6% on linear body-size variables). Vocal muscles were larger on the left side in both sexes and bilateral asymmetry was slightly more pronounced in males. Low variation and a trend towards negative allometry suggest that bullar size is under stabilizing selection; if bullar size affects vocal attributes of voice, then the latter cannot be condition-dependent. We recommend comparative research on vocal communication, vocal individuality and vocal-tract anatomy and function in eiders and other ducks.

**URL:** <Go to ISI>://BCI200700226743

**Reference Type:**  Journal Article

**Record Number:** 842

**Author:** J. B. Miller

**Year:** 1996

**Title:** Red-breasted mergansers in an urban winter habitat

**Journal:** Journal of Field Ornithology

**Volume:** 67

**Issue:** 3

**Pages:** 477-483

**Short Title:** Red-breasted mergansers in an urban winter habitat

**Accession Number:** BCI:BCI199699149018

**Keywords:** Red-breasted merganser; Mergus serrator; Abundance, Distribution, and Trends; Behavior; Nonbreeding Seasons;

**Abstract:** During the winters of 1991-95, I determined population densities, proportions of adult males, activity budgets, and foraging by Red-breasted Mergansers (Mergus serrator) during mid-day on the urbanized inner harbor at Boston Massachusetts. Red-breasted Mergansers arrived at Boston in mid-to-late December, reached peak densities of 1-3/ha in late January or early February, and left by the first week of April. The mid-winter proportion of adult males was 60-80% in the three winters of 1991-92 through 1993-94, but only approximately 30% during the warmer than average winter of 1994-95. Foraging, preening, and alert/swimming each accounted for about 20-30% of observations. Red-breasted Mergansers surfaced with and ingested fish after 6.4% of dives, and, when gulls attempted to pirate fish, the mergansers escaped under piers.

**URL:** <Go to ISI>://BCI199699149018

**Reference Type:**  Journal Article

**Record Number:** 2300

**Author:** M. W. C. Miller, J. R. Lovvorn, A. C. Matz, R. J. Taylor, C. J. Latty and D. E. Safine

**Year:** 2016

**Title:** Trace Elements in Sea Ducks of the Alaskan Arctic Coast: Patterns of Variation Among Species, Sexes, and Ages

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 71

**Issue:** 3

**Pages:** 297-312

**Date:** Oct

**Short Title:** Trace Elements in Sea Ducks of the Alaskan Arctic Coast: Patterns of Variation Among Species, Sexes, and Ages

**ISSN:** 0090-4341

**DOI:** 10.1007/s00244-016-0288-2

**Accession Number:** WOS:000382937100001

**Keywords:** Common Eider; King Eider; Spectacled Eider; Steller’s Eider; Long-tailed Duck; Somateria mollissima; Somateria spectabilis; Somateria fischeri; Polysticta stelleri; Clangula hyemalis; Breeding Season; Contaminants

**Abstract:** Climate change and increasing industrialization in the Arctic call for the collection of reference data for assessing changes in contaminant levels. For migratory birds, measuring and interpreting changes in trace element burdens on Arctic breeding areas require insights into factors such as sex, body size, or wintering area that may modify patterns independently of local exposure. In the Alaskan Arctic, we determined levels of trace elements in liver and kidney of common eiders (Somateria mollissima) and long-tailed ducks (Clangula hyemalis) from the Prudhoe Bay oil field and of king eiders (S. spectabilis) and threatened spectacled eiders (S. fischeri) and Steller's eiders (Polystica stelleri) from near the town of Barrow. Small-bodied Steller's eiders and long-tailed ducks from different locations had similarly low levels of selenium (Se), cadmium (Cd), and copper (Cu), perhaps reflecting high mass-specific rates of metabolic depuration during long spring migrations through areas of low exposure. In larger species, Se, Cd, and Cu concentrations were higher in adults than juveniles suggesting that these elements were acquired in nonbreeding marine habitats. Adult male spectacled eiders had exceptionally high Se, Cd, and Cu compared with adult females, possibly because of depuration into eggs and longer female occupancy of nonmarine habitats. Adult female common eiders and juvenile long-tailed ducks at Prudhoe Bay had high and variable levels of Pb, potentially due to local exposure. Explanations for substantial variations in Hg levels were not apparent. Further research into reasons for differing element levels among species and sexes will help clarify the sources, pathways, and risks of exposure.

**Notes:** Miller, Micah W. C. Lovvorn, James R. Matz, Angela C. Taylor, Robert J. Latty, Christopher J. Safine, David E.

**URL:** <Go to ISI>://WOS:000382937100001

**Reference Type:**  Journal Article

**Record Number:** 1689

**Author:** H. Milne

**Year:** 1976

**Title:** Body Weights and Carcass Composition of the Common Eider

**Journal:** Wildfowl

**Volume:** 27

**Pages:** 115-122

**Short Title:** Body Weights and Carcass Composition of the Common Eider

**Accession Number:** BCI:BCI197713042312

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition;

**URL:** <Go to ISI>://BCI197713042312

**Reference Type:**  Journal Article

**Record Number:** 522

**Author:** M. Milonoff and P. Paananen

**Year:** 1994

**Title:** Egg formation, brood survival and cost of reproduction as clutch-size-determining factors in common goldeneyes

**Journal:** Auk

**Volume:** 110

**Issue:** 4

**Pages:** 943-946

**Date:** 1993 (1994)

**Short Title:** Egg formation, brood survival and cost of reproduction as clutch-size-determining factors in common goldeneyes

**Accession Number:** BCI:BCI199497311076

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI199497311076

**Reference Type:**  Journal Article

**Record Number:** 498

**Author:** M. Milonoff, H. Poysa and P. Runko

**Year:** 1998

**Title:** Factors affecting clutch size and duckling survival in the common goldeneye Bucephala clangula

**Journal:** Wildlife Biology

**Volume:** 4

**Issue:** 2

**Pages:** 73-80

**Date:** June, 1998

**Short Title:** Factors affecting clutch size and duckling survival in the common goldeneye Bucephala clangula

**Accession Number:** BCI:BCI199800344898

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Survival; Breeding Season;

**Abstract:** Female age and condition as well as nesting schedule may affect clutch size and chick survival, which both are important factors affecting the annual reproductive output. Clutch size and chick survival are often interrelated in altricial birds but in precocial species the interrelation is dubious. To study factors affecting clutch size and the survival of ducklings in the common goldeneye Bucephala clangula, we examined ringing-recovery data, supplied by ringers, from seven intensively studied goldeneye populations from different parts of Finland. Due to large sample sizes it was possible to distinguish the effects of interrelated variables, e.g. female age and hatching date. Clutch size was significantly associated with both female age and hatching date; first-time breeders and late breeders had small clutches. Clutch size was not associated with female condition. The recovery rate of ducklings was associated with hatching date (low in late broods) but not with female age, condition or brood size. The natal brood sizes of recruited female ducklings did not differ from annual averages, but the natal hatching date of recruited females was earlier and their mothers were older than annual averages in the populations into which the recruited females were born. The timing of nesting was the most important factor affecting the reproductive output of common goldeneye females in a given year.

**URL:** <Go to ISI>://BCI199800344898

**Reference Type:**  Journal Article

**Record Number:** 477

**Author:** M. Milonoff, H. Poysa and P. Runko

**Year:** 2002

**Title:** Reproductive performance of Common Goldeneye Bucephala clangula females in relation to age and lifespan

**Journal:** Ibis

**Volume:** 144

**Issue:** 4

**Pages:** 585-592

**Date:** October, 2002

**Short Title:** Reproductive performance of Common Goldeneye Bucephala clangula females in relation to age and lifespan

**Accession Number:** BCI:BCI200200552393

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**Abstract:** We studied the effects of female age and length of lifespan on reproductive performance in the Common Goldeneye Bucephala clangula, a precocial species with self-feeding chicks. Dependent variables studied were the occurrence of failed nesting attempts and non-breeding years, clutch size, nesting and hatching success, female condition and recovery rate of offspring. To avoid misinterpretations resulting from age-dependent quality changes in the cohorts, individuals with different lifespans were separated in the analyses. There was no evidence that females of different lifespan differed in reproductive strategy. The data revealed no significant differences in nest losses, occurrence of non-breeding years, timing of nesting or clutch size, but the physiological condition of short-lived females was poorer than that of longer living females. This accords with the prediction that poor-quality females invest proportionally more in reproduction than high-quality females and consequently die earlier. The most productive individuals were those that lived longest. The only indication of senescence was the low recovery rate of offspring produced by old females. The last breeding attempt did not differ in any observable respect from the penultimate attempt, implying that the last investment in reproduction was no heavier than the previous one.

**URL:** <Go to ISI>://BCI200200552393

**Reference Type:**  Journal Article

**Record Number:** 470

**Author:** M. Milonoff, H. Poysa, P. Runko and V. Ruusila

**Year:** 2004

**Title:** Brood rearing costs affect future reproduction in the precocial common goldeneye Bucephala clangula

**Journal:** Journal of Avian Biology

**Volume:** 35

**Issue:** 4

**Pages:** 344-351

**Date:** July 2004

**Short Title:** Brood rearing costs affect future reproduction in the precocial common goldeneye Bucephala clangula

**Accession Number:** BCI:BCI200400399587

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Life-history theory assumes a trade-off between current reproductive effort and future reproductive success. There are a large number of studies demonstrating reproductive trade-offs in different animal taxa, particularly in birds. Most bird studies have focused on the costs of chick rearing in altricial species. These costs have been assumed to be low in precocial species, but this aspect has been little studied. We used long-term individual reproductive data from the common goldeneye Bucephala clangula, an iteroparous precocial duck with uniparental female care, to examine whether brood rearing carries costs that affect future reproductive performance. All females were experienced breeders, and possible differences in female quality were ruled out. We compared within-individual (between-year) changes in clutch size, hatching date and body mass between females that had reared a brood in the previous year and females that had not. It turned out that brood rearing involved a cost in terms of clutch size and hatching date the next year, but not in terms of body mass: females that had reared a brood in the previous year laid relatively smaller clutches and laid relatively later than females that had not reared a brood. Our results show that normal brood rearing in a precocial species involves costs that affect future reproduction.

**URL:** <Go to ISI>://BCI200400399587

**Reference Type:**  Journal Article

**Record Number:** 512

**Author:** M. Milonoff, H. Poysa and J. Virtanen

**Year:** 1995

**Title:** Brood-size-dependent offspring mortality in common goldeneyes reconsidered: Fact or artifact?

**Journal:** American Naturalist

**Volume:** 146

**Issue:** 6

**Pages:** 967-974

**Short Title:** Brood-size-dependent offspring mortality in common goldeneyes reconsidered: Fact or artifact?

**Accession Number:** BCI:BCI199698630071

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Breeding Season;

**URL:** <Go to ISI>://BCI199698630071

**Reference Type:**  Journal Article

**Record Number:** 1669

**Author:** E. O. Minot

**Year:** 1980

**Title:** Tidal Diurnal and Habitat Influences on Common Eider Somateria-Mollissima Rearing Activities

**Journal:** Ornis Scandinavica

**Volume:** 11

**Issue:** 3

**Pages:** 172

**Short Title:** Tidal Diurnal and Habitat Influences on Common Eider Somateria-Mollissima Rearing Activities

**Accession Number:** BCI:BCI198172008627

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The rearing activities of the common eider S. mollissima were studied in the Grand Manan Archipelago, New Brunswick, Canada. Tide and time of day were both correlated with a number of different activities. Generally, tide affected physical or biotic aspects of the environment while time of day was related to the internal need to feed. Eiders concentrated along sheltered, rockweed-covered shores, feeding most actively at tides when food was most available but with a concurrent diurnal feeding pattern that had peaks of activity early and late in the day. Tide, time of day and status of the birds interacted in determining the use of various nearshore habitats. Groups of females and young traveled from the nesting islands to rearing areas 5-8 km away. This departure was timed, by tide and time of day, to minimize gull (Larus spp.) predation and to use favorable currents.

**URL:** <Go to ISI>://BCI198172008627

**Reference Type:**  Journal Article

**Record Number:** 2008

**Author:** J. S. Mitchell, R. C. Bailey and R. W. Knapton

**Year:** 2000

**Title:** Effects of predation by fish and wintering ducks on dreissenid mussels at Nanticoke, Lake Erie

**Journal:** Ecoscience

**Volume:** 7

**Issue:** 4

**Pages:** 398-409

**Short Title:** Effects of predation by fish and wintering ducks on dreissenid mussels at Nanticoke, Lake Erie

**Notes:** Mitchell, JS Bailey, RC Knapton, RW

**Reference Type:**  Journal Article

**Record Number:** 249

**Author:** G. H. Mittelhauser

**Year:** 2008

**Title:** Harlequin Ducks in the Eastern United States

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 58-66

**Short Title:** Harlequin Ducks in the Eastern United States

**Accession Number:** BCI:BCI200900160415

**Keywords:** Harlequin duck; Histrionicus histrionicus; Nonbreeding Seasons;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) arrive along the eastern coast of the United States at traditional wintering grounds from late September to December through early January. Counts in January and February best represent wintering bird numbers. Spring migrants depart from April to May, although from more southerly wintering areas, birds appear to depart in March. Breeding has never been confirmed in the eastern United States. Molting females have been documented in Maine during the fall, but the extent of molting has not been assessed. It is estimated 1,575 to 1,800 Harlequin Ducks wintered in the eastern United States from Maine to North Carolina between the winters of 1997-98 and 2001-02. Over 75% of the birds wintering in the eastern United States were in Maine, primarily in the vicinity of Isle an Haut. Smaller concentrations representing about 18% of the wintering birds in the eastern United States were at locations in Massachusetts and Rhode Island, primarily the Cape Anne region and Martha's Vincyard, Massachusetts and the Sachuest Point region, Rhode Island. South of Rhode Island, Barnegat, New Jersey is the only area that regularly reports counts of over 25 birds. In the Isle an Haut region of Maine, numbers along survey routes have not shown a linear change from 1989-2002, but show a pattern of decline from 1989 to 1993 followed by increases since then. In eastern Maine, population increases are greatest and birds are expanding their winter range into new areas. All Other areas in the eastern United States South of Isle an Haut that regularly report over 50 birds show significant population increases since the 1980s, north-eastern US.

**URL:** <Go to ISI>://BCI200900160415

**Reference Type:**  Journal Article

**Record Number:** 251

**Author:** G. H. Mittelhauser

**Year:** 2008

**Title:** Apparent Survival and Local Movements of Harlequin Ducks Wintering at Isle au Haut, Maine

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 138-146

**Short Title:** Apparent Survival and Local Movements of Harlequin Ducks Wintering at Isle au Haut, Maine

**Accession Number:** BCI:BCI200900160426

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Dispersal; Nonbreeding Seasons; SDJV funded

**Abstract:** Capture-recapture data from a five-year field study of individually marked Harlequin Ducks (Histrionicus histrionicus) wintering at Isle an Haut, Maine was used to examine patterns in age- and sex-specific apparent survival and local movements. Adult females had lower annual apparent survival probabilities than adult males. Survival probabilities for adult females were lower during the summer season than the winter season. Adult males showed no differences in apparent survival between the summer and winter intervals and survival during the winter season was similar for adult males and females. There was little evidence to Suggest differences in apparent survival between first winter males and females,although sample sizes, especially for first winter females, were small. Annual apparent. survival rates were lower for first winter males than adult males and likely reflected a combination of greater dispersal and higher mortality. Adult males captured in April in the study area disappeared from the study area more than adult males captured in November and may represent spring dispersal of unpaired males searching for mates or individuals from other wintering sites gathering before spring migration. Greater dispersal of adult and first winter males to adjacent wintering sites ill subsequent winters was noted than for adult females.

**URL:** <Go to ISI>://BCI200900160426

**Reference Type:**  Journal Article

**Record Number:** 302

**Author:** G. H. Mittelhauser, J. B. Drury and P. O. Corr

**Year:** 2002

**Title:** Harlequin Ducks (Histrionicus histrionicus) in Maine, 1950-1999

**Journal:** Northeastern Naturalist

**Volume:** 9

**Issue:** 2

**Pages:** 163-182

**Short Title:** Harlequin Ducks (Histrionicus histrionicus) in Maine, 1950-1999

**Accession Number:** BCI:BCI200200437351

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** We estimate between 1,150 to 1,300 Harlequin Ducks wintered in Maine in the late 1990s. This represents over 50% of the total known wintering population in eastern North America. About 75% of these wintering birds in Maine were located in the Isle au Haut area from Vinalhaven to Swans Island. Smaller concentrations of birds were also present in eastern Hancock County (Sally Islands area) and York County (Cape Neddick area). At four groups of islands in the Isle au Haut area, numbers show a pattern of decline from 1989 to 1993 followed by increases since then. In contrast, the maximum number of birds reported each winter in York County has increased from about five birds in 1955 to about 75 birds in 1999 (rs=0.73, n=42, P<0.001). The proportion of males to females observed during mid-winter counts increased from a low of 0.8:1.0 in 1992 to a high of 1.2:1.0 in 1996 (rs=0.54, n=35, P=0.001) and averaged 1.0:1.0 (n=35, SD=3.5) from 1989-99. Given the small numbers and limited distribution of Harlequin Ducks in Maine, they should remain under full protection in the foreseeable future.

**URL:** <Go to ISI>://BCI200200437351

**Reference Type:**  Journal Article

**Record Number:** 250

**Author:** G. H. Mittelhauser, J. B. Drury and E. Morrison

**Year:** 2008

**Title:** Behavior and Diving of Harlequin Ducks Wintering at Isle au Haut, Maine

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 67-70

**Short Title:** Behavior and Diving of Harlequin Ducks Wintering at Isle au Haut, Maine

**Accession Number:** BCI:BCI200900160416

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** Mid-winter activity budgets and diving behaviors of Harlequin Ducks (Histrionicus histrionicus) at Isle an Haut, Maine were examined. Feeding was the most frequent activity and the number of hours during the day devoted to feeding increased from December to March as day length increased. Resting was not a frequent midwinter activity, but birds rested more in the morning than in the afternoon and the duration of testing bents increased in March, likely in relation to increasing day length. During foraging bouts, first-winter males had longer submergence times and longer pause times than adult males, although the resulting dive:pause ratio was similar. This may be related to feeding inefficiency of the young birds or lack of experience with local habitats or prey species. Mean dive durations and pause durations at Isle an Haut were greater than reported elsewhere for this species, and may be related to strong local currents associated with the wave washed ledges on Isle an Haut.

**URL:** <Go to ISI>://BCI200900160416

**Reference Type:**  Journal Article

**Record Number:** 759

**Author:** T. Mizera, R. Uhlig, M. Kalisinski, J. Mundt and R. Czeraszkiewicz

**Year:** 1994

**Title:** Breeding distribution, non-breeding and wintering population of the Goosander Mergus Merganser in the Odra river basin

**Journal:** Vogelwelt

**Volume:** 115

**Issue:** 4

**Pages:** 155-162

**Short Title:** Breeding distribution, non-breeding and wintering population of the Goosander Mergus Merganser in the Odra river basin

**Accession Number:** BCI:BCI199598090169

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Breeding Goosanders were surveyed during 1980-1993 in the Odra river basin and the population size since 1945 was analysed. The area covered comprises the rivers Oder/Odra, Neisse/Nysa Luzycka, Warta, Obra, Drawa, Gwda, Barycz, Bobr and Kwisa. The breeding population for 1980-1993 is estimated at 164-267 females with young. In addition there is a non-breeding population of some 500-600 birds. Apart from the population in Switzerland, the Odra basin contains the largest breeding population of Goosander in Central Europe. In the Odra and Warta area Goosanders mainly nest in willows Salix spec. and poplars Populus spec., while the favourite nesting trees at lakes in northwest Poland are oak Quercus spec. and beech Fagus spec. Goosanders increasingly use nest boxes for breeding. A total of 176 females with young were recorded; on average a female had 6.8 young. A new moulting ground where birds from a larger area congregate was discovered at the Bobr reservoir in southwest Poland. The overall population trend can be estimated with any degree of certainty only for the German side of the Odra, where the breeding population increased since the mid-1970s. The winter population of the Odra estuary was surveyed from boats and small airplanes. In cold winters, the area holds between 71,500 and 80,000 Goosanders, about two thirds of them on the Polish side. The Odra estuary is one of the most important wintering grounds in Europe and accounts for 47-53% of the western European wintering population of the species.

**URL:** <Go to ISI>://BCI199598090169

**Reference Type:**  Journal Article

**Record Number:** 828

**Author:** R. D. Moccia, A. Yule, I. K. Barker and J. Austin

**Year:** 2005

**Title:** Clostridium botulinum Type E beurotoxin in Great Lakes fish: implications for transmission of avian botulism

**Journal:** Canadian Technical Report of Fisheries and Aquatic Sciences

**Volume:** 2617

**Pages:** 80-81

**Short Title:** Clostridium botulinum Type E beurotoxin in Great Lakes fish: implications for transmission of avian botulism

**Accession Number:** BCI:BCI200600186559

**Keywords:** Red-breasted merganser; Mergus serrator; Disease;

**URL:** <Go to ISI>://BCI200600186559

**Reference Type:**  Journal Article

**Record Number:** 101

**Author:** M. Mochizuki, R. Hondo, K. Kumon, R. Sasaki, H. Matsuba and F. Ueda

**Year:** 2002

**Title:** Cadmium contamination in wild birds as an indicator of environmental pollution

**Journal:** Environmental Monitoring and Assessment

**Volume:** 73

**Issue:** 3

**Pages:** 229-235

**Date:** February, 2002

**Short Title:** Cadmium contamination in wild birds as an indicator of environmental pollution

**Accession Number:** BCI:BCI200200206573

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Cadmium (Cd) is an environmental pollutant that has serious toxicity in humans and animals and causes Itai-Itai disease. However, there is little available information on its contamination in wildlife as an indicator of environmental pollution. The Cd contents in the kidney and liver of 85 wild birds from 9 different prefectures in Japan were investigated. The ranges of the Cd contents in the kidney and liver in all birds were ND-174.4 and ND-21.2 mug g-1 dry wt., respectively. The mean Cd contents were higher in the oil-contaminated birds than those in the non-contaminated ones. Furthermore, a strong correlation was obtained only between the Cd contents in the kidney and those in the liver of the oil-contaminated seabirds and not in the other non-contaminated ones. These results suggest that wild birds reflect the level of environmental contamination which should be monitored.

**URL:** <Go to ISI>://BCI200200206573

**Reference Type:**  Journal Article

**Record Number:** 1030

**Author:** J. Moffitt and R. T. Orr

**Year:** 1938

**Title:** Recent disastrous effects of oil pollution on birds in the San Francisco Bay region

**Journal:** California Fish and Game

**Volume:** 24

**Issue:** (3)

**Pages:** 239-244

**Short Title:** Recent disastrous effects of oil pollution on birds in the San Francisco Bay region

**Accession Number:** BCI:BCI19381200014255

**Keywords:** White-winged Scoter; Melanitta fusca; Contaminants; Nonbreeding Seasons;

**Abstract:** The wrecking of the oil tanker Frank H. Buck off San Francisco on March 6, 1937, proved disastrous to many spp. of aquatic birds along the coast of central California as a result of oil pollution of coastal waters. During the ensuing 2 months oil extended along about 55 miles of coast, reaching from 15 to 20 miles to sea as well as inland to a number of shallow bays. Aside from California murres, whose numbers were greatly depleted, few offshore ranging spp. were affected. In the quiet bays western grebes, white-winged scoters, ruddy ducks, eared grebes and red-throated loons suffered most in the order named. Gulls of several spp. were numerous in this area during the period of pollution but escaped disaster largely by reason of their feeding and resting habits. || ABSTRACT AUTHORS: R. T. Orr

**URL:** <Go to ISI>://BCI19381200014255

**Reference Type:**  Journal Article

**Record Number:** 1922

**Author:** V. O. Mokievsky, A. B. Popovkina, N. D. Poyarkov, A. B. Tsetlin, A. E. Zhadan and A. Y. Isachenko

**Year:** 2012

**Title:** FORAGING OF COMMON EIDER (SOMATERIA MOLISSIMA) WINTERING IN VELIKAYA SALMA STRAIT (KANDALAKSHA BAY, THE WHITE SEA)

**Journal:** Zoologichesky Zhurnal

**Volume:** 91

**Issue:** 7

**Pages:** 887-896

**Date:** Jul

**Short Title:** FORAGING OF COMMON EIDER (SOMATERIA MOLISSIMA) WINTERING IN VELIKAYA SALMA STRAIT (KANDALAKSHA BAY, THE WHITE SEA)

**ISSN:** 0044-5134

**Accession Number:** WOS:000307922900014

**Keywords:** Common eider; somateria mollissima; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Mokievsky, V. O. Popovkina, A. B. Poyarkov, N. D. Tsetlin, A. B. Zhadan, A. E. Isachenko, A. Yu

Zhadan, Anna/J-3488-2012

0

**URL:** <Go to ISI>://WOS:000307922900014

**Reference Type:**  Journal Article

**Record Number:** 1453

**Author:** V. O. Mokievsky, A. B. Popovkina, N. D. Poyarkov, A. B. Tzetlin and A. E. Zhadan

**Year:** 2003

**Title:** On winter foraging of the common eiders (Somateria mollissima) in the Kandalaksha Bay

**Journal:** Vogelwarte

**Volume:** 42

**Issue:** 1-2

**Pages:** 147-148

**Date:** Juli 2003

**Short Title:** On winter foraging of the common eiders (Somateria mollissima) in the Kandalaksha Bay

**Accession Number:** BCI:BCI200400032517

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200400032517

**Reference Type:**  Journal Article

**Record Number:** 609

**Author:** M. J. Monda and J. T. Ratti

**Year:** 1988

**Title:** Niche Overlap and Habitat Use by Sympatric Duck Broods in Eastern Washington USA

**Journal:** Journal of Wildlife Management

**Volume:** 52

**Issue:** 1

**Pages:** 95-103

**Short Title:** Niche Overlap and Habitat Use by Sympatric Duck Broods in Eastern Washington USA

**Accession Number:** BCI:BCI198885109779

**Keywords:** Bufflehead; Bucephala albeola; Habitat; Breeding Season;

**Abstract:** We evaluated niche overlap and habitat use among duck broods on Turnbull National Wildlife Refuge (Turnbull NWR). During summer of 1983 and 1984, 485 brood observations were recorded in 46 days. Data were gathered on 320 feeding broods of 9 species along 12 niche dimensions. Mean niche overlap values ranged from 0.62 to 0.94 for 36 possible species pairs. The greatest niche separation occurred on hatching date and feeding depth dimensions. Gadwall (Anas strepera) and teal (A. discors and A. cyanoptera) broods were ecologically very similar. Both had sharp mid-season hatching peaks and feed over dense beds of submerged macrophytes. Five species of diving duck broods tended to feed in deeper water and over areas with sparse submerged macrophytes. Among diving ducks, bufflehead (Bucephala albeola) broods were ecologically distinct, feeding over sparse vegetation often far from land. Mallard (A. platyrhynchos) broods were ecologically isolated from other dabbling ducks. They fed in shallow water within stands of emergent vegetation. The niche for ring-necked duck (Aythya collaris) broods was most similar to dabbling ducks, but also showed similarities with other divers. [Other species discussed include Aythya valisineria, A. affinis, A. americana and Oxyura jamaicensis].

**URL:** <Go to ISI>://BCI198885109779

**Reference Type:**  Journal Article

**Record Number:** 1166

**Author:** R. D. Montgomery, G. J. Stein, V. D. Stotts and F. H. Settle

**Year:** 1979

**Title:** The 1978 Epornitic of Avian Cholera on the Chesapeake Bay USA

**Journal:** Avian Diseases

**Volume:** 23

**Issue:** 4

**Pages:** 966-978

**Short Title:** The 1978 Epornitic of Avian Cholera on the Chesapeake Bay USA

**Accession Number:** BCI:BCI198069051627

**Keywords:** Long-tailed Duck; Clangula hyemalis; Disease; Nonbreeding Seasons;

**Abstract:** In an outbreak of avian cholera (Pasteurella multocida infection) in wildfowl on and around Chesapeake Bay during March and April of 1978, 31,295 carcasses were retrieved from Maryland and Virginia [USA]. Although other birds were involved, mortality was heaviest among diving ducks (90% of the total), and especially oldsquaw ducks (80% of the total). This is the second outbreak involving primarily diving ducks to be reported from this area of the Atlantic Flyway. It mimics in many respects the epornitic that occurred in 1970. Although mortality was heavy then, this occurrence appears much more severe and could be the largest recorded outbreak of avian cholera in North America.

**URL:** <Go to ISI>://BCI198069051627

**Reference Type:**  Journal Article

**Record Number:** 248

**Author:** F. Morneau, M. Robert, J.-P. L. Savard, P. Lamothe, M. Laperle, N. D'Astous, S. Brodeur and R. Decarie

**Year:** 2008

**Title:** Abundance and Distribution of Harlequin Ducks in the Hudson and James Bay Area, Quebec

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 110-121

**Short Title:** Abundance and Distribution of Harlequin Ducks in the Hudson and James Bay Area, Quebec

**Accession Number:** BCI:BCI200900160422

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** As part of the Hydro-Quebec Grande-Baleine (Great Whale) hydroelectric project feasibility studies, Harlequin Duck (Histrionicus histrionicus) surveys were conducted in 1996 and 1991 in the eastern Hudson Bay and James Bay drainage basins. A total of 142 and 420 Harlequin Ducks were Counted ill 1991 and 1992, respectively, of which 142 (199 1) and 356 (1992) Were found in the area surveyed both years. Most individuals were in pairs and the overall sex-ratio did not deviate significantly from 1:1. The highest numbers of Harlequin Ducks counted over the two),cars were found oil the Little Whale River, Des Loups-Marins Lake, and Nastapoka, A l'Eau Claire and Boutin Rivers. Highest pair densities were observed in June 1992 oil rivers located in tundra and forest tundra i.e., the lower Little Whale, A l'Eau Claire and Nastapoka Rivers, and near D'Iberville Lake. In 1992, pair densities varied between 0.003 and 0.093 pair/km, depending oil the watershed, and followed a latitudinal gradient. Two broods were located in 1991 and three were found during a preliminary survey conducted in 1989. Broods were located on Boutin, Nastapoka, and Great Whale Rivers, as well as along the Hudson Bay coast. The difference in the number of Harlequin Ducks found in June 1991 and 1992 may have been related to weather and methodological factors. Considering the vastness of northern Quebec and the limited area Surveyed during this study, we Suggest that Harlequin Ducks breeding in northern Quebec may well number in the thousands, and represent a very high proportion of the Greenland molting and wintering populations.

**URL:** <Go to ISI>://BCI200900160422

**Reference Type:**  Journal Article

**Record Number:** 688

**Author:** T. E. Morse, J. L. Jakabosky and V. P. McCrow

**Year:** 1969

**Title:** Some Aspects of the Breeding Biology of the Hooded Merganser

**Journal:** Journal of Wildlife Management

**Volume:** 33

**Issue:** 3

**Pages:** 596-604

**Short Title:** Some Aspects of the Breeding Biology of the Hooded Merganser

**Accession Number:** BCI:BCI197051006527

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Breeding Season;

**URL:** <Go to ISI>://BCI197051006527

**Reference Type:**  Journal Article

**Record Number:** 1773

**Author:** A. Mosbech and D. Boertmann

**Year:** 1999

**Title:** Distribution, abundance and reaction to aerial surveys of post-breeding king eiders (Somateria spectabilis) in western Greenland

**Journal:** Arctic

**Volume:** 52

**Issue:** 2

**Pages:** 188-203

**Date:** June, 1999

**Short Title:** Distribution, abundance and reaction to aerial surveys of post-breeding king eiders (Somateria spectabilis) in western Greenland

**Accession Number:** BCI:BCI199900337607

**Keywords:** King Eider; Somateria spectabilis; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** Moulting and post-breeding king eiders in western Greenland were surveyed in late August and early September of 1993, 1994, and 1995. We counted all eiders observed during fixed-winged aircraft flights along coastlines and offshore transects. The coastline in the survey area is roughly 13 400 km long, and our flightlines totaled approximately 16 500 km. The areas optimal for the birds were covered fully several times; in less suitable areas, only a fraction of the coastline was covered. Using the largest count for coastlines covered more than once, we counted a total of 22 980 king eiders. Large numbers of king eiders were observed at a number of remote localities on the west coast of Disko Island and in southern Upernavik. At localities considered to have frequent human disturbance, few birds were observed. Highest densities were found along coasts with sandy or muddy areas at the shorelines. Overall we estimate that 30000 to 40000 king eiders reside in the coastal zone of western Greenland in late August. Even allowing for a high turnover rate, as different individuals may occupy the moulting areas during the extended period from July to October, this figure can account for only half of a 1950s estimate that 200 000 males and immatures were moulting in western Greenland.

**URL:** <Go to ISI>://BCI199900337607

**Reference Type:**  Journal Article

**Record Number:** 1390

**Author:** A. Mosbech, G. Gilchrist, F. Merkel, C. Sonne, A. Flagstad and H. Nyegaard

**Year:** 2006

**Title:** Year-round movements of Northern Common Eiders Somateria mollissima borealis breeding in Arctic Canada and West Greenland followed by satellite telemetry

**Journal:** Ardea

**Volume:** 94

**Issue:** 3, Sp. Iss. SI

**Pages:** 651-665

**Short Title:** Year-round movements of Northern Common Eiders Somateria mollissima borealis breeding in Arctic Canada and West Greenland followed by satellite telemetry

**Accession Number:** BCI:BCI200700408474

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Population Delineation; Nonbreeding Seasons; Breeding Season; Migration; SDJV funded

**Abstract:** We implanted satellite transmitters to track Northern Common Eiders Somateria mollissima borealis from breeding grounds in West Greenland and eastern Arctic Canada, and from their wintering grounds in SW Greenland. We compared distances moved, timing, duration, and patterns of movement between migration flyways and between spring and autumn migration. Common Eiders used two wintering areas linked by three routes. Eiders tracked from a NW Greenland breeding colony (n = 10) migrated south along the coast to winter exclusively in west and southwest Greenland. Breeders from Arctic Canada wintered in two distinct areas with a tendency to segregate by sex. Some eastern Canadian Arctic Eiders from a colony near Southampton Island, migrated through Hudson Strait along the Labrador and Newfoundland coasts, to winter in Atlantic Canada. However, 60% (n = 25) originating from this colony crossed the Davis Strait to winter in SW Greenland, returning in spring to breed in Canada, linking the two north-south flyways. Seven of 8 Eiders implanted in SW Greenland in winter crossed the Davis Strait into Arctic Canada in spring to breed. Apparently more females than males from the Canadian colony (14/18 females and 1/6 males) followed the shorter east-west flyway in fall. Spring migration was initiated later in the Canadian Arctic. Tracked movements ranged from sedentary birds that nested within 45 km of their wintering area in SW Greenland, to migration routes that exceeded 2000 km. Spring migration speeds averaged c. 60 km d(-1), less than half that during moult migration (142 km d(-1)) and autumn migration (190 km d(-1)). This suggests that Eiders must stop to feed whilst travelling to breed, are constrained by sea ice conditions, or both. Climatic and sea ice conditions differ between the eastern Arctic Canada and west Greenland which influence wintering sites, timing and routes of spring migration.

**URL:** <Go to ISI>://BCI200700408474

**Reference Type:**  Journal Article

**Record Number:** 121

**Author:** A. Mosbech and S. R. Johnson

**Year:** 1999

**Title:** Late winter distribution and abundance of sea-associated birds in south-western Greenland, the Davis Strait and southern Baffin Bay

**Journal:** Polar Research

**Volume:** 18

**Issue:** 1

**Pages:** 1-17

**Date:** June, 1999

**Short Title:** Late winter distribution and abundance of sea-associated birds in south-western Greenland, the Davis Strait and southern Baffin Bay

**Accession Number:** BCI:BCI199900413091

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Sea-associated birds were recorded during systematic aerial surveys of marine mammals in south-western Greenland, the Davis Strait and southern Baffin Bay in March 1981, 1982, 1991, 1993 and in April 1990. Most surveys included the northern part of the south-west Greenland Open Water Area, which in most years lies between 62degree and 67degreeN, but none of the area south of 63degreeN was surveyed. The bird data are generally semi-quantitative and provide information on distribution and relative abundance in different areas during different years, under different ice conditions. In all years, regardless of ice conditions, large concentrations of king eiders Somateria spectabilis were found in waters <50 m deep on the shallow banks off south-west Greenland, especially on the northern portion of the Store Hellefiskebanke. We estimate that in 1981 and 1982 about 270 000 king eiders overwintered on the banks off south-west Greenland. Compared to king eiders, flocks of common eiders Somateria mollissima were considerably more dispersed. They were found mainly close to shore off south-west Greenland, where they were distributed along rocky coastlines. A few thousands of large guillemots Uria spp. were recorded in the study area in March 1981, 1982, 1991 and 1993, but large numbers (>65 000 birds) were recorded north of the south-west Greenland Open Water Area in April 1990, indicating that northward spring migration was underway at this time.

**URL:** <Go to ISI>://BCI199900413091

**Reference Type:**  Journal Article

**Record Number:** 1789

**Author:** T. J. Moser and D. H. Rusch

**Year:** 1988

**Title:** Nesting of King Eiders Somateria-Spectabilis and Snowy Owls Nyctea-Scandiaca near Cape Churchill Manitoba Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 102

**Issue:** 1

**Pages:** 60-61

**Short Title:** Nesting of King Eiders Somateria-Spectabilis and Snowy Owls Nyctea-Scandiaca near Cape Churchill Manitoba Canada

**Accession Number:** BCI:BCI198987024545

**Keywords:** King Eider; Somateria spectabilis; Breeding Season;

**Abstract:** We report the nesting of King Eiders (Somateria spectabilis) (second and subsequent records for Manitoba), and Snowy Owls (Nyctea scandiaca) (first records of Manitoba since 1936), near Cape Churchill, Manitoba.

**URL:** <Go to ISI>://BCI198987024545

**Reference Type:**  Journal Article

**Record Number:** 694

**Author:** A. S. Mossman

**Year:** 1957

**Title:** Hooded mergansers at Afognak Island, Alaska

**Journal:** Condor

**Volume:** 59

**Issue:** (5)

**Pages:** 341

**Short Title:** Hooded mergansers at Afognak Island, Alaska

**Accession Number:** BCI:BCI19583200010870

**Keywords:** Hooded Merganser; Lophodytes cucullatus;

**URL:** <Go to ISI>://BCI19583200010870

**Reference Type:**  Journal Article

**Record Number:** 192

**Author:** G. P. Mudge and D. S. Allen

**Year:** 1980

**Title:** Wintering Sea Ducks in the Moray and Dornoch Firths Scotland Uk

**Journal:** Wildfowl

**Volume:** 31

**Pages:** 123-130

**Short Title:** Wintering Sea Ducks in the Moray and Dornoch Firths Scotland Uk

**Accession Number:** BCI:BCI198171079184

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The numbers, distribution and behavior of seaducks in the Moray and Dornoch Firths are described for the winters of 1977-1978 and 1978-1979. This area is at present the major seaduck wintering site in Great Britain, with an average of .apprx. 20,000 birds. It holds internationally important concentrations of common scoter, Melanitta nigra, velvet scoter, M. fusca, long-tailed duck, Clangula hyemalis, and Red-breasted merganser, Mergus serrator, and nationally important concentrations of Elder, Somateria mollissima, and goldeneye, Bucephala clangula. The majority of the ducks occurred at 5 sites (Spey Bay, Burghead Bay, Culbin and Nairn Bars, Cromarty-Rosemarie-Nairn), and the northern outer Dornoch Firth in both winters Spey Bay was of overwhelming importance. The relative use of individual sites varies considerably year to year.

**URL:** <Go to ISI>://BCI198171079184

**Reference Type:**  Journal Article

**Record Number:** 330

**Author:** D. M. Mulcahy and D. Esler

**Year:** 1999

**Title:** Surgical and immediate postrelease mortality of harlequin ducks (Histrionicus histrionicus) implanted with abdominal radio transmitters with percutaneous antennae

**Journal:** Journal of Zoo and Wildlife Medicine

**Volume:** 30

**Issue:** 3

**Pages:** 397-401

**Date:** Sept., 1999

**Short Title:** Surgical and immediate postrelease mortality of harlequin ducks (Histrionicus histrionicus) implanted with abdominal radio transmitters with percutaneous antennae

**Accession Number:** BCI:BCI199900511509

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** Radiotelemetry is an essential tool in the study of free-ranging bird populations, and a variety of transmitter-attachment methods have been developed. A promising new method is abdominal implantation of a transmitter with a percutaneous antenna. Researchers using this technique should be concerned about and aware of mortality during surgery and during the immediate postrelease period (the 14-day period following surgery). Of 307 radio-implant surgeries performed between 1995 and 1997 in harlequin ducks (Histrionicus histrionicus), 7 (2.3%) deaths were documented during surgery or anesthetic recovery. Of 295 birds released with implanted radios, 10 (3.4%) died during the immediate postrelease period. Modifications to anesthetic procedures used in the 204 surgeries performed in 1996 and 1997 reduced mortality to 1.5% during surgery and 1.5% during the immediate postrelease period. Anesthetic modifications included intubation of all birds, placement of birds on an elevated platform that allowed the head to rest at a level lower than the body during surgery, placement of a heated water blanket under the birds during surgery, monitoring of body temperature, and use of electrocardiogram and Doppler ultrasound to monitor heart rates and arrhythmias. Low levels of mortality associated with abdominal implantation of radio transmitters may be unavoidable, but mortality can be minimized with adjustments to anesthetic technique.

**URL:** <Go to ISI>://BCI199900511509

**Reference Type:**  Journal Article

**Record Number:** 232

**Author:** D. M. Mulcahy and D. Esler

**Year:** 2010

**Title:** Survival of Captive and Free-ranging Harlequin Ducks (Histrionicus histrionicus) following Surgical Liver Biopsy

**Journal:** Journal of Wildlife Diseases

**Volume:** 46

**Issue:** 4

**Pages:** 1325-1329

**Date:** Oct 2010

**Short Title:** Survival of Captive and Free-ranging Harlequin Ducks (Histrionicus histrionicus) following Surgical Liver Biopsy

**Accession Number:** BCI:BCI201100005077

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** We measured intra- and postoperative mortality rates or captive and free-ranging Harlequin Ducks (Histrionicus histrionicus) undergoing surgical liver biopsy sampling for determination of the induction of cytochrome P4501A, a biomarker of oil exposure. Liver biopsies were taken from and radio transmitters were implanted into 157 free-ranging Harlequin Ducks over three winters (55 in 2000, 55 in 2001, and 47 in 2002). No birds died during surgery, but seven (4.5%) died during recovery from anesthesia (three in 2001 and four in 2002). None of the deaths could be attributed directly to the liver biopsy. Four of the 150 (2.7%) birds that were released died in the 2 wk period after surgery. All post-release deaths occurred in 2001; no birds died after release in 2000 or 2002. No mortalities of 36 captive birds occurred during surgery or recovery or in the 2 wk period following surgery. Hemorrhage was a minor problem with one captive bird. Surgical liver biopsies appear to be a sale procedure, but anesthetic complications may occur with overwintering ducks.

**URL:** <Go to ISI>://BCI201100005077

**Reference Type:**  Journal Article

**Record Number:** 329

**Author:** D. M. Mulcahy, D. Esler and M. K. Stoskopf

**Year:** 1999

**Title:** Loss from Harlequin Ducks of abdominally implanted radio transmitters equipped with percutaneous antennas

**Journal:** Journal of Field Ornithology

**Volume:** 70

**Issue:** 2

**Pages:** 244-250

**Date:** Spring, 1999

**Short Title:** Loss from Harlequin Ducks of abdominally implanted radio transmitters equipped with percutaneous antennas

**Accession Number:** BCI:BCI199900418195

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** We documented extrusion and loss of abdominally implanted radio transmitters with percutaneous antennas from adult female Harlequin Ducks (Histrionicus histrionicus). Birds were captured during wing molt (late August to mid-September) in 1995-1997. Of 44 Harlequin Ducks implanted with radios and recaptured, 7 (16%) had lost their transmitters and 5 (11%) had radios in the process of extruding. Most (11 of 12) extrusions and losses occurred in birds implanted with radios in 1996 and recaptured in 1997. We suggest that transmitter extrusions and losses were due largely to changes in transmitter design made between 1995 and 1996. Transmitters implanted in 1996 were cylindrical rather than spherical, had a flat end with an abrupt edge, and the lower portion of the antenna was reinforced. Radio losses occurred after the 7-mo monitoring period and caused no apparent harm to the birds. Investigators using implanted radios with percutaneous antennas for long-term projects should be aware ofthe potential for radio extrusion and should minimize the problem by using transmitters that have no sharp edges and that are wide, rather than narrow.

**URL:** <Go to ISI>://BCI199900418195

**Reference Type:**  Journal Article

**Record Number:** 1683

**Author:** J. Munro and J. Bedard

**Year:** 1977

**Title:** Creche Formation in the Common Eider

**Journal:** Auk

**Volume:** 94

**Issue:** 4

**Pages:** 759-771

**Short Title:** Creche Formation in the Common Eider

**Accession Number:** BCI:BCI197865043740

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The formation of creches was studied in the common eider (Somateria mollissima) nesting at high density on Bicquette Island [Canada] in the St. Lawrence River estuary. Aspects of social behavior relevant to creche formation are examined in detail. Data from 293 individually tagged females aided in elucidating the breeding history and in understanding the parental behavior of previously recognized categories of adult females ('B-Brooding,' 'A-Associate,' 'V-Visiting,' and 'N-Neutral'). Creches resulting from the encounter between 2 or more broods begin to form immediately after the nest exodus and last well into the rearing period (about 10 wk). The encounters themselves may be stimulated by alarm or predation or may sometimes result from the mutual attraction of ducklings. The rate of fixation of such encounters into permanent creches decreases from a high of 88% in broods reaching the shore of the nesting island to a low of 0-6% in encounters between groups meeting during the latter half of the rearing period (between the 4th and the 10th wk). Agonistic interactions among B-status females tending creches provoke a hitherto unexplained lowering of the ratio of females to ducklings in such groups. Instead of a loose system of cooperation between females rearing creches as was previously surmised, it was found that the organization of these groups is based upon a hierarchical ranking of females involved in tending. The creche is thus seen as an accidentally expanded family.

**URL:** <Go to ISI>://BCI197865043740

**Reference Type:**  Journal Article

**Record Number:** 1684

**Author:** J. Munro and J. Bedard

**Year:** 1977

**Title:** Gull Predation and Creching Behavior in the Common Eider

**Journal:** Journal of Animal Ecology

**Volume:** 46

**Issue:** 3

**Pages:** 799-810

**Short Title:** Gull Predation and Creching Behavior in the Common Eider

**Accession Number:** BCI:BCI197865057642

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Behavior; Breeding Season;

**Abstract:** The nest exodus of 3399 Somateria mollissima ducklings was followed on densely populated Bicquette and Fraises islands in the St. Lawrence River estuary [Canada] in 1973 and 1974. In 1973, 2485 ducklings were attacked a total of 906 times by Larus argentatus and L. marinus between their arrival on the shore and their departure from the nesting island with the subsequent loss of 335 birds (overall predation success 37%). A 34-fold decrease in predation was noted in 1974 when 974 ducklings suffered only 27 attacks which led to the loss of 8 young. Predation acted as a proximate factor leading to amalgamation of several broods and/or creches. Groups of eiders coming within close range of each other would amalgamate 12 times more often when their encounter coincided with predation than when it did not. Predation was usually by gulls acting singly or in loose pairs, but a system of group predation involving from 5-40 gulls was observed on 16 occasions in 1973. Group predation always led to destruction of the entire creche attacked and increased in frequency as the hatching season progressed. Larger creches suffered more attacks than small ones but offered much higher duckling survival at least in the face of attack by lone gulls. The advantage of creching accrued through decreasing the risk to the duckling hidden into the group rather than through enhancing the detection of aerial predators. Creching remains advantageous even when the overall results of the 2 types of predation are combined. When group predation only is considered, creching is clearly disastrous, for large creches are much more vulnerable than small ones.

**URL:** <Go to ISI>://BCI197865057642

**Reference Type:**  Journal Article

**Record Number:** 879

**Author:** J. A. Munro and W. A. Clemens

**Year:** 1939

**Title:** The food and feeding habits of the red-breasted merganser in British Columbia

**Journal:** Jour Wildlife Management

**Volume:** 3

**Issue:** (1)

**Pages:** 46-53

**Short Title:** The food and feeding habits of the red-breasted merganser in British Columbia

**Accession Number:** BCI:BCI19391300005424

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The red-breasted merganser (Mergus serrator) is an abundant visitant to the coast regions of British Columbia from Sept. to Apr. inclusive. Thus the relation of the species to the fisheries is seasonal and centers chiefly about its feeding habits on the coast waters. The food of 96 specimens taken on the lower stretches of coastal streams consisted largely of salmon eggs and sculpins; that of 15 specimens taken on the sea comprised chiefly herring with a smaller percentage of salmonoids, eulachons, sticklebacks, sculpins, blennies, rockfishes, and crustaceans. || ABSTRACT AUTHORS: J. A. Munro

**URL:** <Go to ISI>://BCI19391300005424

**Reference Type:**  Journal Article

**Record Number:** 437

**Author:** A. Murie

**Year:** 1946

**Title:** Observations on the birds of Mount Mc-Kinley National Park, Alaska

**Journal:** Condor

**Volume:** 48

**Issue:** (6)

**Pages:** 253-261

**Short Title:** Observations on the birds of Mount Mc-Kinley National Park, Alaska

**Accession Number:** BCI:BCI19472100018690

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Notes are given on the nesting habits, behavior, and occurrence of 33 spp., 6 of which are new to the park: Shoveller (Spatula clypeata), Barrow Goldeneye (Glaucionetta islandica), Bonaparte Gull (Larus Philadelphia), Violet-green Swallow (Tachycineta thalassina), Tree Swallow (Iridoprocne bicolor), and White-winged Crossbill (Loxia leucoptera). The Dipper (Cinclus mexicanus) was listed on a previous hypothetical list for the park area. || ABSTRACT AUTHORS: D. J. Borror

**URL:** <Go to ISI>://BCI19472100018690

**Reference Type:**  Journal Article

**Record Number:** 1363

**Author:** K. M. Murvoll, J. U. Skaare, H. Jensen and B. M. Jenssen

**Year:** 2007

**Title:** Associations between persistent organic pollutants and vitamin status in Brunnich's guillemot and common eider hatchlings

**Journal:** Science of the Total Environment

**Volume:** 381

**Issue:** 1-3

**Pages:** 134-145

**Date:** Aug 1 2007

**Short Title:** Associations between persistent organic pollutants and vitamin status in Brunnich's guillemot and common eider hatchlings

**Accession Number:** BCI:BCI200700499460

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Physiology; Breeding Season;

**Abstract:** The aim of the study was to examine associations between persistent organic pollutants and vitamin A (retinol), retinyl palmitate and vitamin E status (alpha-tocopherol) in two species occupying different trophic positions in the Arctic food web. Levels of polychlorinated biphenyls (PCBs), some selected organochlorine pesticides (OCPs), polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD) were analyzed in yolk sac of newly hatched chicks of Brunnich's guillemot (Uria lomvia) and common eider (Somateria mollissima) from Kongsfjorden, Svalbard (Norwegian Arctic) (79 degrees N). Morphological variables were measured, and levels of retinol, retinyl palmitate and alpha-tocopherol were analyzed in plasma and liver. Brunnich's guillemot had significantly higher levels of POPs than common eider, as expected from its higher trophic position. Morphological traits seemed to be negatively related to POPs in Brunnich's guillemots, but not in common eiders. In Brunnich's guillemot, negative relationships were found between some OCPs (hexachlorobenzene, oxychlordane, p,p '-DDE) and liver alpha-tocopherol levels. The negative relationships between these OCPs and liver alpha-tocopherol levels in Brunnich's guillemot hatchlings became less evident when the confounding effect of liver mass was corrected for. In common eider positive relationships were found between summed PCB (Sigma PCBs) and some OCPs (beta-hexachlorocyclohexane, oxychlordane) and liver alpha-tocopherol levels. Differences in relationships between POPs and vitamin status in the two species may be related to differences in POP exposure levels linked to their trophic position in the Arctic marine food web, or to intrinsic physiological differences between the species. (c) 2007 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200700499460

**Reference Type:**  Journal Article

**Record Number:** 19

**Author:** Z. Musilova, P. Musil, S. Polakova and R. Fuchs

**Year:** 2009

**Title:** Wintering ducks in the Czech Republic: changes in their population trends and distribution

**Journal:** Wildfowl

**Issue:** Sp. Iss. 2

**Pages:** 74-85

**Short Title:** Wintering ducks in the Czech Republic: changes in their population trends and distribution

**Accession Number:** BCI:BCI201000087038

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The Czech Republic, as an inland Central European country, is not part of the core wintering area for most duck species in the Western Palearctic. Nevertheless, inter-seasonal changes in numbers and distribution of particular species are recorded, which may reflect climatic fluctuation. Waterbird counts were carried out annually at 48-639 wetland sites in the Czech Republic in 1966-2008, as part of the International Waterbird Census (hereafter IWC). These data were used to assess long-term trends in the number of duck wintering in the Czech Republic for the 15 most abundant species. Increasing trends were found for six species: Wigeon Anas penelope, Mallard Anas platyrhynchos, Pochard Aythya ferina, Tufted Duck Aythya fuligula, Smew Mergus albellus and Goosander Mergus merganser. Teal Anas crecca was the only species found found to be declining. Those with stable trends were: Pintail Anas acuta, Scaup Aythya marila, Velvet Scooter Melanitta fusca and Goldeneye Bucephala clangula. No (uncertain) trend was found in least abundant Gadwall Anas strepera, Shoveler Anas clypeata, Red-crested Pochard Netta rufina and Ferruginous Duck Aythya nyroca. Wintering distribution (measured as the ratio of the number of sites occupied by a given species to the total number of sites investigated) increased in six species (Wigeon, Gadwall, Mallard, Red-crested Pochard, Tufted Duck and Goosander) and decreased in two species (Teal and Ferruginous Duck). No significant changes in distribution were found for the seven remaining species. Changes in numbers correlated with changes in distribution in each species. Annual variation in the numbers and distribution of ducks wintering in the Czech Republic were more strongly associated with long-term trends in numbers than with annual variation in climate conditions. Nevertheless, the numbers of wintering birds recorded on standing waters were positively, correlated with climatic variables in 10 duck species.

**URL:** <Go to ISI>://BCI201000087038

**Reference Type:**  Journal Article

**Record Number:** 2327

**Author:** M. N. Muz, O. O. Kilinc, C. T. Isler, E. Altug and M. Karakavuk

**Year:** 2015

**Title:** Molecular Diagnosis of Toxoplasma gondii and Neospora caninum in Brain Tissues of Some Wild Birds

**Journal:** Kafkas Universitesi Veteriner Fakultesi Dergisi

**Volume:** 21

**Issue:** 2

**Pages:** 173-178

**Date:** Mar-Apr

**Short Title:** Molecular Diagnosis of Toxoplasma gondii and Neospora caninum in Brain Tissues of Some Wild Birds

**ISSN:** 1300-6045

**DOI:** 10.9775/kvfd.2014.11983

**Accession Number:** WOS:000349190400005

**Keywords:** White-winged Scoter; Melanitta fusca; Parasites

**Abstract:** There are limited molecular studies about Toxoplasma gondii and Neospora caninum which are economically important livestock protozoons in wild birds investigated by polymerase chain reaction (PCR) method. Molecular prevalance of both parasites in brain tissues of wild birds in Turkey is unknown. Prevalance of T. gondii was 7%, N. caninum was 14% and mix infection was found 4% in brain tissues of 101 wild birds under 20 species from two different regions of Turkey. The chi-square test has been applied to the acquired data. This is the first molecular biologic investigation for the aim of PCR diagnosis of T. gondii in brain tissues of Corvus corone, Melanitta fusca, Aquila heliaca, Aquila pomarina, Buteo rufinus, Accipiter nisus, Strix aluco and N. caninum in brain tissues of Larus genei, Corvus corone, Melanitta fusca, Anas clypeata, Perdix perdix, Aquila heliaca, Buteo rufinus in the world. This also is the first molecular diagnostic investigation of T. gondii and N. caninum in brain tissues of wild birds in Turkey.

**Notes:** Muz, Mustafa Necati Orunc Kilinc, Ozlem Isler, Cafer Tayer Altug, Enes Karakavuk, Muhammet

**URL:** <Go to ISI>://WOS:000349190400005

**Reference Type:**  Journal Article

**Record Number:** 1595

**Author:** C. Naf, D. Broman and B. Brunstrom

**Year:** 1992

**Title:** Distribution and metabolism of polycyclic aromatic hydrocarbons (PAHs) injected into eggs of chicken (Gallus domesticus) and common eider duck (Somateria mollissima)

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 11

**Issue:** 11

**Pages:** 1653-1660

**Short Title:** Distribution and metabolism of polycyclic aromatic hydrocarbons (PAHs) injected into eggs of chicken (Gallus domesticus) and common eider duck (Somateria mollissima)

**Accession Number:** BCI:BCI199395013998

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** The present study focuses on the uptake, distribution, and metabolism of 16 polycylic aromatic hydrocarbons (PAHs) injected into eggs of chicken (Gallus domesticus) and common eider (Somateria mollissima). Of the total dose of 0.2 ppm, injected on day 4 of incubation, 94% was metabolized within the chicken egg by day 18. The gallbladder showed the highest PAH concentrations of the analyzed organs/structures (gallbladder, liver, kidney, adipose tissue) of the chick and eider embryos. The proportion of the total PAH content present in these organs/structures was higher in the eider embryo (40%) than in the chick embryo (16%). Chick embryos, eider embryos, and wild juvenile eiders had similar PAH concentrations and PAH profiles. The characteristics of this "PAH pool" seemed to be largely unrelated to the relative concentrations of the PAHs to which the birds were exposed, the age of the organisms, and the routes of exposure. The largest studied PAH molecule, coronene, was not taken up from the yolk by the embryo as efficiently as the other PAHs, but once taken up it was metabolized as readily as the others. Basal aryl hydrocarbon (benzo(a)pyrene) hydroxylase (AHH) activities of chick and eider embryos were of similar magnitude.

**URL:** <Go to ISI>://BCI199395013998

**Reference Type:**  Book Section

**Record Number:** 1639

**Author:** D. J. Nakashima

**Year:** 1987

**Title:** Inuit Knowledge of the Ecology of the Common Eider in Northern Quebec Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 102-113

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Inuit Knowledge of the Ecology of the Common Eider in Northern Quebec Canada

**Accession Number:** BCI:BCI198834004267

**Keywords:** Common Eider; Somateria mollissima; Conservation;

**URL:** <Go to ISI>://BCI198834004267

**Reference Type:**  Journal Article

**Record Number:** 115

**Author:** D. E. Naugle, R. R. Johnson, T. R. Cooper, M. M. Holland and K. F. Higgins

**Year:** 2000

**Title:** Temporal distribution of waterfowl in eastern South Dakota: Implications for aerial surveys

**Journal:** Wetlands

**Volume:** 20

**Issue:** 1

**Pages:** 177-183

**Date:** March, 2000

**Short Title:** Temporal distribution of waterfowl in eastern South Dakota: Implications for aerial surveys

**Accession Number:** BCI:BCI200000236637

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Techniques; Breeding Season;

**Abstract:** The U.S. Fish and Wildlife Service and Canadian Wildlife Service incorporate information from annual aerial and ground counts of waterfowl into harvest management strategies. Timing of population surveys is thought to be optimal for early nesting species but may not reliably reflect the status of species with later migration chronology. The purpose of this study was to evaluate effects of survey timing on diving duck and duck brood abundance indices in eastern South Dakota. Findings indicate that timing of aerial breeding surveys occurred too early in eastern South Dakota to accurately reflect diving duck population status because birds had not yet settled into breeding habitats and aerial production surveys did not coincide with peak duck brood abundance. Diving duck abundance from aerial surveys conducted during 10-17 May were higher than indices from ground surveys conducted 2 weeks later because lesser scaup (Aythya affinis), ring-necked duck (Aythya collaris), and bufflehead (Bucephala albeola) were still migrating through eastern South Dakota. Ground-survey estimates of redhead (Aythya americana) and canvasback (Aythya valisineria) abundance exceeded the upper limit of 95% confidence intervals for aerial survey estimates. Results from our second year of study showed an 11-fold decrease in lesser scaup abundance and an 8-fold decrease in ring-necked duck abundance in the two weeks following aerial breeding surveys. Brood abundance of dabbling and diving ducks peaked 1-1.5 months after aerial production surveys conducted in early July. Late-nesting indices calculated from aerial surveys were unrelated (P = 0.21) to number of late-hatching broods, whereas number of broods hatching after aerial surveys was correlated with late-nesting indices from ground surveys (r2 = 0.74, P < 0.01) and with number of July ponds (r2 = 0.77, P < 0.01). We encourage scientists to initiate a more thorough evaluation of survey biases to ensure that trends accurately reflect status of duck populations and to explore the possibility of using a separate late May/early June aerial survey after diving ducks have settled into habitat as a way of assessing breeding population trends for these species.

**URL:** <Go to ISI>://BCI200000236637

**Reference Type:**  Journal Article

**Record Number:** 228

**Author:** J. M. Neff, D. S. Page and P. D. Boehm

**Year:** 2011

**Title:** Exposure of Sea Otters and Harlequin Ducks in Prince William Sound, Alaska, USA, to Shoreline Oil Residues 20 Years after the Exxon Valdez Oil Spill

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 30

**Issue:** 3

**Pages:** 659-672

**Date:** Mar 2011

**Short Title:** Exposure of Sea Otters and Harlequin Ducks in Prince William Sound, Alaska, USA, to Shoreline Oil Residues 20 Years after the Exxon Valdez Oil Spill

**Accession Number:** BCI:BCI201100158346

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**Abstract:** We assessed whether sea otters and harlequin ducks in an area of western Prince William Sound, Alaska, USA (PWS), oiled by the 1989 Exxon Valdez oil spill (EVOS), are exposed to polycyclic aromatic hydrocarbons (PAH) from oil residues 20 years after the spill. Spilled oil has persisted in PWS for two decades as surface oil residues (SOR) and subsurface oil residues (SSOR) on the shore. The rare SOR are located primarily on the upper shore as inert, nonhazardous asphaltic deposits, and SSOR are confined to widely scattered locations as small patches under a boulder/cobble veneer, primarily on the middle and upper shore, in forms and locations that preclude physical contact by wildlife and diminish bioavailability. Sea otters and harlequin ducks consume benthic invertebrates that they collect by diving to the bottom in the intertidal and subtidal zones. Sea otters also dig intertidal and subtidal pits in search of clams. The three plausible exposure pathways are through the water, in oil-contaminated prey, or by direct contact with SSOR during foraging. Concentrations of PAH in near-shore water off oiled shores in 2002 to 2005 were at background levels (< 0.05 ng/L). Median concentrations of PAH in five intertidal prey species on oiled shores in 2002 to 2008 range from 4.0 to 34 ng/g dry weight, indistinguishable from background concentrations. Subsurface oil residues are restricted to locations on the shore and substrate types, where large clams do not occur and where sea otters do not dig foraging pits. Therefore, that sea otters and harlequin ducks continue to be exposed to environmentally significant amounts of PAH from EVOS 20 years after the spill is not plausible. Environ. Toxicol. Chem. 2011;30:659-672. (C) 2011 SETAC

**URL:** <Go to ISI>://BCI201100158346

**Reference Type:**  Journal Article

**Record Number:** 1553

**Author:** G. Nehls

**Year:** 1996

**Title:** Low costs of salt turnover in common eiders Somateria mollissima

**Journal:** Ardea

**Volume:** 84

**Issue:** 1-2

**Pages:** 23-30

**Short Title:** Low costs of salt turnover in common eiders Somateria mollissima

**Accession Number:** BCI:BCI199799421479

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** The energetic costs of salt turnover were measured in Common Eiders Somateria mollissima by respirometry. Rates of salt intake in the field were estimated from salt content of their chief prey, the mussel Mytilus edulis. Metabolic rate in Eiders increases in response to salt intake and may double for a short time following a load of 5 g NaCl. With a load of 2.5 g and 5 g NaCl the metabolic rate remains elevated for about one h. Overall costs of salt turnover are estimated at 1.3 kJ g-1 NaCl. From the proportion of water content to flesh content of mussels collected in the Wadden Sea, the costs of salt turnover are calculated at 2.0-2.4% of metabolizable energy intake. In the field, salt intake per foraging bout reaches 4.3 g and salt excretion, as inferred from the frequency of head shaking, continues for over one h. The direct salt intake in wintering Eiders reaches about 50 g per day leading to a mass-specific salt intake of 24 mg g-1 body mass. However, total intake is somewhat higher as Eiders drink some water after swallowing a mussel. The mass-specific salt intake is higher than reported for other marine birds. The maximum rate of salt excretion in Eiders, as calculated from published data, hardly matches the rate of salt intake of feeding Eiders. It is concluded that the capacity for salt excretion may limit the rate of food intake in birds feeding on whole-shelled bivalves in times of high food demands and low flesh contents of the bivalves.

**URL:** <Go to ISI>://BCI199799421479

**Reference Type:**  Journal Article

**Record Number:** 1273

**Author:** C. H. Nelson

**Year:** 1964

**Title:** Observations on the day-old young of the spectacled eider, Somateria fischeri

**Journal:** Auk

**Volume:** 81

**Issue:** (2)

**Pages:** 219-221

**Short Title:** Observations on the day-old young of the spectacled eider, Somateria fischeri

**Accession Number:** BCI:BCI19644500084722

**Keywords:** Spectacled Eider; Somateria fischeri; Physiology; Breeding Season;

**Abstract:** Four day-old spectacled eiders were measured, observed and painted by the author at Round Lake Waterfowl Station, Round Lake, Minnesota, during June and July, 1963. Her description of the ducklings differed from most published accounts in 2 respects bill color and the nature of the "spectacle." The bill color was found to be pale grayish-blue. A dark-colored "spectacle", almost exactly similar to the light-colored "spectacle" of the adult, was found to be present in the downy young. From observations of the eiders over a 5-week period, it was concluded that previous illustrations of the downy yound showing a dark "question-mark" around the eye represented a stage in the molt from natal down to juvenal plumage rather than the downy young of 2-week age or less. Various early behavioral characteristics of the eiders' 1st week of life were described and illustrated. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19644500084722

**Reference Type:**  Journal Article

**Record Number:** 555

**Author:** C. H. Nelson

**Year:** 1983

**Title:** Eye Color Changes in Barrows Goldeneye Bucephala-Islandica and Common Goldeneye Bucephala-Clangula-Americana Ducklings

**Journal:** Wilson Bulletin

**Volume:** 95

**Issue:** 3

**Pages:** 482-488

**Short Title:** Eye Color Changes in Barrows Goldeneye Bucephala-Islandica and Common Goldeneye Bucephala-Clangula-Americana Ducklings

**Accession Number:** BCI:BCI198426050023

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI198426050023

**Reference Type:**  Journal Article

**Record Number:** 533

**Author:** C. H. Nelson

**Year:** 1993

**Title:** The identification of Barrow's Goldeneye Bucephala islandica and Common Goldeneye B. clangula americana ducklings

**Journal:** Wildfowl

**Volume:** 44

**Pages:** 178-183

**Short Title:** The identification of Barrow's Goldeneye Bucephala islandica and Common Goldeneye B. clangula americana ducklings

**Accession Number:** BCI:BCI201000201431

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI201000201431

**Reference Type:**  Journal Article

**Record Number:** 357

**Author:** C. H. Nelson and K. C. Parkes

**Year:** 1976

**Title:** A Definite Colorado Breeding Record for the Harlequin Duck

**Journal:** Auk

**Volume:** 93

**Issue:** 4

**Pages:** 846-847

**Short Title:** A Definite Colorado Breeding Record for the Harlequin Duck

**Accession Number:** BCI:BCI197713018664

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI197713018664

**Reference Type:**  Journal Article

**Record Number:** 698

**Author:** E. C. Nelson and J. S. Gash-Wiler

**Year:** 1941

**Title:** Blood parasites of some Maine waterfowl

**Journal:** Jour Wildlife Management

**Volume:** 5

**Issue:** (2)

**Pages:** 199-205

**Short Title:** Blood parasites of some Maine waterfowl

**Accession Number:** BCI:BCI19411500015857

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Parasites;

**Abstract:** Blood smears were obtained from 130 waterfowl of 9 spp. live-trapped during banding operations. Leucocytozoon was found in 59% of 77 wood ducks and 89% of 29 black ducks. These birds came from the same area so perhaps black ducks are more prone to infection than wood ducks. No ducklings under 2 wks. of age were found infected but all from 3 to 7 wks. of age were infected. New hosts recorded for Leucocytozoon are the wood duck, American merganser, hooded merganser, American golden-eye, and green-winged teal. Haemoproteus was found in 64% of 77 wood ducks and 20% of 29 black ducks, which may indicate that wood ducks are more prone to this infection. Haemoproteus was also found in ring-necked ducks and coots. Ring-necked ducks, wood ducks, and coots are new hosts of this parasite. Microfilaria was found in 38% of the wood ducks and 31% of the black ducks, 1 of 6 ring-neck ducks, one of 3 hooded mergansers, 1 green-winged teal, and 1 of 2 coots. 3 types of microfilariae were found. The adult worms were not collected. No parasites were found in 2 lesser scaups. || ABSTRACT AUTHORS: E. C. Nelson

**URL:** <Go to ISI>://BCI19411500015857

**Reference Type:**  Journal Article

**Record Number:** 722

**Author:** J. L. Newbrey, M. A. Bozek and N. D. Niemuth

**Year:** 2005

**Title:** Effects of lake characteristics and human disturbance on the presence of piscivorous birds in Northern Wisconsin, USA

**Journal:** Waterbirds

**Volume:** 28

**Issue:** 4

**Pages:** 478-486

**Date:** Dec 2005

**Short Title:** Effects of lake characteristics and human disturbance on the presence of piscivorous birds in Northern Wisconsin, USA

**Accession Number:** BCI:BCI200600242709

**Keywords:** Common merganser; Mergus merganser; Habitat; Breeding Season;

**Abstract:** Despite Current anthropogenic alterations to riparian areas and littoral zones of lakes, little information is available on how human-induced alterations affect lacustrine habitat use by many piscivorous birds in northern Wisconsin, USA. The influence of lake characteristics and human disturbance on species richness and the presence of seven species of piscivorous birds was determined on 98 lakes located primarily in Vilas and Oneida counties, Wisconsin. Lakes were surveyed for species presence using shoreline perimeter surveys with total searching time standardized to two, one-hour surveys per lake. Piscivorous bird species richness was highest on large lakes with high pH levels. Using logistic regression, many species were found to be present on lakes possessing characteristics associated with high abundances of fish, including lake surface area, pH, and water clarity. At least one of these variables was included in the final models for species richness and presence of the Common Merganser (Mergus merganser), Bald Eagle (Haliaeetus leucocephalus), Great Blue Heron (Ardea herodias), and Ring-billed Gull (Larus delawarensis). Three species avoided lakes possessing characteristics associated with high levels of human disturbance; the Osprey (Pandion haliaetus) was not found on lakes with low percentages of macrophytes, the Common Merganser was absent on lakes with low water clarity, and the Common Loon (Gavia immer) was not present on lakes with many cottages. Many species of piscivorous birds were widespread regardless of the degree of human development, indicating that habituation to humans may have occurred. In addition, density-dependent factors may have precluded identification of optimal lake characteristics for some species due to habitat saturation.

**URL:** <Go to ISI>://BCI200600242709

**Reference Type:**  Journal Article

**Record Number:** 736

**Author:** S. E. Newson and B. Hughes

**Year:** 1999

**Title:** Diurnal activity and energy budgets of Goosander Mergus merganser wintering on Chew Valley Lake, North Somerset: Influence of time of day and sex

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 173-180

**Short Title:** Diurnal activity and energy budgets of Goosander Mergus merganser wintering on Chew Valley Lake, North Somerset: Influence of time of day and sex

**Accession Number:** BCI:BCI199900307443

**Keywords:** Common merganser; Mergus merganser; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** Diurnal activity of wintering Goosander was studied at Chew Valley Lake using instantaneous scan sampling. The sex ratio of 0.48 males per female was relatively consistent through midwinter 1995/1996. Daily energy expenditure calculations, based upon published basal metabolic rates, suggested that feeding activities incurred the second highest energy cost after resting although feeding occurred for only a small proportion of daylight hours (14% for males and 17% females). Males devoted less time to feeding activities than females, although theoretically males need more energy per day, due to their larger size. It was calculated that males need between 175.5 and 216.6 g/fish/hr spent feeding, compared to females requiring between 117.2 and 144.6 g/fish/hr spent feeding. Males are therefore either more efficient at energy conservation or foraging (e.g. taking larger fish with higher calorific value). Assuming an assimilation efficiency of 80%, and the food to have an energy content of 4.0 KJ/g, it was calculated that Goosander at Chew Valley Lake consumed about 10-13% of their body mass in fish per day.

**URL:** <Go to ISI>://BCI199900307443

**Reference Type:**  Journal Article

**Record Number:** 431

**Author:** W. P. Nickell

**Year:** 1966

**Title:** Behavior of Barrows goldeneye in Wyoming Bucephala islandica

**Journal:** Wilson Bull

**Volume:** 78

**Issue:** (1)

**Pages:** 121-122

**Short Title:** Behavior of Barrows goldeneye in Wyoming Bucephala islandica

**Accession Number:** BCI:BCI19674800005685

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI19674800005685

**Reference Type:**  Journal Article

**Record Number:** 50

**Author:** F. I. Nicoll and J. R. Zimmerling

**Year:** 2006

**Title:** The importance of wetlands to waterbirds in the Boreal Forest of Ontario

**Journal:** Ontario Birds

**Volume:** 24

**Issue:** 1

**Pages:** 13-22

**Date:** Apr 2006

**Short Title:** The importance of wetlands to waterbirds in the Boreal Forest of Ontario

**Accession Number:** BCI:BCI200600476793

**Keywords:** Sea Ducks - General; Habitat;

**URL:** <Go to ISI>://BCI200600476793

**Reference Type:**  Journal Article

**Record Number:** 571

**Author:** L. Nilsson

**Year:** 1965

**Title:** Studies on the preening behaviour of the Goldeneye (Bucephala clangula) Engl. summ.

**Journal:** Var Fagelvarld

**Volume:** 24

**Issue:** (4)

**Pages:** 301-309

**Short Title:** Studies on the preening behaviour of the Goldeneye (Bucephala clangula) Engl. summ.

**Accession Number:** BCI:BCI19674800000484

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior;

**Abstract:** A description is given of the various comfort, bathing and preening movements of Goldeneyes with reference to the work of McKinney (1953). One one occasion it was observed that bill dipping gradually led to bathing. The frequencies of the preening movements in 90 preening series in different situations were noted and summarized. The differences in frequency between the movements suggest different threshold values for the movements. The duration of a normal preening series was found to be 2[long dash]4 min. in daytime. In the evening longer series are common. The comfort movements in "after discharge situations" were also studied. It was found that low intensity preening movements were commoner in preening after disturbance than high intensity forms. Wingflap was common after disturbance and aggressive encounters. In the latter it was commoner after aggressions of low intensity than after those of high intensity. After copulation the males have a special behaviour (post-copulatory steaming: but the females are devoid of ritualized post-copulatory behavior. Comfort behavior after copulation was found to be much commoner in females than in males. || ABSTRACT AUTHORS: From auth

**URL:** <Go to ISI>://BCI19674800000484

**Reference Type:**  Journal Article

**Record Number:** 873

**Author:** L. Nilsson

**Year:** 1965

**Title:** Observations of the spring behaviour of the red-breasted merganser Engl. summ.

**Journal:** Var Fagelvarld

**Volume:** 24

**Issue:** (3)

**Pages:** 244-256

**Short Title:** Observations of the spring behaviour of the red-breasted merganser Engl. summ.

**Accession Number:** BCI:BCI19664700110494

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior;

**Abstract:** General behavior, courtship and pre-copulatory display of the species are described. The population of the main study area gathered in the evening to a communal roosting place on a small islet. Courtship display, preening, and bathing were common when the birds congregated and went on land in the evening and before they left in the morning. The preening andbathing behavior of the red-breasted merganser was almost identical with that of other anatids. Aggressive behavior of the species is usually between males in groups. The different behavior patterns in the courtship display are described. Aerial chases and ten copulations were observed. The precopulatory display was initiated by the female adopting the prone-posture, as in other anatids. The male circled round the female with outstretched neck in most cases performing false-drinking, false-preening and water-twitch. No precopulatory "steaming" was performed. After copulation, which lasted 6-13 sec., the pair rotated and the male performed "Knix" belonging to the courtship display. After that the pair performed various bathing movements. ABSTRACT AUTHORS: From auth. summ

**URL:** <Go to ISI>://BCI19664700110494

**Reference Type:**  Journal Article

**Record Number:** 808

**Author:** L. Nilsson

**Year:** 1966

**Title:** The behavior of the goosander (Mergus merganser) in the winter Engl. sum.

**Journal:** Var Fagelvarld

**Volume:** 25

**Issue:** (2)

**Pages:** 148-160

**Short Title:** The behavior of the goosander (Mergus merganser) in the winter Engl. sum.

**Accession Number:** BCI:BCI19684900076253

**Keywords:** Common merganser; Mergus merganser; Behavior;

**Abstract:** Summarized observations on the general behavior, courtship display, choice of night-quarters and copulation of the species are given. ABSTRACT AUTHORS: From auth

**URL:** <Go to ISI>://BCI19684900076253

**Reference Type:**  Journal Article

**Record Number:** 69

**Author:** L. Nilsson

**Year:** 2005

**Title:** Long-term trends and changes in numbers and distribution of some wintering waterfowl species along the Swedish Baltic Coast

**Journal:** Acta Zoologica Lituanica

**Volume:** 15

**Issue:** 2

**Pages:** 151-157

**Short Title:** Long-term trends and changes in numbers and distribution of some wintering waterfowl species along the Swedish Baltic Coast

**Accession Number:** BCI:BCI200510182594

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Regular counts of wintering waterfowl have been undertaken as a part of the International Waterfowl Census (IWC) and the National Swedish Environmental Monitoring Program since 1964. After the first years, a network of annually surveyed sites was established for the calculation of annual indices. Country-wide surveys (also including aerial counts) were undertaken 1971-1974, 1987-1989, 1992-1993 (partial) and 2004. During the survey period, increasing trends were found in Mallard (Anas platyrhynchos), Tufted Duck (Aythya fuligula), Pochard (Aythya ferina), Goldeneye (Bucephala clangula), Red-breasted Merganser (Mergus serrator), Mute Swan (Cygnus olor) and Cormorant (Phalacrocorax carbo). Some of these trends reflect genuine population changes; others are related to changing winter conditions, e.g. the establishment of a new wintering tradition for Wigeon (Anas penelope). Tufted Duck and Goldeneye decreased in the south and increased in the northern part of the coast. Mallard, on the other hand, increased in some coastal sites but not in others, but this species is also common inland.

**URL:** <Go to ISI>://BCI200510182594

**Reference Type:**  Journal Article

**Record Number:** 247

**Author:** P. B. Nilsson, T. E. Hollmen, S. Atkinson, K. L. Mashburn, P. A. Tuomi, D. Esler, D. M. Mulcahy and D. J. Rizz

**Year:** 2008

**Title:** Effects of ACTH, capture, and short term confinement on glucocorticoid concentrations in harlequin ducks (Histrionicus histrionicus)

**Journal:** Comparative Biochemistry and Physiology Part A Molecular & Integrative Physiology

**Volume:** 149

**Issue:** 3

**Pages:** 275-283

**Date:** Mar 2008

**Short Title:** Effects of ACTH, capture, and short term confinement on glucocorticoid concentrations in harlequin ducks (Histrionicus histrionicus)

**Accession Number:** BCI:BCI200800331967

**Keywords:** Harlequin duck; Histrionicus histrionicus; Physiology;

**Abstract:** Little is known about baseline concentrations of adrenal hormones and hormonal responses to stress in sea ducks, although significant population declines documented in several species suggest that sea ducks are exposed to increased levels of environmental stress. Such declines have been observed in geographically distinct harlequin duck populations. We performed an adrenocorticotropic hormone (ACTH) challenge to evaluate adrenal function and characterize corticosterone concentrations in captive harlequin ducks and investigated the effects of capture, surgery, and short term confinement on corticosterone concentrations in wild harlequin ducks. Harlequin ducks responded to the ACTH challenge with an average three-fold increase in serum corticosterone concentration approximately 90 min post injection, and a four- to five-fold increase in fecal glucocorticoid concentration 2 to 4 h post injection. Serum corticosterone concentrations in wild harlequin ducks increased within min of capture and elevated levels were found for several hours post capture, indicating that surgery and confinement maintain elevated corticosterone concentrations in this species. Mean corticosterone concentrations in wild harlequin ducks held in temporary captivity were similar to the maximum response levels during the ACTH challenge in captive birds. However, large variation among individuals was observed in responses of wild birds, and we found additional evidence suggesting that corticosterone responses varied between hatch year and after hatch year birds. (C) 2008 Published by Elsevier Inc.

**URL:** <Go to ISI>://BCI200800331967

**Reference Type:**  Journal Article

**Record Number:** 1113

**Author:** L. E. Noel, S. R. Johnson and G. M. O'Doherty

**Year:** 2005

**Title:** Long-tailed Duck, Clangula hyemalis, eider, Somateria spp., and scoter, Melanitta spp., distributions in central Alaska Beaufort Sea lagoons, 1999-2002

**Journal:** Canadian Field-Naturalist

**Volume:** 119

**Issue:** 2

**Pages:** 181-185

**Date:** Apr-Jun 2005

**Short Title:** Long-tailed Duck, Clangula hyemalis, eider, Somateria spp., and scoter, Melanitta spp., distributions in central Alaska Beaufort Sea lagoons, 1999-2002

**Accession Number:** BCI:BCI200600483915

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Dispersal; Nonbreeding Seasons;

**Abstract:** During July and August 1999-2002, distributions of Long-tailed Ducks (Clangula hyemalis), ciders (Somateria spp.) and scoters (Melanitta spp.) were documented in three barrier island-lagoon systems in the central Alaska Beaufort Sea. Concentration areas for each species were determined during 16 aerial surveys. Kernel density procedures were used to delineate 75% and 50% "activity" or concentration areas for all three species. Long-tailed Ducks were 13 times more numerous than eiders and 38 times more numerous than scoters. The Long-tailed Duck 75% activity area encompassed all three lagoon systems and was three times as large as the eider activity area and one-third larger than the scoter activity area. Eider activity areas were located only in the eastern lagoon, and scoter activity areas were located only in the western lagoon. Density contours showed patterns of repeated habitat use for sea ducks over the four years of sampling and improve our understanding of sea duck habitat use within Beaufort Sea barrier island-lagoon habitats.

**URL:** <Go to ISI>://BCI200600483915

**Reference Type:**  Journal Article

**Record Number:** 1413

**Author:** L. E. Noel, S. R. Johnson, G. M. O'Doherty and M. K. Butcher

**Year:** 2005

**Title:** Common eider (Somateria mollissima v-nigrum) nest cover and depredation on central Alaskan Beaufort Sea barrier islands

**Journal:** Arctic

**Volume:** 58

**Issue:** 2

**Pages:** 129-136

**Date:** Jun 05

**Short Title:** Common eider (Somateria mollissima v-nigrum) nest cover and depredation on central Alaskan Beaufort Sea barrier islands

**Accession Number:** BCI:BCI200510107780

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** Female common eiders (Somateria mollissima v-nigrum) generally select nest sites in areas with driftwood cover. Previous studies of common eiders have shown a positive relationship between nest success and driftwood cover. Our observations led us to hypothesize that cover does not enhance nest success when mammalian predators are present. To evaluate nest cover selection in common eiders, we examined five years of nesting data to determine the interactions between the probability of nest activity and the amount of driftwood cover in the presence of avian versus mammalian predators. Most common eider nests were surrounded by low (40%) or moderate (38%) driftwood cover. Nest failure rates were high (32%-95%), and arctic foxes (Alopex lagopus), alone or with polar bears (Ursus maritimus), appeared to be more destructive than glaucous gulls (Larus hyperboreus) to eider nests. Logistic regression was used to model common eider nest activity associated with driftwood cover and predators. When glaucous gulls were the only predators, more driftwood cover consistently increased the probability of nest activity. But when foxes were present, nest activity consistently decreased with increasing cover. Our models support our I observations that nest cover was beneficial to eiders when glaucous gulls alone were predators. Driftwood cover may be most important for the thermal and structural protection it offers, rather than for the camouflage it provides. The energetic benefit provided by driftwood windbreaks coupled with the common eider's behavioral response of decreased nest attendance, or increased exposure to avian depredation of nests as energy reserves are depleted during incubation, provides an explanatory mechanism for our model results.

**URL:** <Go to ISI>://BCI200510107780

**Reference Type:**  Journal Article

**Record Number:** 1625

**Author:** B. A. Nolet

**Year:** 1988

**Title:** Breeding Success of Some Coastal Birds in a Herring Gull Larus-Argentatus Colony

**Journal:** Limosa

**Volume:** 61

**Issue:** 2

**Pages:** 79-84

**Short Title:** Breeding Success of Some Coastal Birds in a Herring Gull Larus-Argentatus Colony

**Accession Number:** BCI:BCI198987046568

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** In the fifties and sixties, a serious decline in breeding numbers of coastal birds occurred along the Dutch coast, caused by dumping of pesticides. In contrast with Eider Somateria mollissima, Oystercatcher Haematopus ostralegus, and Herring Gull Larus argentatus, Common Tern Sterna hirundo, and Arctic Tern S. paradisaea did not recover fully. In order to gain insight in this difference the breeding success of these species on Rottumeroog was measured in 1986. Breeding success of Herring Gull appeared to be in accordance with the breeding density on the island. Breeding success of Eider, Oystercatcher, and Common and Arctic Tern were relatively low compared to other areas. Provisional calculations indicate that successes are too low to explain the population growth rates found in the area. Predation by Herring Gulls of eggs of Eiders and chicks of Oystercatchers, and Common and Arctic Terns is regarded as the main cause of the low breeding success in these species. Some measures are proposed to improve the situation.

**URL:** <Go to ISI>://BCI198987046568

**Reference Type:**  Journal Article

**Record Number:** 1794

**Author:** A. M. Norderhaug

**Year:** 1977

**Title:** Studies of the King Eider Somateria-Spectabilis in Svalbard

**Journal:** Norsk Polarinstitutt Arbok

**Issue:** 1976

**Pages:** 271-284

**Short Title:** Studies of the King Eider Somateria-Spectabilis in Svalbard

**Accession Number:** BCI:BCI197866019743

**Keywords:** King Eider; Somateria spectabilis; Productivity; Breeding Season; Molt; Nonbreeding Seasons;

**Abstract:** Data on the king eider (S. spectabilis) collected during the Norsk Polarinstitutt's ornithological expeditions in Svalbard [Arctic] (mainly 1965-1970) are summarized. The present breeding distribution, data on productivity and egglaying/hatching are figured. The average breeding period for 4 clutches was 23 days. Comparison is made of egg sizes and weights for the common eider and the king eider. Brief remarks are given on behavior on the breeding site and population size. The life cycle of the king eider is discussed, and information given on existing molting areas in Svalbard.

**URL:** <Go to ISI>://BCI197866019743

**Reference Type:**  Journal Article

**Record Number:** 100

**Author:** M. Nordstrom, J. Hogmander, J. Nummelin, J. Laine, N. Laanetu and E. Korpimaki

**Year:** 2002

**Title:** Variable responses of waterfowl breeding populations to long-term removal of introduced American mink

**Journal:** Ecography

**Volume:** 25

**Issue:** 4

**Pages:** 385-394

**Date:** August, 2002

**Short Title:** Variable responses of waterfowl breeding populations to long-term removal of introduced American mink

**Accession Number:** BCI:BCI200200490109

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Trophic Interactions; Breeding Season;

**Abstract:** It is suspected that feral American mink, an introduced predator in Europe, have seriously affected local densities of birds breeding in archipelagos and coastal areas. We studied the effects of mink removal on breeding densities of waterfowl in two manipulation and two control areas in the outer archipelago of SW Finland, Baltic Sea. The study was conducted in two phases: during 1992-2001 a total of 98 mink was removed from 60 islands and islets (total area 72 km2) whereas on 37 islands and islets (35 km2) mink was not removed. Additional mink removal and control areas were established during 1998-2001 to replicate the experiment. The breeding densities of the shelduck, tufted duck and the velvet scoter increased as a response to mink removal, while in the control areas their populations remained unchanged. The breeding densities of mallards increased during the first 7 yr of mink removal, but a steep decrease in the last study year resulted in a statistically non-significant overall increase. The species with low breeding densities (the gadwall, northern shoveler, pintail and the red-breasted merganser) increased as well. In contrast, the populations of large waterfowl species, the mute swan, greylag goose, common eider and the goosander, did not show obvious increases in breeding densities after mink removal. We conclude that feral mink may locally limit the breeding densities of some smaller waterfowl species and thus reduce the diversity of the waterfowl community in the outer archipelago.

**URL:** <Go to ISI>://BCI200200490109

**Reference Type:**  Journal Article

**Record Number:** 1650

**Author:** G. Norheim and B. Kjos-Hanssen

**Year:** 1984

**Title:** Persistent Chlorinated Hydro Carbons and Mercury in Birds Caught Off the West Coast of Spitsbergen Norway

**Journal:** Environmental Pollution Series A Ecological and Biological

**Volume:** 33

**Issue:** 2

**Pages:** 143-152

**Short Title:** Persistent Chlorinated Hydro Carbons and Mercury in Birds Caught Off the West Coast of Spitsbergen Norway

**Accession Number:** BCI:BCI198478007610

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** The tissue concentrations of DDE, PCB [polychlorinated biphenyl], hexachlorobenzene (HCB) and Hg were determined in 5 spp. of migrating seabirds: glaucous gull Larus hyperboreus, fulmar Fulmarus glacialis, Brunnich's guillemot Uria lomvia, little auk Alle alle and eider Somateria mollissima. These birds nested on Svalbard and were shot in May, 1980, off the west coast of Spitsbergen. The highest levels of DDE, PCB and HCB were found in glaucous gull; low levels were found in Brunnich's guillemot, little auk and especially eider. Fulmars were intermediate. Higly significant correlations were found between the concentrations of HCB, DDE and PCB. These results indicated that the Gulf Stream probably was a common source of these substances. The highest Hg levels were found in the fulmar and glaucous gull and eider were intermediate; the lowest Hg levels were found in Brunnich's guillemot and little auk. There was no connection between the nutritional condition and concentrations of the pollutants determined. There seemed to be a close relationship between the levels of chlorinated hydrocarbons and the trophic levels of the birds in the food chain. A comparison between the present results and analyses of Antarctic seabirds indicated that the aquatic food chain in the Arctic was more loaded with persistent chlorinated hydrocarbons than in the Antarctic; more Hg seemed to be found in Antarctic birds.

**URL:** <Go to ISI>://BCI198478007610

**Reference Type:**  Journal Article

**Record Number:** 223

**Author:** G. Notini and H. Westman

**Year:** 1956

**Title:** Sea birds and sea bird shooting by the Swedish east coast In Swedish with English summ.

**Journal:** K Skogshogskoland Skrifter

**Volume:** 22

**Pages:** 3-77

**Short Title:** Sea birds and sea bird shooting by the Swedish east coast In Swedish with English summ.

**Accession Number:** BCI:BCI19583200035795

**Keywords:** Sea Ducks - General; Conservation;

**Abstract:** The Inst. of Forest Zool., completed investigations of the stocks and the shooting of sea birds that were instituted in 1944 and whose results up to 1948 were published in the Communications of the Swedish Sportmen's Assoication (1949). One of the principal considerations was to elucidate the effect of the amended regulations which came into force in 1950. [A list of amended regulations is given.] The investigations were concerned with the stock-taking of breeding birds in the Namdo skerries and the same areas.[long dash]Kalmar Sound, Blekinge skerries, and around Oland and Gotland[long dash]that had previously been studied in this respect. In addition, line estimates were made along the e. coast from Namdo skerries down to Vastervik. Taken into consideration in these stock-taking and estimates were eider, the velvet scoter, long-tailed ducks, garrots, tufted ducks, mergansers, and the black scoters.

**URL:** <Go to ISI>://BCI19583200035795

**Reference Type:**  Journal Article

**Record Number:** 2223

**Author:** P. Nummi, S. Holopainen, J. Rintala and H. Poysa

**Year:** 2015

**Title:** Mechanisms of density dependence in ducks: importance of space and per capita food

**Journal:** Oecologia

**Volume:** 177

**Issue:** 3

**Pages:** 679-688

**Date:** Mar

**Short Title:** Mechanisms of density dependence in ducks: importance of space and per capita food

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-014-3133-1

**Accession Number:** WOS:000350033500006

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Productivity

**Abstract:** The growth rate of populations usually varies over time, often in a density-dependent manner. Despite the large amount of literature on density dependence, relatively little is known of the mechanisms underlying the density-dependent processes affecting populations, especially per capita natality. We performed a 20-year study on the density dependence of brood production in two duck species differing in the stability of habitat use. Our study was conducted in a boreal watershed in southern Finland. We predicted that a diving duck common goldeneye Bucephala clangula, with more stable habitat use, would show stronger density dependence than a dabbling duck common teal Anas crecca. We investigated reproductive output in relation to the duck pair density per se as well as in relation to per capita food availability. As predicted, the reproductive output of the goldeneye showed a more density-dependent pattern than that of the teal. The number of goldeneye broods per pair decreased when the pair density increased. This was not the case with the teal. However, when the breeding success was measured by taking into account per capita food availability, both species showed density dependence. Our results imply that the occurrence of density dependent processes may vary even in sympatric ducks breeding in the same, relatively stable landscape. Our analysis also emphasizes that it is important to take into account per capita resource availability when studying the density dependence of breeding success. Both findings have important implications for the management and conservation of species.

**Notes:** Nummi, Petri Holopainen, Sari Rintala, Jukka Poysa, Hannu

**URL:** <Go to ISI>://WOS:000350033500006

**Reference Type:**  Journal Article

**Record Number:** 1925

**Author:** P. Nummi, A. Paasivaara, S. Suhonen and H. Poysa

**Year:** 2013

**Title:** Wetland use by brood-rearing female ducks in a boreal forest landscape: the importance of food and habitat

**Journal:** Ibis

**Volume:** 155

**Issue:** 1

**Pages:** 68-79

**Date:** Jan

**Short Title:** Wetland use by brood-rearing female ducks in a boreal forest landscape: the importance of food and habitat

**ISSN:** 0019-1019

**DOI:** 10.1111/ibi.12013

**Accession Number:** WOS:000316326600007

**Keywords:** Sea ducks; habitat; Breeding Season

**Notes:** Times Cited: 0

Nummi, Petri Paasivaara, Antti Suhonen, Sari Poysa, Hannu

0

**URL:** <Go to ISI>://WOS:000316326600007

**Reference Type:**  Journal Article

**Record Number:** 511

**Author:** P. Nummi and H. Poysa

**Year:** 1995

**Title:** Breeding success of ducks in relation to different habitat factors

**Journal:** Ibis

**Volume:** 137

**Issue:** 2

**Pages:** 145-150

**Short Title:** Breeding success of ducks in relation to different habitat factors

**Accession Number:** BCI:BCI199598310601

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Productivity; Breeding Season;

**Abstract:** Breeding success of four duck species, Teal Anas crecca, Mallard Anas platyrhynchos, Wigeon Anas penelope and Goldeneye Bucephala clangula, was studied in a boreal watershed in southern Finland during 1988-1991 in relation to habitat type (based on vegetation development) and food abundance. Of the three common breeders, breeding success (broods/pair) was highest in Teal (1.7) and lower in Mallard (1.4) and Goldeneye (1.2). Over the years, Goldeneye brood densities were less variable than were pair densities, so breeding success varied more among years that did that of Mallard or Teal. In Teal, the yearly numbers of pairs and broods fluctuated together, whereas in Mallard neither varied appreciably. Breeding success by Goldeneye was higher where nektonic invertebrates were more abundant, whereas breeding success of the dabbling ducks had very few significant correlations with environmental factors.

**URL:** <Go to ISI>://BCI199598310601

**Reference Type:**  Journal Article

**Record Number:** 2224

**Author:** P. Nummi, V. M. Vaananen, S. Holopainen and H. Poysa

**Year:** 2016

**Title:** Duck-fish competition in boreal lakes - a review

**Journal:** Ornis Fennica

**Volume:** 93

**Issue:** 1

**Pages:** 67-76

**Short Title:** Duck-fish competition in boreal lakes - a review

**ISSN:** 0030-5685

**Accession Number:** WOS:000375520400008

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Trophic Interactions

**Abstract:** Ducks share the aquatic environment with invertebrate-eating fish. Thus, competitive interactions may take place. Fish have been introduced to many formerly fishless lakes, which has profoundly affected the competitive and predatory relations in these waters. In this paper we review recent findings on duck fish competitive interactions in boreal lakes. On a general level, analyses based on presence/absence data of fish have indicated that ducks can be negatively affected by fish. More rigorous studies where fish density has been considered have corroborated the pattern emerging from presence/absence studies. For the Common Goldeneye (Bucephala clangula) and Eurasian Perch (Perca fluviatilis), the effect of competition has been tested experimentally. In general, it appears that diving ducks such as Common Goldeneye, which forage in open water, are the most affected by fish, Common Teal (Arias crecca) is intermediate, whereas Mallard (A. platyrhynchos), which forage among the shore vegetation, is little affected. Likelihood or the strength of competition between ducks and fish may also depend on habitat productivity and structure. Numbers of invertebrates are higher among vegetation where there are less fish preying on them. Duck fish interactions are important to take into account when planning wetland creation and restoration for ducks. There is also an urgent need to mitigate the effects of fish introductions in wetlands.

**Notes:** Nummi, Petri Vaananen, Veli-Matti Holopainen, Sari Poysa, Hannu

**URL:** <Go to ISI>://WOS:000375520400008

**Reference Type:**  Journal Article

**Record Number:** 1926

**Author:** P. Nummi, V. M. Vaananen, M. Rask, K. Nyberg and K. Taskinen

**Year:** 2012

**Title:** Competitive effects of fish in structurally simple habitats: perch, invertebrates, and goldeneye in small boreal lakes

**Journal:** Aquatic Sciences

**Volume:** 74

**Issue:** 2

**Pages:** 343-350

**Date:** Apr

**Short Title:** Competitive effects of fish in structurally simple habitats: perch, invertebrates, and goldeneye in small boreal lakes

**ISSN:** 1015-1621

**DOI:** 10.1007/s00027-011-0225-4

**Accession Number:** WOS:000302518900010

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Breeding Season

**Notes:** Times Cited: 4

Nummi, Petri Vaananen, Veli-Matti Rask, Martti Nyberg, Kari Taskinen, Keijo

4

**URL:** <Go to ISI>://WOS:000302518900010

**Reference Type:**  Journal Article

**Record Number:** 1213

**Author:** T. Nygard, B. Frantzen and S. Svazas

**Year:** 1995

**Title:** Steller's Eiders Polysticta stelleri wintering in Europe: numbers, distribution and origin

**Journal:** Wildfowl

**Volume:** 46

**Pages:** 140-156

**Short Title:** Steller's Eiders Polysticta stelleri wintering in Europe: numbers, distribution and origin

**Accession Number:** BCI:BCI201000321357

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Steller's Eider is among the roost northern-living of duck species at all seasons. The recent decline of the species in North America has now increased the awareness of the population wintering in northern Europe. The size of this wintering population is estimated from the available information at 30- 50,000 birds, which suggests that the western population is now of the same magnitude as the eastern one that winters in the Pacific. The most important western wintering area extends from Varangerfjorden in north-eastern Norway to the ice-edge on the Kola coast in north-west Russia. Important winter areas have been found recently on the coasts of Lithuania and Estonia in the eastern Baltic. Recent information about breeding Steller's Eiders on the tundras of Taymyr, Yamal and Gyda peninsulas confirms the existence of a substantial population west of Khatanga, that migrates to the west and winters in North Atlantic and Baltic waters.

**URL:** <Go to ISI>://BCI201000321357

**Reference Type:**  Journal Article

**Record Number:** 174

**Author:** T. Nygard, B. H. Larsen, A. Follestad and K.-B. Strann

**Year:** 1988

**Title:** Numbers and distribution of wintering waterfowl in Norway

**Journal:** Wildfowl

**Volume:** 39

**Pages:** 164-176

**Short Title:** Numbers and distribution of wintering waterfowl in Norway

**Accession Number:** BCI:BCI201000321384

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI201000321384

**Reference Type:**  Journal Article

**Record Number:** 173

**Author:** K. G. K. Nystrom and O. Pehrsson

**Year:** 1988

**Title:** Salinity as a Constraint Affecting Food and Habitat Choice of Mussel-Feeding Diving Ducks

**Journal:** Ibis

**Volume:** 130

**Issue:** 1

**Pages:** 94-110

**Short Title:** Salinity as a Constraint Affecting Food and Habitat Choice of Mussel-Feeding Diving Ducks

**Accession Number:** BCI:BCI198885120076

**Keywords:** Sea Ducks - General; Trophic Interactions; Habitat;

**Abstract:** Observations of freshwater drinking in Eiders feeding primarily on mussels led us to hypothesize that the highly saline sea water enclosed in mussels could cause salt-related dehydration problems in the ducks, since they consume entire mussels. The proportion of sea water increases with increasing mussel size. Small ducks species are more sensitive to the higher salt content of larger mussels than are larger ducks; however, salt stress may be avoided by feeding in habitats with lower salinity, by feeding on less salty food items, by utilizing smaller mussels, by drinking fresh water, or by employing low energy foraging techniques. A possible evolutionary strategy for solving the salt problem might be to increase body mass, enabling ducks to utilize larger mussels without passing an upper salt consumption limit. At the same time, foraging on larger mussels is more economical. Although large size facilitates the utilization of brackish and marine environments, it may be selected against in ducks breeding in fresh water, where fish competition may reduce optimal food item size. In conclusion, salinity is an important habitat barrier in both breeding and overwintering diving ducks, but there are various ways of crossing this barrier. To understand better how ducks utilize their habitats, however, it is necessary to measure habitat salinity levels and the size of both ducks and their preferred and less-preferred food types.

**URL:** <Go to ISI>://BCI198885120076

**Reference Type:**  Journal Article

**Record Number:** 1603

**Author:** K. G. K. Nystrom, O. Pehrsson and D. Broman

**Year:** 1991

**Title:** Food of Juvenile Common Eiders Somateria-Mollissima in Areas of High and Low Salinity

**Journal:** Auk

**Volume:** 108

**Issue:** 2

**Pages:** 250-256

**Short Title:** Food of Juvenile Common Eiders Somateria-Mollissima in Areas of High and Low Salinity

**Accession Number:** BCI:BCI199192014802

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** In a comparative survey of the food selected by the Common Eider (Somateria mollissima) in coastal waters of the Skagerrak and the northern Baltic proper, waters of high and low salinity, we showed that Mytilus edulis was the most heavily utilized food type. In waters of high salinity, ducks did not select large mussels, though they were available, and apparently ducks preferred food items with a low seawater content, like crustaceans and gastropods. Large birds, however, consumed larger mussels than did smaller birds. These results support previously proposed hypotheses that mussel-feeding ducks can minimize salt intake by feeding on smaller mussels, by consuming other types of food, and by increasing the allowable intake by being larger. There were indications that the size and number of grit fragments swallowed were related to the type of food consumed. However, we were unable to determine whether grit fragments were consumed involuntarily during mussel gathering or swallowed intentionally to help in grinding food items. A decline in body size over a 1,000-year period in eiders from the Baltic compared with birds from the Swedish west coast implies an evolutionary adaptation to lower salinity. We also describe a method of mussel size reconstruction from shell remnants.

**URL:** <Go to ISI>://BCI199192014802

**Reference Type:**  Journal Article

**Record Number:** 1707

**Author:** G. Odham

**Year:** 1967

**Title:** Studies on feather waxes of birds: VI. Further investigation of the free flowing preen gland secretion from species within the family of Anatidae

**Journal:** Ark Kem

**Volume:** 27

**Issue:** (3)

**Pages:** 263-288

**Short Title:** Studies on feather waxes of birds: VI. Further investigation of the free flowing preen gland secretion from species within the family of Anatidae

**Accession Number:** BCI:BCI19684900048715

**Keywords:** Red-breasted merganser; Mergus serrator; Common Eider; Somateria mollissima; Physiology;

**Abstract:** Featherwaxes of Dendrocygna viduata (white-faced whistling duck), Branta leucopsis (barnacle goose), Mergus serrator (red-breasted merganser), Cairina moschata (muscovy duck) and Somateria mollissima (common eider) have been investigated. Wax of Branta leucopsis is very different from that of Anser (true geese) and that D. viduata constitutes an intermediate between true geese and swans (Cvgnus) in this respect. M. serrator produces essentially the C12 acid 2,4,6-trimethylnonanoic acid (97%) while C. moschata has almost exclusively the C11 acid 2,4,6-trimethyloctanoic acid (99%). In addition the preen gland secretion of the latter contains 66% of the unsaturated hydrocarbon squalene. The wax acid moiety of S. mollissima is a very heterogenous mixture containing structures with both straight and branched chains. There is present a series of acids not previously found, namely such with 2 methyl groups. Most of the acids have the methyl substituents separated by more than 1 methylene unit but always with an odd number. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19684900048715

**Reference Type:**  Journal Article

**Record Number:** 1084

**Author:** H. M. Ohlendorf, R. W. Lowe, P. R. Kelly and T. E. Harvey

**Year:** 1986

**Title:** Selenium and Heavy Metals in San-Francisco Bay California USA Diving Ducks

**Journal:** Journal of Wildlife Management

**Volume:** 50

**Issue:** 1

**Pages:** 64-71

**Short Title:** Selenium and Heavy Metals in San-Francisco Bay California USA Diving Ducks

**Accession Number:** BCI:BCI198681107202

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** We analyzed for selenium (Se) and heavy metals in greater scaups (Aythya marila) and surf scoters (Melanitta perspicillata) collected from southern San Francisco Bay in March and April 1982. There were no differences (P > 0.05) between species for liver concentrations of silver (Ag), mercury (Hg), or lead (Pb). Copper (Cu) (P < 0.001) and zinc (Zn) (P < 0.01) levels were higher in scaups, whereas Se was higher in scoters (P < 0.001). Chromium (Cr) and nickel (Ni) occurred in < 50% of the samples, and there was no difference (P > 0.05) between the 2 species. The geometric mean cadmium (Cd) concentration in scoter kidneys (24.6 ppm, dry wt) was higher than in scaups (15.5 ppm) (0.1 > P > 0.05). Liver concentrations of Hg and Se were correlated (P < 0.01). The toxicological significance of some elements in these species is not known. However, Se levels in scoters (34.4 ppm, dry wt) were similar to those in livers of dabbling ducks (Anas spp.) in the nearby San Joaquin Valley where reproduction was impaired severely.

**URL:** <Go to ISI>://BCI198681107202

**Reference Type:**  Journal Article

**Record Number:** 1081

**Author:** H. M. Ohlendorf, K. C. Marois, R. W. Lowe, T. E. Harvey and P. R. Kelly

**Year:** 1991

**Title:** Trace Elements and Organochlorines in Surf Scoters from San Francisco Bay 1985 California USA

**Journal:** Environmental Monitoring and Assessment

**Volume:** 18

**Issue:** 2

**Pages:** 105-122

**Short Title:** Trace Elements and Organochlorines in Surf Scoters from San Francisco Bay 1985 California USA

**Accession Number:** BCI:BCI199192131330

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons; Energetics and Nutrition;

**Abstract:** Surf scoters (Melanitta perspicillata) were collected from 6 locations in San Francisco Bay during January and March 1985. Overall, mean concentrations of cadmium and zinc were higher in livers of scoters from the southern region of the Bay, whereas mean iron and lead were higher in those from the northern Bay region. Mean concentrations of arsenic, copper, lead, zinc, aluminum (January only) and iron (January) also differed among individual locations. Mean concentrations of copper and zinc increased, arsenic decreased, and cadmium remained the same between January and March. Selenium and mercury concentrations in scoter livers were not significantly correlated (P > 0.05), but cadmium concentrations in livers and kidneys were positively correlated (P < 0.0001), and body weight was negatively related to mercury concentration in the liver (P < 0.05). Body weight differed among locations but not between January and March. Body weight was correlated with lipid content (P < 0.0001). DDE and PCBs were each detected in 34 of 36 scoter carcasses. DDE increased significantly between January and March at Richmond Harbor, but PCBs did not differ between January and March at the 3 locations that could be tested.

**URL:** <Go to ISI>://BCI199192131330

**Reference Type:**  Journal Article

**Record Number:** 459

**Author:** H. Oja and H. Poysa

**Year:** 2007

**Title:** Spring phenology, latitude, and the timing of breeding in two migratory ducks: implications of climate change impacts

**Journal:** Annales Zoologici Fennici

**Volume:** 44

**Issue:** 6

**Pages:** 475-485

**Date:** Dec 19 2007

**Short Title:** Spring phenology, latitude, and the timing of breeding in two migratory ducks: implications of climate change impacts

**Accession Number:** BCI:BCI200800109442

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season;

**Abstract:** We studied whether the timing of hatching in the mallard (Anas platyrhynchos) and the common goldeneye (Bucephala clangula) is associated with the timing of lake ice break-up (a local climate index) and the North Atlantic Oscillation (NAO, a largescale climate index), and if the strength of these associations differ between southem and northem populations of the species. In both species, the date of hatching was associated with the date of ice break-up; more clearly so in northern Finland than in southern Finland. The date of hatching was neither associated with the winter NAO (December-March) nor with the spring NAO (March-May). There was no difference between southern and northern populations in terms of the annual differences (in days) between the timing of ice break-up and the timing of hatching. However, in both species, this difference decreased with increasing lateness of the spring in the north, the corresponding trend being less clear in the south.

**URL:** <Go to ISI>://BCI200800109442

**Reference Type:**  Journal Article

**Record Number:** 717

**Author:** P. W. O'Keefe, W. C. Clayton, S. Connor, B. Bush and C.-S. Hong

**Year:** 2006

**Title:** Organic pollutants in wild ducks from New York state: I. Interspecies differences in concentrations and congener profiles of PCBs and PCDDs/PCDFs

**Journal:** Science of the Total Environment

**Volume:** 361

**Issue:** 1-3

**Pages:** 111-123

**Date:** May 15 2006

**Short Title:** Organic pollutants in wild ducks from New York state: I. Interspecies differences in concentrations and congener profiles of PCBs and PCDDs/PCDFs

**Accession Number:** BCI:BCI200600494558

**Keywords:** Common merganser; Mergus merganser; Contaminants;

**Abstract:** Wild ducks of three species, common mergansers (Mergus merganser americanus), gadwalls (Anas streptera), and mallards (Anas platyrhynchos), were collected near industrial sites in the Massena, NY area of the St. Lawrence River (SLR) in 1988/89 and 1994. Additional samples were collected in 1994 near a former polychlorinated biphenyl (PCB) capacitor plant at Fort Edward, NY (a mallard and two wood ducks (Aix sponsa)), and at control sites (common mergansers, mallards and wood ducks). On a lipid basis, PCB concentrations in liver tissue from the 1994 collection ranged from 0.1 mu g/g in a control wood duck to 676 mu g/g in a common merganser from the SLR area. However, the highest total polychlorinated dibenzofuran (PCDF) concentrations were found in liver and fat tissues of gadwalls and mallards collected near the SLR industrial sites (2.8-12 ng/g lipid). These two species bioaccumulated non-2,3,7,8-substituted PCDFs in addition to 2,3,7,8-PCDF isomers, whereas common mergansers preferentially bioaccumulated 2,3,7,8-substituted PCDFs. The mergansers from the SLR sites were the only specimens contaminated with polychlorinated dibenzo-p-dioxins (PCDDs), which were all 2,3,7,8-substituted. The PCB and PCDF congener patterns in the duck tissues appear to have been influenced by both sampling location and species trophic level. (c) 2005 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200600494558

**Reference Type:**  Journal Article

**Record Number:** 1540

**Author:** K. Olafsdottir, K. Skirnisson, G. Gylfadottir and T. Johannesson

**Year:** 1998

**Title:** Seasonal fluctuations of organochlorine levels in the common eider (Somateria mollissima) in Iceland

**Journal:** Environmental Pollution

**Volume:** 103

**Issue:** 2-3

**Pages:** 153-158

**Short Title:** Seasonal fluctuations of organochlorine levels in the common eider (Somateria mollissima) in Iceland

**Accession Number:** BCI:BCI199900059516

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season; Nonbreeding Seasons;

**Abstract:** Breast muscle of 55 common eiders (Somateria mollissima) and liver samples of 12 birds, caught at Skerjafjorour in SW-Iceland in February, May, June and November 1993 were analysed for organochlorine contamination (10-30 different congeners of PCBs, pp'-DDT, -DDE, -DDD, HCB, alpha-, beta-, and gamma-HCH). The levels of the contaminants were similar in both tissues and were at their lowest in February. A substantial increase (up to 10-fold) in the levels of all substances was observed in June, in the females, which at that point had lost about one-third of their late winter body weight. The increase may be due to relocation to other tissues of organochlorines stored in the shrinking bodyfat. During this period the birds must be vulnerable to the toxic effects of these chemicals as they can transiently reach high concentrations in the blood. The levels found were similar or higher than those recently reported for eiders from Spitsbergen, the NWT of Canada and Frans Josefs Land of Russia, especially the levels of PCBs.

**URL:** <Go to ISI>://BCI199900059516

**Reference Type:**  Journal Article

**Record Number:** 572

**Author:** P. J. S. Olney and D. H. Mills

**Year:** 1963

**Title:** The food and feeding habits of goldeneye Bucephala clangula in Great Britain

**Journal:** Ibis

**Volume:** 105

**Issue:** (3)

**Pages:** 293-300

**Short Title:** The food and feeding habits of goldeneye Bucephala clangula in Great Britain

**Accession Number:** BCI:BCI19644500008640

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Nonbreeding Seasons; Breeding Season;

**Abstract:** The food and feeding habits of goldeneye are described, based on the analyses of 51 stomach contents and a brief review of the literature. The type of food taken depends on the type of habitat being used, the availability and size of the food items and on the methods of feeding[long dash]though animal material largely predominates. In estuarine and coastal areas, small crustaceans and in particular Carcinus maenas figured highly in the diet, with some molluscs and small fish. In 2 brackish-water feeding birds, seeds formed the bulk of the food, some caddis-fly larvae also being taken. In freshwater feeding birds insects predominated, particularly Trichoptera larvae, chironomid larvae and the adults of Corixa spp. Some crustaceans (Asellus, Gammarus) and small molluscs were taken and occasionally small fish. A small amount of plant material was taken in the form of seeds, mainly Potamogeton spp. The relation between goldeneye and fishing interests is briefly discussed and it is concluded that fish normally form a small part of the diet and it is unlikely that any serious depredation of fish stocks is common. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19644500008640

**Reference Type:**  Journal Article

**Record Number:** 1727

**Author:** S. Oppel, D. L. Dickson and A. N. Powell

**Year:** 2009

**Title:** International importance of the eastern Chukchi Sea as a staging area for migrating king eiders

**Journal:** Polar Biology

**Volume:** 32

**Issue:** 5

**Pages:** 775-783

**Date:** May 2009

**Short Title:** International importance of the eastern Chukchi Sea as a staging area for migrating king eiders

**Accession Number:** BCI:BCI200900311919

**Keywords:** King Eider; Somateria spectabilis; Migration; Nonbreeding Seasons; SDJV funded

**Abstract:** The evaluation of habitats used by arctic birds on migration is crucial for their conservation. We explored the importance of the eastern Chukchi Sea (ECS) as a staging area for king eiders (Somateria spectabilis) migrating between breeding areas in Siberia and western North America and wintering areas in the Bering Sea. We tracked 190 king eiders with satellite transmitters between 1997 and 2007. In late summer, 74% of satellite-tracked king eiders migrating south staged in the ECS for 13 +/- A 13 (SD) days between late June and early November. During spring migration, king eiders staged in the ECS between mid-April and early June for 21 +/- A 10 days. All instrumented birds migrating to breeding grounds in western North America (n = 62), and 6 of 11 males migrating to breeding grounds in Siberia, used this area for at least 1 week during spring migration. The importance of this staging area renders it possible that industrial development could adversely affect king eider populations in both Siberia and North America.

**URL:** <Go to ISI>://BCI200900311919

**Reference Type:**  Journal Article

**Record Number:** 1719

**Author:** S. Oppel, R. N. Federer, D. M. O'Brien, A. N. Powell and T. E. Hollmen

**Year:** 2010

**Title:** Effects of Lipid Extraction on Stable Isotope Ratios in Avian Egg Yolk: Is Arithmetic Correction a Reliable Alternative?

**Journal:** Auk

**Volume:** 127

**Issue:** 1

**Pages:** 72-78

**Date:** Jan 2010

**Short Title:** Effects of Lipid Extraction on Stable Isotope Ratios in Avian Egg Yolk: Is Arithmetic Correction a Reliable Alternative?

**Accession Number:** BCI:BCI201000163798

**Keywords:** Spectacled Eider; Somateria fischeri; King Eider; Somateria spectabilis; Energetics and Nutrition; Techniques; Breeding Season;

**Abstract:** Many studies of nutrient allocation to egg production in birds use stable isotope ratios of egg yolk to identify the origin of nutrients. Dry egg yolk contains >50% lipids, which are known to be depleted in C-13. Currently, researchers remove lipids from egg yolk using a chemical lipid-extraction procedure before analyzing the isotopic composition of protein in egg yolk. We examined the effects of chemical lipid extraction on delta C-13, delta N-15, and delta S-34 of avian egg yolk and explored the utility of an arithmetic lipid correction model to adjust whole yolk VC for lipid content. We analyzed the dried yolk of 15 captive Spectacled Eider (Somateria fischeri) and 20 wild King Eider (S. spectabilis) eggs, both as whole yolk an after lipid extraction with a 2:1 chloroform:methanol solution. We found that chemical lipid extraction leads to an increase of (mean +/- SD) 3.3 +/- 11 parts per thousand in delta C-13, 1.1 +/- 0.5 parts per thousand in delta N-15, and 2.3 +/- 1.1 parts per thousand in delta S-34. Arithmetic lipid correction provided accurate values for lipid-extracted VC in captive Spectacled Eiders fed on a homogeneous high-quality diet. However, arithmetic lipid correction was unreliable for wild King Eiders, likely because of their differential incorporation of macronutrients from isotopically distinct environments during migration. For that reason, we caution against applying arithmetic lipid correction to the whole yolk delta C-13 of migratory birds, because these methods assume that all egg rnacronutrients are derived from the same dietary sources. Received 12 June 2008, accepted 27 May 2009.

**URL:** <Go to ISI>://BCI201000163798

**Reference Type:**  Journal Article

**Record Number:** 1733

**Author:** S. Oppel and A. N. Powell

**Year:** 2008

**Title:** Assigning king eiders to wintering regions in the Bering Sea using stable isotopes of feathers and claws

**Journal:** Marine Ecology Progress Series

**Volume:** 373

**Pages:** 149-156

**Short Title:** Assigning king eiders to wintering regions in the Bering Sea using stable isotopes of feathers and claws

**Accession Number:** BCI:BCI200900156417

**Keywords:** King Eider; Somateria spectabilis; Population Delineation; Techniques; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** Identification of wintering regions for birds sampled during the breeding season is crucial to understanding how events outside the breeding season may affect populations. We assigned king eiders captured on breeding grounds in northern Alaska to 3 broad geographic wintering regions in the Bering Sea using stable carbon and nitrogen isotopes obtained from head feathers. Using a discriminant function analysis of feathers obtained from birds tracked with satellite transmitters, we estimated that 88 % of feathers were assigned to the region in which they were grown. We then assigned 84 birds of unknown origin to wintering regions based on their head feather isotope ratios, and tested the utility of claws for geographic assignment. Based on the feather results, we estimated that similar proportions of birds in our study area use each of the 3 wintering regions in the Bering Sea. These results are in close agreement with estimates from satellite telemetry and show the usefulness of stable isotope signatures of feathers in assigning marine birds to geographic regions. The use of claws is currently limited by incomplete understanding of claw growth rates. Data presented here will allow managers of eiders, other marine birds, and marine mammals to assign animals to regions in the Bering Sea based on stable isotope signatures of body tissues.

**URL:** <Go to ISI>://BCI200900156417

**Reference Type:**  Journal Article

**Record Number:** 2380

**Author:** S. Oppel and A. N. Powell

**Year:** 2009

**Title:** Does winter region affect spring arrival time and body mass of King Eiders in northern Alaska?

**Journal:** Polar Biology

**Volume:** 32

**Pages:** 1203-1209

**Date:** August 2009

**Short Title:** Does winter region affect spring arrival time and body mass of King Eiders in northern Alaska?

**Keywords:** King Eider; Somateria spectabilis; Breeding Season; Nonbreeding Seasons; Migration; Population Delineation; SDJV funded

**Abstract:** Age- and sex-specific survival and dispersal are important components in the dynamics and genetic structure of bird populations. For many avian taxa survival rates at the adult and juvenile life stages differ, but in long-lived species juveniles' survival is logistically challenging to study. We present the first estimates of hatch-year annual survival rates for a sea duck, the King Eider (Somateria spectabilis), estimated from satellite telemetry. From 2006 to 2008 we equipped pre-fledging King Eiders with satellite transmitters on breeding grounds in Alaska and estimated annual survival rates during their first 2 years of life with known-fate models. We compared those estimates to survival rates of adults marked in the same area from 2002 to 2008. Hatch-year survival varied by season during the first year of life, and model-averaged annual survival rate was 0.67 (95% CI: 0.48-0.80). We did not record any mortality during the second year and were therefore unable to estimate second-year survival rate. Adults' survival rate was constant through the year (0.94, 95% CI: 0.86-0.97). No birds appeared to breed during their second summer. While 88% of females with an active transmitter (n=9) returned to their natal area at the age of 2 years, none of the 2-year old males (n=3) did. This pattern indicates that females' natal philopatry is high and suggests that males' higher rates of dispersal may account for sex-specific differences in apparent survival rates of juvenile sea ducks when estimated with mark recapture methods.

**URL:** <Go to ISI>://BCI201000414679

**Reference Type:**  Journal Article

**Record Number:** 1720

**Author:** S. Oppel and A. N. Powell

**Year:** 2010

**Title:** Carbon isotope turnover in blood as a measure of arrival time in migratory birds using isotopically distinct environments

**Journal:** Journal of Ornithology

**Volume:** 151

**Issue:** 1

**Pages:** 123-131

**Date:** Jan 2010

**Short Title:** Carbon isotope turnover in blood as a measure of arrival time in migratory birds using isotopically distinct environments

**Accession Number:** BCI:BCI201000094120

**Keywords:** King Eider; Somateria spectabilis; Techniques; Breeding Season; Nonbreeding Seasons;

**Abstract:** Arrival time on breeding or non-breeding areas is of interest in many ecological studies exploring fitness consequences of migratory schedules. However, in most field studies, it is difficult to precisely assess arrival time of individuals. Here, we use carbon isotope turnover in avian blood as a technique to estimate arrival time for birds switching from one habitat or environment to another. Stable carbon isotope ratios (delta C-13) in blood assimilate to a new equilibrium following a diet switch according to an exponential decay function. This relationship can be used to determine the time a diet switch occurred if delta C-13 of both the old and new diet are known. We used published data of captive birds to validate that this approach provides reliable estimates of the time since a diet switch within 1-3 weeks after the diet switch. We then explored the utility of this technique for King Eiders (Somateria spectabilis) arriving on terrestrial breeding grounds after wintering and migration at sea. We estimated arrival time on breeding grounds in northern Alaska (95% CI) from red blood cell delta C-13 turnover to be 4-9 June. This estimate overlapped with arrival time of birds from the same study site tracked with satellite transmitters (5-12 June). Therefore, we conclude that this method provides a simple yet reliable way to assess arrival time of birds moving between isotopically distinct environments.

**URL:** <Go to ISI>://BCI201000094120

**Reference Type:**  Journal Article

**Record Number:** 1721

**Author:** S. Oppel and A. N. Powell

**Year:** 2010

**Title:** Age-Specific Survival Estimates of King Eiders Derived from Satellite Telemetry

**Journal:** Condor

**Volume:** 112

**Issue:** 2

**Pages:** 323-330

**Date:** May 2010

**Short Title:** Age-Specific Survival Estimates of King Eiders Derived from Satellite Telemetry

**Accession Number:** BCI:BCI201000414679

**Keywords:** King Eider; Somateria spectabilis; Survival; Dispersal; Population Delineation; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** Age- and sex-specific survival and dispersal are important components in the dynamics and genetic structure of bird populations. For many avian taxa survival rates at the adult and juvenile life stages differ, but in long-lived species juveniles' survival is logistically challenging to study. We present the first estimates of hatch-year annual survival rates for a sea duck, the King Eider (Somateria spectabilis), estimated from satellite telemetry. From 2006 to 2008 we equipped pre-fledging King Eiders with satellite transmitters on breeding grounds in Alaska and estimated annual survival rates during their first 2 years of life with known-fate models. We compared those estimates to survival rates of adults marked in the same area from 2002 to 2008. Hatch-year survival varied by season during the first year of life, and model-averaged annual survival rate was 0.67 (95% CI: 0.48-0.80). We did not record any mortality during the second year and were therefore unable to estimate second-year survival rate. Adults' survival rate was constant through the year (0.94, 95% CI: 0.86-0.97). No birds appeared to breed during their second summer. While 88% of females with an active transmitter (n=9) returned to their natal area at the age of 2 years, none of the 2-year old males (n=3) did. This pattern indicates that females' natal philopatry is high and suggests that males' higher rates of dispersal may account for sex-specific differences in apparent survival rates of juvenile sea ducks when estimated with mark recapture methods.

**URL:** <Go to ISI>://BCI201000414679

**Reference Type:**  Journal Article

**Record Number:** 1717

**Author:** S. Oppel, A. N. Powell and M. G. Butler

**Year:** 2011

**Title:** King Eider Foraging Effort During the Pre-Breeding Period in Alaska

**Journal:** Condor

**Volume:** 113

**Issue:** 1

**Pages:** 52-60

**Date:** Feb 2011

**Short Title:** King Eider Foraging Effort During the Pre-Breeding Period in Alaska

**Accession Number:** BCI:BCI201100228490

**Keywords:** King Eider; Somateria spectabilis; Behavior; Energetics and Nutrition; Breeding Season; SDJV funded

**Abstract:** For reproduction, many arctic-nesting migratory birds rely on nutrients obtained on the breeding grounds, so they devote sufficient time to foraging immediately prior to nesting. However, little is known about the increase in foraging effort necessary to meet the energetic requirements of reproduction. In early June 2006 and 2008, we quantified the proportion of time spent foraging before breeding by a large sea duck, the King Eider (Somateria spectabilis), on its breeding grounds in northern Alaska. During > 235 hours of behavioral observations, both male and female King Eiders spent > 50% of the day loafing (resting, sleeping, comfort behavior, or being alert). Females foraged on average 30% of the time (mean 7.2 hr day(-1), 95% CI 6.0-8.4 hr day(-1)), three times as much as males (9%; 2.3 hr day(-1), 95% CI 1.5-2.8 hr day(-1)). The most common prey in ponds where the eiders foraged were chironomid larvae and worms ranging in length from 1 to 30 mm. If the King Eider's daily energy expenditure on its breeding grounds is similar to values published for related species, it would need to ingest only 0.2-0.6 g dry mass of invertebrates per minute of foraging to meet its energetic requirements. Males did not lose body mass before breeding, and we assume that their foraging effort was sufficient for energy balance. Therefore, female King Eiders appear to triple their foraging effort over maintenance requirements to meet the energetic challenges of egg formation.

**URL:** <Go to ISI>://BCI201100228490

**Reference Type:**  Journal Article

**Record Number:** 1734

**Author:** S. Oppel, A. N. Powell and D. L. Dickson

**Year:** 2008

**Title:** Timing and distance of King Eider migration and winter movements

**Journal:** Condor

**Volume:** 110

**Issue:** 2

**Pages:** 296-305

**Date:** May 2008

**Short Title:** Timing and distance of King Eider migration and winter movements

**Accession Number:** BCI:BCI200800685944

**Keywords:** King Eider; Somateria spectabilis; Migration; Dispersal; Population Delineation; Nonbreeding Seasons; Breeding Season; SDJV funded

**Abstract:** Understanding the patterns, extent, and phenology of migration is important for estimating potential influences of habitat or climate changes on populations of migratory birds. We used satellite telemetry of >100 individual King Eiders (Somateria spectabilis) tagged in northwestern North America in 2002-2006 to describe the timing and extent of their migration and winter movements in the Bering Sea. We found high variability in timing of migration events and distances flown. Arrival on breeding grounds and onset of molt migration were the least variable events in duration. Fall migration was extremely variable, ranging from less than a week to several months. More than a third of King Eiders did not migrate after wing molt and wintered on or near wing-molting areas. We found diffuse migratory connectivity between breeding and wintering areas, and low intrayear fidelity to 25 km radius wintering sites. More than half of the King Eiders used several wintering sites in a given year, and their winter ranges were considerably larger than those of other sea duck species. We identified three distinct wintering regions in the Bering Sea that were several hundred km apart, among which no movements occurred from late December until April. The onset of spring migration was earlier for birds wintering farther south, but arrival time on breeding grounds was not correlated with wintering latitude. We conclude that high phenotypic plasticity in migratory traits may render King Eiders more likely to respond to environmental shifts than sea duck species that show stronger migratory connectivity.

**URL:** <Go to ISI>://BCI200800685944

**Reference Type:**  Journal Article

**Record Number:** 1728

**Author:** S. Oppel, A. N. Powell and D. L. Dickson

**Year:** 2009

**Title:** Using an algorithmic model to reveal individually variable movement decisions in a wintering sea duck

**Journal:** Journal of Animal Ecology

**Volume:** 78

**Issue:** 3

**Pages:** 524-531

**Date:** May 2009

**Short Title:** Using an algorithmic model to reveal individually variable movement decisions in a wintering sea duck

**Accession Number:** BCI:BCI200900280838

**Keywords:** King Eider; Somateria spectabilis; Dispersal; Nonbreeding Seasons; SDJV funded

**Abstract:** Many migratory birds are assumed to remain fairly stationary during winter. However, recent research indicates that mid-winter movements are evident in a variety of bird species, and the factors causing individuals to move are poorly understood.We examined the winter movements of 95 individual king eiders (Somateria spectabilis, L.) tracked with satellite transmitters in the Bering Sea between 2002 and 2006 to explore whether environmental factors such as day length, location, sea ice, and habitat quality could explain the occurrence of winter movements longer than 50 km.We used a novel algorithmic random forest model to assess the importance of variables predicting whether a bird remained or departed from a wintering site.We found extremely high individual variability in winter movement decisions by king eiders, and the individual bird was the most important variable followed by location, date, and sea ice concentration.We conclude that individual strategies exist that interact with environmental conditions to form multiple movement patterns.While a minor proportion of winter movements may be forced by environmental conditions, we propose that many winter movements may be of an exploratory nature where individuals aim to acquire information about alternative wintering sites that may enhance their survival probability at some point in time when environmental fluctuation renders their preferred wintering site unsuitable.

**URL:** <Go to ISI>://BCI200900280838

**Reference Type:**  Journal Article

**Record Number:** 1726

**Author:** S. Oppel, A. N. Powell and D. M. O'Brien

**Year:** 2009

**Title:** Using eggshell membranes as a non-invasive tool to investigate the source of nutrients in avian eggs

**Journal:** Journal of Ornithology

**Volume:** 150

**Issue:** 1

**Pages:** 109-115

**Date:** Jan 2009

**Short Title:** Using eggshell membranes as a non-invasive tool to investigate the source of nutrients in avian eggs

**Accession Number:** BCI:BCI200900054870

**Keywords:** King Eider; Somateria spectabilis; Techniques; Energetics and Nutrition; Breeding Season;

**Abstract:** Development of minimally invasive techniques to collect nutritional information from free-living birds is desirable for both ethical and conservation reasons. Here, we explore the utility of waterfowl eggshell membranes to determine the nutrient source of egg formation by using stable isotope ratios. We compared delta C-13 and delta N-15 of membranes from complete king eider (Somateria spectabilis) eggs to membranes of hatched or depredated eggs of the same clutch remaining after incubation. Despite large variation among membranes (delta C-13: -26 to -14%) we found a highly predictable relationship between delta(13)Cof complete egg membranes and remaining ( hatched or depredated) membranes from the same clutch. We did not find a consistent change in either delta C-13 or delta N-15 of eggshell membranes during incubation. We suggest that isotope ratios of membranes can be used to determine the source of exogenous nutrients for egg production in income breeders, and that membranes may offer a clutch-specific reference point for dietary nutrients ('income endpoint') in isotopic mixing models quantifying nutrient allocation in capital or mixed-strategy breeders.

**URL:** <Go to ISI>://BCI200900054870

**Reference Type:**  Journal Article

**Record Number:** 1722

**Author:** S. Oppel, A. N. Powell and D. M. O'Brien

**Year:** 2010

**Title:** King eiders use an income strategy for egg production: a case study for incorporating individual dietary variation into nutrient allocation research

**Journal:** Oecologia (Berlin)

**Volume:** 164

**Issue:** 1

**Pages:** 1-12

**Date:** Sep 2010

**Short Title:** King eiders use an income strategy for egg production: a case study for incorporating individual dietary variation into nutrient allocation research

**Accession Number:** BCI:BCI201000537236

**Keywords:** King Eider; Somateria spectabilis; Energetics and Nutrition; Techniques; Breeding Season; SDJV funded

**Abstract:** The use of stored nutrients for reproduction represents an important component of life-history variation. Recent studies from several species have used stable isotopes to estimate the reliance on stored body reserves in reproduction. Such approaches rely on population-level dietary endpoints to characterize stored reserves ("capital") and current diet ("income"). Individual variation in diet choice has so far not been incorporated in such approaches, but is crucial for assessing variation in nutrient allocation strategies. We investigated nutrient allocation to egg production in a large-bodied sea duck in northern Alaska, the king eider (Somateria spectabilis). We first used Bayesian isotopic mixing models to quantify at the population level the amount of endogenous carbon and nitrogen invested into egg proteins based on carbon and nitrogen isotope ratios. We then defined the isotopic signature of the current diet of every nesting female based on isotope ratios of eggshell membranes, because diets varied isotopically among individual king eiders on breeding grounds. We used these individual-based dietary isotope signals to characterize nutrient allocation for each female in the study population. At the population level, the Bayesian and the individual-based approaches yielded identical results, and showed that king eiders used an income strategy for the synthesis of egg proteins. The majority of the carbon and nitrogen in albumen (C: 86 +/- A 18%, N: 99 +/- A 1%) and the nitrogen in lipid-free yolk (90 +/- A 15%) were derived from food consumed on breeding grounds. Carbon in lipid-free yolk derived evenly from endogenous sources and current diet (exogenous C: 54 +/- A 24%), but source contribution was highly variable among individual females. These results suggest that even large-bodied birds traditionally viewed as capital breeders use exogenous nutrients for reproduction. We recommend that investigations of nutrient allocation should incorporate individual variation into mixing models to reveal intraspecific variation in reproductive strategies.

**URL:** <Go to ISI>://BCI201000537236

**Reference Type:**  Journal Article

**Record Number:** 1529

**Author:** M. Ost

**Year:** 1999

**Title:** Within-season and between-year variation in the structure of Common Eider broods

**Journal:** Condor

**Volume:** 101

**Issue:** 3

**Pages:** 598-606

**Date:** Aug., 1999

**Short Title:** Within-season and between-year variation in the structure of Common Eider broods

**Accession Number:** BCI:BCI199900405386

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** I studied within-season and between-year variation in Common Eider (Somateria mollissima) brood structure, by censusing broods for four years in the northern Baltic. I also examined within-season patterns of female aggressiveness, and explored whether between-year patterns could be related to female body condition at hatching. Multi-female tending was initially the dominant brood rearing strategy. Moreover, 25-38.1% of the lone-tended broods had more than six ducklings, indicating that they may contain adopted young. The number of ducklings per female increased with brood size, exposing some newly hatched ducklings to chilling due to unfavorably high ratios of ducklings to brooding females. Lone tenders became proportionally more common, the proportion of two-female tended broods was stable, and the proportion of broods with more than two females rapidly decreased during the season. Female aggression decreased in frequency over time, so the decline of broods with more than two females may relate to female aggressiveness. Family units began to break up when ducklings were 7 weeks old. Multi-female broods were initially more common in years when females were in good condition at hatching and less common in years when females were in poor condition. However, multi-female broods decreased in frequency over time in all years except the poorest year; multi-female tending strategy was most common in poor years and least common in good years. These between-year patterns may result from differences in body condition between lone tenders and multi-female tenders, indicating that female body condition may affect brood-caring decisions.

**URL:** <Go to ISI>://BCI199900405386

**Reference Type:**  Journal Article

**Record Number:** 1362

**Author:** M. Ost, C. W. Clark, M. Kilpi and R. Ydenberg

**Year:** 2007

**Title:** Parental effort and reproductive skew in coalitions of brood rearing female common eiders

**Journal:** American Naturalist

**Volume:** 169

**Issue:** 1

**Pages:** 73-86

**Date:** Jan 2007

**Short Title:** Parental effort and reproductive skew in coalitions of brood rearing female common eiders

**Accession Number:** BCI:BCI200700082633

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Members of breeding groups face conflicts over parental effort when balancing antipredatory vigilance and feeding. Empirical evidence has shown disparate responses to manipulations of parental effort. We develop a model in which we determine the evolutionarily stable effort of partners given their body conditions, allowing the benefits of shared care to be unevenly divided, and we test this model's predictions with data on common eiders (Somateria mollissima). Eiders show uniparental female care; females may share brood rearing, or they may tend alone, and their body condition at hatching of the young shows large environmentally induced variation. The model predicts that parental effort (vigilance) in a coalition is lower than when tending alone, controlling for parental condition; this prediction is supported by the data. The parental effort in a coalition should be positively correlated with body condition, and this prediction is also supported. Finally, parental effort should increase when partner condition decreases and vice versa; this prediction is partially supported. The Nash bargaining game may provide promising avenues by which to determine the precise settlement of reproductive skew and effort between coalition partners in the future.

**URL:** <Go to ISI>://BCI200700082633

**Reference Type:**  Journal Article

**Record Number:** 1928

**Author:** M. Ost and K. Jaatinen

**Year:** 2013

**Title:** Relative Importance of Social Status and Physiological Need in Determining Leadership in a Social Forager

**Journal:** Plos One

**Volume:** 8

**Issue:** 5

**Date:** May

**Short Title:** Relative Importance of Social Status and Physiological Need in Determining Leadership in a Social Forager

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0064778

**Article Number:** e64778

**Accession Number:** WOS:000319052700115

**Keywords:** Common eider; Somateria mollissima; Behavior; Physiology; Breeding Season

**Notes:** Times Cited: 0

Ost, Markus Jaatinen, Kim

Jaatinen, Kim/A-3221-2011; Ost, Markus/C-7376-2008

0

**URL:** <Go to ISI>://WOS:000319052700115

**Reference Type:**  Journal Article

**Record Number:** 2189

**Author:** M. Ost and K. Jaatinen

**Year:** 2015

**Title:** Smart and safe? Antipredator behavior and breeding success are related to head size in a wild bird

**Journal:** Behavioral Ecology

**Volume:** 26

**Issue:** 5

**Pages:** 1371-1378

**Date:** Sep-Oct

**Short Title:** Smart and safe? Antipredator behavior and breeding success are related to head size in a wild bird

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/arv093

**Accession Number:** WOS:000361373500021

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** Increased brain size has been associated with greater sensitivity to environmental context, but this flexibility is potentially costly as sampling the environment is time and energy consuming and may even increase the risk of predation. However, these potential trade-offs remain virtually unexplored in natural populations. We hypothesized that large brain size is 1) beneficial under challenging conditions and allows better matching of antipredator responses to the actual threat by predators and 2) associated with thorough risk assessment, which can be costly under benign conditions. To test these hypotheses, we examined the relationship between relative head volume, reproductive decisions, and fitness components in female common eiders (Somateria mollissima) under variable predation risk and breeding phenologies. This species is ideal for this purpose because of highly variable predation pressure and a distinct seasonal decline in reproductive success. The results were consistent with our hypotheses. First, females with depredated nests had smaller heads than expected by chance when predation rate (killed females/nest) was highest ("challenging conditions"). Second, large-headed females, but not small-headed ones, took a shorter time to form antipredator brood-rearing coalitions in more dangerous years. Third, large-headed females had a later onset of breeding, and their nests were more likely to be depredated when annual median nesting was earliest and predation pressure on females was low ("benign conditions"). Thus, predation risk and annual phenology may exert temporally fluctuating selection on relative head size, maintaining intraspecific variation in cognitive ability.

**Notes:** Ost, Markus Jaatinen, Kim

**URL:** <Go to ISI>://WOS:000361373500021

**Reference Type:**  Journal Article

**Record Number:** 1548

**Author:** M. Ost and M. Kilpi

**Year:** 1997

**Title:** A recent change in size distribution of blue mussels (Mytilus edulis) in the western part of the Gulf of Finland

**Journal:** Annales Zoologici Fennici

**Volume:** 34

**Issue:** 1

**Pages:** 31-36

**Short Title:** A recent change in size distribution of blue mussels (Mytilus edulis) in the western part of the Gulf of Finland

**Accession Number:** BCI:BCI199799500866

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** We sampled blue mussels (Mytilus edulis) in 1992-1996 from mussel beds that common eiders (Somateria mollissima) preferentially use during foraging in the Hanko archipelago, Finland. We also compared our data with an earlier study carried out in the same area. We found a consistent trend towards decreasing mussel size; the proportion of larger mussels in the population has decreased significantly. Since blue mussels are an essential part of the Baltic ecosystem, a shift in mean mussel size may have important consequences. A decrease in salinity during the last few decades may be the ultimate reason for the observed changes, as salinity affects growth, maximum size and reproduction of mussels. We also suggest that selective eider predation may be of local importance.

**URL:** <Go to ISI>://BCI199799500866

**Reference Type:**  Journal Article

**Record Number:** 1512

**Author:** M. Ost and M. Kilpi

**Year:** 2000

**Title:** Eider females and broods from neighboring colonies use segregated local feeding areas

**Journal:** Waterbirds

**Volume:** 23

**Issue:** 1

**Pages:** 24-32

**Short Title:** Eider females and broods from neighboring colonies use segregated local feeding areas

**Accession Number:** BCI:BCI200000277381

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Breeding Season; Behavior;

**Abstract:** We studied the post-nesting site use of Common Eider (Somateria mollissima) females in the northern Baltic. We compared the dispersal pattern of lone females tending young, multi-female tenders and failed female nesters without young. We also examined if females from the same colony used the same sites and if the sites of birds from neighboring colonies were segregated. Primary movements, the distance from the nesting site to the first observation site, were similar in length irrespective of female breeding status or colony. Secondary movements, the median distance moved from the first observation onwards, tended to be shorter among lone tenders than females without young. Female home ranges were similar, irrespective of breeding status or time of the breeding season, but were smaller in the outer study area than in the innermost eider colony. Blue muscles (Mytilus edulis) were more abundant in the outer area, so food resources may influence home range size. Home range size correlated positively with the number of ducklings in broods, indicating that large broods need more food and also a larger feeding area. Females from the same colony were significantly aggregated to the same sites close (< one km) to their nesting island. A long-distance nest exodus after hatch was absent, compulsory for eider populations with separate nesting and feeding sites. The sites of neighboring colonies were essentially spatially separated. This may be due to females moving to the nearest available feeding site, or it may result from mutual avoidance or aggression between females from different colonies. Our results indicate that familiarity with post-nesting feeding sites may be advantageous during brood-rearing. Because multi-female tenders may originate from the same island, kin selection or reciprocity might affect post-hatch brood amalgamation behavior.

**URL:** <Go to ISI>://BCI200000277381

**Reference Type:**  Journal Article

**Record Number:** 1929

**Author:** M. Ost, A. Lehikoinen, K. Jaatinen and M. Kilpi

**Year:** 2011

**Title:** Causes and consequences of fine-scale breeding dispersal in a female-philopatric species

**Journal:** Oecologia

**Volume:** 166

**Issue:** 2

**Pages:** 327-336

**Date:** Jun

**Short Title:** Causes and consequences of fine-scale breeding dispersal in a female-philopatric species

**ISSN:** 0029-8549

**DOI:** 10.1007/s00442-010-1855-2

**Accession Number:** WOS:000290587600004

**Keywords:** Common eider; somateria mollissima; Dispersal; Breeding Season

**Notes:** Times Cited: 9

Ost, Markus Lehikoinen, Aleksi Jaatinen, Kim Kilpi, Mikael

Ost, Markus/C-7376-2008; Jaatinen, Kim/A-3221-2011

9

**URL:** <Go to ISI>://WOS:000290587600004

**Reference Type:**  Journal Article

**Record Number:** 2190

**Author:** M. Ost, S. Ramula, A. Linden, P. Karell and M. Kilpi

**Year:** 2016

**Title:** Small-scale spatial and temporal variation in the demographic processes underlying the large-scale decline of eiders in the Baltic Sea

**Journal:** Population Ecology

**Volume:** 58

**Issue:** 1

**Pages:** 121-133

**Date:** Jan

**Short Title:** Small-scale spatial and temporal variation in the demographic processes underlying the large-scale decline of eiders in the Baltic Sea

**ISSN:** 1438-3896

**DOI:** 10.1007/s10144-015-0517-y

**Accession Number:** WOS:000367807500011

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Population Model; Abundance, Distribution, & Trends

**Abstract:** The application of uniform conservation schemes often fails to account for small-scale spatial variation in the drivers of population decline. Demographic comparisons of imperilled populations across locations are therefore crucial for successful conservation, but progress is hampered by lack of long-term data from more than a single population. The recent large-scale decline of eider ducks (Somateria mollissima) in the Baltic Sea is ideal for determining to what extent mechanisms underlying population decline can be extrapolated over larger areas. We utilized stochastic demographic methods incorporating both environmental and sampling variation to assess small-scale spatial and temporal variation in the population dynamics of eiders at Soderskar (eastern range-margin) and Tvarminne (core breeding area), situated 130 km apart. The stochastic growth rate models accurately predicted the observed differences in the rate of decline between sites and time periods. At Soderskar, established breeder survival had by far the greatest elasticity, whereas elasticity was more evenly distributed among vital rates at Tvarminne. Although the study sites showed the single largest difference in fecundity, stochastic life table response experiment analyses revealed that reduced adult female survival at Tvarminne mainly determined the observed difference in growth rates between sites. In contrast, reduced fecundity primarily differentiated the past population increase from the present population decline at Soderskar. Our results demonstrate that different mechanisms may be associated with population decline across adjacent geographic locations, and indicate that dispersal of first-time breeders may be important for population dynamics. Safeguarding adult female survival and/or fecundity should be prioritized in management efforts.

**Notes:** Ost, Markus Ramula, Satu Linden, Andreas Karell, Patrik Kilpi, Mikael

**URL:** <Go to ISI>://WOS:000367807500011

**Reference Type:**  Journal Article

**Record Number:** 2191

**Author:** M. Ost, M. W. Seltmann and K. Jaatinen

**Year:** 2015

**Title:** Personality, body condition and breeding experience drive sociality in a facultatively social bird

**Journal:** Animal Behaviour

**Volume:** 100

**Pages:** 166-173

**Date:** Feb

**Short Title:** Personality, body condition and breeding experience drive sociality in a facultatively social bird

**ISSN:** 0003-3472

**DOI:** 10.1016/j.anbehav.2014.12.008

**Accession Number:** WOS:000348449000022

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** Adopting different behavioural strategies may reduce within-group conflict, selecting for behavioural consistency ('personality'). Personality may also affect grouping tendencies. The relationship between the personality dimensions sociability and boldness nevertheless remains unclear. This knowledge gap may reflect a failure to consider potential trade-offs between avoiding conspecifics, potentially alleviating social stress, and avoiding predation. Furthermore, the effects of personality and state (e.g. body condition or age affecting the costs and benefits of behavioural actions) on cooperativeness should be considered together. This is because state may explain predation vulnerability, which may affect boldness under predation risk, and thus antipredator grouping tendencies. To address the problem, we determined how group size preference and group-forming time depended on boldness (flight initiation distance, FID, in response to an approaching human), body condition and breeding experience in facultatively social eiders, Somateria mollissima, where females form coalitions or care for the young solitarily. Breeding adults and young are subject to high predation pressure, providing a strong incentive for brood-tending females to cooperate. Because hormonal differences may also explain differences in sociability, we included baseline and handling-induced serum corticosterone concentrations of incubating females as potential predictors of sociability. We also statistically controlled for availability of potential partners. The relationship between boldness (FID) and the number of coalition partners ranged from negative (females in poor body condition) to positive (females in good body condition), arguing against a uniform relationship between boldness and sociability. The number of coalition partners decreased with female breeding experience. The time taken to form a coalition was shortest close to the hatching peak in the population. Shyness (long FID) delayed group formation. Despite a need for safety in numbers by shy females in poor body condition, their entry into groups may be constrained by their personality, suggesting a possible trade-off between predator and conspecific avoidance. (C) 2014 The Association for the Study of Animal Behaviour. Published by Elsevier Ltd. All rights reserved.

**Notes:** Ost, Markus Seltmann, Martin W. Jaatinen, Kim

**URL:** <Go to ISI>://WOS:000348449000022

**Reference Type:**  Journal Article

**Record Number:** 1281

**Author:** M. Ost and T. Tierala

**Year:** 2011

**Title:** Synchronized vigilance while feeding in common eider brood-rearing coalitions

**Journal:** Behavioral Ecology

**Volume:** 22

**Issue:** 2

**Pages:** 378-384

**Date:** Mar-Apr 2011

**Short Title:** Synchronized vigilance while feeding in common eider brood-rearing coalitions

**Accession Number:** BCI:BCI201100276753

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The timing of vigilance and feeding in groups determines the efficiency of shared predator detection and foraging success. Behavioral monitoring of conspecifics remains controversial although synchronization is commonly observed and need not compromise predator detection. The within-group timing of vigilance shows inconsistent associations with group size, and whether nearby nongroup conspecifics affect this timing is poorly understood. Finally, it is unknown whether socially breeding parents time their activities to each other based on offspring predation risk. We studied diving common eider females (Somateria mollissima) in brood-rearing coalitions subject to gull predation of ducklings. The within-group timing of vigilance was determined by comparing observed collective vigilance, the proportion of time during which at least 1 adult group member is vigilant, with that expected assuming independent timing of activities. We determined the predictors of within-group timing of vigilance, observed collective vigilance, individual vigilance, frequency of nearby nongroup females (group outsiders), and incidence of alarm reactions. Vigilance was synchronized regardless of brood composition. Synchronization and observed collective vigilance increased with female group size, whereas synchronization decreased with increasing ratios of ducklings to tending females. Individual vigilance increased in the presence of gull alarms. Within-group timing of activities was unrelated to the presence of group outsiders, but broods with fewer ducklings (less predation dilution) were more often associated with group outsiders, the frequency of which was negatively associated with the incidence of gull alarms. Increased offspring predation risk thus reduces overlapping vigilance among adult group members and enhances attraction to nearby nongroup conspecifics.

**URL:** <Go to ISI>://BCI201100276753

**Reference Type:**  Journal Article

**Record Number:** 1451

**Author:** M. Ost, R. Ydenberg, M. Kilpi and K. Lindstrom

**Year:** 2003

**Title:** Condition and coalition formation by brood-rearing common eider females

**Journal:** Behavioral Ecology

**Volume:** 14

**Issue:** 3

**Pages:** 311-317

**Date:** May-June 2003

**Short Title:** Condition and coalition formation by brood-rearing common eider females

**Accession Number:** BCI:BCI200300267274

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Partner choice is important in nature, and partnerships or coalitions within which reproduction is shared are the subject of growing interest. However, little attention has been given to questions of which individuals are suitable partners and why. Common eider (Somateria mollissima) females sometimes pool their broods and share brood-rearing duties, and body condition affects care decisions. We constructed a model in which females, based on their body condition and the structure of the joint brood, assess the fitness consequences of joining a coalition versus tending for young alone. We tested the model's predictions by comparing data on the condition of females in enduring and transient coalitions. Our model showed that the range of acceptable brood arrays in a female coalition decreases with increasing condition of the female, so females tending alone should be in better condition than multifemale tenders. This prediction is in agreement with previous data. The model also predicts that females in good condition should join coalitions with females in poor condition and not with other females in good condition. This prediction was also supported by data: in enduring two-female coalitions, the positive correlation between the better female's condition and the difference in condition between the two females was stronger than would be expected by random grouping of females. In contrast, in transient coalitions of females, this correlation did not differ from the correlation expected under random grouping. Model assumptions seem to fit with eider natural history, and the model may prove to be a useful way to study brood amalgamation behavior of waterfowl in general.

**URL:** <Go to ISI>://BCI200300267274

**Reference Type:**  Journal Article

**Record Number:** 1452

**Author:** M. Ost, R. Ydenberg, K. Lindstrom and M. Kilpi

**Year:** 2003

**Title:** Body condition and the grouping behavior of brood-caring female common eiders (Somateria mollissima)

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 54

**Issue:** 5

**Pages:** 451-457

**Date:** September 2003

**Short Title:** Body condition and the grouping behavior of brood-caring female common eiders (Somateria mollissima)

**Accession Number:** BCI:BCI200300536948

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Breeding Season;

**Abstract:** Both theoretical and empirical work has shown that group size increases with increasing ecological constraints on solitary breeding. Ecological constraints refer to extrinsic factors such as availability of breeding sites, food or mates. Common eider (Somateria mollissima) females pool their broods and share brood-rearing duties, or rear broods alone. Females are often in poor condition at hatching, as incubation is accomplished without feeding, and variation in body condition is largely environmentally induced and thus unpredictable. We found that the intensity of and duration of parental care that females provide is positively correlated with their body condition at hatching. This suggests that body condition is an ecological constraint on successful solitary breeding. We further observed that group productivity in common eider broods is a decelerating function of the number of tending females. As predicted, females in poorer condition (i.e., facing stronger ecological constraints) were found in larger groups. This result is straightforward if solitary tenders can enter any group at no cost. However, if entry is group-controlled, stable groups of non-relatives are predicted not to occur when per capita reproduction declines with group size. The N-person staying incentive model permits groups to form under these conditions, because reproduction is unevenly divided between dominants and subordinates in the group. We discuss the plausibility of these alternative models of group size for understanding the grouping behavior of brood-caring female common eiders.

**URL:** <Go to ISI>://BCI200300536948

**Reference Type:**  Journal Article

**Record Number:** 364

**Author:** J.-F. Ouellet, P. Fradette, and I. Blouin.

**Year:** 2010

**Title:** Do Barrow's goldeneyes, Bucephala islandica, breed south of the St. Lawrence estuary in the Gaspé Peninsula, eastern Canada.

**Journal:** The Canadian Field Naturalist

**Volume:** 124

**Issue:** 2

**Pages:** 179-180

**Short Title:** Do Barrow's goldeneyes, Bucephala islandica, breed south of the St. Lawrence estuary in the Gaspé Peninsula, eastern Canada.

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Breeding Season;

**Reference Type:**  Journal Article

**Record Number:** 369

**Author:** J. F. Ouellet, L. Champoux and M. Robert

**Year:** 2009

**Title:** Levels of heavy metals, PCBs, pesticides and flame retardants in tissues of Barrow's Goldeneyes (Bucephala islandica) wintering in the St. Lawrence marine system

**Journal:** Canadian Technical Report of Fisheries and Aquatic Sciences

**Volume:** 2883

**Pages:** 76

**Short Title:** Levels of heavy metals, PCBs, pesticides and flame retardants in tissues of Barrow's Goldeneyes (Bucephala islandica) wintering in the St. Lawrence marine system

**Accession Number:** BCI:BCI201000476355

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Contaminants; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI201000476355

**Reference Type:**  Journal Article

**Record Number:** 1931

**Author:** J. F. Ouellet, L. Champoux and M. Robert

**Year:** 2012

**Title:** Metals, Trace Elements, Polychlorinated Biphenyls, Organochlorine Pesticides, and Brominated Flame Retardants in Tissues of Barrow's Goldeneyes (Bucephala islandica) Wintering in the St. Lawrence Marine Ecosystem, Eastern Canada

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 63

**Issue:** 3

**Pages:** 429-436

**Date:** Oct

**Short Title:** Metals, Trace Elements, Polychlorinated Biphenyls, Organochlorine Pesticides, and Brominated Flame Retardants in Tissues of Barrow's Goldeneyes (Bucephala islandica) Wintering in the St. Lawrence Marine Ecosystem, Eastern Canada

**ISSN:** 0090-4341

**DOI:** 10.1007/s00244-012-9787-y

**Accession Number:** WOS:000308543600012

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 1

Ouellet, Jean-Francois Champoux, Louise Robert, Michel

1

**URL:** <Go to ISI>://WOS:000308543600012

**Reference Type:**  Journal Article

**Record Number:** 1343

**Author:** J. F. Ouellet, M. Guillemette and P. U. Biler

**Year:** 2008

**Title:** Morphological and physiological aspects of takeoff aptitudes of female common eiders (Somateria mollissima) during the pre-laying period

**Journal:** Canadian Journal of Zoology

**Volume:** 86

**Issue:** 6

**Pages:** 462-469

**Date:** Jun 2008

**Short Title:** Morphological and physiological aspects of takeoff aptitudes of female common eiders (Somateria mollissima) during the pre-laying period

**Accession Number:** BCI:BCI200800590060

**Keywords:** Common Eider; Somateria mollissima; Physiology; Nonbreeding Seasons;

**Abstract:** In many bird species, follicular growth and the accumulation of body reserves may impair flight takeoff capability of breeding females. The pre-laying period in common ciders, Somateria mollissima (L., 1758), is characterized by a dramatic sex-specific takeoff impairment, and we tested the hypothesis that pre-laying female common eiders compensate to diminish or delay their takeoff impairment. We addressed our question at three organizational levels: (1) measurement of wing morphology, (2) mass of flight musculature, and (3) measurement of the activity of key enzymes of aerobic and Glycolytic capacity in one locomotor muscle and one structural muscle. All measurements were performed on individuals of both sexes. We found that wing area was similar between sexes despite males being structurally larger. Our results also indicate that female mass gain is partly compensated by higher pectoralis mass, while the catalytic capacity of the tissue remains unchanged. We conclude that females diminish and delay their takeoff impairment differently according to organizational levels.

**URL:** <Go to ISI>://BCI200800590060

**Reference Type:**  Journal Article

**Record Number:** 1932

**Author:** J. F. Ouellet, C. Vanpe and M. Guillemette

**Year:** 2013

**Title:** The Body Size-Dependent Diet Composition of North American Sea Ducks in Winter

**Journal:** Plos One

**Volume:** 8

**Issue:** 6

**Date:** Jun

**Short Title:** The Body Size-Dependent Diet Composition of North American Sea Ducks in Winter

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0065667

**Article Number:** e65667

**Accession Number:** WOS:000320579400073

**Keywords:** Sea Ducks; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 0

Ouellet, Jean-Francois Vanpe, Cecile Guillemette, Magella

0

**URL:** <Go to ISI>://WOS:000320579400073

**Reference Type:**  Journal Article

**Record Number:** 445

**Author:** J.-F. Ouellet, M. Guillemette and M. Robert

**Year:** 2010

**Title:** Spatial distribution and habitat selection of Barrow's and Common goldeneyes wintering in the St. Lawrence marine system

**Journal:** Canadian Journal of Zoology

**Volume:** 88

**Issue:** 3

**Pages:** 306-314

**Date:** Mar 2010

**Short Title:** Spatial distribution and habitat selection of Barrow's and Common goldeneyes wintering in the St. Lawrence marine system

**Accession Number:** BCI:BCI201000238480

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons;

**Abstract:** Our study addresses winter spatial distribution of Barrow's Goldeneyes (Bucephala islandica (Gmelin, 1789)) and Common Goldeneyes (Bucephala clangula (L.. 1758)) at the scale of the St. Lawrence marine system (estuary and northwestern gulf), eastern Canada. Our objectives were (i) to identify and compare the physical factors that control their distributions, (ii) to quantify the level of sympatry between the two species, and (iii) to compare their distribution patterns. We analyzed large-scale synoptic views of winter distribution of both goldeneye species obtained through helicopter-borne surveys. Habitat description was obtained through spatial analyses and remote sensing. Both species showed strong preference for the tidal zone and river mouths. A multiscale analysis showed a decreasing level of sympatry as spatial resolution was refined. The distribution of the Barrow's Goldeneye was more clustered compared with that of the Common Goldeneye, and Barrow's Goldeneye was repeatedly observed in the same few areas. A use-availability analysis identified the northern coast of the St. Lawrence estuary as the main wintering ground for Barrow's Goldeneye in eastern North America.

**URL:** <Go to ISI>://BCI201000238480

**Reference Type:**  Journal Article

**Record Number:** 469

**Author:** A. Paasivaara and H. Poysa

**Year:** 2004

**Title:** Mortality of common goldeneye (Bucephala clangula) broods in relation to predation risk by northern pike (Esox lucius)

**Journal:** Annales Zoologici Fennici

**Volume:** 41

**Issue:** 3

**Pages:** 513-523

**Date:** June 22, 2004

**Short Title:** Mortality of common goldeneye (Bucephala clangula) broods in relation to predation risk by northern pike (Esox lucius)

**Accession Number:** BCI:BCI200400354383

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Trophic Interactions; Breeding Season;

**Abstract:** We studied brood-rearing lake selection of the common goldeneye Buchephal clangula in relation to food abundance, vegetation structure, brood mortality and predation risk by northern pike Esox lucius. Movements of radio-tagged females and their broods were followed and duckling survival was determined until fledging or until the young had died. Food was more abundant in rearing lakes than in reference lakes. On the contrary, no difference was found between rearing and reference lakes with respect to the structure of shore vegetation. During the brood rearing period the mortality of young (1-23 days) ducklings increased with the increased predation risk by pike. Mortality of old (>23 days) ducklings was not associated with the predation risk by pike. These results suggest that pike predation is an important source of mortality in young common goldeneye ducklings, and that females may be imperfect in predicting pike predation risk when selecting the brood rearing lake.

**URL:** <Go to ISI>://BCI200400354383

**Reference Type:**  Journal Article

**Record Number:** 458

**Author:** A. Paasivaara and H. Poysa

**Year:** 2007

**Title:** Survival of common goldeneye Bucephala clangula ducklings in relation to weather, timing of breeding, brood size, and female condition

**Journal:** Journal of Avian Biology

**Volume:** 38

**Issue:** 2

**Pages:** 144-152

**Date:** Mar 2007

**Short Title:** Survival of common goldeneye Bucephala clangula ducklings in relation to weather, timing of breeding, brood size, and female condition

**Accession Number:** BCI:BCI200700226734

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Breeding Season;

**Abstract:** The survival of common goldeneye Bucephala clangula ducklings during their first week of life was studied in relation to hatching date, brood size, female condition, and weather (temperature and precipitation) during the first week post-hatch by using data from radio-marked females and their broods. Also, age-specific variation in the survival of the young was determined until fledging (over 50 d of age). Survival was lowest in the first week after hatching. Hatching date, brood size, and first week temperature and precipitation were poor predictors of duckling survival during the first week after nest exodus. Instead, the ducklings of females in a better body condition survived better in their first week of life. The results suggest that weather does not have a direct effect on downy ducklings' survival, but the condition of the female seems to be an important determinant of the survival of common goldeneye ducklings.

**URL:** <Go to ISI>://BCI200700226734

**Reference Type:**  Journal Article

**Record Number:** 455

**Author:** A. Paasivaara and H. Poysa

**Year:** 2008

**Title:** Habitat-patch occupancy in the common goldeneye (Bucephala clangula) at different stages of the breeding cycle: implications to ecological processes in patchy environments

**Journal:** Canadian Journal of Zoology

**Volume:** 86

**Issue:** 7

**Pages:** 744-755

**Date:** Jul 2008

**Short Title:** Habitat-patch occupancy in the common goldeneye (Bucephala clangula) at different stages of the breeding cycle: implications to ecological processes in patchy environments

**Accession Number:** BCI:BCI200800610618

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** We studied the pattern of habitat-patch Occupancy of radio-tagged common goldeneye (Bucephala clangula (L., 1758)) females in two sequential stages of the breeding season, the nest stage and the brood stage, and whether the resources needed in nesting and brood-rearing are spatially inter-related as revealed by patch occupation rate of goldeneye females in these stages. We also studied patch-specific factors potentially explaining the rate of patch occupation separately during the nest stage and the brood stage. There was no association in patch occupation rate between the nest stap and the brood stage, indicating that all the critical resources needed to complete a successful breeding cycle were not met within the same habitat patch. At the nest stage, patch Occupation rate increased with nest-site availability and decreased with nest predation rate but was not affected by vegetation luxuriance or patch size. Vegetation luxuriance had a positive effect on patch occupation rate at the brood stage, whereas nesting success of the focal patch had no effect. Results suggest that nest-site selection and brood-stage habitat selection are governed by different ecological factors. We conclude that breeding-stage-specific resource requirements redistributed individuals among habitat patches across the landscape, implying dynamic distribution of ducks between nesting and brooding stage.

**URL:** <Go to ISI>://BCI200800610618

**Reference Type:**  Journal Article

**Record Number:** 444

**Author:** A. Paasivaara, J. Rutila, H. Poysa and P. Runko

**Year:** 2010

**Title:** Do parasitic common goldeneye Bucephala clangula females choose nests on the basis of host traits or nest site traits?

**Journal:** Journal of Avian Biology

**Volume:** 41

**Issue:** 6

**Pages:** 662-671

**Date:** Nov 2010

**Short Title:** Do parasitic common goldeneye Bucephala clangula females choose nests on the basis of host traits or nest site traits?

**Accession Number:** BCI:BCI201100043228

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) is an important alternative breeding strategy for gaining reproductive output in birds. While interactions between hosts and parasites and consequences of CBP to breeding success of both parties have been studied a lot, the roles of host characteristics and nest site characteristics in CBP have received less attention. We studied the relative importance of host-related traits, such as female condition and breeding experience, and nest-site-related factors, such as overall nest site preference and occupation rate, in explaining the occurrence of CBP in a common goldeneye Bucephala clangula population. We used spatially and temporally extensive data sets, analysed the data with generalized linear mixed models that allowed us to account for the non-independency of individual nesting attempts across females and nesting sites, and used an information theoretic approach in model selection and inference. About half of the nests were parasitized annually during the seven year study period. The occurrence of CBP decreased with advancement of the breeding season but late nests were also frequently parasitized. We found that the occurrence of CBP was better explained by nest-site characteristics than host traits, implying that parasitic females target a given nest based on factors related to the nest site itself rather than on the host. Our results suggest that more attention should be paid to factors associated with nest site attractiveness and quality when studying laying decisions of parasites and the occurrence of CBP in general.

**URL:** <Go to ISI>://BCI201100043228

**Reference Type:**  Journal Article

**Record Number:** 1933

**Author:** E. C. Palm, D. Esler, E. M. Anderson, T. D. Williams, O. P. Love and M. T. Wilson

**Year:** 2013

**Title:** Baseline Corticosterone in Wintering Marine Birds: Methodological Considerations and Ecological Patterns

**Journal:** Physiological and Biochemical Zoology

**Volume:** 86

**Issue:** 3

**Pages:** 346-353

**Date:** May-Jun

**Short Title:** Baseline Corticosterone in Wintering Marine Birds: Methodological Considerations and Ecological Patterns

**ISSN:** 1522-2152

**DOI:** 10.1086/670156

**Accession Number:** WOS:000318270100006

**Keywords:** white-winged Scoter; Melanitta fusca; Physiology; Nonbreeding Seasons; Techniques

**Notes:** Times Cited: 0

Palm, E. C. Esler, D. Anderson, E. M. Williams, T. D. Love, O. P. Wilson, M. T.

0

**URL:** <Go to ISI>://WOS:000318270100006

**Reference Type:**  Journal Article

**Record Number:** 1934

**Author:** E. C. Palm, D. Esler, E. M. Anderson, T. D. Williams and M. T. Wilson

**Year:** 2013

**Title:** VARIATION IN PHYSIOLOGY AND ENERGY MANAGEMENT OF WINTERING WHITE-WINGED SCOTERS IN RELATION TO LOCAL HABITAT CONDITIONS

**Journal:** Condor

**Volume:** 115

**Issue:** 4

**Pages:** 750-761

**Date:** Nov

**Short Title:** VARIATION IN PHYSIOLOGY AND ENERGY MANAGEMENT OF WINTERING WHITE-WINGED SCOTERS IN RELATION TO LOCAL HABITAT CONDITIONS

**ISSN:** 0010-5422

**DOI:** 10.1525/cond.2013.120109

**Accession Number:** WOS:000328295800006

**Keywords:** white-winged Scoter; Melanitta fusca; Physiology; energetics and Nutrition; Nonbreeding Seasons

**Notes:** Times Cited: 0

Palm, Eric C. Esler, Daniel Anderson, Eric M. Williams, Tony D. Wilson, Matthew T.

0

**URL:** <Go to ISI>://WOS:000328295800006

**Reference Type:**  Journal Article

**Record Number:** 1935

**Author:** E. C. Palm, D. Esler, E. M. Anderson and M. T. Wilson

**Year:** 2012

**Title:** Geographic and Temporal Variation in Diet of Wintering White-winged Scoters

**Journal:** Waterbirds

**Volume:** 35

**Issue:** 4

**Pages:** 577-589

**Date:** Dec

**Short Title:** Geographic and Temporal Variation in Diet of Wintering White-winged Scoters

**ISSN:** 1524-4695

**Accession Number:** WOS:000313382700007

**Keywords:** white-winged Scoter; Melanitta fusca; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 2

Palm, Eric C. Esler, Daniel Anderson, Eric M. Wilson, Matt T.

2

**URL:** <Go to ISI>://WOS:000313382700007

**Reference Type:**  Journal Article

**Record Number:** 1795

**Author:** R. S. Palmer

**Year:** 1973

**Title:** Icelandic Eiders a Few Observations

**Journal:** Wildfowl

**Volume:** 24

**Pages:** 154-157

**Short Title:** Icelandic Eiders a Few Observations

**Accession Number:** BCI:BCI197410058899

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis;

**URL:** <Go to ISI>://BCI197410058899

**Reference Type:**  Journal Article

**Record Number:** 1793

**Author:** R. S. Palmer

**Year:** 1977

**Title:** King Eider Studies

**Journal:** British Birds

**Volume:** 70

**Issue:** 3

**Pages:** 107-113

**Short Title:** King Eider Studies

**Accession Number:** BCI:BCI197713063396

**Keywords:** King Eider; Somateria spectabilis;

**URL:** <Go to ISI>://BCI197713063396

**Reference Type:**  Journal Article

**Record Number:** 660

**Author:** M. T. Pardue and J. G. Sivak

**Year:** 1997

**Title:** The functional anatomy of the ciliary muscle in four avian species

**Journal:** Brain Behavior and Evolution

**Volume:** 49

**Issue:** 6

**Pages:** 295-311

**Short Title:** The functional anatomy of the ciliary muscle in four avian species

**Accession Number:** BCI:BCI199799596864

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology;

**Abstract:** The functional anatomy of avian ciliary muscles has been difficult to describe, due to the muscle's inaccessible location inside the eye. The ciliary muscle of the chicken (Gallus gallus domesticus), the pigeon (Columbia livia), the kestrel (Falco sparverius), and the hooded merganser (Margus cucullatus) (four species with differing accommodative needs) was examined histologically in both the relaxed and contracted states. The ciliary muscle of all four species can be divided into three main muscle fibre groups based on insertion and origin: anterior, posterior and internal. The anterior muscle fibre group originates at the sclera under the scleral ossicles and inserts into the inner lamellae of the cornea. During accommodation these fibres pull the cornea posteriorly, changing the curvature of the cornea. The posterior muscle fibre group originates on the sclera and inserts posteriorly onto the baseplate of the ciliary body. The posterior fibre group acts on the baseplate of the ciliary body, pulling it forward to change the curvature of the lens during accommodation. The internal muscle fibre group extends from the baseplate of' the ciliary body to the inner lamellae of the cornea and thus has a role in both corneal and lenticular accommodation. Species differences do exist, as seen in subgroups determined by the orientation of the fibres between the relaxed and contracted states and the percentage of fibres within the main muscle fibre groups. In general, the majority of ciliary muscle fibres in chickens, pigeons, and kestrels are in the anterior muscle fibre group, suggesting an emphasis on corneal accommodation; in the ciliary muscle of the hooded merganser, the majority of fibres are in the internal and posterior muscle fibre groups, indicating that lenticular accommodation is the predominant form of accommodation.

**URL:** <Go to ISI>://BCI199799596864

**Reference Type:**  Journal Article

**Record Number:** 1615

**Author:** H. Parker and H. Holm

**Year:** 1990

**Title:** Patterns of Nutrient and Energy Expenditure in Female Common Eiders Nesting in the High Arctic

**Journal:** Auk

**Volume:** 107

**Issue:** 4

**Pages:** 660-668

**Short Title:** Patterns of Nutrient and Energy Expenditure in Female Common Eiders Nesting in the High Arctic

**Accession Number:** BCI:BCI199191014372

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**Abstract:** In 1982 we studied weight loss, changes in body composition, and energy expenditure in breeding female Common Eiders (Somateria mollissima borealis) in Svalbard Norway. Feeding ceased during laying and incubation. From prelaying to hatching, total weight declined by 46.4%, lipid by 81.4%, and protein by 36.8%. Daily energy expenditure during laying was 2,528 kJ, times greater than during incubation. Rate of lipid expenditure during laying was 3.3 times greater than during incubation, and rate of protein expenditure was 8.8 times greater. Of the birds' total prelaying energy, 33.8% was expended during laying 34.6% during incubation, and 31.6% remained at hatching. An estimated 31.6% of the energy expended during laying was investigated in eggs. Sixteen- and 18-carbon fatty acids dominated in lipid of the fattest and leanest birds. The major nutrient and energy donors during breeding were 16:0 and 18:1 fatty acids. Svalbard eider eggs weighed ca. 17.5% less and were incubated ca. 1.5 days shorter than eggs from the species' most southerly range limit. This apparent adaptation to arctic existence gave an estimated energy savings of 6.5% during breeding.

**URL:** <Go to ISI>://BCI199191014372

**Reference Type:**  Journal Article

**Record Number:** 1602

**Author:** H. Parker and F. Mehlum

**Year:** 1991

**Title:** Influence of Sea-Ice on Nesting Density in the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 31-36

**Short Title:** Influence of Sea-Ice on Nesting Density in the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean

**Accession Number:** BCI:BCI199192122388

**Keywords:** Common Eider; Somateria mollissima; Habitat; Dispersal; Breeding Season;

**Abstract:** High arctic Common Eiders often nest in dense colonies on small islands, particularly in years when late breakup of sea-ice limits the number of nesting islands available. High-density nesting under these conditions appears to be a forced response, and it was predicted that if provided with more space in the form of more islands, nesting Eiders would choose to disperse maximally, thereby mainimizing nest density. This prediction was tested during 6 years of generally favorable ice conditions and results indicated that nesting females did disperse when provided with more space, but that the dispersal response was both slower and less complete than predicted. The observed lag in dispersal was suggested to be a result of site-tenacity, i.e. females tended to return to previously used nesting islands despite having originally been "forced" to nest there due to late spring breakup.

**URL:** <Go to ISI>://BCI199192122388

**Reference Type:**  Journal Article

**Record Number:** 1275

**Author:** K. C. Parkes

**Year:** 1955

**Title:** The generic name of the spectacled eider

**Journal:** Auk

**Volume:** 72

**Issue:** (1)

**Pages:** 85-86

**Short Title:** The generic name of the spectacled eider

**Accession Number:** BCI:BCI19563000030504

**Keywords:** Spectacled Eider; Somateria fischeri; Taxonomy;

**Abstract:** Brandt in 1847 described it under the subgeneric name Lampronetta. but rather than revert to an unfamiliar name, author accepts view of Delacour and Mayr (Wilson Bul. 57: 33, 1945) that the species should be placed with other eiders in the genus Somateria. Its correct name would become S. fischeri (Brandt). || ABSTRACT AUTHORS: L. M. Bartlett

**URL:** <Go to ISI>://BCI19563000030504

**Reference Type:**  Journal Article

**Record Number:** 49

**Author:** C. A. Paszkowski and W. M. Tonn

**Year:** 2006

**Title:** Foraging guilds of aquatic birds on productive boreal lakes: environmental relations and concordance patterns

**Journal:** Hydrobiologia

**Volume:** 567

**Pages:** 19-30

**Date:** Sep 2006

**Short Title:** Foraging guilds of aquatic birds on productive boreal lakes: environmental relations and concordance patterns

**Accession Number:** BCI:BCI200600506814

**Keywords:** Sea Ducks - General; Habitat;

**Abstract:** We surveyed aquatic birds on 41 eutrophic lakes at the southern edge of the boreal forest in Alberta, Canada to determine if patterns of species composition of five foraging guilds paralleled patterns of lake characteristics (morphometry, water chemistry, fish assemblage, and landscape features) and if composition patterns were concordant among guilds. We encountered 49 species of nonpasserine birds that could be classified into five foraging guilds: Diving Carnivores, Diving Omnivores, Herbivores, Surface-foraging Carnivores, and Shoreline Omnivores. Individual lakes supported three to five guilds and guild composition was most strongly and frequently related to lake area, maximum depth, water color, pH, a fish assemblage index, and catchment slope. Randomization tests of matrix concordance based on Principal Components Analyses indicated similar patterns between lake characteristics and species composition for four of five guilds (Diving Carnivores excepted). Randomization tests also showed that patterns of species composition among lakes were similar between foraging guilds for eight out of 10 pairwise comparisons (both exceptions involved Surface-foraging Carnivores). Because of the largely concordant patterns among different guilds, monitoring the status of one guild should provide a useful bioindicator of the status of the aquatic bird assemblages as a whole.

**URL:** <Go to ISI>://BCI200600506814

**Reference Type:**  Journal Article

**Record Number:** 1682

**Author:** I. J. Patterson

**Year:** 1977

**Title:** The Control of Fox Movement by Electric Fencing

**Journal:** Biological Conservation

**Volume:** 11

**Issue:** 4

**Pages:** 267-278

**Short Title:** The Control of Fox Movement by Electric Fencing

**Accession Number:** BCI:BCI197764068014

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** On the Sands of Forvie National Nature Reserve, Aberdeenshire, Scotland, a low electric fence was tested as a barrier to foxes [Vulpes vulpes] preying on sandwich terns [Sterna sandvicensis] and eiders [Somateria mollissima]. The fence was an effective deterrent, reducing fox visits to the general area by 2/3 and turning back .apprx. 60% of those which did visit. Fox activity beyond the fence was reduced to .apprx. 16% of that expected without the fence. Crossing of the fence was rare (6% of encounters), but foxes were able to pass round the ends of the fence on unprotected intertidal areas. Where this became common it enabled selective removal of an individual fox causing damage, since the fence steered the animal to a predictable place.

**URL:** <Go to ISI>://BCI197764068014

**Reference Type:**  Journal Article

**Record Number:** 1450

**Author:** K. B. Paulus and R. Tiedemann

**Year:** 2003

**Title:** Ten polymorphic autosomal microsatellite loci for the Eider duck Somateria mollissima and their cross-species applicability among waterfowl species (Anatidae)

**Journal:** Molecular Ecology Notes

**Volume:** 3

**Issue:** 2

**Pages:** 250-252

**Date:** June 2003

**Short Title:** Ten polymorphic autosomal microsatellite loci for the Eider duck Somateria mollissima and their cross-species applicability among waterfowl species (Anatidae)

**Accession Number:** BCI:BCI200300362719

**Keywords:** Common Eider; Somateria mollissima; Techniques;

**Abstract:** We describe the isolation and characterization of the first microsatellite loci specifically developed for the Common Eider duck, Somateria mollissima. Our 10 loci show Mendelian inheritance and no linkage disequilibrium between any pair of loci. In the Eider duck, we observed between two and 16 alleles per locus, an expected heterozygosity between 0.31 and 0.97, and an observed heterozygosity between 0.14 and 1.00. Most primers also yield reproducible results in several other anatid species. These loci comprise a set of autosomal molecular markers for various applications, from moderately polymorphic loci suitable for population studies to highly polymorphic loci for pedigree analysis in waterfowl.

**URL:** <Go to ISI>://BCI200300362719

**Reference Type:**  Journal Article

**Record Number:** 2276

**Author:** A. M. Payne, M. L. Schummer and S. A. Petrie

**Year:** 2015

**Title:** Patterns of Molt in Long-tailed Ducks (Clangula hyemalis) during Autumn and Winter in the Great Lakes Region, Canada

**Journal:** Waterbirds

**Volume:** 38

**Issue:** 2

**Pages:** 195-200

**Date:** Jun

**Short Title:** Patterns of Molt in Long-tailed Ducks (Clangula hyemalis) during Autumn and Winter in the Great Lakes Region, Canada

**ISSN:** 1524-4695

**Accession Number:** WOS:000356642700009

**Keywords:** Long-tailed Duck; Clangula hyemalis; Nonbreeding season; Molt; Energetics and Nutrition

**Abstract:** Molt and migration can coincide in Arctic nesting waterfowl because they have little time between fledging and the severe weather that precipitates migration. Objectives were to observe how patterns in autumn and winter molt by Long-tailed Ducks (Clangula hyemalis) were influenced by nutrient reserves or seasonal life-cycle events. Molt scores and nutrient reserves were determined for birds salvaged during autumn 2011 (n = 79) and collected during winter 2002-2004 (n = 255). Differences in molt among sex-age classes and correlation between molt and nutrient reserves were determined. It was predicted that adult females and juveniles of both sexes suspended molt during autumn migration to limit energetic overlap; however, greater molt in juveniles during autumn than winter was detected. Correlation between molt and nutrient reserves were not detected. Molt was less in adult males than females and juveniles during winter, which may suggest that the effects of reproduction (females) and growth (juveniles) extended their molt into winter. Observed molt patterns are consistent with fixed cues associated with the timing of seasonal life-cycle events of this species. This could have important implications in understanding the life-cycle events of Long-tailed Ducks and provide novel explanations of seasonal molt.

**Notes:** Payne, Andreanne M. Schummer, Michael L. Petrie, Scott A.

**URL:** <Go to ISI>://WOS:000356642700009

**Reference Type:**  Journal Article

**Record Number:** 2347

**Author:** J. Pearce, Mark L. Mallory and Karen Metz

**Year:** 2015

**Title:** Common Merganser (Mergus merganser)

**Journal:** The Birds of North America

**Short Title:** Common Merganser (Mergus merganser)

**Keywords:** Common Merganser; Mergus merganser

**Reference Type:**  Journal Article

**Record Number:** 643

**Author:** J. M. Pearce, P. Blums and M. S. Lindberg

**Year:** 2008

**Title:** Site fidelity is an inconsistent determinant of population structure in the hooded merganser (Lophodytes cucullatus): Evidence from genetic, mark-recapture, and comparative data

**Journal:** Auk

**Volume:** 125

**Issue:** 3

**Pages:** 711-722

**Date:** Jul 2008

**Short Title:** Site fidelity is an inconsistent determinant of population structure in the hooded merganser (Lophodytes cucullatus): Evidence from genetic, mark-recapture, and comparative data

**Accession Number:** BCI:BCI200800567395

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Dispersal; Population Delineation; Techniques; Breeding Season; Nonbreeding Seasons;

**Abstract:** The level of site fidelity in birds is often characterized as "high" on the basis of rates of return or homing from mark-recapture data. For specie:; that exhibit site fidelity, Subsequent biological assumptions have included population Structure, demographic independence, and that the extirpation of a site-faithful group might be irreversible because of low immigration. Yet several genetic Studies have observed patterns Of Population differentiation that are incongruous with strong site fidelity, Which Suggests recent isolation, gene flow, or both. Using a 13-year live-recapture and dead-recovery data set, as well as nuclear and mitochondrial DNA collected across the range of the Hooded Merganser (Lophodytes cucullants), an obligate cavity-nester endemic to North America, we found evidence that gene flow persists across portions of the species' range even though the probability of female breeding-site fidelity is high (0.92; 95% confidence interval [CI]: 0.64-0.98) and disjunct breeding ranges of this species have been isolated for :10,000 years. By combining inferences from genetic, band-recovery, mark-recapture, and comparative data from another cavity-nesting species of water fowl, We conclude that a high level of site fidelity should not be considered a universal proxy for population structure and demographic independence. Our results also suggest that an accurate assessment of site fidelity-and its implications for population dynamics and delineation-requires cross-species comparisons and multiple data types, such as mark-recapture and genetic information, to best infer patterns across a range of geographic and temporal scales.

**URL:** <Go to ISI>://BCI200800567395

**Reference Type:**  Journal Article

**Record Number:** 2124

**Author:** J. M. Pearce, J. M. Eadie, J. P. L. Savard, T. K. Christensen, J. Berdeen, E. J. Taylor, S. Boyd, A. Einarsson and S. L. Talbot

**Year:** 2014

**Title:** Comparative population structure of cavity-nesting sea ducks

**Journal:** Auk

**Volume:** 131

**Issue:** 2

**Pages:** 195-207

**Date:** Apr

**Short Title:** Comparative population structure of cavity-nesting sea ducks

**ISSN:** 0004-8038

**DOI:** 10.1642/auk-13-071.1

**Accession Number:** WOS:000336477300008

**Keywords:** Barrow’s Goldeneye; Common Goldeneye; Bufflehead; Bucephala islandica; Bucephala clangula; Bucephala albeola; Population Delineation; Taxonomy; SDJV funded

**Abstract:** A growing collection of mtDNA genetic information from waterfowl species across North America suggests that larger-bodied cavity-nesting species exhibit greater levels of population differentiation than smaller-bodied congeners. Although little is known about nest-cavity availability for these species, one hypothesis to explain differences in population structure is reduced dispersal tendency of larger-bodied cavity-nesting species due to limited abundance of large cavities. To investigate this hypothesis, we examined population structure of three cavity-nesting waterfowl species distributed across much of North America: Barrow's Goldeneye (Bucephala islandica), Common Goldeneye (B. clangula), and Bufflehead (B. albeola). We compared patterns of population structure using both variation in mtDNA control-region sequences and band-recovery data for the same species and geographic regions. Results were highly congruent between data types, showing structured population patterns for Barrow's and Common Goldeneye but not for Bufflehead. Consistent with our prediction, the smallest cavity-nesting species, the Bufflehead, exhibited the lowest level of population differentiation due to increased dispersal and gene flow. Results provide evidence for discrete Old and New World populations of Common Goldeneye and for differentiation of regional groups of both goldeneye species in Alaska, the Pacific Northwest, and the eastern coast of North America. Results presented here will aid management objectives that require an understanding of population delineation and migratory connectivity between breeding and wintering areas. Comparative studies such as this one highlight factors that may drive patterns of genetic diversity and population trends.

**Notes:** Pearce, John M. Eadie, John M. Savard, Jean-Pierre L. Christensen, Thomas K. Berdeen, James Taylor, Eric J. Boyd, Sean Einarsson, Arni Talbot, Sandra L.

**URL:** <Go to ISI>://WOS:000336477300008

**Reference Type:**  Journal Article

**Record Number:** 1251

**Author:** J. M. Pearce, D. Esler and A. G. Degtyarev

**Year:** 1999

**Title:** Nesting ecology of Spectacled Eiders Somateria fischeri on the Indigirka River Delta, Russia

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 110-123

**Short Title:** Nesting ecology of Spectacled Eiders Somateria fischeri on the Indigirka River Delta, Russia

**Accession Number:** BCI:BCI199900307441

**Keywords:** Spectacled Eider; Somateria fischeri; Productivity; Habitat; Breeding Season;

**Abstract:** In 1994 and 1995 we investigated breeding biology and nest site habitat of Spectacled Eiders on two study areas within the coastal fringe of the Indigirka River Delta, Russia (71degree 20' N, 150degree 20' E). Spectacled Eiders were first observed on 6 June in both years and nesting commenced by mid-June. Average clutch size declined with later nest initiation dates by 0.10 eggs per day; clutches were larger in 1994 than 1995 and were slightly larger on a coastal island study area compared to an interior area. Nesting success varied substantially between years, with estimates of 1.6% in 1994 and 27.6% in 1995. Total egg loss, through avian or mammalian predation, occurred more frequently than partial egg loss. Partial egg loss was detected in 16 nests and appeared unrelated to nest initiation date or clutch size. We found no difference among survival rates of nests visited weekly, biweekly, and those at which the hen was never flushed, suggesting that researcher presence did not adversely affect nesting success. A comparison of nine habitat variables within each study area revealed little difference between nest sites and a comparable number of randomly located sites, leading us to conclude that Spectacled Eiders nest randomly with respect to most small scale habitat features. We propose that large scale landscape features are more important indicators of nesting habitat as they may afford greater protection from land-based predators, such as the Arctic Fox. Demographic data collected during this study, along with recent conservation measures implemented by the Republic of Sakha (Yakutia), lead us to conclude that there are few threats to the Indigirka River Delta Spectacled Eider population. Presently, the Indigirka River Delta contains the largest concentration of nesting Spectacled Eiders and deserves continued monitoring and conservation.

**URL:** <Go to ISI>://BCI199900307441

**Reference Type:**  Journal Article

**Record Number:** 1257

**Author:** J. M. Pearce, R. L. Fields and K. T. Scribner

**Year:** 1997

**Title:** Nest materials as a source of genetic data for avian ecological studies

**Journal:** Journal of Field Ornithology

**Volume:** 68

**Issue:** 3

**Pages:** 471-481

**Short Title:** Nest materials as a source of genetic data for avian ecological studies

**Accession Number:** BCI:BCI199799706512

**Keywords:** Spectacled Eider; Somateria fischeri; Techniques; Breeding Season;

**Abstract:** We examined the utility of feathers and egg shell membranes, deposited in the nests of Spectacled Eiders (Somateria fischeri), as a source of DNA for genetic studies at both the population and individual level. The potential for feather DNA contamination as a result of female behavioral interactions (e.g. nest parasitism), reuse of nest sites from previous years, or other unknown occurrences was acknowledged and specifically tested. DNA was successfully extracted from both feathers and egg shell membranes and waterfowl microsatellite loci were used to construct individual genotypes. We found no difference in the genotypes obtained from nest feathers or blood of the incubating female. Detection of nest feather contamination was possible with as little as one feather when samples from multiple females were intentionally mixed. Triplicate DNA extractions from 33 nests provided a means of detecting contamination in 3 nests. Egg membranes proved a viable source of offspring DNA and can contribute valuable data to investigations of parentage when assayed jointly with maternal feather DNA. Nest materials provide an efficient, non-invasive method of genetic sampling that can be readily incorporated into field research. However, the natural history traits and mating strategies of a species must be considered during sample collection to identify the possible sources of nest materials (e.g., paternal, maternal, parasite, etc.). Specific experiments should also be designed to test sampling assumptions.

**URL:** <Go to ISI>://BCI199799706512

**Reference Type:**  Journal Article

**Record Number:** 816

**Author:** J. M. Pearce, K. G. McCracken, T. K. Christensen and Y. N. Zhuravlev

**Year:** 2009

**Title:** Migratory Patterns and Population Structure among Breeding and Wintering Red-Breasted Mergansers (Mergus Serrator) and Common Mergansers (M. Merganser)

**Journal:** Auk

**Volume:** 126

**Issue:** 4

**Pages:** 784-798

**Date:** Oct 2009

**Short Title:** Migratory Patterns and Population Structure among Breeding and Wintering Red-Breasted Mergansers (Mergus Serrator) and Common Mergansers (M. Merganser)

**Accession Number:** BCI:BCI200900638467

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Dispersal; Population Delineation; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** Philopatry has long been assumed to structure populations of waterfowl and other species of birds genetically, especially via maternally transmitted mitochondrial DNA (mtDNA), yet other migratory behaviors and nesting ecology (use of ground vs. cavity sites) may also contribute to population genetic structure. We investigated the effects of migration and nesting ecology on the population genetic structure of two Holarctic waterfowl, the Red-breasted Merganser (Mergus serrator) and Common Merganser (M. merganser), using mtDNA control-region sequence data. Red-breasted Mergansers (a ground-nesting species) exhibited lower levels of population differentiation across their North American range, possibly as a result of post-Pleistocene range expansion and population growth. By contrast, Common Mergansers (a cavity-nesting species) breeding in western and eastern North America were strongly differentiated, as were continental groups in North America and Europe. Our hypothesis that population differentiation of breeding female Common Mergansers results from limited migration during non-breeding periods was not supported, in that equally heterogeneous mtDNA lineages were observed in males and females on several wintering areas. The interspecific differences in mtDNA patterns for these two closely related species may have resulted from factors related to nesting ecology (ground vs. cavity nesting) and responses to historical climate change. Received 17 September 2008, accepted 20 April 2009.

**URL:** <Go to ISI>://BCI200900638467

**Reference Type:**  Journal Article

**Record Number:** 704

**Author:** J. M. Pearce and M. R. Petersen

**Year:** 2009

**Title:** Post-fledging Movements of Juvenile Common Mergansers (Mergus merganser) in Alaska as Inferred by Satellite Telemetry

**Journal:** Waterbirds

**Volume:** 32

**Issue:** 1

**Pages:** 133-137

**Date:** Mar 2009

**Short Title:** Post-fledging Movements of Juvenile Common Mergansers (Mergus merganser) in Alaska as Inferred by Satellite Telemetry

**Accession Number:** BCI:BCI201100030071

**Keywords:** Common merganser; Mergus merganser; Migration; Molt; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** We implanted satellite transmitters into eight juvenile Common Mergansers to investigate post fledging movements from their natal river in southcentral Alaska Subsequently they moved widely throughout poitions of western and southcentral Alaska up to 750 km from their natal areas during fall and winter months Iiinsmittei s of two birds (one male and one female) continued to send location datiinto their second}eat and allowed us to determine the location and timing of the flightless molt period for each bud ye, all out data suggest that juveneile Common Mergansers range widely immediately after fledging that second year males and females may) differ in then movement patterns and that these movements have implications for population genetic structure of this species cies Received 2 April 2008 accepted 6 July 2008

**URL:** <Go to ISI>://BCI201100030071

**Reference Type:**  Journal Article

**Record Number:** 721

**Author:** J. M. Pearce, J. A. Reed and P. L. Flint

**Year:** 2005

**Title:** Geographic variation in survival and migratory tendency among North American Common Mergansers

**Journal:** Journal of Field Ornithology

**Volume:** 76

**Issue:** 2

**Pages:** 109-118

**Date:** Spr 2005

**Short Title:** Geographic variation in survival and migratory tendency among North American Common Mergansers

**Accession Number:** BCI:BCI200600347742

**Keywords:** Common merganser; Mergus merganser; Dispersal; Survival; Breeding Season; Nonbreeding Seasons;

**Abstract:** Movement ecology and demographic parameters for the Common Merganser (Mergus merganser americanus) in North America are poorly known. We used band-recovery data from five locations across North America spanning the years 1938-1998 to examine migratory patterns and estimate survival rates. We examined competing time-invariant, age-graduated models with program MARK to Study sources of variation in survival and reporting probability We considered age, sex, geographic location, and the use of nasal saddles on hatching year birds at one location as possible Sources of variation. Year-of-banding was included as a covariate in a post-hoc analysis. We found that migratory tendency, defined as the average distance between banding and recovery locations, varied geographically. Similarly, all models accounting for the majority of variation in recovery and Survival probabilities included location of banding. Models that included age and sex received less Support, but we lacked sufficient data to adequately assess these parameters. Model-averaged estimates of annual survival ranged from 0.21 in Michigan to 0.82 in Oklahoma. Heterogeneity in migration tendency and survival suggests that demographic patterns may vary across geographic scales, with implications for the population dynamics of this species.

**URL:** <Go to ISI>://BCI200600347742

**Reference Type:**  Journal Article

**Record Number:** 280

**Author:** J. M. Pearce and S. L. Talbot

**Year:** 2006

**Title:** Demography, genetics, and the value of mixed messages

**Journal:** Condor

**Volume:** 108

**Issue:** 2

**Pages:** 474-479

**Date:** May 2006

**Short Title:** Demography, genetics, and the value of mixed messages

**Accession Number:** BCI:BCI200600484874

**Keywords:** Harlequin duck; Histrionicus histrionicus; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** Iverson et al. (2004) used estimates of the homing rate for molting adult Harlequin Ducks (Histrionicus histrionicus) in Alaska to draw inferences about population structure. Homing rates, defined as one minus the ratio of birds recaptured elsewhere to those recaptured at the original banding site, were high (0.95-1.00) for males and females. Iverson et al. (2004) concluded that these high rates of homing are indicative of demographic independence among molting groups separated by small distances (tens to hundreds of kilometers) and that conservation efforts should recognize this fine-scale population structure. Were-examined their use of the homing rate, because their assumption of equal detection probability across a wide sampling area could have led to an upward bias in their estimates of site fidelity. As a result, we are hesitant to agree with their conclusion of high adult homing to molting areas and that molt-site fidelity is evidence for demographic independence. Our hesitancy stems from the fact that little is known about juvenile and adult movements within and among years, breeding area origins, and the variation of demographic parameters (e.g., survival and productivity) among molting groups. Furthermore, population genetic data of these molting groups suggest gene flow at both nuclear and mitochondrial loci. Such mixed messages between demographic (i.e., banding) and genetic data are increasingly common in ornithological studies and offer unique opportunities to reassess predictions and make more robust inferences about population structure across broad temporal and spatial scales. Thus, we stress that it is this broader scale perspective, which combines both demography and genetics, that biologists should seek to quantify and conservation efforts should seek to recognize.

**URL:** <Go to ISI>://BCI200600484874

**Reference Type:**  Journal Article

**Record Number:** 1195

**Author:** J. M. Pearce, S. L. Talbot, M. R. Petersen and J. R. Rearick

**Year:** 2005

**Title:** Limited genetic differentiation among breeding, molting, and wintering groups of the threatened Steller's eider: the role of historic and contemporary factors

**Journal:** Conservation Genetics

**Volume:** 6

**Issue:** 5

**Pages:** 743-757

**Date:** Sep 2005

**Short Title:** Limited genetic differentiation among breeding, molting, and wintering groups of the threatened Steller's eider: the role of historic and contemporary factors

**Accession Number:** BCI:BCI200600187208

**Keywords:** Steller's eider; Polysticta stelleri; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** Due to declines in the Alaska breeding population, the Steller's eider (Polysticta stelleri) was listed as threatened in North America in 1997. Periodic non-breeding in Russia and Alaska has hampered field-based assessments of behavioral patterns critical to recovery plans, such as levels of breeding site fidelity and movements among three regional populations: Atlantic-Russia, Pacific-Russia and Alaska. Therefore, we analyzed samples from across the species range with seven nuclear microsatellite DNA loci and cytochrome b mitochondrial (mt)DNA sequence data to infer levels of interchange among sampling areas and patterns of site fidelity. Results demonstrated low levels of population differentiation within Atlantic and Pacific nesting areas, with higher levels observed between these regions, but only for mtDNA. Bayesian analysis of microsatellite data from wintering and molting birds showed no signs of sub-population structure, even though band-recovery data suggests multiple breeding areas are present. We observed higher estimates of F-statistics for female mtDNA data versus male data, suggesting female-biased natal site fidelity. Summary statistics for mtDNA were consistent with models of historic population expansion. Lack of spatial structure in Steller's eiders may result largely from insufficient time since historic population expansions for behaviors, such as natal site fidelity, to isolate breeding areas genetically. However, other behaviors such as the periodic non-breeding observed in Steller's eiders may also play a more contemporary role in genetic homogeneity, especially for microsatellite loci.

**URL:** <Go to ISI>://BCI200600187208

**Reference Type:**  Journal Article

**Record Number:** 1751

**Author:** J. M. Pearce, S. L. Talbot, B. J. Pierson, M. R. Petersen, K. T. Scribner, D. L. Dickson and A. Mosbech

**Year:** 2004

**Title:** Lack of spatial genetic structure among nesting and wintering King Eiders

**Journal:** Condor

**Volume:** 106

**Issue:** 2

**Pages:** 229-240

**Date:** May 2004

**Short Title:** Lack of spatial genetic structure among nesting and wintering King Eiders

**Accession Number:** BCI:BCI200400372978

**Keywords:** King Eider; Somateria spectabilis; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** The King Eider (Somateria spectabilis) has been delineated into two broadly distributed breeding populations in North America (the western and eastern Arctic) on the basis of banding data and their use of widely separated Pacific and Atlantic wintering areas. Little is known about the level of gene flow between these two populations. Also unknown is whether behavioral patterns common among migratory waterfowl, such as site fidelity to wintering areas and pair formation at these sites, have existed for sufficient time to create a population structure defined by philopatry to wintering rather than to nesting locations. We used six nuclear microsatellite DNA loci and cytochrome b mitochondrial DNA sequence data to estimate the extent of spatial genetic differentiation among nesting and wintering areas of King Eiders across North America and adjacent regions. Estimates of interpopulation variance in microsatellite allele and mtDNA haplotype frequency were both low and nonsignificant based on samples from three wintering and four nesting areas. Results from nested clade analysis, mismatch distributions, and coalescent-based analyses suggest historical population growth and gene flow that collectively may have homogenized gene frequencies. The presence of several unique mtDNA haplotypes among birds wintering near Greenland suggests that gene flow may now be more limited between the western and eastern Arctic, which is consistent with banding data.

**URL:** <Go to ISI>://BCI200400372978

**Reference Type:**  Journal Article

**Record Number:** 705

**Author:** J. M. Pearce, D. Zwiefelhofer and N. Maryanski

**Year:** 2009

**Title:** Mechanisms of Population Heterogeneity among Molting Common Mergansers on Kodiak Island, Alaska: Implications for Genetic Assessments of Migratory Connectivity

**Journal:** Condor

**Volume:** 111

**Issue:** 2

**Pages:** 283-293

**Date:** May 2009

**Short Title:** Mechanisms of Population Heterogeneity among Molting Common Mergansers on Kodiak Island, Alaska: Implications for Genetic Assessments of Migratory Connectivity

**Accession Number:** BCI:BCI200900431859

**Keywords:** Common merganser; Mergus merganser; Population Delineation; Molt; Dispersal; Nonbreeding Seasons;

**Abstract:** Quantifying population genetic heterogeneity within nonbreeding aggregations can inform our understanding of patterns of site fidelity, migratory connectivity, and gene flow between breeding and nonbreeding areas. However, characterizing mechanisms that contribute to heterogeneity, such as migration and dispersal, is required before site fidelity and migratory connectivity can be assessed accurately. We studied nonbreeding groups of Common Mergansers (Mergus merganser) molting on Kodiak Island, Alaska, from 2005 to 2007, using banding data to assess rates of recapture, mitochondrial (mt) DNA to determine natal area, and nuclear microsatellite genotypes to assess dispersal. Using baseline information from differentiated mtDNA haplogroups across North America, we were able to assign individuals to natal regions and document: population genetic heterogeneity within and among molting groups. Band-recovery and DNA data suggest that both migration from and dispersal among natal areas contribute to admixed groups of males molting on Kodiak Island. A lack of differentiation in the Common Merganser's nuclear, bi-parentally inherited DNA, observed across North America, implies that dispersal can mislead genetic assessments of migratory connectivity and assignments of nonbreeding individuals to breeding areas. Thus multiple and independent data types are required to account for such behaviors before accurate assessments of migratory connectivity can be made.

**URL:** <Go to ISI>://BCI200900431859

**Reference Type:**  Journal Article

**Record Number:** 1676

**Author:** P. A. Pearce, D. B. Peakall and L. M. Reynolds

**Year:** 1979

**Title:** Shell Thinning and Residues of Organo Chlorines and Mercury in Sea Bird Eggs Eastern Canada 1970-1976

**Journal:** Pesticides Monitoring Journal

**Volume:** 13

**Issue:** 2

**Pages:** 61-68

**Short Title:** Shell Thinning and Residues of Organo Chlorines and Mercury in Sea Bird Eggs Eastern Canada 1970-1976

**Accession Number:** BCI:BCI198070034028

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Organochlorine and Hg concentrations are reported for 252 eggs of Leach's storm-petrel (Oceanodroma leucorhoa), double-crested cormorant (Phalacrocorax auritus), common eider (Somateria mollissima), common tern (Sterna hirundo), razorbill (Alca torda), common murre (Uria aalge), black guillemot (Cepphus grylle) and Atlantic puffin (Fratercula arctica) from the Bay of Fundy, the Gulf of St. Lawrence and the open Atlantic shore of Canada during 1970-1976. Concentrations of all organochlorines except DDE and polychlorinated biphenyls (PCB) were low. DDE, PCB and Hg residues were highest in cormorant and petrel, intermediate in alcids and lowest in eider and tern. Temporal and spatial aspects of contamination patterns are discussed. Only in cormorants were DDE residues high enough to cause, through eggshell thinning, local population declines.

**URL:** <Go to ISI>://BCI198070034028

**Reference Type:**  Journal Article

**Record Number:** 563

**Author:** P. A. Pearce, I. M. Price and L. M. Reynolds

**Year:** 1976

**Title:** Mercury in Waterfowl from Eastern Canada

**Journal:** Journal of Wildlife Management

**Volume:** 40

**Issue:** 4

**Pages:** 694-703

**Short Title:** Mercury in Waterfowl from Eastern Canada

**Accession Number:** BCI:BCI197763060179

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Nonbreeding Seasons;

**Abstract:** Average wet-weight concentrations of total Hg were 0.15 and 0.31 ppm in breast muscle of 146 dabbling (Anatinae) and 61 diving ducks (Aythyinae) from 21 sites in eastern Canada sampled prior to the 1970 hunting season and during the 1971 season. Concentrations exceeded 0.5 ppm in only a few samples, mostly taken near known industrial sources of Hg contamination. In 128 pooled samples of muscle from the wings of 1480 ducks harvested in 13 regions during the 1970 season, Hg concentration averaged 0.13 ppm in both dabblers and divers. A highly significant relationship between Hg levels in wing muscle and those in breast muscle was found in black ducks (Anas rubripes) and lesser scaups (Aythya affinis). Ducks collected in 1971 and 1972 from the Wabigoon-English River watershed in northwestern Ontario were very highly contaminated, extreme concentrations of 9.43, 9.10 and 14.7 ppm being noted in the breast muscle of the mallard (Anas platyrhynchos), blue-winged teal (A. discors), and common goldeneye (Bucephala clangula), respectively. There was a suggestion that ducks collected within 80 km of the industrial source of Hg at Dryden had higher residues than those collected farther downstream. Wabigoon-English River waterfowl-Hg levels declined as the hunting season progressed, possibly due to the influx of uncontaminated ducks from the west and north. [Concern that people who eat waterfowl might be exposed to high Hg levels prompted this study.].

**URL:** <Go to ISI>://BCI197763060179

**Reference Type:**  Journal Article

**Record Number:** 2192

**Author:** L. E. Peck, H. G. Gilchrist, C. D. Mallory, B. M. Braune and M. L. Mallory

**Year:** 2016

**Title:** Persistent organic pollutant and mercury concentrations in eggs of ground-nesting marine birds in the Canadian high Arctic

**Journal:** Science of the Total Environment

**Volume:** 556

**Pages:** 80-88

**Date:** Jun

**Short Title:** Persistent organic pollutant and mercury concentrations in eggs of ground-nesting marine birds in the Canadian high Arctic

**ISSN:** 0048-9697

**DOI:** 10.1016/j.scitotenv.2016.02.205

**Accession Number:** WOS:000373278700009

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** We collected eggs of eight marine bird species from several colony sites in the Canadian high Arctic located at approximately 76 degrees N and analyzed them for concentrations of legacy persistent organic pollutants (POPs) and mercury. We provide the first report on concentrations of POPs in eggs of three Arctic species (Thayer's gull Larus thayeri, Sabine's gull Xema sabini, Ross's Gull Rhodostethia rosea), and we found significant differences in each of the POP profiles among the five species with sufficient data for statistical comparisons (Thayer's gull, black guillemot Cepphus grylle, Sabine's gull, Arctic tern Sterna paradisaea and common eider Somateria mollissima borealis). The Ross's Gull had unexpectedly high POP concentrations relative to the other species examined, although this was based on a single egg, while glaucous gull Larus hyperboreus eggs from our sampling location had very low POPs. Sabine's gulls had the lowest Hg of the eggs studied, consistent with their low trophic position, but concentrations of their legacy POPs were higher than expected. We also noted that total hexachlorocyclohexanes were higher than reported elsewhere in the circumpolar Arctic in three species. (C) 2016 Elsevier B.V. All rights reserved.

**Notes:** Peck, Liam E. Gilchrist, H. Grant Mallory, Conor D. Braune, Birgit M. Mallory, Mark L.

**URL:** <Go to ISI>://WOS:000373278700009

**Reference Type:**  Journal Article

**Record Number:** 562

**Author:** D. G. Peden

**Year:** 1977

**Title:** Waterfowl Use of Exotic Wild Rice Habitat in Northern Saskatchewan

**Journal:** Canadian Field-Naturalist

**Volume:** 91

**Issue:** 3

**Pages:** 286-287

**Short Title:** Waterfowl Use of Exotic Wild Rice Habitat in Northern Saskatchewan

**Accession Number:** BCI:BCI197865032804

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The density of waterfowl populations in the boreal forests of Saskatchewan [Canada] is known to be much lower than that of the parklands and prairies to the south. A few widely scattered pockets of relatively high density, however, occur in areas such as the Saskatchewan River Delta. Surveys conducted during 1975 near La Ronge, Saskatchewan, suggest that planting of wild rice (Zizania aquatica) has created locally important high density waterfowl habitat. Even though the total area of wild rice is small, the majority of the waterfowl numbers 93% of 2795 sightings, occurred in wild rice habitat. Lesser scaup (Aythya affinis), goldeneye (Bucephala clangula) and mallard (Anas platyrhynchos), respectively, ranked as the 3 most common species. Either waterfowl are attracted directly to the wild rice or wild rice is adapted to the same habitat features that waterfowl select. If the 1st explanation is true, then abundance of waterfowl has likely increased with man's importation of wild rice. If the 2nd explanation is valid, waterfowl, especially lesser scaup and mallard, could be a useful indicator of potential sites for future wild rice seeding.

**URL:** <Go to ISI>://BCI197865032804

**Reference Type:**  Journal Article

**Record Number:** 927

**Author:** M. B. Pedersen

**Year:** 1988

**Title:** Spring Migration of Common Scoters across Southwest Jutland Denmark

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 82

**Issue:** 1-2

**Pages:** 51-53

**Short Title:** Spring Migration of Common Scoters across Southwest Jutland Denmark

**Accession Number:** BCI:BCI198886112050

**Keywords:** Black Scoter; Melanitta nigra; Migration; Nonbreeding Seasons;

**Abstract:** In the years 1985-87, regular counts of night-migrating Common Scoters were made during spring in Southwest Jutland. Spring migration across Jutland is more frequent than previously assumed. The peak is reached in the first half of April. The direction is towards NE. It is suggested that several thousand Common Scoters use this overland flyway, in order to reduce the distance to the breeding grounds in Fennoscandinavia and the Soviet Union [USSR].

**URL:** <Go to ISI>://BCI198886112050

**Reference Type:**  Journal Article

**Record Number:** 48

**Author:** H. Pehlak, A. Lohmus, A. Kuresoo and L. Luigujoe

**Year:** 2006

**Title:** Land-based census of wintering waterfowl: Reliability and conservation implications

**Journal:** Waterbirds

**Volume:** 29

**Issue:** 1

**Pages:** 76-80

**Date:** Mar 2006

**Short Title:** Land-based census of wintering waterfowl: Reliability and conservation implications

**Accession Number:** BCI:BCI200600374477

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Techniques; Nonbreeding Seasons;

**Abstract:** The International Waterbird Census (IWC) is one of the longest-running bird monitoring schemes in the Western Palearctic. Most of its data are collected with land-based counts, the reliability of which is largely unknown. This study compared estimates of land-based vs. aerial counts, and the relative conservation values of coastal sites obtained with the two methods. The data were collected in the West-Estonian archipelago of the Baltic Sea in 1993, and analyzed at two spatial scales (mean area of plots 9 and 36 km(2)). Among nine waterfowl species, land-based and aerial census provided closely correlated local population estimates for the Mute Swan (Cygnus olor), Steller's Eider (Polysticta stelleri), Long-tailed Duck (Clangula hyemalis) and, at the larger scale, for the Mallard (Anas platyrhynchos). However, small numbers of all species, except the swan, remained undetected with the land-based census, and numbers of Mallard and Steller's Eider were also systematically underestimated. The areas having the highest conservation value were reliably identified with the land-based census, particularly at the larger scale. Hence, land-based studies are in general accordance with the aims of the IWC, but the absolute population estimates should be interpreted with care.

**URL:** <Go to ISI>://BCI200600374477

**Reference Type:**  Journal Article

**Record Number:** 217

**Author:** O. Pehrsson

**Year:** 1965

**Title:** Studies of resting and wintering sea-fowl in the inner archipelago of southern Bohuslan Engl. summ.

**Journal:** Var Fagelvarld

**Volume:** 24

**Issue:** (2)

**Pages:** 107-132

**Short Title:** Studies of resting and wintering sea-fowl in the inner archipelago of southern Bohuslan Engl. summ.

**Accession Number:** BCI:BCI19664700080065

**Keywords:** Sea Ducks - General; Nonbreeding Seasons;

**Abstract:** The study area is situated 25 km north of Gothenburg and is composed of 2 adjacent parts [long dash] the Nordo area rich in islets and skerries and the shallow, shelving bay, called Odsmals kile. In the area 30 spp. of sea-birds in addition to gulls can be observed. Of these only 4 breed there. Somateria mollissima, Mergus serrator, Tadorna tadorna and Cygnus olor. In autumn, hundreds of Anas platyrhynchos rest in Odsmals kile during the day. In the late autumn the mallards obtain most of their food in submarine meadows of Zostera marina, and Chorda filum. Providing water-level is not too high they can easily reach the molluscs Rissoa and Hydrobia which live in great numbers on top of the plants. During the cold winter of 1963, however, the shallow Zostera meadows were ruined when the ice froze solid to the bottom and the birds lost their main source of subsistence. Exceptionally high water-level has been found to reduce the frequency of river ducks, Anas. Some male mallards molted on the open shallow water during June. Anas crecca is common on the shallowest water in autumn, and in spring it stays longer on this resting place than the mallard. Anas penelope hunts for food among the teals or in Zostera[long dash]Chorda meadows, where it can be seen pulling up eel-grass plants. Flocks of Aythya marila, A. fuligula, and a few A. ferina have no regular resting places in the area but stay for varying lengths of time on depths of from 1[long dash]2 m wherever the vegetation is abundant and rich in molluscs. In Oct. the 1st flocks of Bucephala clangula arrive, but they only occasionally rest here on their way towards the south-west. It is not until Nov. or Dec. that goldeneyes arrive here for their winter quarters. The birds are then usually found on particular favorite haunts, on depths of about 1-2 m, with vegetation of Ruppia and Zostera. In the spring following a long covering of ice the goldeneyes have their feeding stations on flat and bladder wrack, Fucus. In 1961, after a succession of mild winters, the waters froze as early as the middle of Dec. A thousand goldeneyes gathered on the reduced surface of the water in the Nordo area. Extensive shooting during the following month greatly reduced the number. This shooting in the province seems to have caused a great decrease of the goldeneye population during the subsequent cold winter. The breeding population of Somateria mollissima is increasing in the area. Before the eiders leave the inner archipelago in autumn, they feed on Mytilus communities on submerged rocks and shallows. An unsuccessful attack by a seal, Phoca vitulina, was observed. Families of Mergus serrator keep together until Nov. when courtship behavior is observed. This bird is a regular winterer, as is M. merganser. A few specimens of M. albellus are observed every winter. Tadorna tadorna leaves the area as soon as the young are ready to fly. In summer about 100 non-breeding Cygnus olor rest on shallow waters; the number fluctuates however, from day to day. In winter the number increases, but if the winter is severe the number again decreases and is exceeded by that of C. cygnus. The 1st whooper swans arrive at the end of Oct. Both spp. may appear in about 300 specimens. During both mild and cold winters the whooper swan seems to save energy by sleeping for long periods, while the mute swan is more restless in searching for food. This habit has certainly contributed to the fact that the whooper swan withstands the winter better than the mute swan. Flocks of about 40 Fulica atra have tried to winter in the area. They were feeding on Zostera meadows of between 1 and 3 m depth, from which they were observed to pull up the plants. Parts of the plants were consumed. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19664700080065

**Reference Type:**  Journal Article

**Record Number:** 1179

**Author:** O. Pehrsson

**Year:** 1973

**Title:** Chief Prey as a Factor Regulating Populations of Eider Somateria-Mollissima and Long-Tailed Duck Clangula-Hyemalis

**Journal:** Zoologisk Revy

**Volume:** 35

**Issue:** 2

**Pages:** 89-92

**Short Title:** Chief Prey as a Factor Regulating Populations of Eider Somateria-Mollissima and Long-Tailed Duck Clangula-Hyemalis

**Accession Number:** BCI:BCI197560007286

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Population Dynamics;

**URL:** <Go to ISI>://BCI197560007286

**Reference Type:**  Journal Article

**Record Number:** 1155

**Author:** O. Pehrsson

**Year:** 1986

**Title:** Duckling Production of the Oldsquaw in Relation to Spring Weather and Small-Rodent Fluctuations

**Journal:** Canadian Journal of Zoology

**Volume:** 64

**Issue:** 9

**Pages:** 1835-1841

**Short Title:** Duckling Production of the Oldsquaw in Relation to Spring Weather and Small-Rodent Fluctuations

**Accession Number:** BCI:BCI198783042174

**Keywords:** Long-tailed Duck; Clangula hyemalis; Productivity; Breeding Season;

**Abstract:** The duckling production of the Oldsquaw (Clangula hyemalis) was studied between 1969 and 1974 in Torne Lapmark in northern Sweden. The degrees of relationship among various indices of reproductive output, climatic factors, and fluctuations in small rodents were estimated. Total brood and duckling production were calculated. A correlation between first observations of broods and time of arival of spring indicated that the Oldsquaw breeds as early as possible, an adaptation to the utilization of ephemeral lakes. Peaks in duckling production correlated well with peaks in the abundance of small rodents but not as well with climatic variables. Twice as many ducklings were produced during the rodent peak years as during the intervening years, and the densities of the Oldsquaw population were highest the year after these peaks in brood production. The positive correlation between duckling production and population in size in small rodents seems to be analogous to grouse-rodent cycles, and both are best explained by the predator-shift or the alternative prey hypothesis.

**URL:** <Go to ISI>://BCI198783042174

**Reference Type:**  Journal Article

**Record Number:** 1150

**Author:** O. Pehrsson and K. G. K. Nystrom

**Year:** 1988

**Title:** Growth and Movements of Oldsquaw Ducklings in Relation to Food

**Journal:** Journal of Wildlife Management

**Volume:** 52

**Issue:** 2

**Pages:** 185-191

**Short Title:** Growth and Movements of Oldsquaw Ducklings in Relation to Food

**Accession Number:** BCI:BCI198886036550

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Dispersal; Breeding Season;

**Abstract:** In a study of oldsquaw (Clangula hyemalis) in northern Sweden from 1970 through 1974, we compared the growth rates of ducklings among years differing in brood and duckling, densities due to changing nest predation pressure. A new photographic method was used to estimate growth rates of wild ducklings. Growth rates were lower, distances traveled longer, and brood losses higher during a duckling peak year than during other years. The adverse effects on ducklings is attributed to the heavy exploitation of food resources by high numbers of ducklings released fom predation pressures when rodent populations provided an alternative source of prey for several predators. When suggest that small clutch size of oldsquaw is an adapation to a stable food resource early in the season, to unstable climate, and to predation pressure.

**URL:** <Go to ISI>://BCI198886036550

**Reference Type:**  Journal Article

**Record Number:** 1361

**Author:** D. Pelletier, M. Guillemette, J.-M. Grandbois and P. J. Butler

**Year:** 2007

**Title:** It is time to move: linking flight and foraging behaviour in a diving bird

**Journal:** Biology Letters

**Volume:** 3

**Issue:** 4

**Pages:** 357-359

**Date:** Aug 22 2007

**Short Title:** It is time to move: linking flight and foraging behaviour in a diving bird

**Accession Number:** BCI:BCI200800272831

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition;

**Abstract:** Although the adaptive value of flight may seem obvious, it is the most difficult behaviour of birds to monitor. Here, we describe a technique to quantify the frequency and the duration of flights over several months by implanting a data logger that records heart rate (f(H)), hydrostatic pressure (diving depth) and the body angle of a large sea duck species, the common eider (Somateria mollissima). According to the mean f(H) recorded during flight and the parameters recorded to identify the f(H) flight signature, we were able to identify all flights performed by 13 individuals during eight months. We cumulated local flight time (outside migrations) and found that activity occurs primarily during dawn and morning and that flying activities are strongly related to diving activities (Pearson's r=0.88, permutation test p < 0.001). This relationship was interpreted as a consequence of living in a dynamic environment where sea currents move the ducks away from the food patches. We believe that the technique described here will open new avenues of investigation in the adaptive value of flight.

**URL:** <Go to ISI>://BCI200800272831

**Reference Type:**  Journal Article

**Record Number:** 1342

**Author:** D. Pelletier, M. Guillemette, J.-M. Grandbois and P. J. Butler

**Year:** 2008

**Title:** To fly or not to fly: high flight costs in a large sea duck do not imply an expensive lifestyle

**Journal:** Proceedings of the Royal Society Biological Sciences Series B

**Volume:** 275

**Issue:** 1647

**Pages:** 2117-2124

**Date:** Sep 22 2008

**Short Title:** To fly or not to fly: high flight costs in a large sea duck do not imply an expensive lifestyle

**Accession Number:** BCI:BCI200800703478

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition;

**Abstract:** A perennial question in ornithology is whether flight has evolved mostly to facilitate access to food or as an anti-predator strategy. However, flight is an expensive mode of locomotion and species using flight regularly are associated with an expensive lifestyle. Using heart rate (HR) data loggers implanted in 13 female common eiders (Somateria mollissima), our objective was to test the hypothesis that a high level of flight activity increases their energy budget. We used the long-term recording (seven months) of HR as an index of energy expenditure and the HR flight signature to compile all flight events. Our results indicate that the eider is one of the thriftiest volant birds with only 10 minutes of flight time per day. Consequently, we were not able to detect any effect of flight activity on their energy budget despite very high flight costs (123-149 W), suggesting that flight was controlled by energy budget limitations. However, the low flight activity of that species may also be related to their prey landscape requiring few or no large-scale movements. Nevertheless, we suggest that the (fitness) benefits of keeping flight ability in this species exceed the costs by allowing a higher survival in relation to predation and environmental harshness.

**URL:** <Go to ISI>://BCI200800703478

**Reference Type:**  Journal Article

**Record Number:** 870

**Author:** H. W. Pelzl

**Year:** 1971

**Title:** Nest Parasitism by Red-Breasted Mergansers in Wisconsin

**Journal:** Auk

**Volume:** 88

**Issue:** 1

**Pages:** 184-185

**Short Title:** Nest Parasitism by Red-Breasted Mergansers in Wisconsin

**Accession Number:** BCI:BCI197107028359

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI197107028359

**Reference Type:**  Journal Article

**Record Number:** 10

**Author:** M. A. Penny, J. Saurina, I. Keller, L. Jenni, H. G. Bauer, W. Fiedler and J. Zinsstag

**Year:** 2010

**Title:** Transmission Dynamics of Highly Pathogenic Avian Influenza at Lake Constance (Europe) During the Outbreak of Winter 2005-2006

**Journal:** EcoHealth

**Volume:** 7

**Issue:** 3

**Pages:** 275-282

**Date:** Sep 2010

**Short Title:** Transmission Dynamics of Highly Pathogenic Avian Influenza at Lake Constance (Europe) During the Outbreak of Winter 2005-2006

**Accession Number:** BCI:BCI201100312161

**Keywords:** Sea Ducks - General; Disease; Nonbreeding Seasons;

**Abstract:** Highly pathogenic avian influenza virus (HPAI) H5N1 poses a serious threat to domestic animals. Despite the large number of studies on influenza A virus in waterbirds, little is still known about the transmission dynamics, including prevalence, behavior, and spread of these viruses in the wild waterbird population. From January to April 2006, the HPAI H5N1 virus was confirmed in 82 dead wild waterbirds at the shores of Lake Constance. In this study, we present simple mathematical models to examine this outbreak and to investigate the transmission dynamics of HPAI in wild waterbirds. The population dynamics model of wintering birds was best represented by a sinusoidal function. This model was considered the most adequate to represent the susceptible compartment of the SIR model. The three transmission models predict a basic reproduction ratio (R (0)) with value of approximately 1.6, indicating a small epidemic, which ended with the migration of susceptible wild waterbirds at the end of the winter. With this study, we quantify for the first time the transmission of HPAI H5N1 virus at Lake Constance during the outbreak of winter 2005-2006. It is a step toward the improvement of the knowledge of transmission of the virus among wild waterbirds.

**URL:** <Go to ISI>://BCI201100312161

**Reference Type:**  Journal Article

**Record Number:** 301

**Author:** N. Perfito, G. Schirato, M. Brown and J. C. Wingfield

**Year:** 2002

**Title:** Response to acute stress in the Harlequin Duck (Histrionicus histrionicus) during the breeding season and moult: Relationships to gender, condition, and life-history stage

**Journal:** Canadian Journal of Zoology

**Volume:** 80

**Issue:** 8

**Pages:** 1334-1343

**Date:** August, 2002

**Short Title:** Response to acute stress in the Harlequin Duck (Histrionicus histrionicus) during the breeding season and moult: Relationships to gender, condition, and life-history stage

**Accession Number:** BCI:BCI200200622289

**Keywords:** Harlequin duck; Histrionicus histrionicus; Physiology; Breeding Season; Nonbreeding Seasons;

**Abstract:** Seasonal adjustments and individual responses to environmental perturbations have been well characterized in many passerine species but similar studies in other groups of birds are sparse. Larger-bodied and longer-lived avian species have different life-history strategies and different energy-storage and -utilization patterns. We investigated the response to capture stress in male and female Harlequin Ducks (Histrionicus histrionicus) during the breeding season on montane rivers and during moult on coastal waterways of Washington State. Females arrived at the breeding grounds in better condition and had a smaller rise in circulating corticosterone during 1 h of restraint than males. As the breeding season progressed, body condition declined in females and their adrenocortical response to acute stress became more pronounced. A potentially disruptive environmental condition, high river flow during the breeding season, was not associated with lower nesting success, lower body condition indices, or higher corticosterone levels (baseline or maximum concentration). The maximum corticosterone concentration reached over 1 h of restraint was negatively correlated with body condition in females during the breeding season. Lastly, males and females had similar adrenocortical responses to capture and handling during moult. We relate differential responses to acute stress between males and females to different selective pressures during the breeding season.

**URL:** <Go to ISI>://BCI200200622289

**Reference Type:**  Journal Article

**Record Number:** 1936

**Author:** M. C. Perry

**Year:** 2012

**Title:** Foraging Behavior of Long-tailed Ducks in a Ferry Wake

**Journal:** Northeastern Naturalist

**Volume:** 19

**Issue:** 1

**Pages:** 135-139

**Short Title:** Foraging Behavior of Long-tailed Ducks in a Ferry Wake

**ISSN:** 1092-6194

**Accession Number:** WOS:000305920900012

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior; Nonbreeding Seasons

**Notes:** Times Cited: 1

Perry, Matthew C.

1

**URL:** <Go to ISI>://WOS:000305920900012

**Reference Type:**  Journal Article

**Record Number:** 189

**Author:** M. C. Perry, R. E. Munro and G. M. Haramis

**Year:** 1981

**Title:** 25 Year Trends in Diving Duck Populations in Chesapeake Bay USA

**Journal:** Transactions of the North American Wildlife and Natural Resources Conference

**Pages:** P299-310

**Short Title:** 25 Year Trends in Diving Duck Populations in Chesapeake Bay USA

**Accession Number:** BCI:BCI198222065779

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI198222065779

**Reference Type:**  Journal Article

**Record Number:** 1937

**Author:** J. L. Peters, K. A. Bolender and J. M. Pearce

**Year:** 2012

**Title:** Behavioural vs. molecular sources of conflict between nuclear and mitochondrial DNA: the role of male-biased dispersal in a Holarctic sea duck

**Journal:** Molecular Ecology

**Volume:** 21

**Issue:** 14

**Pages:** 3562-3575

**Date:** Jul

**Short Title:** Behavioural vs. molecular sources of conflict between nuclear and mitochondrial DNA: the role of male-biased dispersal in a Holarctic sea duck

**ISSN:** 0962-1083

**DOI:** 10.1111/j.1365-294X.2012.05612.x

**Accession Number:** WOS:000306087100016

**Keywords:** Common merganser; Mergus merganser; Population Delineation

**Notes:** Times Cited: 7

Peters, Jeffrey L. Bolender, Kimberly A. Pearce, John M.

Peters, Jeffrey/I-5116-2012

7

**URL:** <Go to ISI>://WOS:000306087100016

**Reference Type:**  Journal Article

**Record Number:** 99

**Author:** A. Petersen

**Year:** 2002

**Title:** Seabird bycatch in fishing gear in Iceland

**Journal:** Natturufraedingurinn

**Volume:** 71

**Issue:** 1-2

**Pages:** 52-61

**Short Title:** Seabird bycatch in fishing gear in Iceland

**Accession Number:** BCI:BCI200300461111

**Keywords:** Sea Ducks - General; Common Eider; Conservation;

**Abstract:** An overview is given of the issue of bycatch of seabirds in Icelandic waters, more detailed than presented earlier (see Aevar Petersen 1998a). A systematic survey has not been carried out of this mortality factor in the Icelandic fisheries in general. Representative data need to be compiled on, for instance, the bird species affected, the type of fishing gear involved, the spatial and temporal distribution of bycatch and, most importantly, whether incidental take in fishing gear affects the bird populations. Whatever the result, this is also an animal welfare issue, as drowning in nets or getting hooked cannot be seen as humane methods of killing birds. Furthermore, bycatch is to a large extent both wasteful and unnecessary. Icelandic environmental and fishery authorities have been urged to consider bycatch as a serious conservation problem. It is pointed out that FAO has issued a plan of action to reduce seabird bycatch in longline fisheries (FAO 1995, 1998, 1999). The Arctic Council working group CAFF (Conservation of Arctic Flora and Fauna) has considered bycatch a significant source of mortality in Arctic seabirds. In the North Atlantic bycatch in nets is considered more serious than longline (Bakken & Falk 1998). Assessing and reducing mortality of murres (Uria spp.) in commercial fishing gear is an action item of the International Murre Conservation Strategy and Action Plan (CAFF 1996), which all the Arctic countries have endorsed. Four surveys have been carried out on incidental take in individual bird species and the impact of this on their populations. All these surveys related only to Lumpsucker fishing nets and/or only a small part of the respective bird populations. Two of them dealt with the Black Guillemot Cepphus grylle (Aevar Petersen 1981, Frederiksen & Aevar Petersen 1999). The other two were aimed at the Common Eider Somateria mollissima, although one of these also included all other birds caught (Aevar Petersen & Jon Gudmundsson ms, Vilhjamur porsteinsson & Gudrun Marteinsdottir 1992). None of these surveys could show significant influences of bycatch on the respective bird populations. Other sources of information on the bycatch issue in Iceland include data from the Icelandic Bird Ringing Scheme (cf. Aevar Petersen 1998a) and the scientific bird skin collection, both at the Icelandic Institute of Natural History. Other sources are the sale (illegal) of bycaught birds at fish markets (cf. Aevar Petersen 1998a), official reports from the Lumpsucker fishery (not required any more) and incidental information from newspapers and other informal sources. Examples of incidental take are numerous in Iceland. Some of the most exceptional ones include 10000 alcids killed in 24 hours off Grimsey island in 1990. In April 2001 one fishing vessel caught 8000 alcids in nets in 24 hours in Faxafloi Bay. However, bycatch is very variable according to type of fishing gear, time of year and region. Probably the most important fishing gear in this respect are cod nets, Lumpsucker nets and longline, although various other gear has been registered in bird recoveries of the Icelandic Bird Ringing Scheme and in the scientific bird collection at the Icelandic Institute of Natural History. In 1997 as many as 70 thousand murres (mostly Common Murre Uria aalge) were estimated killed annually in nets, Common Murre being by far the most common species (Gudmundur A. Gudmundsson, Aevar Petersen & Arnpor Gardarsson 1997). Thousands if not tens of thousands Fulmars Fulmarus glacialis have been estimated killed in the Icelandic longline fishery (Dunn & Steel 2001). Somewhere between 100 and 200 thousand seabirds are estimated killed in fishing gear from the Icelandic fleet each year, possibly more. Altogether, 20 seabird species have been registered from fishing gear. It is suggested as a start that an overall status report of the bycatch issue in Icelandic waters be compiled. More concentrated studies are needed of (1) the alcids (especially Common Murre, Thick-billed Murre and Razorbill Alca torda), (2) Red-throated Loon Gavia stellata and Common Loon G. immer, (3) Great Cormorant Phalacrocorax carbo and Shag P. aristotelis, (4) continued research on Black Guillemot, (5) a repeated survey of Common Eiders, and (6) Fulmar. A compilation of mitigation measures with particular reference to Iceland is also required, leading to cooperation with the fishery industry in solving, or at least reducing, the bycatch problem in Icelandic fisheries.

**URL:** <Go to ISI>://BCI200300461111

**Reference Type:**  Journal Article

**Record Number:** 1219

**Author:** M. R. Petersen

**Year:** 1980

**Title:** Observations of Wing Feather Molt and Summer Feeding Ecology of Stellers Eiders Polysticta-Stelleri at Nelson Lagoon Alaska USA

**Journal:** Wildfowl

**Volume:** 31

**Pages:** 99-106

**Short Title:** Observations of Wing Feather Molt and Summer Feeding Ecology of Stellers Eiders Polysticta-Stelleri at Nelson Lagoon Alaska USA

**Accession Number:** BCI:BCI198171072075

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Molt; Trophic Interactions; Behavior; Nonbreeding Seasons;

**Abstract:** The population size, molt chronology, food habits and feeding behavior of Steller's eiders P. stelleri were studied at Nelson Lagoon, Alaska, from May-Oct. 1977. Sub-adults were flightless from late July to late Aug. and the adult males were flightless from late Aug. to mid Sept. Adult females were rarely flightless at Nelson Lagoon, but commonly flightless at Izembek Bay. Steller's eiders ate primarily bivalve mollusks and amphipod Crustacea, with Mytilus edulis and Anisogammarus pugettensis the most important foods. Eiders took Amphipoda prior to the wing feather molt, bivalves during the wing feather molt and both types of invertebrates after the wing feather molt. Steller's eiders fed primarily at low tide by diving (flock-feeding) or head-dipping, during the day and at night. There was no difference in feeding behavior between ages or sexes. Eiders fed almost exclusively by diving after the wing feather molt and apparently fed more as the season progressed.

**URL:** <Go to ISI>://BCI198171072075

**Reference Type:**  Journal Article

**Record Number:** 1218

**Author:** M. R. Petersen

**Year:** 1981

**Title:** Populations Feeding Ecology and Molt of Stellers Eiders Polysticta-Stelleri

**Journal:** Condor

**Volume:** 83

**Issue:** 3

**Pages:** 256-262

**Short Title:** Populations Feeding Ecology and Molt of Stellers Eiders Polysticta-Stelleri

**Accession Number:** BCI:BCI198273067243

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Molt; Behavior; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** The temporal and spatial distribution of Steller's eiders (P. stelleri) during molt along the north side of the Alaska Peninsula [USA] from Port Heiden to Bechevin Bay was considered. Subadult eiders molted primarily at Nelson Lagoon, adult males at Nelson Lagoon and Izembek Bay, and adult females primarily at Izembek Bay. Only a few eiders used Bechevin Bay, Seal islands and Port Heiden. Although the flightless period overlapped among different age and sex classes, subadults were flightless 1st, then adult males, and last, adult females. Eiders maintained spatial and temporal separation during the flightless period, thereby reducing competition for food resources. Eiders at Nelson Lagoon were observed feeding only by head-dipping during the pre-flightless period in 1979, a significant change from 1977 when they fed both by diving and dipping. During both 1977 and 1979 eiders foraged for approximately equal amounts of time during each stage of molt. Foods consisted primarily of bivalve mollusks and amphipods. These foods were consumed in different proportions before and after the wing-feather molt, with mussels being most important when eiders were growing remiges. Comparisons between the amount of energy in blue mussels (Mytilus edulis), clams (Macoma balthica) and gammarid amphipods showed that mussels yield the most energy per gram of whole wet weight. Apparently, Steller's eiders have adjusted to the increased energy demands of molt by eating invertebrates with high caloric content, rather than by increasing the amount of time feeding.

**URL:** <Go to ISI>://BCI198273067243

**Reference Type:**  Journal Article

**Record Number:** 1660

**Author:** M. R. Petersen

**Year:** 1982

**Title:** Predation on Sea Birds by Red Foxes Vulpes-Fulva at Shaiak Island Alaska USA

**Journal:** Canadian Field-Naturalist

**Volume:** 96

**Issue:** 1

**Pages:** 41-45

**Short Title:** Predation on Sea Birds by Red Foxes Vulpes-Fulva at Shaiak Island Alaska USA

**Accession Number:** BCI:BCI198375047894

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** Two red foxes (V. fulva) that invaded Shaiak Island before the 1976 nesting season had a marked impact on the nesting success of 5 of 7 spp. of seabirds breeding on the island that year. Common eiders (Somateria mollissima), glaucous-winged gulls (Larus glaucescens) and common murres (Uria aalge), that nest in areas accessible to foxes, did not raise any young to fledging. Double-crested cormorants (Phalacrocorax auritus) were only slightly more successful; 13 (4.3%) of 300 pairs raised 1 or more young to fledging. Evidence suggested that 21 (35.6%) of 62 pairs of tufted puffins (Lunda cirrhata) lost eggs or chicks to foxes, and foxes killed at least 13 (8.3%) of 156 adult puffins on 10 sample plots. Conversely, black-legged kittiwakes (Rissa tridactyla) and pelagic cormorants (Phalacrocorax pelagicus), which nested primarily on cliffs inaccessible to foxes, lost very few nests. There was no apparent change in general nest site selections by seabirds the following year, when foxes were no longer present. Any avoidance by birds of areas vulnerable to fox predation would probably be discernible only after several years of continuous predation.

**URL:** <Go to ISI>://BCI198375047894

**Reference Type:**  Journal Article

**Record Number:** 2348

**Author:** M. R. Petersen, J. Barry Grand and Christian P. Dau

**Year:** 2000

**Title:** Spectacled Eider (Somateria fischeri)

**Journal:** The Birds of North America

**Short Title:** Spectacled Eider (Somateria fischeri)

**Keywords:** Spectacled Eider; Somateria fischeri

**Reference Type:**  Journal Article

**Record Number:** 1319

**Author:** M. R. Petersen

**Year:** 2009

**Title:** Multiple Spring Migration Strategies in a Population of Pacific Common Eiders

**Journal:** Condor

**Volume:** 111

**Issue:** 1

**Pages:** 59-70

**Date:** Feb 2009

**Short Title:** Multiple Spring Migration Strategies in a Population of Pacific Common Eiders

**Accession Number:** BCI:BCI200900240915

**Keywords:** Common Eider; Somateria mollissima; Migration; Nonbreeding Seasons; SDJV funded

**Abstract:** Spring migration strategies vary within and among species. Examination of this variability extends our understanding of life histories and has implications for conservation. I used satellite transmitters to determine migration strategies and evaluate factors influencing the timing of spring migration of Pacific Common Eiders (Somateria mollissima v-nigrum) that nest along the western Beaufort Sea coast. Adult females were marked at nesting colonies in the summers of 2000, 2001, and 2003, and were followed throughout spring migration the following year. Each year approximately equal proportions of eiders used three distinct migration strategies varying in duration, staging locations (waters near the Chukotka Peninsula, Russia, and the Chukchi and Beaufort seas, Alaska), and arrival dates at the nesting areas. It is unlikely that differences in the timing of movements to stopover sites in the Chukchi and Beaufort seas were a result of responses to changes in weather, particularly wind direction. Ice distribution and melt/movement patterns vary substantially among staging areas and thus may affect risk of starvation and reproductive potential. Long-term (decadal) changes in climate may favor birds using one strategy during "warmer" and another during "colder" years.

**URL:** <Go to ISI>://BCI200900240915

**Reference Type:**  Journal Article

**Record Number:** 1192

**Author:** M. R. Petersen, J. O. Bustnes and G. H. Systad

**Year:** 2006

**Title:** Breeding and moulting locations and migration patterns of the Atlantic population of Steller's eiders Polysticta stelleri as determined from satellite telemetry

**Journal:** Journal of Avian Biology

**Volume:** 37

**Issue:** 1

**Pages:** 58-68

**Date:** Jan 2006

**Short Title:** Breeding and moulting locations and migration patterns of the Atlantic population of Steller's eiders Polysticta stelleri as determined from satellite telemetry

**Accession Number:** BCI:BCI200600258104

**Keywords:** Steller's eider; Polysticta stelleri; Migration; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** This study was designed to determine the spring, summer, autumn, and early winter distribution, migration routes, and timing of migration of the Atlantic population of Steller's eiders Polysticta stelleri. Satellite transmitters were implanted in 20 eiders captured in April 2001 at Vadso, Norway, and their locations were determined from 5 May 2001 to 6 February 2002. Regions where birds concentrated from spring until returning to wintering areas included coastal waters from western Finnmark, Norway, to the eastern Taymyr Peninsula, Russia. Novaya Zemlya, Russia, particularly the Mollera Bay region, was used extensively during spring staging, moult, and autumn staging; regions of the Kola, Kanin, and Gydanskiy peninsulas, Russia, were used extensively during spring and moult migrations. Steller's ciders migrated across the Barents and Kara seas and along the Kara Sea and Kola Peninsula coastal waters to nesting, moulting, and wintering areas. The majority of marked eiders (9 of 15) were flightless in near-shore waters along the west side of Novaya Zemlya. Eiders were also flightless in northern Norway and along the Kanin and at Kola Peninsula coasts. We compare and contrast natural history characteristics of the Atlantic and Pacific populations and discuss evolutionary and ecological factors influencing their distribution.

**URL:** <Go to ISI>://BCI200600258104

**Reference Type:**  Journal Article

**Record Number:** 2193

**Author:** M. R. Petersen, G. V. Byrd, S. A. Sonsthagen and M. G. Sexson

**Year:** 2015

**Title:** Re-colonization by common eiders Somateria mollissima in the Aleutian Archipelago following removal of introduced arctic foxes Vulpes lagopus

**Journal:** Journal of Avian Biology

**Volume:** 46

**Issue:** 5

**Pages:** 538-549

**Date:** Sep

**Short Title:** Re-colonization by common eiders Somateria mollissima in the Aleutian Archipelago following removal of introduced arctic foxes Vulpes lagopus

**ISSN:** 0908-8857

**DOI:** 10.1111/jav.00626

**Accession Number:** WOS:000363732600012

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Population Delineation; Taxonomy; Dispersal; SDJV funded

**Abstract:** Islands provide refuges for populations of many species where they find safety from predators, but the introduction of predators frequently results in elimination or dramatic reductions in island-dwelling organisms. When predators are removed, re-colonization for some species occurs naturally, and inter-island phylogeographic relationships and current movement patterns can illuminate processes of colonization. We studied a case of re-colonization of common eiders Somateria mollissima following removal of introduced arctic foxes Vulpes lagopus in the Aleutian Archipelago, Alaska. We expected common eiders to resume nesting on islands cleared of foxes and to re-colonize from nearby islets, islands, and island groups. We thus expected common eiders to show limited genetic structure indicative of extensive mixing among island populations. Satellite telemetry was used to record current movement patterns of female common eiders from six islands across three island groups. We collected genetic data from these and other nesting common eiders at 14 microsatellite loci and the mitochondrial DNA control region to examine population genetic structure, historical fluctuations in population demography, and gene flow. Our results suggest recent interchange among islands. Analysis of microsatellite data supports satellite telemetry data of increased dispersal of common eiders to nearby areas and little between island groups. Although evidence from mtDNA is suggestive of female dispersal among island groups, gene flow is insufficient to account for recolonization and rapid population growth. Instead, near-by remnant populations of common eiders contributed substantially to population expansion, without which re-colonization would have likely occurred at a much lower rate. Genetic and morphometric data of common eiders within one island group two and three decades after re-colonization suggests reduced movement of eiders among islands and little movement between island groups after populations were re-established. We predict that re-colonization of an island group where all common eiders are extirpated could take decades.

**Notes:** Petersen, Margaret R. Byrd, G. Vernon Sonsthagen, Sarah A. Sexson, Matthew G.

**URL:** <Go to ISI>://WOS:000363732600012

**Reference Type:**  Journal Article

**Record Number:** 1238

**Author:** M. R. Petersen and D. C. Douglas

**Year:** 2004

**Title:** Winter ecology of Spectacled Eiders: Environmental characteristics and population change

**Journal:** Condor

**Volume:** 106

**Issue:** 1

**Pages:** 79-94

**Date:** February 2004

**Short Title:** Winter ecology of Spectacled Eiders: Environmental characteristics and population change

**Accession Number:** BCI:BCI200400156459

**Keywords:** Spectacled Eider; Somateria fischeri; Habitat; Abundance, Distribution, and Trends; Population Dynamics; Nonbreeding Seasons;

**Abstract:** We described characteristics of the wintering area used by Spectacled Eiders (Somateria fischeri) in the Bering Sea, Alaska, and evaluated these characteristics in relation to long-term population trends. Remoteness, limited daylight, and extreme weather conditions precluded direct observations, so we derived the location of the wintering area from satellite telemetry, ice conditions from remotely sensed data, weather conditions from archived data sets, and benthic communities from the literature. Based on analyses of two indices spanning 1957-2002 and 1988-2002, we identified no single environmental parameter that explained the precipitous decline in nesting populations in western Alaska. In general, we found that the number of days with extreme sea ice in winter, extreme winds, and winds in spring explained the greatest variability in annual indices. These analyses support the conclusion that annual population estimates on the breeding grounds can be negatively impacted by extended periods of dense sea-ice concentration and weather during the previous winter. Examination of population indices did not support the hypothesis that changes in benthic community on the wintering grounds have contributed to the decline or inhibited the recovery of the Spectacled Eider breeding population in western Alaska.

**URL:** <Go to ISI>://BCI200400156459

**Reference Type:**  Journal Article

**Record Number:** 1262

**Author:** M. R. Petersen, D. C. Douglas and D. M. Mulcahy

**Year:** 1995

**Title:** Use of implanted satellite transmitters to locate spectacled eiders at-sea

**Journal:** Condor

**Volume:** 97

**Issue:** 1

**Pages:** 276-278

**Short Title:** Use of implanted satellite transmitters to locate spectacled eiders at-sea

**Accession Number:** BCI:BCI199598183798

**Keywords:** Spectacled Eider; Somateria fischeri; Techniques; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199598183798

**Reference Type:**  Journal Article

**Record Number:** 1938

**Author:** M. R. Petersen, D. C. Douglas, H. M. Wilson and S. E. McCloskey

**Year:** 2012

**Title:** EFFECTS OF SEA ICE ON WINTER SITE FIDELITY OF PACIFIC COMMON EIDERS (SOMATERIA MOLLISSIMA V-NIGRUM)

**Journal:** Auk

**Volume:** 129

**Issue:** 3

**Pages:** 399-408

**Date:** Jul

**Short Title:** EFFECTS OF SEA ICE ON WINTER SITE FIDELITY OF PACIFIC COMMON EIDERS (SOMATERIA MOLLISSIMA V-NIGRUM)

**ISSN:** 0004-8038

**DOI:** 10.1525/auk.2012.11256

**Accession Number:** WOS:000307429600004

**Keywords:** Common eider; Somateria mollissima; Dispersal; habitat; Nonbreeding Seasons

**Notes:** Times Cited: 2

Petersen, Margaret R. Douglas, David C. Wilson, Heather M. McCloskey, Sarah E.

2

**URL:** <Go to ISI>://WOS:000307429600004

**Reference Type:**  Journal Article

**Record Number:** 1470

**Author:** M. R. Petersen and P. L. Flint

**Year:** 2002

**Title:** Population structure of Pacific Common Eiders breeding in Alaska

**Journal:** Condor

**Volume:** 104

**Issue:** 4

**Pages:** 780-787

**Date:** November 2002

**Short Title:** Population structure of Pacific Common Eiders breeding in Alaska

**Accession Number:** BCI:BCI200300011134

**Keywords:** Common Eider; Somateria mollissima; Population Delineation; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** We used satellite telemetry to study the migration routes and wintering areas of two allopatric breeding populations of Pacific Common Eiders (Somateria mollissima vnigrum) in Alaska: the Yukon-Kuskokwim Delta, and the western Beaufort Sea coast. Only 6% (2 of 36) of females wintered within the wintering area of the other breeding population. Both breeding populations wintered in the closest available ice-free habitat, perhaps to minimize migratory distance. Two Beaufort Sea females wintered in areas used by Yukon-Kuskokwim Delta females, implying potential gene flow among breeding areas. Yet, we conclude that these two populations are largely geographically isolated throughout the annual cycle and the environmental factors influencing survival and reproduction likely differ between these groups of birds. Thus, regardless of the potential gene flow among breeding populations, we suggest that birds from these two breeding areas should be managed as separate populations.

**URL:** <Go to ISI>://BCI200300011134

**Reference Type:**  Journal Article

**Record Number:** 1246

**Author:** M. R. Petersen, J. B. Grand and C. P. Dau

**Year:** 2000

**Title:** Spectacled eider: Somateria fischeri

**Journal:** Birds of North America

**Issue:** 547

**Pages:** 1-24

**Short Title:** Spectacled eider: Somateria fischeri

**Accession Number:** BCI:BCI200100242897

**Keywords:** Spectacled Eider; Somateria fischeri; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200100242897

**Reference Type:**  Journal Article

**Record Number:** 1250

**Author:** M. R. Petersen, W. W. Larned and D. C. Douglas

**Year:** 1999

**Title:** At-sea distribution of Spectacled Eiders: A 120-year-old mystery resolved

**Journal:** Auk

**Volume:** 116

**Issue:** 4

**Pages:** 1009-1020

**Date:** Oct., 1999

**Short Title:** At-sea distribution of Spectacled Eiders: A 120-year-old mystery resolved

**Accession Number:** BCI:BCI200000022786

**Keywords:** Spectacled Eider; Somateria fischeri; Abundance, Distribution, and Trends; Population Delineation; Molt; Migration; Breeding Season; Nonbreeding Seasons;

**Abstract:** The at-sea distribution of the threatened Spectacled Eider (Somateria fischeri) has remained largely undocumented. We identified migration corridors, staging and molting areas, and wintering areas of adult Spectacled Eiders using implanted satellite transmitters in birds from each of the three extant breeding grounds (North Slope and Yukon-Kuskokwim Delta in Alaska and arctic Russia). Based on transmitter locations, we conducted aerial surveys to provide visual confirmation of eider flocks and to estimate numbers of birds. We identified two principal molting and staging areas off coastal Alaska (Ledyard Bay and eastern Norton Sound) and two off coastal Russia (Mechigmenskiy Bay on the eastern Chukotka Peninsula, and the area between the Indigirka and Kolyma deltas in the Republic of Sakha). We estimated that >10,000 birds molt and stage in monospecific flocks at Mechigmenskiy and Ledyard bays, and several thousand molt and stage in eastern Norton Sound. We further identified eastern Norton Sound as the principal molting and staging area for females nesting on the Yukon-Kuskokwim Delta, and Ledyard Bay and Mechigmenskiy Bay as the principal molting and staging areas for females nesting on the North Slope. Males marked at all three breeding grounds molt and stage in Mechigmenskiy Bay, Ledyard Bay, and the Indigirka-Kolyma delta region. Males from the Yukon-Kuskokwim Delta molt and stage mainly at Mechigmenskiy Bay. Equal numbers of males from the North Slope molt and stage at all three areas, and most males from arctic Russia molt and stage at the Indigirka-Kolyma delta region. Postbreeding migration corridors were offshore in the Bering, Chukchi, and Beaufort seas. In winter, eiders were in the Bering Sea south of St. Lawrence Island. Our estimates from surveys in late winter and early spring suggest that at least 333,000 birds winter in single-species flocks in the pack ice in the Bering Sea.

**URL:** <Go to ISI>://BCI200000022786

**Reference Type:**  Journal Article

**Record Number:** 1122

**Author:** M. R. Petersen, B. J. McCaffery and P. L. Flint

**Year:** 2003

**Title:** Post-breeding distribution of Long-tailed Ducks Clangula hyemalis from the Yukon-Kuskokwim Delta, Alaska

**Journal:** Wildfowl

**Volume:** 54

**Pages:** 103-113

**Short Title:** Post-breeding distribution of Long-tailed Ducks Clangula hyemalis from the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200400435136

**Keywords:** Long-tailed Duck; Clangula hyemalis; Dispersal; Population Delineation; Molt; Nonbreeding Seasons;

**Abstract:** Breeding populations of Long-tailed Ducks Clangula hyemalis have declined in western Alaska, particularly on the Yukon-Kuskokwim (Y-K) Delta, and the species is currently considered a species of particular concern by the U.S. Fish & Wildlife Service in Alaska. Potential factors that may have contributed to this decline that occurred away from the breeding grounds could not be considered since moulting and wintering areas for this population were unknown. A study was conducted in 1998 and 1999 to locate the moulting and wintering areas of the Y-K Delta breeding population. VHF and satellite transmitters were deployed to identify areas used by moulting birds. Based on the locations identified by satellite telemetry, aerial surveys were flown to locate birds marked with VHF transmitters, then low-level aerial surveys were designed and conducted to determine the number of birds using these and adjacent areas. Moulting locations of 54 marked female Long-tailed Ducks were identified: 13 marked females were found in wetlands and large lakes on the Y-K Delta, 11 in coastal lagoons at St Lawrence Island, Alaska, and two along the coast of the Chukotka Peninsula, Russia. A autumn staging area was identified along the east coast of the Chukotka Peninsula which was used by seven of 10 birds with satellite transmitters providing locations during that period. Birds wintered in coastal waters of the North Pacific Ocean north of 50degreeN and between 150degreeE and 130degreeW. The wide distribution of birds in winter suggests little probability of a single factor in winter contributing to the decline.

**URL:** <Go to ISI>://BCI200400435136

**Reference Type:**  Journal Article

**Record Number:** 1249

**Author:** M. R. Petersen, J. F. Piatt and K. A. Trust

**Year:** 1999

**Title:** Foods of Spectacled Eiders Somateria fischeri in the Bering Sea, Alaska

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 124-128

**Short Title:** Foods of Spectacled Eiders Somateria fischeri in the Bering Sea, Alaska

**Accession Number:** BCI:BCI199900301308

**Keywords:** Spectacled Eider; Somateria fischeri; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The winter diet of Spectacled Eiders living in marine habitats is known only from two individuals described by Cottam (1939). Here we examine marine diets from 36 stomachs collected near St. Lawrence Island, Bering Sea, Alaska, during May-June in 1987 and 1992. All Spectacled Eiders ate Mollusca, including Gastropoda (snails; frequency of occurrence 20.0%; sole taxon 0.0%) and Bivalvia (bivalves; 80.0%; 48.0%), and Crustacea (barnacles, amphipods and crabs; 30.6%; 0.0%). One bird ate a cod. The predominant species group eaten was Macoma Clams (72.0%; 36.0%). Prey species of Spectacled Eiders occur predominantly in waters 25-60 m deep in the Bering Sea. To obtain these prey, especially the bivalves, on the winter area Spectacled Eiders must forage in waters exceeding 40 m. We speculate that Spectacled Eiders regularly forage at depths of 45-70 m throughout winter.

**URL:** <Go to ISI>://BCI199900301308

**Reference Type:**  Book

**Record Number:** 2368

**Author:** M. R. a. J.-P. L. S. Petersen

**Year:** 2015

**Title:** Variation in migration strategies of North American sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 267-304

**Short Title:** Variation in migration strategies of North American sea ducks

**Keywords:** Migration; Molt; Behavior; Energetics and Nutrition

**Abstract:** Migration exerts strong effects on population dynamics, so consideration of migration as a driver of population change is an important area of inquiry. Sea ducks (Mergini) exemplify the wide range in types of migration strategies, which become more variable with the addition of a third migration to distinct molting areas. We discuss the three migrations, summer, fall, and molt, and emphasize similarities and differences within and among species. For each migration, we focus on timing, routes and stopover sites, nutrient reserve acquisition, stopover behavior, flight behavior, interannual constancy at stopover sites, and variation among sexes and ages. Last, we describe individual variation of annual flight paths, discuss inter- and intra-annual fidelity at stopover sites, examine the role of the environment on migration paths, and evaluate variability and limitations of speed and duration of migration.

**Reference Type:**  Journal Article

**Record Number:** 618

**Author:** B. Peterson and G. Gauthier

**Year:** 1985

**Title:** Nest Site Use by Cavity-Nesting Birds of the Cariboo Parkland British-Columbia Canada

**Journal:** Wilson Bulletin

**Volume:** 97

**Issue:** 3

**Pages:** 319-331

**Short Title:** Nest Site Use by Cavity-Nesting Birds of the Cariboo Parkland British-Columbia Canada

**Accession Number:** BCI:BCI198681012240

**Keywords:** Bufflehead; Bucephala albeola; Habitat; Breeding Season;

**Abstract:** We studied nest site use by 6 species of cavity nesters in southcentral British Columbia. Discriminant function analysis was performed using nest site characteristics that differed significantly among 4 species (European Starlings, Sturnus vulgaris; Tree Swallows, Tachycineta bicolor; Northern Flickers, Colaptes auratus; and Buffleheads, Bucephala albeola). Cavity volume and, to a lesser extent, entrance area were the most important variables characterizing nest sites. Habitat variables were relatively unimportant except for canopy height, which also explained a significant amount of the variance. The analysis correctly classified only 62% of the cases, reflecting the high overlap in cavity use, especially between Buffleheads and starlings. We tested the prediction of Erskine and McLaren (1976) that competition for nest sites would increase in this community following its invasion by starlings 30 years ago by comparing nest site characteristics found in this study with similar data collected in 1959. Swallows now use significantly smaller cavities, bluebirds tend to use smaller bud deeper cavities, and all species use cavities with a smaller entrance area. It is not clear, however, if these changes resulted from an intensification of competition or from a change in the resource available.

**URL:** <Go to ISI>://BCI198681012240

**Reference Type:**  Journal Article

**Record Number:** 1174

**Author:** S. R. Peterson

**Year:** 1976

**Title:** Variation in Oldsquaw Rectrix Numbers

**Journal:** Auk

**Volume:** 93

**Issue:** 1

**Pages:** 190-192

**Short Title:** Variation in Oldsquaw Rectrix Numbers

**Accession Number:** BCI:BCI197612070766

**Keywords:** Long-tailed Duck; Clangula hyemalis; Molt;

**URL:** <Go to ISI>://BCI197612070766

**Reference Type:**  Journal Article

**Record Number:** 1176

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1975

**Title:** Incidence of Body Shot in Lake Michigan Oldsquaws

**Journal:** Journal of Wildlife Management

**Volume:** 39

**Issue:** 1

**Pages:** 217-219

**Short Title:** Incidence of Body Shot in Lake Michigan Oldsquaws

**Accession Number:** BCI:BCI197661065874

**Keywords:** Long-tailed Duck; Clangula hyemalis; Conservation; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197661065874

**Reference Type:**  Journal Article

**Record Number:** 1173

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1976

**Title:** Total Mercury Residues in Livers and Eggs of Oldsquaws

**Journal:** Journal of Wildlife Management

**Volume:** 40

**Issue:** 4

**Pages:** 704-709

**Short Title:** Total Mercury Residues in Livers and Eggs of Oldsquaws

**Accession Number:** BCI:BCI197763060113

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons; Breeding Season;

**Abstract:** Total Hg was determined in 99 oldsquaw (Clangula hyemalis) livers and 11 composite clutches collected on Lake Michigan and in northwest Hudson Bay. Residue levels were similar in different sex and age-classes collected during the same time period on Lake Michigan. Hg levels were higher in oldsquaws collected in Hudson Bay than in those taken on Lake Michigan. Residues in the hen and clutch were positively correlated. Hg in duckling livers was negatively correlated with the weight of the liver.

**URL:** <Go to ISI>://BCI197763060113

**Reference Type:**  Journal Article

**Record Number:** 1170

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1977

**Title:** Food Habits of Oldsquaws Wintering on Lake Michigan Michigan USA

**Journal:** Wilson Bulletin

**Volume:** 89

**Issue:** 1

**Pages:** 81-91

**Short Title:** Food Habits of Oldsquaws Wintering on Lake Michigan Michigan USA

**Accession Number:** BCI:BCI197764019669

**Keywords:** Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The food habits of oldsquaws wintering on Lake Michigan [Michigan, USA] were examined from material collected in 2 periods: 1951-1954 and 1969-1972. Grit averaged 25% of total contents in the earlier sample, and 90% of all grit was sand. Animal food constituted about 99% by volume of the food organisms present in the 1951-1954 sample. The principal food item was an amphipod Pontoporeia affinis which occurred in 52-96% of the earlier sample and in 88-95% of the 1969-1972 sample. Clams occurred frequently in both samples but the volume ingested was relatively low. The occurrence of fish and fish eggs in the diet varied with the locality and individual flocks. Oldsquaws are related to the coregonid fishery in Lake Michigan through the common food organism P. affinis. Oldsquaws will also eat fish eggs when available. The decline in oldsquaw carcass lipids during the winter may be related to a decrease in the volume of food ingested during that period, but a rise in the volume of ingested food during early spring does not appear to be associated with a premigratory increase in lipid deposition. Oldsquaws apparently decrease their feeding activity just prior to migration and do not resume heavy feeding while on spring migration.

**URL:** <Go to ISI>://BCI197764019669

**Reference Type:**  Journal Article

**Record Number:** 1168

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1978

**Title:** Bursae Reproductive Structures and Scapular Color in Wintering Female Oldsquaws

**Journal:** Auk

**Volume:** 95

**Issue:** 1

**Pages:** 115-121

**Short Title:** Bursae Reproductive Structures and Scapular Color in Wintering Female Oldsquaws

**Accession Number:** BCI:BCI197866007056

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Nonbreeding Seasons;

**Abstract:** Female oldsquaws [Clangula hyemalis] were collected on Lake Michigan [USA] between Dec. and May 1951-55 and 1969-73. Measurements taken on bursae, ovaries and oviducts were related to age class and scapular color. Bursae were significantly deeper in juveniles than in adults, and the adult females with gray scapulars had significantly deeper bursae than adult females with brown scapulars. Juvenile female ovaries were smaller than adult ovaries throughout the winter and spring and did not enlarge significantly in the spring as did the adult female ovaries. Oviduct weights were significantly different in immature females, gray-scapulared adult females and brown-scapulared adult females. The data support behavioral evidence that oldsquaws do not reach sexual maturity their 1st yr. Gray scapulars in adults are indicative of a nonbreeding subadult cohort.

**URL:** <Go to ISI>://BCI197866007056

**Reference Type:**  Journal Article

**Record Number:** 1169

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1978

**Title:** P P Dde Poly Chlorinated Bi Phenyls and Endrin in Oldsquaws in North America 1969-1973

**Journal:** Pesticides Monitoring Journal

**Volume:** 11

**Issue:** 4

**Pages:** 170-181

**Short Title:** P P Dde Poly Chlorinated Bi Phenyls and Endrin in Oldsquaws in North America 1969-1973

**Accession Number:** BCI:BCI197967006064

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons;

**Abstract:** Organochlorinated compounds were monitored in oldsquaws (Clangula hyemalis) and their food [almost entirely Pontoporeia affinis] from Lake Michigan between October and May, 1969-72; in adult oldsquaws, eggs, young and food from northwest Hudson Bay in 1971; and in oldsquaws from 5 wintering areas other than Lake Michigan in 1971-73. Analyses were conducted on 300 carcasses, 14 wings, 29 gullet samples and 11 clutches. Average residues in carcasses from Lake Michigan ranged from 4-107 ppm PCB [polychlorinated biphenyls], 2 to 42 ppm DDE, and < 0.1-0.7 ppm endrin. Differences in DDE levels occurred between several sex and age classes during Dec. on Lake Michigan; these differences were not apparent in the spring. Increases in DDE and PCB residues for oldsquaws occurred on Lake Michigan between Dec. and May. DDE residues in the wing and carcass were significantly correlated. Residues were relatively low in oldsquaw foods from Lake Michigan; concentration factors between the food and the ducks varied between 1 .times. 22 .times., depending on the date and compound. Organochlorinated residues were lower in Arctic than in Lake Michigan food samples. DDE in paired male and female oldsquaws was highly correlated, as was DDE in females and clutches. Eggshell thickness had declined 4.5% compared with eggs collected before 1947. Residues were highest in oldsquaws wintering on the Great Lakes and lowest in oldsquaws from coastal areas.

**URL:** <Go to ISI>://BCI197967006064

**Reference Type:**  Journal Article

**Record Number:** 1165

**Author:** S. R. Peterson and R. S. Ellarson

**Year:** 1979

**Title:** Changes in Oldsquaw Clangula-Hyemalis Carcass Weight

**Journal:** Wilson Bulletin

**Volume:** 91

**Issue:** 2

**Pages:** 288-300

**Short Title:** Changes in Oldsquaw Clangula-Hyemalis Carcass Weight

**Accession Number:** BCI:BCI198069014822

**Keywords:** Long-tailed Duck; Clangula hyemalis; Energetics and Nutrition; Breeding Season; Nonbreeding Seasons;

**Abstract:** Oldsquaws were collected from commercial fishing gear between Dec. and May on Lake Michigan and in the Arctic during the breeding season. Carcasses were analyzed for lipids, moisture and dry weight content. Males were heavier than females in the same age class, and matures were heavier than juveniles in the same sex class, but differences were not always significant within a particular month. Carcass weights varied seasonally; the heaviest weights were recorded in Jan. and May and the lightest birds were found in April and late summer. During the summer, adult females steadily lost weight from the time they arrived on the breeding grounds in early June until the eggs hatched in early Aug. During the winter and spring, changes in the carcass weight and the component fractions varied together in the different age and sex classes. Trends in the lipid and dry weight fractions were similar to those exhibited in carcass weights, but the moisture fraction generally varied opposite to lipids and dry weight. Most seasonal variability in carcass weight could be accounted for by changes in the lipid fraction.

**URL:** <Go to ISI>://BCI198069014822

**Reference Type:**  Journal Article

**Record Number:** 592

**Author:** S. A. Petrie and R. W. Knapton

**Year:** 1999

**Title:** Rapid increase and subsequent decline of zebra and quagga mussels in Long Point Bay, Lake Erie: Possible influence of waterfowl predation

**Journal:** Journal of Great Lakes Research

**Volume:** 25

**Issue:** 4

**Pages:** 772-782

**Short Title:** Rapid increase and subsequent decline of zebra and quagga mussels in Long Point Bay, Lake Erie: Possible influence of waterfowl predation

**Accession Number:** BCI:BCI200000192627

**Keywords:** Bufflehead; Bucephala albeola; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Distribution and density of two introduced dreissenid species of mollusks, the zebra mussel Dreissena polymorpha and quagga mussel D. bugensis, were monitored in the Inner Bay at Long Point, Lake Erie, 1991-1995. Since populations of certain waterfowl species have been reported to alter their dietary intake and migration patterns in response to the ready availability of zebra mussels, the percent occurrence of zebra mussles in the diet of 12 duck species (552 birds) was studied concurrently, and several spring and fall aerial waterfowl surveys were flown between 1986 and 1997 (n = 75), to document changes in duck populations at Long Point. The first reproductive population of zebra mussels on the bay most likely appeared in 1990. After an initial rapid increase in density and colonization of the Inner Bay, zebra mussels began to steadily and consistently decline in absolute numbers, density per station and occupied area. Mean density per station in 1995 was 70% less than in 1991, the first year of rapid colonization, and 67% less than in 1992, the year of peak abundance in the bay (P < 0.05). Occupied area peaked in 1992, with 80% of sampling stations supporting mussels; the following 3 years showed consistent declines in the proportion of stations supporting mussels: 1993 = 75.9%, 1994 = 63.2% and 1995 = 57.1% (P < 0.05). Mussels in size class 0 to 5 mm were most abundant in 1991, 1993 and 1995, whereas those in size class 6 to 10 mm predominated in 1992 and 1994 (P < 0.05). Very few mussels over 15 mm were found. Lesser Scaup Aythya affinis (75.4 to 82.5% occurrence), Greater Scaup A. marila (66.7 to 81.5% occurrence), and Bufflehead Bucephala albeola (46.7 to 60% occurrence) were the only three waterfowl species that consistently incorporated zebra mussels in their diet, and the mussel decline coincided with a substantial increase in the populations of these species at Long Point. Waterfowl days for Lesser and Greater Scaup combined increased rapidly from 38,500 in 1986 (prior to the zebra mussel colonization of Long Point) to 3.5 million in 1997 (P = 0.012). Bufflehead days increased from 4,700 to 67,000 during the same period (P = 0.001). Oligotrophication of Lake Erie, through reduced plankton and chlorophyll concentrations, has occurred since the invasion of zebra mussels, probably a result of filtering activities of introduced mussels. While a reduction in plankton availability may have contributed to the zebra mussel decline, high rates of waterfowl predation probably had the most substantial effect on mussel densities at Long Point. Waterfowl predation also probably influenced the size structure of the zebra mussel population, since waterfowl are size-selective foragers, and increased water clarity would have facilitated their ability to select preferred medium and large size classes of mussels. Quagga mussels, which were first detected in 1993, experienced a decline in both density and area occupied over the next two years. Quagga mussels rarely attached to soft substrates, and their decline is possibly related to the decline of suitable hard substrates, such as zebra mussels, as well as to predation by waterfowl.

**URL:** <Go to ISI>://BCI200000192627

**Reference Type:**  Journal Article

**Record Number:** 1594

**Author:** B. Pfaffenberger, H. Huehnerfuss, R. Kallenborn, A. Koehler-Guenther, W. A. Koenig and G. Kruener

**Year:** 1992

**Title:** Chromatographic separation of the enantiomers of marine pollutants: Part 6. Comparison of the enantioselective degradation of alpha-hexachlorocyclohexane in marine biota and water

**Journal:** Chemosphere

**Volume:** 25

**Issue:** 5

**Pages:** 719-725

**Short Title:** Chromatographic separation of the enantiomers of marine pollutants: Part 6. Comparison of the enantioselective degradation of alpha-hexachlorocyclohexane in marine biota and water

**Accession Number:** BCI:BCI199395022690

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** The enantiomeric ratios of the chiral marine pollutant alpha-hexachlorocyclohexane (alpha-HCH) was determined in blue mussels (Mytilus edulis L.), flounders (Platychthys flesus (L.)), Common eider ducks (Somateria mollissima (L.)), and in North Sea water of experimental sites in the German Bight by means of capillary gas chromatography using beta-cyclodextrin derivatives as chiral stationary phases. Different enzymatic degradation pathways are revealed by opposite enantioselective enrichments of the alpha-HCH enantiomers: while in the liver of Common eider ducks the preferable degradation of (-)-alpha-HCH leads to an enrichment of (+)-alpha-HCH (i.e., (+)-alpha-HCH/(-)-alpha-HCH apprxeq 1.4 - infin ), the enantiomeric ratios measured in the liver samples of flounders ((+)-alpha-HCH/(-)-alpha-HCH apprxeq 0.80 - 0.94), in blue mussels ((+)-alpha-HCH/(-)-alpha-HCH apprxeq 0.84 - 0.93) and in the North Sea water samples ((+)-alpha-HCH/(-)-alpha-HCH apprxeq 0.84) imply enzymatic processes in the course of which common structural elements are preferred represented by (+)-alpha-HCH.

**URL:** <Go to ISI>://BCI199395022690

**Reference Type:**  Journal Article

**Record Number:** 1744

**Author:** L. M. Phillips, S. Oppel and A. N. Powell

**Year:** 2006

**Title:** Movements of the King Eider during the non-breeding period revealed by satellite telemetry

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 118-119

**Date:** Aug 2006

**Short Title:** Movements of the King Eider during the non-breeding period revealed by satellite telemetry

**Accession Number:** BCI:BCI200700132563

**Keywords:** King Eider; Somateria spectabilis; Dispersal; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200700132563

**Reference Type:**  Journal Article

**Record Number:** 1743

**Author:** L. M. Phillips and A. N. Powell

**Year:** 2006

**Title:** Evidence for wing molt and breeding site fidelity in King Elders

**Journal:** Waterbirds

**Volume:** 29

**Issue:** 2

**Pages:** 148-153

**Date:** Jun 2006

**Short Title:** Evidence for wing molt and breeding site fidelity in King Elders

**Accession Number:** BCI:BCI200600534531

**Keywords:** King Eider; Somateria spectabilis; Dispersal; Population Delineation; Molt; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** Fidelity of King Eiders (Somateria spectabilis) to breeding and wing molt sites was examined using satellite telemetry data obtained opportunistically when battery life of transmitters provided locations in a second year. Consecutive breeding locations were obtained for eleven female and 23 male King Eiders. All females exhibited breeding site fidelity by returning to sites within 15 km of first year breeding areas on the North Slope of Alaska. Breeding locations of males in a subsequent year were located on average > 1000 km from their prior breeding sites and were primarily outside Alaska, on the coasts of Russia and Canada. Second-year wing molt locations were obtained for two female and six male King Eiders. Wing molt sites of males were located 6.2 +/- 3.1 km apart on average in successive years, while female wing molt locations averaged almost 50 km apart. Our results demonstrate site fidelity of female King Eiders to a breeding area on the North Slope of Alaska, document the dispersal of male King Eiders between breeding seasons, and present the first evidence for wing molt site fidelity in males.

**URL:** <Go to ISI>://BCI200600534531

**Reference Type:**  Journal Article

**Record Number:** 1725

**Author:** L. M. Phillips and A. N. Powell

**Year:** 2009

**Title:** Brood Rearing Ecology of King Eiders on the North Slope of Alaska

**Journal:** Wilson Journal of Ornithology

**Volume:** 121

**Issue:** 2

**Pages:** 430-434

**Date:** Jun 2009

**Short Title:** Brood Rearing Ecology of King Eiders on the North Slope of Alaska

**Accession Number:** BCI:BCI201000268651

**Keywords:** King Eider; Somateria spectabilis; Productivity; Survival; Breeding Season; SDJV funded

**Abstract:** We examined King Eider (Somateria spectabilis) brood survival in the Kuparak oil field in northern Alaska in 2002 and 2003 by monitoring hens with broods using radiotelemetry. We observed complete brood loss in eight of 10 broods. Broods survived less than 2 weeks on average, and most mortality occurred within days of hatch. Distance hens traveled overland did not affect brood survival. Apparent King Eider brood survival in our study area was lower than reported for eider species in other areas. We recommend future studies examine if higher densities of predators in oil fields reduces King Eider duckling survival. Received 26 September 2008. Accepted 18 January 2009.

**URL:** <Go to ISI>://BCI201000268651

**Reference Type:**  Journal Article

**Record Number:** 1745

**Author:** L. M. Phillips, A. N. Powell and E. A. Rexstad

**Year:** 2006

**Title:** Large-scale movements and habitat characteristics of King Eiders throughout the nonbreeding period

**Journal:** Condor

**Volume:** 108

**Issue:** 4

**Pages:** 887-900

**Date:** Nov 2006

**Short Title:** Large-scale movements and habitat characteristics of King Eiders throughout the nonbreeding period

**Accession Number:** BCI:BCI200700011244

**Keywords:** King Eider; Somateria spectabilis; Dispersal; Molt; Migration; Habitat; Nonbreeding Seasons; SDJV funded

**Abstract:** King Eiders (Somateria spectabilis) breeding in western Canada and Alaska molt wing feathers and spend the winter in remote areas of the Bering Sea, precluding direct observation. To characterize timing of migration and habitat used by King Eiders during the nonbreeding period, we collected location data for 60 individuals (27 females and 33 males) over three years from satellite telemetry and utilized oceanographic information obtained by remote sensing. Male King Eiders dispersed from breeding areas, arrived at wing molt sites, and dispersed from wing molt sites earlier than females in all years. Males arriving earlier at wing molt sites molted flight feathers at higher latitudes. Distributions of molt and winter locations did not differ by sex or among years. Of the variables considered for analysis, distance to shore, water depth, and salinity appeared to best describe King Eider habitat throughout the nonbreeding period. King Eiders were located closer to shore, in shallower water with lower salinity than random locations. During the winter, lower ice concentrations were also associated with King Eider locations. This study provides some of the first large-scale descriptions of King Eider migration and habitat outside the breeding season.

**URL:** <Go to ISI>://BCI200700011244

**Reference Type:**  Journal Article

**Record Number:** 1738

**Author:** L. M. Phillips, A. N. Powell, E. J. Taylor and E. A. Rexstad

**Year:** 2007

**Title:** Use of the Beaufort sea by king eiders breeding on the north slope of Alaska

**Journal:** Journal of Wildlife Management

**Volume:** 71

**Issue:** 6

**Pages:** 1892-1898

**Date:** Aug 2007

**Short Title:** Use of the Beaufort sea by king eiders breeding on the north slope of Alaska

**Accession Number:** BCI:BCI200700517204

**Keywords:** King Eider; Somateria spectabilis; Migration; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons; SDJV funded

**Abstract:** We estimated areas used by king ciders (Somateria spectabilis) in the Alaskan Beaufort Sea, how distributions of used areas varied, and characteristics that explained variation in the number of days spent at sea, to provide regulatory agencies with baseline data needed to minimize impacts of potential offshore oil development. We implanted sixty king ciders with satellite transmitters at nesting areas on the North Slope of Alaska, USA, in 2002-2004. More than 80% of marked eiders spent >2 weeks staging offshore prior to beginning a postbreeding molt migration. During postbreeding staging and migration, male king ciders had much broader distributions in the Alaskan Beaufort Sea than female eiders, which were concentrated in Harrison and Smith Bays. Distribution did not vary by sex during spring migration in the year after marking. Shorter residence times of riders and deeper water at locations used during spring migration suggest the Alaskan Beaufort Sea might not be as critical a staging area for king eiders during prebreeding as it is postbreeding. Residence time in the Beaufort Sea varied by sex, with female king eiders spending more days at sea than males in spring and during postbreeding. We conclude the Alaskan Beaufort Sea is an important staging area for king riders during postbreeding, and eider distribution should be considered by managers when mitigating for future offshore development. We recommend future studies examine the importance of spring staging areas outside the Alaskan Beaufort Sea.

**URL:** <Go to ISI>://BCI200700517204

**Reference Type:**  Journal Article

**Record Number:** 170

**Author:** J. F. Piatt, C. J. Lensink, W. Butler, M. Kendziorek and D. R. Nysewander

**Year:** 1990

**Title:** Immediate Impact of the Exxon Valdez Oil Spill on Marine Birds

**Journal:** Auk

**Volume:** 107

**Issue:** 2

**Pages:** 387-397

**Short Title:** Immediate Impact of the Exxon Valdez Oil Spill on Marine Birds

**Accession Number:** BCI:BCI199090034221

**Keywords:** Sea Ducks - General; Contaminants; Nonbreeding Seasons;

**Abstract:** On 24 March 1989, the oil tanker 'Exxon Valdez' spilled 260,000 barrels of crude oil in Prince William Sound, Alaska [USA]. Oil eventually drifted over 30,000 km2 of costal and offshore waters occupied by approximately one million marine birds. More than 30,000 dead birds of 90 species were retrieved from polluted areas by 1 August 1989. Of those identified, murres (74%), other alcids (7.0%), and sea ducks (5.3%) suffered the highest mortality from oil, and most (88%) birds were killed outside of Prince William Sound. A colony of 129,000 murres at the Barren Islands was probably devastated. Another 7,000 birds were retrieved between 1 August and 13 October, but most of those birds appeared to have died from natural causes. This later die-off was composed largely of shearwaters and other procellariids (51%), gulls (22%), and puffins (14%). Based on aerial and ship-based surveys for populations at risk, and extrapolating from the number of dead birds recovered, we estimate that the total kill from oil pollution was from 100,000 to 300,000 birds.

**URL:** <Go to ISI>://BCI199090034221

**Reference Type:**  Journal Article

**Record Number:** 584

**Author:** J. P. Pierre, S. M. Boss and C. A. Paszkowski

**Year:** 2005

**Title:** Effects of forest harvesting on Bufflehead and Common Loon foraging behavior

**Journal:** Ornithological Science

**Volume:** 4

**Issue:** 2

**Pages:** 161-168

**Date:** Nov 2005

**Short Title:** Effects of forest harvesting on Bufflehead and Common Loon foraging behavior

**Accession Number:** BCI:BCI200600234130

**Keywords:** Bufflehead; Bucephala albeola; Behavior; Conservation; Breeding Season;

**Abstract:** We compared foraging behavior of Bufflehead (Bucephala albeola Linnaeus) and Common Loon (Gavia immer Brunnich) on eight lakes in harvested and unharvested boreal mixedwood forest in northern Alberta, Canada. For one summer before (1996) and two Summers after (1997, 1998) forest harvesting around three of the eight lakes, we recorded the duration of Bufflehead and Common Loon dives. After logging, forested buffer strips 100m-wide separated cut-blocks from lakes ('harvested lakes'). 'Unharvested lakes' were surrounded by >= 450m of undisturbed forest throughout the study. There were no detectable differences in dive duration between harvested and unharvested lakes for Bufflehead or Common Loon. Correlations between environmental variables (water clarity, fish biomass, depth) and the duration of Common Loon dives were not significant. However, the duration of Bufflehead dives differed between lakes, unrelated to forest harvesting. The duration of Bufflehead dives was negatively correlated with water clarity but was not significantly cot-related with fish biomass. While our study shows that the foraging behavior of Buffleheads was affected by lake conditions, the utility of aquatic birds as indicators of the effects of forestry on western boreal lakes remains unproven.

**URL:** <Go to ISI>://BCI200600234130

**Reference Type:**  Journal Article

**Record Number:** 114

**Author:** S. Pihl

**Year:** 2000

**Title:** Impact of winter climate on wintering coastal waterbirds in Denmark, 1987-1996

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 94

**Issue:** 2

**Pages:** 73-89

**Short Title:** Impact of winter climate on wintering coastal waterbirds in Denmark, 1987-1996

**Accession Number:** BCI:BCI200000348899

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** During 1987-1992 the National Environmental Research Institute carried out countrywide surveys of waterbirds in mid-winter (Pihl et al. 1992a, Laursen et al. 1997) as part of Wetlands International's International Waterfowl Census (Rose 1995). Beginning in 1993, the mid-winter surveys were restricted to certain areas according to a "reduced site list programme" developed in co-operation with the National Forest and Nature Agency in Copenhagen and Wetlands International. The programme aimed at providing good coverage of important species and of habitats and geographical regions, including internationally important wetlands and waterbird wintering areas (Fig. 1, Table 2.). This paper presents annual mid-winter indices for 19 waterbird species during the period 1987-1996, calculated on basis of count results from the reduced site list areas using the program UINDEX4 (provided by M.C. Bell from the Wildfowl and Wetlands Trust, UK). Trends over time were analysed using Spearman rank correlations (Table 4), and the relationship between indices and winter climate was analysed by regressing indices against the sum of daily mean temperatures during periods with frost at six localities in Denmark (MAK), and against MAK of the previous year (Table 5). Also the year-to-year change in the indices was regressed against MAK. Twelve of the 19 species showed increasing trends, the rest being constant (variation coefficient < 75%) or fluctuating (variation coefficient > 75%). Unfortunately, however, the only severe winters during the period were the first and last. If the analysis is restricted to 1991-1996, only 3-4 species show a positive trend, six a negative trend, while the rest are stable or fluctuating. There is a general concordance with trends found at a European scale (Table 6). Some species show an immediate numerical response to spells of cold weather by moving out of the covered sites. This group includes the herbivorous Wigeon and the piscivorous Cormorant as well as the omnivorous Mallard and the Tufted Duck, feeding on benthic invertebrates. Severe winters seem to have a common impact on several waterbird species, expressed by changes in index values, although the various strategies adopted by different species during cold weather could not be clarified in detail in the present analysis. Great Crested Grebe, Mallard, Pochard, Tufted Duck, Sinew and Goosander occur primarily in lakes, and when these freeze over the birds move to other areas that may or may not be covered by the reduced site list programme. Great Crested Grebes are displaced to offshore areas (Laursen et al. 1997) and Mallards to coastal areas, while Pochards concentrate at sheltered coasts, and if the cold weather persists a large proportion of the birds move out of the country. Tufted Ducks concentrate in open marine areas, often harbours. The alternative wintering areas used by these four species are not particularly well covered by the reduced site list programme, so indices will decrease during severe weather. In contrast, Smew and Goosander move to well covered coastal areas, and since the populations may furthermore be supplemented by birds moving out of the Baltic Sea, the index for these species will remain unaffected, or may even increase, in case of severe weather. A third group is comprised of Grey Heron, Shelduck, Wigeon, Teal and Pintail that all have their northernmost European wintering grounds in Denmark. These species almost entirely leave Denmark during severe winters. Mute Swan and Coot both show negative correlations with the severity of the previous winter. These species are sedentary and suffer increased mortality in cold winters (Andersen-Harild 1981, Nilsson 1984).

**URL:** <Go to ISI>://BCI200000348899

**Reference Type:**  Journal Article

**Record Number:** 1939

**Author:** B. Pilarczyk, A. Tomza-Marciniak, R. Pilarczyk, K. Kavetska, I. Rzad, D. Hendzel and A. Marciniak

**Year:** 2012

**Title:** Selenium status in sea ducks (Melanitta fusca, Melanitta nigra and Clangula hyemalis) wintering on the southern Baltic coast, Poland

**Journal:** Marine Biology Research

**Volume:** 8

**Issue:** 10

**Pages:** 1019-1025

**Short Title:** Selenium status in sea ducks (Melanitta fusca, Melanitta nigra and Clangula hyemalis) wintering on the southern Baltic coast, Poland

**ISSN:** 1745-1000

**DOI:** 10.1080/17451000.2012.706304

**Accession Number:** WOS:000309611300009

**Keywords:** white-winged Scoter; Black Scoter; Long-tailed Duck; Melanitta fusca; Melanitta nigra; Clangula hyemalis; Contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 0

Pilarczyk, Bogumila Tomza-Marciniak, Agnieszka Pilarczyk, Renata Kavetska, Katarzyna Rzad, Izabella Hendzel, Diana Marciniak, Andrzej

Kavetska, Katarzyna /K-4001-2012

0

**URL:** <Go to ISI>://WOS:000309611300009

**Reference Type:**  Journal Article

**Record Number:** 2194

**Author:** H. E. Pilskog, T. Solhoy, D. J. Gwiazdowicz, J. A. Grytnes and S. J. Coulson

**Year:** 2014

**Title:** Invertebrate communities inhabiting nests of migrating passerine, wild fowl and sea birds breeding in the High Arctic, Svalbard

**Journal:** Polar Biology

**Volume:** 37

**Issue:** 7

**Pages:** 981-998

**Date:** Jul

**Short Title:** Invertebrate communities inhabiting nests of migrating passerine, wild fowl and sea birds breeding in the High Arctic, Svalbard

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-014-1495-9

**Accession Number:** WOS:000338278300006

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Parasites

**Abstract:** Nests of birds often possess a diverse invertebrate fauna, but almost no descriptions of the invertebrate fauna of bird nests from the High Arctic exist in spite of numerous studies at lower latitudes. Seventy-seven nests belonging to common eider, barnacle goose, glaucous gull, black-legged kittiwake and snow bunting were examined for the invertebrate fauna from Kongsfjorden and Longyearbyen, Svalbard. Twenty-seven nest-living species were found and thirty-one species in soil under common eider nests. The diversity in most of the nests was poor. True nidiculous species were absent, and ectoparasites dominated in nests of all bird species; the flea; Ceratophyllus vagabundus vagabundus in the nests of common eider, barnacle goose and glaucous gull, Mioctenopsylla arctica arctica in the nests of black-legged kittiwake; and the parasitic mesostigmatid mite Dermanyssus hirundinis in the nests of snow bunting. The most diverse group in nests was opportunistic soil-living oribatid mites. If soil samples taken beneath common eider nests are included, five species or genera of invertebrates not previously recorded from Svalbard were found: Cyrtozetes sp., Liochthonius simplex (Acari: Oribatida), Protaphorura subuliginata (Collembola: Onychiuridae) and larvae of Parochlus kiefferi and Paralimnophyes sp. (Diptera: Chironomidae). Of these, Cyrtozetes sp. is probably an undescribed species. The chironomid larvae from black-legged kittiwake nests have probably been transported together with nest material. With the exception of the ectoparasites, little indicates that invertebrates preferentially exploit nests in Svalbard, as most species were free living and are normally common in soils.

**Notes:** Pilskog, Hanne Eik Solhoy, Torstein Gwiazdowicz, Dariusz J. Grytnes, John-Arvid Coulson, Stephen J.

**URL:** <Go to ISI>://WOS:000338278300006

**Reference Type:**  Journal Article

**Record Number:** 758

**Author:** M. Platteeuw and J. H. Beekman

**Year:** 1994

**Title:** Disturbance of waterbirds by ships on lakes Ketelmeer and IJsselmeer

**Journal:** Limosa

**Volume:** 67

**Issue:** 1

**Pages:** 27-33

**Short Title:** Disturbance of waterbirds by ships on lakes Ketelmeer and IJsselmeer

**Accession Number:** BCI:BCI199497460987

**Keywords:** Common Goldeneye; Bucephala clangula; Common merganser; Mergus merganser; Behavior; Conservation; Nonbreeding Seasons;

**Abstract:** During two consecutive days in winter 1990/91, observations were made on disturbance of waterbirds by ships ( Fig. 1) at lake Ketelmeer. These ship-based observations only involved the determination of the specific "critical disturbance distance", defined as the distance within which at least 20% of a certain species exhibits abnormal behaviour, e.g. alertness, swimming or diving away from the approaching ship or flying off. Many waterbirds may be found resting close to the polderdikes bordering the lakes. Since a shipping lane is planned for lake Ketelmeer at 440-560 m from the SW dike, the distances of the resting Aythya ducks from the dikes have been recorded as well. Of the two piscivorous species, Great Crested Grebe and Goosander, critical disturbance distances were estimated at 300 and well over 300 m respectively (Tab 1, 2). Two diurnal benthos (mainly Zebra Mussel Dreissena polymorpha) feeders, Coot and Goldeneye, showed markedly different reactions. While the first species hardly reacted at all to the approach or passing of the ship, the latter flew off at distances of up to 500 m or more. The critical distances were estimated at less than 100 m for the Coot and at possibly 1000 m for the Goldeneye (Tab. 1, 2). The three nocturnal musselfeeders Pochard, Scaup and Tufted Duck were disturbed at distances of 300, little over 400 and well over 400 m respectively (Tab. 1, 2). It is argued that disturbance of feeding birds may have a more markedly negative impact on the individual energy budgets of the birds than disturbance of resting birds, since both the loss of feeding time and the extra energy expenditure must be compensated for A diurnal forager as vulnerable to disturbance as the Goldeneye may well be limited in its possibilities to exploit take Ketelmeer's mussel resources by the frequent passing of ships at distances below its critical range. On the other hand, the confident Coot can exploit any musselbank. The feeding pressure of all musselfeeders on the local zebra mussel stock seems to be so severe, that any increase in intra- or interspecific interference, due to the need of compensate for extra energy losses, may lead to a lower rather than a higher food intake. Since both Pochard and Tufted Duck may be resting at distances of up to 300 m from the nearest polder dike and the planned shipping route will be at 440-560 m from the southwestern dike (offering shelter from the prevailing winds), many ships will pass at distances well below their critical disturbance distance. However, the concentration of all ship movements within a confined area leads to more predictable ship activity (important for habituation) and to less pressure on other zones within the lake Therefore, it is considered unlikely that the take will be abandoned by resting Aythya ducks as a consequence of the projected shipping route.

**URL:** <Go to ISI>://BCI199497460987

**Reference Type:**  Journal Article

**Record Number:** 1703

**Author:** P. V. Player

**Year:** 1971

**Title:** Food and Feeding Habits of the Common Eider at Seafield Edinburgh in Winter

**Journal:** Wildfowl

**Volume:** 22

**Pages:** 100-106

**Short Title:** Food and Feeding Habits of the Common Eider at Seafield Edinburgh in Winter

**Accession Number:** BCI:BCI197208031761

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197208031761

**Reference Type:**  Journal Article

**Record Number:** 1659

**Author:** M. Plyusnin Yu

**Year:** 1982

**Title:** Reproductive Strategy of Eider Ducks Somateria-Mollissima in Mixed Communities of Colonial Birds

**Journal:** Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR Seriya Biologicheskikh Nauk

**Issue:** 3

**Pages:** 87-91

**Short Title:** Reproductive Strategy of Eider Ducks Somateria-Mollissima in Mixed Communities of Colonial Birds

**Accession Number:** BCI:BCI198477009859

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** The reciprocal impacts of marine species of birds were studied in small nesting colonies. The nesting density of eider ducks is influenced by the size of herring and common gull colonies if the later are dominating the community. In the pure eider duck colonies, nesting density is the logistic function of colony size. The impact of the community on the success of eider ducks nesting and the survival of offspring is connected with the quantity of the dominating species: in great gull colonies the nesting density of eider ducks was .apprx. 0 and degenerated to diffusion settlings. The eider ducks reproductive strategy varies in different communities to minimize the unfavorable influence of the neighboring gull colonies on the reproductive potential of the population.

**URL:** <Go to ISI>://BCI198477009859

**Reference Type:**  Journal Article

**Record Number:** 468

**Author:** H. Poeysae

**Year:** 2004

**Title:** Relatedness and the evolution of conspecific brood parasitism: parameterizing a model with data for a precocial species

**Journal:** Animal Behaviour

**Volume:** 67

**Issue:** Part 4

**Pages:** 673-679

**Date:** April 2004

**Short Title:** Relatedness and the evolution of conspecific brood parasitism: parameterizing a model with data for a precocial species

**Accession Number:** BCI:BCI200400269688

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) is a common reproductive tactic in several animal taxa, especially in precocial birds. It has been suggested that host-parasite relatedness can facilitate the evolution of CBP. A recent model showed that the existence and accuracy of the kin recognition system is crucial for this to occur. I used field data to parameterize the model for the common goldeneye, Bucephala clangula, a precocial species in which CBP frequently occurs and in which a recent finding of nonrandom host-parasite relatedness has been interpreted to support the idea that relatedness and kin selection influence CBP. It turned out that possibilities to detect brood parasitism and accurately discriminate between kin and nonkin parasites are negligible in the species. The empirically parameterized model exercise revealed that relatedness and kin selection are unlikely explanations of CBP in the species. Copyright 2004 The Association for the Study of Animal Behaviour. Published by Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200400269688

**Reference Type:**  Journal Article

**Record Number:** 464

**Author:** H. Poeysae

**Year:** 2006

**Title:** Public information and conspecific nest parasitism in goldeneyes: targeting safe nests by parasites

**Journal:** Behavioral Ecology

**Volume:** 17

**Issue:** 3

**Pages:** 459-465

**Date:** May-Jun 2006

**Short Title:** Public information and conspecific nest parasitism in goldeneyes: targeting safe nests by parasites

**Accession Number:** BCI:BCI200600388983

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Conspecific nest parasitism (CNP) is a widespread alternative reproductive tactic in birds. Several hypotheses have been put forward to explain the evolution and occurrence of CNP, but no generally applicable hypothesis exists. Recent experimental results from the common goldeneye (Bucephala clangula), a cavity-nesting duck, have revealed that parasitic females preferentially lay eggs in safe nest-sites, implying that nest predation risk is an important ecological determinant of CNP. The present study focuses on the mechanisms by which parasites identify safe nest-sites. Predation risk of a given nest-site was predictable between successive breeding seasons. At the end of the nesting season, females prospected active nest-sites more frequently than nest-sites that did not have a nest in the current season. Nest-sites that had been prospected more frequently by females in year t had a higher probability to be parasitized in year t + 1. The results suggest that the use of public information, derived through nest-site prospecting, enabled parasites to target safe nests. These findings provide a new and potentially generally applicable perspective to understand the evolution and occurrence of CNP.

**URL:** <Go to ISI>://BCI200600388983

**Reference Type:**  Journal Article

**Record Number:** 1940

**Author:** A. Ponsero and P. Le Mao

**Year:** 2011

**Title:** Estimation of benthic macrofauna consumption by water birds in the bay of Saint-Brieuc (France)

**Journal:** Revue D Ecologie-La Terre Et La Vie

**Volume:** 66

**Issue:** 4

**Pages:** 383-397

**Date:** Dec

**Short Title:** Estimation of benthic macrofauna consumption by water birds in the bay of Saint-Brieuc (France)

**ISSN:** 0249-7395

**Accession Number:** WOS:000299597700003

**Keywords:** Sea Ducks; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 1

Ponsero, Alain Le Mao, Patrick

1

**URL:** <Go to ISI>://WOS:000299597700003

**Reference Type:**  Journal Article

**Record Number:** 2195

**Author:** S. J. Portugal, J. A. Green, L. G. Halsey, W. Arnold, V. Careau, P. Dann, P. B. Frappell, D. Gremillet, Y. Handrich, G. R. Martin, T. Ruf, M. M. Guillemette and P. J. Butler

**Year:** 2016

**Title:** Associations between Resting, Activity, and Daily Metabolic Rate in Free-Living Endotherms: No Universal Rule in Birds and Mammals

**Journal:** Physiological and Biochemical Zoology

**Volume:** 89

**Issue:** 3

**Pages:** 251-261

**Date:** May-Jun

**Short Title:** Associations between Resting, Activity, and Daily Metabolic Rate in Free-Living Endotherms: No Universal Rule in Birds and Mammals

**ISSN:** 1522-2152

**DOI:** 10.1086/686322

**Accession Number:** WOS:000375928300008

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition

**Abstract:** Energy management models provide theories and predictions for how animals manage their energy budgets within their energetic constraints, in terms of their resting metabolic rate (RMR) and daily energy expenditure (DEE). Thus, uncovering what associations exist between DEE and RMR is key to testing these models. Accordingly, there is considerable interest in the relationship between DEE and RMR at both inter-and intraspecific levels. Interpretation of the evidence for particular energy management models is enhanced by also considering the energy spent specifically on costly activities (activity energy expenditure [AEE] = DEE 2 RMR). However, to date there have been few intraspecific studies investigating such patterns. Our aim was to determine whether there is a generality of intraspecific relationships among RMR, DEE, and AEE using long-term data sets for bird and mammal species. For mammals, we use minimum heart rate (f(H)), mean fH, and activity fH as qualitative proxies for RMR, DEE, and AEE, respectively. For the birds, we take advantage of calibration equations to convert fH into rate of oxygen consumption in order to provide quantitative proxies for RMR, DEE, and AEE. For all 11 species, the DEE proxy was significantly positively correlated with the RMR proxy. There was also evidence of a significant positive correlation between AEE and RMR in all four mammal species but only in some of the bird species. Our results indicate there is no universal rule for birds and mammals governing the relationships among RMR, AEE, and DEE. Furthermore, they suggest that birds tend to have a different strategy for managing their energy budgets from those of mammals and that there are also differences in strategy between bird species. Future work in laboratory settings or highly controlled field settings can tease out the environmental and physiological processes contributing to variation in energy management strategies exhibited by different species.

**Notes:** Portugal, Steven J. Green, Jonathan A. Halsey, Lewis G. Arnold, Walter Careau, Vincent Dann, Peter Frappell, Peter B. Gremillet, David Handrich, Yves Martin, Graham R. Ruf, Thomas Guillemette, Magella M. Butler, Patrick J.

**URL:** <Go to ISI>://WOS:000375928300008

**Reference Type:**  Journal Article

**Record Number:** 1280

**Author:** S. J. Portugal and M. Guillemette

**Year:** 2011

**Title:** The use of body mass loss to estimate metabolic rate in birds

**Journal:** Comparative Biochemistry and Physiology Part A Molecular & Integrative Physiology

**Volume:** 158

**Issue:** 3

**Pages:** 329-336

**Date:** Mar 2011

**Short Title:** The use of body mass loss to estimate metabolic rate in birds

**Accession Number:** BCI:BCI201100202684

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Physiology; Breeding Season;

**Abstract:** During starvation, energy production occurs at the expense of body reserve utilisation which results in body mass loss. Knowing the role of the fuels involved in this body mass loss, along with their energy density, can allow an energy equivalent of mass loss to be calculated. Therefore, it is possible to determine daily energy expenditure (DEE) if two body mass loss measurements at an interval of a few days are obtained. The technique can be cheap, minimally stressful for the animals involved, and the data relatively simple to gather. Here we review the use of body mass loss to estimate DEE in birds through critiquing the strengths and weaknesses of the technique, and detail the methodology and considerations that must be adhered to for accurate measures of DEE to be obtained. Owing to the biology of the species, the use of the technique has been used predominantly in Antarctic seabirds, particularly penguins and albatrosses. We demonstrate how reliable the technique can be in predicting DEE in a non-Antarctic species, common eiders (Somateria mollissima), the female of which undergoes a fasting period during incubation. We conclude that using daily body mass loss to estimate DEE can be a useful and effective approach provided that (1) the substrate being consumed during mass loss is known, (2) the kinetics of body mass loss are understood for the species in question and (3) only species that enter a full phase II of a fast (where substrate catabolism reaches a steady state) and are not feeding for a period of time are appropriate for this method. (C) 2010 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI201100202684

**Reference Type:**  Journal Article

**Record Number:** 1298

**Author:** S. J. Portugal, R. Isaac, K. L. Quinton and S. J. Reynolds

**Year:** 2010

**Title:** Do captive waterfowl alter their behaviour patterns during their flightless period of moult?

**Journal:** Journal of Ornithology

**Volume:** 151

**Issue:** 2

**Pages:** 443-448

**Date:** Apr 2010

**Short Title:** Do captive waterfowl alter their behaviour patterns during their flightless period of moult?

**Accession Number:** BCI:BCI201000245611

**Keywords:** Common Eider; Somateria mollissima; Behavior; Molt; Nonbreeding Seasons;

**Abstract:** Many different behavioural changes have been observed in wild waterfowl during the flightless stage of wing moult with birds frequently becoming inactive and reducing time spent foraging. Increased predation risk, elevated energetic demands of feather re-growth and restriction of foraging opportunities are thought to underlie these changes. By studying captive populations of both a dabbling and a diving duck species at the same site, we determined whether captive birds would reflect the behavioural responses of wild waterfowl to moult. The time-budgets of 42 Common Eiders, Somateria mollissima, (a diving duck) and 18 Garganeys, Anas querquedula, (a dabbling duck) were recorded during wing moult (July-August) and non-moult (January) with behaviour recorded under six categories. Despite captivity providing a low predation risk and constant access to food, birds altered their behaviour during the flightless period of wing moult. Time allocated to foraging and locomotion decreased significantly during moult compared to non-moult periods, while resting time increased significantly. Moulting Eiders underwent a greater reduction in time spent foraging and in locomotion compared with Garganeys, which is likely to be in response to a higher energetic cost of foraging in Eiders. It is possible that increased resting in both diving and dabbling ducks reduces their likelihood of detection by predators, while allowing them to remain vigilant. We demonstrate that there is much potential for using captive animals in studies that can augment our knowledge of behaviours of free-living conspecifics, the former being a hitherto under-exploited resource.

**URL:** <Go to ISI>://BCI201000245611

**Reference Type:**  Journal Article

**Record Number:** 2349

**Author:** A. N. a. R. S. S. Powell

**Year:** 2012

**Title:** King Eider (Somateria spectabilis)

**Journal:** The Birds of North America

**Short Title:** King Eider (Somateria spectabilis)

**Keywords:** King Eider; Somateria spectabilis

**Reference Type:**  Journal Article

**Record Number:** 538

**Author:** H. Poysa

**Year:** 1992

**Title:** Variation in parental care of common goldeneye (Bucephala clangula) females

**Journal:** Behaviour

**Volume:** 123

**Issue:** 3-4

**Pages:** 247-260

**Short Title:** Variation in parental care of common goldeneye (Bucephala clangula) females

**Accession Number:** BCI:BCI199396035933

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Factors affecting the variation of parental care were examined in the precocial, nidifugous common goldeneye (Bucephala clangula), a species with uniparental female care. Parental care, measured as the time spent by the female in rearing the brood, varied considerably. Habitat shelterness and food abundance in brood rearing lakes did not affect the duration of parental care. Brood mortality and size affected females' decision to abandon the brood; broods left younger experienced higher mortality during the parental care and were smaller than broods reared for longer. Offspring left by a female did not have higher mortality than same-aged offspring not left. Broods that were deserted early did also produce young to the fledging age.

**URL:** <Go to ISI>://BCI199396035933

**Reference Type:**  Journal Article

**Record Number:** 1564

**Author:** H. Poysa

**Year:** 1995

**Title:** Factors affecting abandonment and adoption of young in common eiders and other waterfowl: A comment

**Journal:** Canadian Journal of Zoology

**Volume:** 73

**Issue:** 8

**Pages:** 1575-1577

**Short Title:** Factors affecting abandonment and adoption of young in common eiders and other waterfowl: A comment

**Accession Number:** BCI:BCI199698587793

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Factors affecting abandonment and adoption of young have been studied extensively in waterfowl. Several hypotheses have been advanced to account for these behaviors, and Bustnes and Erikstad (J.0. Bustnes and K.E. Erikstad. 1991. Can. J. Zool. 69: 1538-1545) recently evaluated these in common eiders (Somateria mollissima). They found, among other things, that young of "abandoners" had a lower survival rate than young of "tenders," but were not able to accurately time the mortality of ducklings. I propose a hypothesis based on brood success and parental investment theory to explain why some parents abandon their young exceptionally early and why some parents tend their own as well as foreign young. According to the hypothesis, parents provide relatively less care for offspring that are surviving less than average during the parental care period. The low survival of the young of abandoners while they are still with their own mother may have influenced the final decision of common eider females to abandon their broods early.

**URL:** <Go to ISI>://BCI199698587793

**Reference Type:**  Journal Article

**Record Number:** 506

**Author:** H. Poysa

**Year:** 1996

**Title:** Population estimates and the timing of waterfowl censuses

**Journal:** Ornis Fennica

**Volume:** 73

**Issue:** 2

**Pages:** 60-68

**Short Title:** Population estimates and the timing of waterfowl censuses

**Accession Number:** BCI:BCI199699148804

**Keywords:** Common Goldeneye; Bucephala clangula; Techniques; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The effect of the timing of waterfowl censuses on the estimates of breeding population sizes of different species was studied in southeast Finland from 1991 to 1994. Lakes used only for breeding and a local stop-over lake that was used for staging during spring migration were analysed separately. Also, the effect of the break-up of ice cover on the order of lake occupation by breeding pairs was studied. A standard waterfowl census was made four times in May at an interval of approximately seven days in each year. In general, the timing of waterfowl censuses within the three-week period considered did not cause serious biases in population estimates, though differences between species and between lake types were observed. The timing of the break-up of the ice cover was critical in the build-up of local breeding populations. However, pairs of many species, especially the Mallard, Teal, and Common Goldeneye occupied breeding lakes even when the lake still was considerably covered by ice. A comparison of recommended census times between earlier studies and this study suggests that in some species censuses could be started much earlier than previously recommended.

**URL:** <Go to ISI>://BCI199699148804

**Reference Type:**  Journal Article

**Record Number:** 492

**Author:** H. Poysa

**Year:** 1999

**Title:** Association between conspecific nest parasitism and the timing of breeding in the Common Goldeneye Bucephala clangula: An alternative interpretation

**Journal:** Ornis Fennica

**Volume:** 76

**Issue:** 2

**Pages:** 89-92

**Short Title:** Association between conspecific nest parasitism and the timing of breeding in the Common Goldeneye Bucephala clangula: An alternative interpretation

**Accession Number:** BCI:BCI199900414316

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199900414316

**Reference Type:**  Journal Article

**Record Number:** 494

**Author:** H. Poysa

**Year:** 1999

**Title:** Conspecific nest parasitism is associated with inequality in nest predation risk in the common goldeneye (Bucephala clangula)

**Journal:** Behavioral Ecology

**Volume:** 10

**Issue:** 5

**Pages:** 533-540

**Date:** Sept.-Oct., 1999

**Short Title:** Conspecific nest parasitism is associated with inequality in nest predation risk in the common goldeneye (Bucephala clangula)

**Accession Number:** BCI:BCI200000060481

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Previous studies of the role of nest predation in conspecific nest parasitism have not taken into account the possibility that predation risk may not be randomly distributed among nest sites and that breeding individuals may use different cues to assess the risk and adjust their reproductive tactic between years accordingly. Especially in cavity-nesting species, the role of nest predation in conspecific nest parasitism has been downplayed, while the role of nest site limitation has been highlighted. Using both observational and experimental data, I show that in the common goldeneye (Bucephala clangula), a cavity-nesting species in which conspecific nest parasitism is common, predation risk varies considerably between nest sites and does not follow a random expectation. The inequality in predation risk between nest sites also showed up in the occurrence of parasitized nests in an experimental setup. Nests parasitized in year t were more frequent in those nest sites that were not depredated during the previous nesting attempt in year t - n than in nest sites that were depredated and in control nest sites that had not been used for nesting before. A nest site addition experiment revealed that conspecific nest parasitism was not associated with nest site limitation. My findings give support for the hypothesis that nest predation is an important ecological factor explaining conspecific nest parasitism in goldeneyes.

**URL:** <Go to ISI>://BCI200000060481

**Reference Type:**  Journal Article

**Record Number:** 473

**Author:** H. Poysa

**Year:** 2003

**Title:** Parasitic common goldeneye (Bucephala clangula) females lay preferentially in safe neighbourhoods

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 54

**Issue:** 1

**Pages:** 30-35

**Date:** June 2003

**Short Title:** Parasitic common goldeneye (Bucephala clangula) females lay preferentially in safe neighbourhoods

**Accession Number:** BCI:BCI200300354847

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Nest predation has been suggested as an explanation of the adaptive significance and evolution of conspecific brood parasitism, an alternative reproductive tactic pursued by females in several animal taxa. I used new nest boxes that contained only decoy eggs and were erected on lakes differing in real nest predation risk to test this hypothesis in the common goldeneye (Bucephala clangula), a hole-nesting duck. I used broken eggs to simulate predation risk of the boxes to determine if parasites having no previous experience with the boxes discriminate between seemingly safe and risky nest sites. Parasites laid eggs in the experimental boxes independently of the simulated predation risk, suggesting that they do not use broken eggs or nest disarray as indicators of predation intensity. Parasites preferred experimental boxes on lakes where real nest predation risk was low, supporting the nest predation risk hypothesis. Assuming that females in high risk areas have had experience of nest predation, they may take this into account in selecting host nests.

**URL:** <Go to ISI>://BCI200300354847

**Reference Type:**  Journal Article

**Record Number:** 474

**Author:** H. Poysa

**Year:** 2003

**Title:** Low host recognition tendency revealed by experimentally induced parasitic egg laying in the common goldeneye (Bucephala clangula)

**Journal:** Canadian Journal of Zoology

**Volume:** 81

**Issue:** 9

**Pages:** 1561-1565

**Date:** September 2003

**Short Title:** Low host recognition tendency revealed by experimentally induced parasitic egg laying in the common goldeneye (Bucephala clangula)

**Accession Number:** BCI:BCI200400019646

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Host-parasite relatedness has been suggested to promote the evolution of conspecific brood parasitism, an alternative reproductive tactic pursued by females in several animal taxa. An essential prerequisite for relatedness to promote brood parasitism is accurate kin recognition, including the recognition of related hosts by parasites. I performed a field experiment to address the accuracy of host recognition by parasites in the common goldeneye (Bucephala clangula), a cavity-nesting duck. I studied whether parasites discriminate between experimental nests that did not have a host (i.e., new nest boxes that contained chicken eggs dyed to mimic the colour of common goldeneye eggs) and real nests that did have a host (i.e., active nests that progressed to incubation). Parasitic egg laying in the experimental nests was not constrained by the lack of contemporarily available nests that had a host; it was also not constrained by the lack of suitable and empty nest sites. There was no difference in the start of parasitic laying between the experimental and real nests. The experimental nests and real nests were equally parasitized. The findings suggest that host recognition by parasites is not sophisticated in the common goldeneye, questioning the possible function of accurate kin recognition in brood parasitism in this species.

**URL:** <Go to ISI>://BCI200400019646

**Reference Type:**  Journal Article

**Record Number:** 451

**Author:** H. Poysa, K. Lindblom, J. Rutila and J. Sorjonen

**Year:** 2009

**Title:** Reliability of egg morphology to detect conspecific brood parasitism in goldeneyes Bucephala clangula examined using protein fingerprinting

**Journal:** Journal of Avian Biology

**Volume:** 40

**Issue:** 4

**Pages:** 453-456

**Date:** Jul 2009

**Short Title:** Reliability of egg morphology to detect conspecific brood parasitism in goldeneyes Bucephala clangula examined using protein fingerprinting

**Accession Number:** BCI:BCI200900475719

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Techniques; Breeding Season;

**Abstract:** Eadie (1989) developed a method based on variation between females in egg length, width and weight to detect conspecific brood parasitism in the field: using these three egg measures, Euclidean distance between all pairs of eggs within a clutch is calculated, and if maximum Euclidean distance (MED) between any two eggs exceeds a threshold value the nest is considered parasitized. The MED method has been tested in Finnish and Scottish common goldeneye Bucephala clangula populations but the results have been contradicting. Here we use protein fingerprinting to assess the validity of the MED method. Data comprised 35 clutches of which we knew, based on protein fingerprinting, how many different females laid the clutch (range 1-5 females). The mean MED of non-parasitized clutches (laid by 1 female only) was 1.470 (95% CI: lower 1.169, upper 1.771; n = 21) and that of parasitized clutches ( laid by 2 or more females) was 3.654 (95% CL: lower 3.083, upper 4.225; n = 14). Using a MED >3.0 as a criterion to identify parasitized clutches 89% of all clutches were classified correctly either parasitized or non-parasitized when compared to the identification based on protein fingerprinting. Clutch size and the number of females (beyond 2 females) did not affect the clutch MED, whereas the status of parasitism did. Repeatability of egg length, width and weight were: 0.63, 0.76 and 0.80, respectively, implying that, variation in these egg measures occurs among rather than within females. Our new results confirm that the MED method is reliable enough to detect parasitism in common goldeneye.

**URL:** <Go to ISI>://BCI200900475719

**Reference Type:**  Journal Article

**Record Number:** 443

**Author:** H. Poysa, K. Lindblom, J. Rutila and J. Sorjonen

**Year:** 2010

**Title:** Response of parasitically laying goldeneyes to experimental nest predation

**Journal:** Animal Behaviour

**Volume:** 80

**Issue:** 5

**Pages:** 881-886

**Date:** Nov 2010

**Short Title:** Response of parasitically laying goldeneyes to experimental nest predation

**Accession Number:** BCI:BCI201000606408

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) has been identified as an integral life history component in birds. Recent empirical and theoretical studies suggest that nest predation is an important ecological factor affecting the occurrence and evolution of CBP; however, behavioural responses of parasites to nest predation remain unexplored. Here we report on a field experiment addressing the ability of parasitically laying common goldeneye, Bucephala clangula, females to respond to nest predation, based either on their own experience or on public information. Females that started parasitic laying in a nest and afterwards experienced partial clutch predation stopped laying in the nest. However, nests that faced partial clutch predation earlier in the season were not avoided by other parasitically laying females later in the season; these later-laying females had not themselves experienced the partial clutch predation in the nest. Hence, considering within-season responses to nest predation, a parasite uses its own experience, rather than public information, in laying decisions and nest choice. The rate of parasitic laying in the experimental nests decreased from the first to the last year of the experiment. Because the experimental nests never produced a successful clutch, this finding suggests that parasites used information on the ever-failing nature of the nests and avoided laying in them. Our results offer new experimental evidence to support the hypothesis that safety and success of nest sites play important roles in CBP. (C) 2010 The Association for the Study of Animal Behaviour. Published by Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201000606408

**Reference Type:**  Journal Article

**Record Number:** 493

**Author:** H. Poysa, M. Milonoff, V. Ruusila and J. Virtanen

**Year:** 1999

**Title:** Nest-site selection in relation to habitat edge: Experiments in the Common Goldeneye

**Journal:** Journal of Avian Biology

**Volume:** 30

**Issue:** 1

**Pages:** 79-84

**Date:** Jan., 1999

**Short Title:** Nest-site selection in relation to habitat edge: Experiments in the Common Goldeneye

**Accession Number:** BCI:BCI199900226079

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** Habitat edges affect several ecological phenomena, usually known as the edge-effect concept. One of its basic principles is the ecological trap hypothesis which assumes that birds are attracted to nest near habitat edges where food supplies may be greater but nest predation is higher. We studied nest-site selection in relation to the lake shore/forest habitat edge in the Common Goldeneye Bucephala clangula, a hole-nesting duck, using two types of experiment. First, we examined nest-site prospecting by erecting nest boxes with traps at the shoreline and inside the forest at varying distances from the shoreline. Secondly, we examined nest-site selection in three study areas by erecting nest boxes in pairs: at the shoreline and at varying distances inside the forest. In addition we experimentally measured nest predation rate in shore and forest boxes using artificial nests. Goldeneye females prospected shore and forest boxes equally. However, the final decision was in favour of shore boxes: within a box pair, the shore box was occupied first in all three study areas. There was no difference in nest predation rate between shore and forest boxes, except in one study area where predation rate was lower, not higher, in shore boxes. Thus, while Goldeneye females clearly exhibit a pattern of nest-site selection in relation to habitat edge, the ecological trap hypothesis is not supported so far as the risk of predation is considered. Increased predation risk associated with the period of getting hatched young out of the nest to a brood-rearing lake may be the reason for the rejection of forest boxes.

**URL:** <Go to ISI>://BCI199900226079

**Reference Type:**  Journal Article

**Record Number:** 502

**Author:** H. Poysa, M. Milonoff and J. Virtanen

**Year:** 1997

**Title:** Nest predation in hole-nesting birds in relation to habitat edge: An experiment

**Journal:** Ecography

**Volume:** 20

**Issue:** 4

**Pages:** 329-335

**Short Title:** Nest predation in hole-nesting birds in relation to habitat edge: An experiment

**Accession Number:** BCI:BCI199799688424

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Habitat; Breeding Season;

**Abstract:** We experimentally tested the hypothesis that nest predation rate in hole-nesting birds, especially the common goldeneye Buccephala clangula, was related to the edge between aquatic and terrestrial habitats. We also studied whether nest predation rate was related to habitat patch (lake) size. In three Study areas nest-boxes were erected in pairs: one nest-box was erected at the shoreline and the other one inside the forest at a varying distance (range from 14 to 140 m) from the shoreline. One chicken egg was placed in each nest-box (dummy nest). Overall predation rate on dummy nests varied from 34.6% to 52.6% depending on the study area. The pine marten Martes martes was the primary nest predator in all study areas. Daily predation rates did not differ between natural and dummy nests. Predation rate on dummy nests was not related to the distance of the nest-box from the shoreline in any study area. Predation rate was not related to lake size in two study areas but in one area predation rate on dummy nests was lower around largest lakes. However, the result may be accidental and not because of lake size per se because the proportion of forest was exceptionally low in that part of the study area.

**URL:** <Go to ISI>://BCI199799688424

**Reference Type:**  Journal Article

**Record Number:** 463

**Author:** H. Poysa and A. Paasivaara

**Year:** 2006

**Title:** Movements and mortality of common goldeneye Bucephala clangula broods in a patchy environment

**Journal:** Oikos

**Volume:** 115

**Issue:** 1

**Pages:** 33-42

**Date:** Oct 2006

**Short Title:** Movements and mortality of common goldeneye Bucephala clangula broods in a patchy environment

**Accession Number:** BCI:BCI200600643174

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Dispersal; Breeding Season; Survival;

**Abstract:** Effects of habitat configuration on movements, space use, and mortality of individuals are crucial for our understanding of the dynamics and persistence of populations in patchy environments. We studied these aspects in a naturally patchy environment using radio-marked common goldeneye (Bucephala clangula) females with their broods. The landscape consisted of suitable patches (lakes) and definitely inhospitable matrix (all terrestrial habitat surrounding the lakes), many of the patches being connected with corridors of varying usability (semipermanent and permanent ditches). We focused on habitat-related factors potentially affecting the decision of common goldeneye females and broods to leave the hatching patch, the rate of movement within the landscape, and the first-week mortality of ducklings when moving within the landscape. The probability to leave the hatching patch was high if the number of neighbouring patches was high, whereas mean distance to neighbouring patches and the presence and usability of corridors did not affect the probability to leave the hatching patch. Different measures of distance moved (i.e. within patches, through corridors, through matrix) were not strongly associated with any of the variables measuring habitat configuration. Corridors were used when available, but the broods also frequently moved through the matrix. There was no significant difference in the daily mortality rate of ducklings between broods that stayed in the hatching patch and broods that left the hatching patch. Among the broods that left the hatching patch, high daily mortality rate was associated with the lack and low usability of corridors. Daily mortality rate of ducklings was not associated with the distance moved through the matrix, nor with the other measures of distance moved or the variables measuring habitat configuration. Our findings suggest that species living in naturally patchy environments may have evolved remarkable skills to successfully cross an inhospitable matrix when changing patches.

**URL:** <Go to ISI>://BCI200600643174

**Reference Type:**  Journal Article

**Record Number:** 2225

**Author:** H. Poysa and A. Paasivaara

**Year:** 2016

**Title:** Nest predation risk, but not demography, drives dynamics of conspecific brood parasitism

**Journal:** Behavioral Ecology

**Volume:** 27

**Issue:** 1

**Pages:** 196-203

**Date:** Jan-Feb

**Short Title:** Nest predation risk, but not demography, drives dynamics of conspecific brood parasitism

**ISSN:** 1045-2249

**DOI:** 10.1093/beheco/arv139

**Accession Number:** WOS:000374768300030

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Behavior

**Abstract:** Conspecific brood parasitism (CBP) is an alternative reproductive tactic in several animal taxa. Although various behavioral aspects related to CBP have been studied in several species, understanding spatial and temporal dynamics of CBP and its drivers is still limited. We studied roles of nest predation risk and demography as possible drivers of dynamics of CBP in common goldeneyes (Bucephala clangula), a cavity-nesting duck. We provided decoy nests for parasitic laying in an experimental setting of 15 lakes for 7 consecutive years irrespective of local nest predation, being thus able to control for effects of predation-determined host nest availability. Individual parasites were recognized using protein fingerprints from egg albumen of parasitic eggs laid in the decoy nests. We found considerable spatial and temporal variation in the frequency of CBP within the experimental setting. Variation in CBP was driven by nest predation risk: the rate of CBP tracked the number of nonpredated nesting attempts at the lakes during the previous year. Neither variation in lake-specific number of potential homing first-time breeding females (i.e., demography) nor variation in lake-specific number of nesting females present explained the variation in lake-specific frequency of CBP. Our findings provide evidence that parasitically laying females pursue a genuine and flexible safety-seeking tactic in nest selection and that nest predation risk drives spatial and temporal dynamics of CBP.

**Notes:** Poysa, Hannu Paasivaara, Antti

**URL:** <Go to ISI>://WOS:000374768300030

**Reference Type:**  Journal Article

**Record Number:** 2226

**Author:** H. Poysa, A. Paasivaara, K. Lindblom, J. Rutila and J. Sorjonen

**Year:** 2014

**Title:** Co-parasites preferentially lay with kin and in safe neighbourhoods: experimental evidence from goldeneye ducks

**Journal:** Animal Behaviour

**Volume:** 91

**Pages:** 111-118

**Date:** May

**Short Title:** Co-parasites preferentially lay with kin and in safe neighbourhoods: experimental evidence from goldeneye ducks

**ISSN:** 0003-3472

**DOI:** 10.1016/j.anbehav.2014.03.015

**Accession Number:** WOS:000336458600015

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Behavior

**Abstract:** Conspecific brood parasitism (CBP) is an alternative reproductive tactic in several animal taxa. Recently the role of kinship in CBP has been in focus, and some studies have demonstrated high host-parasite relatedness in avian CBP systems. However, high natal and breeding site fidelity of hosts and parasites complicates the interpretation of previous observational findings, and the mechanisms leading to high host-parasite relatedness remain unknown. Some recent findings suggest that broadening the scope of the study of interactions may cast light on these mechanisms. We studied relatedness between parasites laying in the same nest (co-parasites) and factors possibly driving relatedness patterns between co-parasites in the common goldeneye, Bucephala clangula. Based on a field experiment, controlling for site fidelity and host role, we report here that both relatedness and safety of the nest site, and their interaction, affected the likelihood of two females engaging in co-parasitism. At the population level, parasites indeed seemed to lay eggs preferentially with kin. Analyses at a finer spatial scale revealed that high relatedness between co-parasites was not due to the philopatry effect only. Parasites engaging in co-parasitism also laid in safer neighbourhoods than parasites that did not engage in co-parasitism; the number of nondepredated nesting attempts the previous year was higher for the parasites engaging in co-parasitism. However, the interaction between relatedness and safety of the nest site suggests that co-parasitism at dangerous lakes was more likely to involve relatives. Our results provide the first experimental evidence that nest predation risk and interaction between related parasites are associated with kin-biased co-parasitism in a CBP system. (C) 2014 The Association for the Study of Animal Behaviour. Published by Elsevier Ltd. All rights reserved.

**Notes:** Poysa, Hannu Paasivaara, Antti Lindblom, Kari Rutila, Jarkko Sorjonen, Jorma

**URL:** <Go to ISI>://WOS:000336458600015

**Reference Type:**  Journal Article

**Record Number:** 31

**Author:** H. Poysa and M. Pesonen

**Year:** 2007

**Title:** Nest predation and the evolution of conspecific brood parasitism: From risk spreading to risk assessment

**Journal:** American Naturalist

**Volume:** 169

**Issue:** 1

**Pages:** 94-104

**Date:** Jan 2007

**Short Title:** Nest predation and the evolution of conspecific brood parasitism: From risk spreading to risk assessment

**Accession Number:** BCI:BCI200700082635

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) is a taxonomically widespread reproductive tactic. One of the earliest hypotheses put forward to explain the evolution of CBP was "risk spreading"; that is, by laying eggs in more than one nest, parasites may increase the likelihood that at least one offspring will survive to independence. However, the risk spreading hypothesis, based on the assumptions of random nest predation and random selection of target nests by parasites, was theoretically refuted soon after its appearance. New results from the common goldeneye (Bucephala clangula) have revealed that nests are not predated at random and that parasites preferentially lay in safe nests. By taking into account these findings and by modifying accordingly the basic assumptions of the earlier model that refuted the risk spreading hypothesis, we built a model to address the role of nest predation in the evolution of CBP. Model simulations revealed that the selective advantage of parasitic laying, related to nest predation, is much higher than previously thought. Furthermore, the invasion probability of parasitic tactic when initially rare was reasonably high within our model framework. We show that the use of risk assessing, instead of random risk spreading, makes parasitic laying evolutionarily advantageous.

**URL:** <Go to ISI>://BCI200700082635

**Reference Type:**  Journal Article

**Record Number:** 476

**Author:** H. Poysa and S. Poysa

**Year:** 2002

**Title:** Nest-site limitation and density dependence of reproductive output in the common goldeneye Bucephala clangula: Implications for the management of cavity-nesting birds

**Journal:** Journal of Applied Ecology

**Volume:** 39

**Issue:** 3

**Pages:** 502-510

**Date:** June, 2002

**Short Title:** Nest-site limitation and density dependence of reproductive output in the common goldeneye Bucephala clangula: Implications for the management of cavity-nesting birds

**Accession Number:** BCI:BCI200200425668

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Population Dynamics; Breeding Season;

**Abstract:** 1. Hole-nesting birds are frequently faced with a shortage of suitable nest sites in regions of intensive forest management. Nest boxes are sometimes provided to alleviate nest-site limitation in cavity-nesting waterfowl and are also recommended for several rare and endangered species. However, the impacts on effective breeding numbers and breeding success have rarely been considered, particularly in instances where density dependence might operate. 2. We experimentally manipulated nest sites to assess limits on the population size of a secondary cavity-nesting species, the common goldeneye Bucephala clangula, living on freshwater lakes. We also examined density dependence in their reproductive output. 3. Breeding pairs were counted in experimental and control areas over a 12-year period; for 4 years (1988-91) before nest box addition (1992-94 in the experimental area) and for 5 years (1995-99) afterwards. Broods were counted each year between 1988 and 1999 to study reproductive output. 4. Mean number of pairs per lake increased after the addition of nest boxes in the experimental area but not in the control area. However, neither the mean number of broods per lake nor the mean number of fledged birds per lake increased significantly in the experimental area. 5. When the whole period of 1988-99 was considered and data pooled from all the lakes, the numbers of broods and fledged birds showed negative density dependence of reproductive output. 6. Our results indicate that nest sites limit the population size of breeding common goldeneye, but show also that density-dependent factors operate to limit reproductive output. The possibility that density dependence may negate management actions directed at increasing breeding numbers in cavity-nesting waterfowl should be considered carefully before taking these actions. This also applies to nest box provisioning programmes aiming to manage populations of endangered species.

**URL:** <Go to ISI>://BCI200200425668

**Reference Type:**  Journal Article

**Record Number:** 519

**Author:** H. Poysa, M. Rask and P. Nummi

**Year:** 1994

**Title:** Acidification and ecological interactions at higher trophic levels in small forest lakes: The perch and the common goldeneye

**Journal:** Annales Zoologici Fennici

**Volume:** 31

**Issue:** 4

**Pages:** 397-404

**Short Title:** Acidification and ecological interactions at higher trophic levels in small forest lakes: The perch and the common goldeneye

**Accession Number:** BCI:BCI199598169313

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Population Dynamics; Contaminants; Breeding Season;

**Abstract:** The disappearance of acid sensitive fish species that usually are the most important top predators in freshwater ecosystems is an important ecological consequence of lake acidification. This may have beneficial consequences for insectivorous waterbirds that may compete for food with fish. We studied the response of common goldeneye (Bucephala clangula) pairs and broods to pH, perch (Perca fluviatilis) density and invertebrate abundance in small forest lakes in southern Finland. Neither the density of breeding pairs nor that of broods showed an overall trend with lake acidity but both of them increased with invertebrate abundance. Among three lakes studied in more detail for several years both pair density and brood density were highest in the lake with lowest pH and perch density and highest invertebrate abundance. Goldeneye brood density, but not pair density, increased after a sudden perch death in an experimental lake. Our results indicate that both breeding pairs and broods of goldeneyes may benefit of acidity-induced release in food competition after the disappearance of fish competitors.

**URL:** <Go to ISI>://BCI199598169313

**Reference Type:**  Journal Article

**Record Number:** 1942

**Author:** H. Poysa, J. Rintala, A. Lehikoinen and R. A. Vaisanen

**Year:** 2013

**Title:** The importance of hunting pressure, habitat preference and life history for population trends of breeding waterbirds in Finland

**Journal:** European Journal of Wildlife Research

**Volume:** 59

**Issue:** 2

**Pages:** 245-256

**Date:** Apr

**Short Title:** The importance of hunting pressure, habitat preference and life history for population trends of breeding waterbirds in Finland

**ISSN:** 1612-4642

**DOI:** 10.1007/s10344-012-0673-8

**Accession Number:** WOS:000316330500013

**Keywords:** Sea Ducks; Abundance, Distribution, and Trends; Conservation; Breeding Season

**Notes:** Times Cited: 1

Poysa, Hannu Rintala, Jukka Lehikoinen, Aleksi Vaisanen, Risto A.

1

**URL:** <Go to ISI>://WOS:000316330500013

**Reference Type:**  Journal Article

**Record Number:** 503

**Author:** H. Poysa, P. Runko and V. Ruusila

**Year:** 1997

**Title:** Natal philopatry and the local resource competition hypothesis: Data from the common goldeneye

**Journal:** Journal of Avian Biology

**Volume:** 28

**Issue:** 1

**Pages:** 63-67

**Short Title:** Natal philopatry and the local resource competition hypothesis: Data from the common goldeneye

**Accession Number:** BCI:BCI199799452976

**Keywords:** Common Goldeneye; Bucephala clangula; Dispersal; Breeding Season;

**Abstract:** Sex-biased local resource competition (LRC) between parents and offspring has been suggested to exert selection pressure on progeny sex ratio variation in birds. In a recent article Weatherhead and Montgomerie (1995) questioned that the assumptions underlying the LRC hypothesis are applicable to birds. We here study the basic assumptions of the LRC hypothesis with data from the Common Goldeneye Bucephala clangula. First, we found strong female-biased natal philopatry, as expected in Anseriformes. Second, of all the females breeding in the study area, individuals born there comprised a major proportion each year. Third, we document a considerable overlap between home ranges of breeding mothers and daughters. Our results, combined with results from other Common Goldeneye populations and other Bucephala species, give strong support for the assumptions of the LRC hypothesis to be applicable to birds, at least to some species.

**URL:** <Go to ISI>://BCI199799452976

**Reference Type:**  Journal Article

**Record Number:** 483

**Author:** H. Poysa, P. Runko, V. Ruusila and M. Milonoff

**Year:** 2001

**Title:** Identification of parasitized nests by using egg morphology in the Common Goldeneye: An alternative to blood sampling

**Journal:** Journal of Avian Biology

**Volume:** 32

**Issue:** 1

**Pages:** 79-82

**Date:** March, 2001

**Short Title:** Identification of parasitized nests by using egg morphology in the Common Goldeneye: An alternative to blood sampling

**Accession Number:** BCI:BCI200100227015

**Keywords:** Common Goldeneye; Bucephala clangula; Techniques; Breeding Season;

**Abstract:** We used data from three Common Goldeneye Bucephala clangula populations in Finland to study if the variation between females in egg morphology, as measured using a method developed by Eadie (1989), can be used to identify parasitized clutches. Eadie's method is based on z-score standardized measures of length, width, and weight of eggs. Using these measures, Euclidean distance for each pair of eggs within a clutch was calculated. Euclidean distance between the two most dissimilar eggs (maximum Euclidean distance, MED) was used as the criterion to identify parasitized clutches. Test clutches of 3 eggs that included one egg from each of three different females had a higher MED (2.80) than 3-egg clutches that included eggs from one female only (2.05), proving that there is statistically significant variation in egg morphology between females. Test clutches that included three eggs from each of three different females (9 eggs in all) had a mean MED of 4.51. The mean MED of naturally parasitized clutches (4.83) was higher than that of nonparasitized clutches (2.12). Further analyses suggested that MED > 3.0 can be used as a conservative and reliable criterion to identify parasitized clutches. Our results confirm that Eadie's method is reliable enough to identify parasitized clutches in Common Goldeneyes.

**URL:** <Go to ISI>://BCI200100227015

**Reference Type:**  Journal Article

**Record Number:** 482

**Author:** H. Poysa, V. Ruusila, M. Milonoff and J. Virtanen

**Year:** 2001

**Title:** Ability to assess nest predation risk in secondary hole-nesting birds: An experimental study

**Journal:** Oecologia (Berlin)

**Volume:** 126

**Issue:** 2

**Pages:** 201-207

**Date:** January, 2001

**Short Title:** Ability to assess nest predation risk in secondary hole-nesting birds: An experimental study

**Accession Number:** BCI:BCI200100113421

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Because nest predation is the major source of nesting mortality in birds, site-specific predation risk may play an important role in determining birds' ability to select nest sites that reduce predation risk. This possibility has not been adequately tested. Here we report on 5-year experiments by which we studied, independently from birds' earlier experience with specific nest boxes, both the selection and predation risk of nest sites in the common goldeneye (Bucephala clangula). New, previously unoccupied nest boxes were erected in two habitat types on three study areas. Experimentally measured predation risk in the nest boxes varied between 0 and 1.0, i.e. goldeneye females could select a nest site along a wide gradient of possible predation-risk values. We did not find a difference in predation risk between occupied and unoccupied nest boxes, nor was the order of nest box occupation associated with predation risk. A power analysis revealed that our test had reasonably high power to reject a false null hypothesis. Our results suggest that common goldeneye females likely have not evolved an ability to assess predation risk of new, previously unoccupied nest sites.

**URL:** <Go to ISI>://BCI200100113421

**Reference Type:**  Journal Article

**Record Number:** 520

**Author:** H. Poysa and J. Virtanen

**Year:** 1994

**Title:** Habitat selection and survival of common goldeneye (Bucephala clangula) broods: preliminary results

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 289-296

**Short Title:** Habitat selection and survival of common goldeneye (Bucephala clangula) broods: preliminary results

**Accession Number:** BCI:BCI199497325673

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Survival; Dispersal; Breeding Season;

**Abstract:** Factors affecting habitat selection and survival of individual Common Goldeneye (Bucephala clangula) broods were studied. Females were marked with radio transmitters and coloured wing tags, and their movements and that of their broods were followed to investigate the pattern of lake use. Broods frequently left hatching lakes and moved varying distances and made overland travels to reach actual brood rearing lakes. Food was more abundant and pH lower in rearing lakes compared with hatching lakes. Rearing lakes also were smaller and more isolated than hatching lakes but did not differ with respect to the structure of shore vegetation. Mortality rate varied considerably between broods. However, total distance moved and the length of overland travel was not associated with increased duckling mortality. Neither was mortality associated with the size, isolation or vegetation structure of the rearing lakes.

**URL:** <Go to ISI>://BCI199497325673

**Reference Type:**  Journal Article

**Record Number:** 501

**Author:** H. Poysa, J. Virtanen and M. Milonoff

**Year:** 1997

**Title:** Common goldeneyes adjust maternal effort in relation to prior brood success and not current brood size

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 40

**Issue:** 2

**Pages:** 101-106

**Short Title:** Common goldeneyes adjust maternal effort in relation to prior brood success and not current brood size

**Accession Number:** BCI:BCI199799498089

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season;

**Abstract:** Parental investment theory predicts that parental effort should be related to the reproductive value of the current brood. This depends on both the number of young and the survival prospects of each of them. Thus parents may provide more care to larger broods either because of (1) the direct effect of brood size per se on reproductive value (the "brood size" hypothesis) or because (2) past mortality, reflected in current brood size, predicts future mortality of the brood and hence its reproductive value (the "brood success" hypothesis). Earlier studies have not attempted to distinguish between these alternatives. We tested the hypotheses in the precocial, nidifugous common goldeneye Bucephala clangula, a species with uniparental female care. Maternal effort was measured as the time spent by the female in rearing the brood. We found that brood size itself is not associated with maternal effort, but that females modify their maternal effort according to the mortality already experienced by the brood, supporting the prediction of the brood success hypothesis. We also found that brood mortality varied considerably between broods and that previous mortality predicts future mortality within broods, basic assumptions of the brood success hypothesis.

**URL:** <Go to ISI>://BCI199799498089

**Reference Type:**  Book Section

**Record Number:** 1638

**Author:** R. W. Prach, A. R. Smith and A. Dzubin

**Year:** 1987

**Title:** Nesting of the Common Eider near the Hell Gate-Cardigan Strait Polynya Canada 1980-81

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 127-136

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Nesting of the Common Eider near the Hell Gate-Cardigan Strait Polynya Canada 1980-81

**Accession Number:** BCI:BCI198834004270

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI198834004270

**Reference Type:**  Journal Article

**Record Number:** 2196

**Author:** I. Pratte, M. D. Tomlik, T. A. Betsch, B. M. Braune, G. R. Milton and M. L. Mallory

**Year:** 2015

**Title:** Trace elements in eggs of common eiders (Somateria mollissima) breeding in Nova Scotia, Canada

**Journal:** Marine Pollution Bulletin

**Volume:** 100

**Issue:** 1

**Pages:** 586-591

**Date:** Nov

**Short Title:** Trace elements in eggs of common eiders (Somateria mollissima) breeding in Nova Scotia, Canada

**ISSN:** 0025-326X

**DOI:** 10.1016/j.marpolbul.2015.08.004

**Accession Number:** WOS:000366771400079

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Contaminants

**Abstract:** We provide the first report on trace element concentrations in eggs of common eiders (Somateria mollissima), a coastal benthic foraging sea duck, from Nova Scotia, Canada, and compare those to known values from this species elsewhere. Most trace elements of toxicological concern (Hg, Se, Cd, Cu, Zn) were lower in eider eggs from Nova Scotia than from eider eggs collected farther north in Canada, although As was elevated. Our data provide strong support for a pattern of increasing Hg at higher latitudes for this species. (C) 2015 Elsevier Ltd. All rights reserved.

**Notes:** Pratte, Isabeau Tomlik, Molly D. Betsch, Taylor A. Braune, Birgit M. Milton, G. Randy Mallory, Mark L.

**URL:** <Go to ISI>://WOS:000366771400079

**Reference Type:**  Journal Article

**Record Number:** 1786

**Author:** P. Prestrud

**Year:** 1991

**Title:** Summer Distribution and Population Size of the King Eider Somateria-Spectabilis in Svalbard Arctic Ocean

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 63-68

**Short Title:** Summer Distribution and Population Size of the King Eider Somateria-Spectabilis in Svalbard Arctic Ocean

**Accession Number:** BCI:BCI199192121678

**Keywords:** King Eider; Somateria spectabilis; Abundance, Distribution, and Trends; Breeding Season; Molt; Nonbreeding Seasons;

**Abstract:** Registrations of King Eiders were made throughout Svalbard in the period 1982-1985. In addition, records of casual observations of King Eiders in the period 1970-1985 were collected in a fauna database. The most important breeding grounds were found between Bellsund and Isfjorden. Moulting takes place along the western coast of Spitsbergen in July-August, and large flocks are found at the outlet of Isfjorden, in Bellsund, and between Hornsund and Sorkapp, at this time of the year. The minimum and maximum population size in August is estimated at about 2,500 and 4,000-5,000 individuals respectively.

**URL:** <Go to ISI>://BCI199192121678

**Reference Type:**  Journal Article

**Record Number:** 1601

**Author:** P. Prestrud and F. Mehlum

**Year:** 1991

**Title:** Population Size and Summer Distribution of the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean 1981-1985

**Journal:** Norsk Polarinstitutt Skrifter

**Issue:** 195

**Pages:** 9-20

**Short Title:** Population Size and Summer Distribution of the Common Eider Somateria-Mollissima in Svalbard Arctic Ocean 1981-1985

**Accession Number:** BCI:BCI199192122757

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The most important breeding localities of the Common Eider in Svalbard are mapped on the basis of surveys made during the five summer seasons 1981-1985. The breeding populations along the western and eastern coasts are estimated to be 12,000-17,000 and 1,500-3,500 pairs respectively. The most important moulting areas are found along the western coast of Spitsbergen, particularly along the western coast of Prins Karls Forland and Nordenskioldkysten. There have been no significant increases in the breeding population since the establishment of the bird sancturaries in 1973. The total late summer population is estimated to be 80,000-140,000 individuals. The population at the turn of the century was probably more, but not as much as 10 times larger as stated in earlier publications.

**URL:** <Go to ISI>://BCI199192122757

**Reference Type:**  Journal Article

**Record Number:** 636

**Author:** M. D. Priebe

**Year:** 1952

**Title:** Acanthocephalan parasites of waterbirds in Eastern Washington

**Journal:** Trans Amer Microsc Soc

**Volume:** 71

**Issue:** (4)

**Pages:** 347-349

**Short Title:** Acanthocephalan parasites of waterbirds in Eastern Washington

**Accession Number:** BCI:BCI19532700008041

**Keywords:** Bufflehead; Bucephala albeola; Parasites;

**Abstract:** In an examination of 199 waterbirds for the presence of Acanthocephala, 42 birds, including 16 spp., were found infected. New hosts for Acanthocephala were the Holboell Grebe, the Black Crowned Night Heron and the Caspian Tern. The presence of the Acanthocephalans Corynosoma constrictum in the Bufflehead and Polymorphus trochus in the Common Mallard has not been previously noted. Pathological examination of infected birds demonstrated that heavy infections can cause losses of birds due to inflammatory reaction and fibrosis in the intestinal wall, whereas light infections produce little change in the intestinal mucosa. || ABSTRACT AUTHORS: M. D. Priebe

**URL:** <Go to ISI>://BCI19532700008041

**Reference Type:**  Journal Article

**Record Number:** 570

**Author:** H. H. Prince

**Year:** 1968

**Title:** Nest sites used by wood ducks and common goldeneyes in New Brunswick

**Journal:** J Wildl Manage

**Volume:** 32

**Issue:** (3)

**Pages:** 489-500

**Short Title:** Nest sites used by wood ducks and common goldeneyes in New Brunswick

**Accession Number:** BCI:BCI19684900114733

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Breeding Season;

**Abstract:** Silver maple (Acer saccharinum) and elm (Ulmus americana) are dominant tree species in the floodplain forest along the St. John River in central New Brunswick. In the continuous forest there were 5. 5 "good" duck nest cavities per hectare (2. 47 acres). Silver maples or elms growing on marginal sites were more likely to contain a suitable nesting cavity. For all tree species around active duck nest sites, the total density and dominance values were 19 to 32[degree]/o of the values in the nearby forest, suggesting that for ducks to use the area the forest around cavities must be relatively open. Around the sites of 24 wood duck (Aix sponsa) and 16 goldeneye (Bucephala clangula) nests, the trees numbered about the same, but they were larger at wood duck sites. Very little competition for nest sites was observed between wood ducks and goldeneyes; they appeared to use different forest areas. The nest cavities used by goldeneyes varied less in dimension than those used by wood ducks, even though the same variety was available to each species. Cavity diameter seemed important in goldeneye nest selection. The few black duck (Anas rubripes) cavities differed from those of wood ducks and goldeneyes in being open and shallow. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19684900114733

**Reference Type:**  Journal Article

**Record Number:** 204

**Author:** S. J. Proctor, G. L. Pearson and L. Liebovitz

**Year:** 1975

**Title:** Color Atlas of Wildlife Pathology Part 2 Duck Plague in Free Flying Waterfowl Observed During the Lake Andes Epizootic

**Journal:** Wildlife Diseases

**Issue:** 67

**Pages:** 1-59

**Short Title:** Color Atlas of Wildlife Pathology Part 2 Duck Plague in Free Flying Waterfowl Observed During the Lake Andes Epizootic

**Accession Number:** BCI:BCI197662049430

**Keywords:** Sea Ducks - General; Common merganser; Disease; Nonbreeding Seasons;

**Abstract:** The 1st major epizootic of duck plague in free-flying waterfowl occurred at Lake Andes, South Dakota [USA], in January and February 1973. Duck plague was diagnosed in black ducks, mallards, pintail-mallard hybrids, redheads, common mergansers, common golden eyes, canvasbacks, American widgeon, wood ducks and Canada geese, indicating the general susceptibility of ducks to duck plague. Clincial signs observed in mallards were droopiness, polydipsia lethargy, reduced wariness, weakness, reluctance to fly, swimming in circles, bloody diarrhea, bloody fluid draining from the nares and bill and terminal convulsions. Because the mallard was the most numerous and heavily infected species during the Lake Andes epizootic, gross and microscopic lesions of the gastrointestinal tract, liver, spleen, thymus, bursa of Fabricius, heart, lung, bone marrow, pancreas and ovaries were described. Lesions of the esophagus and cloaca were seen in the stratified squamous epithelium, submucosal lymphoid nodules and esophageal submucosal glands. In the small and large intestine, lesions were located in lymphocytic aggregates, lamina propria and crypt epithelium. Hemorrhages and necrosis of hepatocytes and bile duct epithelium were noted in the liver. Hemorrhages in other tissues, i.e., the lung and heart, were often associated with lymphoid nodules while those in organs such as the pancreas were associated with acinar necrosis. Intranuclear inclusion bodies were seen in stratified squamous epithelium of the esophagus and cloaca, crypt epithelium of the intestine, hepatocytes, bile duct epithelium, cells of Hassel's corpuscles, splenic periarteriolar reticular cells and epithelial cells in the bursa of Fabricius.

**URL:** <Go to ISI>://BCI197662049430

**Reference Type:**  Journal Article

**Record Number:** 2197

**Author:** J. F. Provencher, H. G. Gilchrist, M. L. Mallory, G. W. Mitchell and M. R. Forbes

**Year:** 2016

**Title:** Direct and indirect causes of sex differences in mercury concentrations and parasitic infections in a marine bird

**Journal:** Science of the Total Environment

**Volume:** 551

**Pages:** 506-512

**Date:** May

**Short Title:** Direct and indirect causes of sex differences in mercury concentrations and parasitic infections in a marine bird

**ISSN:** 0048-9697

**DOI:** 10.1016/j.scitotenv.2016.02.055

**Accession Number:** WOS:000372589800053

**Keywords:** Common Eider; Somateria mollissima; Parasites; Contaminants

**Abstract:** In many animal species, males and females differ in their levels of contaminants and/or parasitic infections. Most contaminants and gastro-intestinal parasites are obtained through prey ingestion, and thus the causes of sex differences in the distribution of these factors might follow similar pathways. We studied the northern common eider duck (Somateria molissima borealis) as an avian model, and used directed separation path analysis to explore the causes of sex differences in mercury (Hg) and gastro-intestinal helminths. Two trophically transmitted helminths were examined: a cestode (Lateriporus sp.) and an acanthocephalan (Polymorphus sp). We found that the number of Lateriporus sp. varied positively with stable isotope signature (as indicated by delta N-15 in eider breast muscle tissue), and negatively with crustaceans being present in the short term diet. We also found that Polymorphus sp. varied positively with eider tissue stable isotope signature. However, Polymorphus sp. varied negatively with sex indirectly through condition and liver mass. Similarly, Hg concentrations also varied negatively with sex indirectly through condition and liver mass, with both Polymorphus sp. intensity and Hg concentrations significantly higher in males. We found that model fit increased when a negative relationship between the two helminth species was included, suggesting a yet unknown causal mechanism linking these parasites. Our findings suggest that although Hg and gastro-intestinal parasites are both trophically transmitted through the eider's prey items, the factors that contribute towards bioaccumulation of these two burdens differ in source, likely caused by several different factors and may potentially influence each other. (C) 2016 Elsevier B.V. All rights reserved.

**Notes:** Provencher, J. F. Gilchrist, H. G. Mallory, M. L. Mitchell, G. W. Forbes, M. R.

**URL:** <Go to ISI>://WOS:000372589800053

**Reference Type:**  Journal Article

**Record Number:** 1196

**Author:** L. Quakenbush, R. Suydam, T. Obritschkewitsch and M. Deering

**Year:** 2004

**Title:** Breeding biology of Steller's eiders (Polysticta stelleri) near Barrow, Alaska, 1991 - 99

**Journal:** Arctic

**Volume:** 57

**Issue:** 2

**Pages:** 166-182

**Date:** June 2004

**Short Title:** Breeding biology of Steller's eiders (Polysticta stelleri) near Barrow, Alaska, 1991 - 99

**Accession Number:** BCI:BCI200400413971

**Keywords:** Steller's eider; Polysticta stelleri; Productivity; Habitat; Breeding Season;

**Abstract:** The breeding biology of Steller's Ciders (Polysticta stelleri) near Barrow, Alaska, was studied from 1991 to 1999. The number of nests found per year ranged from 0 to 78. Mean clutch size was 5.4 (SD = 1.6, n = 5 1), incubation period was 24 days, and Mayfield nest success ranged from 0 to 35%. Egg survival was 24% overall (n = 45 1). Most nests were found on the rims of low-centered polygons near ponds with emergent vegetation. Marked broods remained within 700 rn of their nest sites, and duckling survival was low. Steller's ciders nested in five of the nine years studied, corresponding with years of high lemming density and nesting pomarin jaegers (Stercorarius pomarinus) and snowy owls (Bubo scandiacus). Steller's eiders may choose to nest only in years with abundant lemmings for two reasons: first, abundant lemmings provide an alternative prey source for foxes and other predators of ciders; second, jaegers and owls defending their own nests may inadvertently provide protection to ciders nesting nearby.

**URL:** <Go to ISI>://BCI200400413971

**Reference Type:**  Journal Article

**Record Number:** 1199

**Author:** L. T. Quakenbush, R. H. Day, B. A. Anderson, F. A. Pitelka and B. J. McCaffery

**Year:** 2002

**Title:** Historical and present breeding season distribution of Steller's Eiders in Alaska

**Journal:** Western Birds

**Volume:** 33

**Issue:** 2

**Pages:** 99-120

**Date:** September 15, 2002

**Short Title:** Historical and present breeding season distribution of Steller's Eiders in Alaska

**Accession Number:** BCI:BCI200200564054

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The Alaska breeding population of the Steller's Eider (Polysticta stelleri) occurs as two subpopulations, one on the Arctic coastal plain of northern Alaska, primarily near Barrow, and the other on the Yukon-Kuskokwim Delta of western Alaska. In 1997, the Alaska breeding population was listed under the Endangered Species Act as threatened because the nesting range and population were thought to have decreased substantially. The historical (pre-1970) and recent (1970-present) breeding distribution and abundance of Steller's Eiders, however, are not well known. We compiled and evaluated the historical and recent records of breeding-season distribution, confirmed nesting for northern and western Alaska, and found that the overall sizes of the breeding ranges have not changed substantially; however, the frequency of breeding has decreased in both regions, except near Barrow. Causes of this reduction in breeding frequency of Steller's Eiders in Alaska are unknown, but changes in predator populations, lead poisoning, and interspecific nesting associations with Snowy Owls (Nyctea scandiaca) and Pomarine Jaegers (Stercorarius pomarinus) may be contributing factors.

**URL:** <Go to ISI>://BCI200200564054

**Reference Type:**  Journal Article

**Record Number:** 1658

**Author:** S. E. Quinlan and W. A. Lehnhausen

**Year:** 1982

**Title:** Arctic Fox Alopex-Lagopus Predation on Nesting Common Eiders Somateria-Mollissima at Icy Cape Alaska USA

**Journal:** Canadian Field-Naturalist

**Volume:** 96

**Issue:** 4

**Pages:** 462-466

**Short Title:** Arctic Fox Alopex-Lagopus Predation on Nesting Common Eiders Somateria-Mollissima at Icy Cape Alaska USA

**Accession Number:** BCI:BCI198376071291

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** Arctic foxes, Alopex lagopus, preyed on common eiders, Somateria mollissima, nesting on a barrier island at Icy Cape, Alaska. Small clutches and late nesting in the common eiders possibly resulted from predation early in the season. Foxes had access to 1 barrier island via an estuarine mudflat and presumably swam to reach the adjacent island containing an eider colony. A single fox destroyed the colony, cached an estimated 500 eggs, and killed at least 1 female eider. Glaucous gull, (Larus hyperboreus) nests were also destroyed by foxes, but arctic tern (Sterna paradisaea) nests survived. Man-made causeways connecting the mainland to a barrier island could provide easier summer access to barrier island systems for foxes and thus pose a threat to common eider nesting colonies along the Chukchi and Beaufort Sea coasts.

**URL:** <Go to ISI>://BCI198376071291

**Reference Type:**  Journal Article

**Record Number:** 91

**Author:** R. Raab

**Year:** 2003

**Title:** Impact of the construction of the hydroelectric power plant Freudenau (Vienna) on the wintering stocks of waterbirds on the Danube in Vienna

**Journal:** Denisia

**Issue:** 10

**Pages:** 159-179

**Date:** 20 November, 2003

**Short Title:** Impact of the construction of the hydroelectric power plant Freudenau (Vienna) on the wintering stocks of waterbirds on the Danube in Vienna

**Accession Number:** BCI:BCI200400213378

**Keywords:** Sea Ducks - General; Common merganser; Conservation; Nonbreeding Seasons;

**Abstract:** From winter 1997/98 to winter 2000/01 the number of waterbirds on the Danube in Vienna as well as on the New Danube and on the Old Danube was counted in the course of 16 field trips per year. 44 species of waterbirds, six gulls and eight hybrid species and 391313 individuals respectively were observed. Most frequent was the Black-headed Gull with a maximum of 15579 individuals a day, Malard and Coot dominate among the waterbirds (without gulls). From 1994/95 to 2000/01, Danube area at Vienna was of national importance for seven waterbird species. The Danube met the criterion for five species, the Old Danube for two and the New Danube for all seven species. So far, the New Danube is the first and only waterbody with national importance for the Smew. Compared to the conditions before, neighter significant increase of the Tufted Duck, the Pochard and the Coot nor a decrease of the Goosander could be found during the first four years after the completion of the hydroelectric power plant Freudenau (Vienna). High numbers of waterbirds on the Danube at Vienna were observed only when the New Danube was largely frozen. In this case, some of the waterbirds on the New Danube moved to the Danube at Vienna. After the full damming up, waterbirds were nearly four times as abundant in stretches rich in structure (side channels and coves) as in poorly structured stretches. Coot, Mute Swan and Tufted Duck showed an even stronger preference for structures. The for ecological reasons great effort of creating a structured shoreline with coves and side channels was worth it for the waterbirds. In spite of the construction of the retainment area, no significant increase of midwinter waterbird numbers has been observed on the Danube at Vienna from 1964/65 (beginning of the waterbird census) to 2000/01.

**URL:** <Go to ISI>://BCI200400213378

**Reference Type:**  Journal Article

**Record Number:** 864

**Author:** O. Rad

**Year:** 1980

**Title:** Breeding Distribution and Habitat Selection of Red-Breasted Mergansers Mergus-Serrator in Fresh Water in Western Norway

**Journal:** Wildfowl

**Volume:** 31

**Pages:** 53-56

**Short Title:** Breeding Distribution and Habitat Selection of Red-Breasted Mergansers Mergus-Serrator in Fresh Water in Western Norway

**Accession Number:** BCI:BCI198171072073

**Keywords:** Red-breasted merganser; Mergus serrator; Habitat; Breeding Season;

**Abstract:** The breeding distribution and habitat selection of the red-breasted merganser, M. serrator, was investigated in west Norwegian freshwaters. The distribution is closely related to the distribution of the 3-spined stickleback, Gasterosteus aculeatus. The ducklings require small fishes, easily accessible in shallow waters. Stickleback is the only fish species in western Norway which fulfills these requirements. A female merganser selects her breeding habitat from the structural characteristics of lakes and from quality and quantity of the food present for the young.

**URL:** <Go to ISI>://BCI198171072073

**Reference Type:**  Journal Article

**Record Number:** 77

**Author:** J.-F. Rail and G. Chapdelaine

**Year:** 2004

**Title:** Fifteenth census of seabird populations in the sanctuaries of the North Shore of the Gulf of St. Lawrence, 1998-1999

**Journal:** Canadian Field-Naturalist

**Volume:** 118

**Issue:** 2

**Pages:** 256-263

**Date:** Apr-Jun04

**Short Title:** Fifteenth census of seabird populations in the sanctuaries of the North Shore of the Gulf of St. Lawrence, 1998-1999

**Accession Number:** BCI:BCI200510109574

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends;

**Abstract:** For the first time since the tradition began in 1925, the quinquennial census of seabirds in the Migratory Bird Sanctuaries of the North Shore of the Gulf of St. Lawrence was divided between two years in 1998-1999. Trends between 1993 and 1998-1999 were variable across species and sanctuaries. In particular, following the large decreases in both species noted in 1993, the 1998-1999 survey showed that Black-legged Kittiwakes had declined further, while the number of Herring Gulls had stabilized. Alcids were all doing well except for the Atlantic Puffin which showed severe yet unexplained drops at all major colonies. Law enforcement efforts appear reflected in seabird population trends, as well-patrolled sanctuaries such as St. Mary's Islands seem to do well, whereas many species at the Baie des Loups and (I) over cap le a la Brume sanctuaries are far from their historical levels. In addition to a better law enforcement program, research is needed in order to identify other conservation problems that some species may be facing. .

**URL:** <Go to ISI>://BCI200510109574

**Reference Type:**  Journal Article

**Record Number:** 1360

**Author:** J.-F. Rail and R. Cotter

**Year:** 2007

**Title:** Sixteenth Census of Seabird Populations in the Sanctuaries of the North Shore of the Gulf of St. Lawrence, 2005

**Journal:** Canadian Field-Naturalist

**Volume:** 121

**Issue:** 3

**Pages:** 287-294

**Date:** Jul-Sep 2007

**Short Title:** Sixteenth Census of Seabird Populations in the Sanctuaries of the North Shore of the Gulf of St. Lawrence, 2005

**Accession Number:** BCI:BCI200900211177

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The Migratory Bird Sanctuaries of the North Shore of the Gulf of St. Lawrence are important breeding grounds for many seabird species. The quinquennial censuses of seabirds in these sanctuaries have been carried Out for 80 years (since 1925). in order to detect changes in the distribution and population levels of seabirds breeding on the North Shore. Between 1998-1999 and 2005, the most striking trends observed were the near doubling in numbers of Common Eiders in most sanctuaries, and the strong population growth rate of Razorbill. Unexplainable declines of Common Murre and Atlantic Puffin were observed at some of the larger colonies of these species. The last active colonies of Leach's Storm-Petrel (Corossol Island) and Caspian Tern (Ile a la Brume) on the North Shore seem on the verge of disappearing, with zero and three birds observed in 2005, respectively. Seabird populations in the larger, more accessible and disturbed sanctuaries are still markedly smaller than in historical times.

**URL:** <Go to ISI>://BCI200900211177

**Reference Type:**  Journal Article

**Record Number:** 9

**Author:** A. M. Ramey, J. M. Pearce, C. R. Ely, L. M. S. Guy, D. B. Irons, D. V. Derksen and H. S. Ip

**Year:** 2010

**Title:** Transmission and reassortment of avian influenza viruses at the Asian-North American interface

**Journal:** Virology

**Volume:** 406

**Issue:** 2

**Pages:** 352-359

**Date:** Oct 25 2010

**Short Title:** Transmission and reassortment of avian influenza viruses at the Asian-North American interface

**Accession Number:** BCI:BCI201000578899

**Keywords:** Sea Ducks - General; Disease;

**Abstract:** Twenty avian influenza viruses were isolated from seven wild migratory bird species sampled at St. Lawrence Island, Alaska. We tested predictions based on previous phylogenetic analyses of avian influenza viruses that support spatially dependent trans-hemispheric gene flow and frequent interspecies transmission at a location situated at the Asian-North American interface. Through the application of phylogenetic and genotypic approaches, our data support functional dilution by distance of trans-hemispheric reassortants and interspecific virus transmission. Our study confirms infection of divergent avian taxa with nearly identical avian influenza strains in the wild. Findings also suggest that H16N3 viruses may contain gene segments with unique phylogenetic positions and that further investigation of how host specificity may impact transmission of H13 and H16 viruses is warranted. Published by Elsevier Inc.

**URL:** <Go to ISI>://BCI201000578899

**Reference Type:**  Journal Article

**Record Number:** 1943

**Author:** A. M. Ramey, J. M. Pearce, A. B. Reeves, J. C. Franson, M. R. Petersen and H. S. Ip

**Year:** 2011

**Title:** Evidence for limited exchange of avian influenza viruses between seaducks and dabbling ducks at Alaska Peninsula coastal lagoons

**Journal:** Archives of Virology

**Volume:** 156

**Issue:** 10

**Pages:** 1813-1821

**Date:** Oct

**Short Title:** Evidence for limited exchange of avian influenza viruses between seaducks and dabbling ducks at Alaska Peninsula coastal lagoons

**ISSN:** 0304-8608

**DOI:** 10.1007/s00705-011-1059-z

**Accession Number:** WOS:000296510200012

**Keywords:** Sea Ducks; Disease; Nonbreeding Seasons

**Notes:** Times Cited: 3

Ramey, Andrew M. Pearce, John M. Reeves, Andrew B. Franson, J. Christian Petersen, Margaret R. Ip, Hon S.

3

**URL:** <Go to ISI>://WOS:000296510200012

**Reference Type:**  Journal Article

**Record Number:** 2328

**Author:** A. M. Ramey, A. B. Reeves, R. L. Poulson, J. Wasley, D. Esler and D. E. Stallknecht

**Year:** 2015

**Title:** Sampling of Sea Ducks for Influenza A Viruses in Alaska during Winter Provides Lack of Evidence for Epidemiologic Peak of Infection

**Journal:** Journal of Wildlife Diseases

**Volume:** 51

**Issue:** 4

**Pages:** 938-941

**Date:** Oct

**Short Title:** Sampling of Sea Ducks for Influenza A Viruses in Alaska during Winter Provides Lack of Evidence for Epidemiologic Peak of Infection

**ISSN:** 0090-3558

**DOI:** 10.7589/2015-03-057

**Accession Number:** WOS:000362441100022

**Keywords:** King Eider; Black Scoter; White-winged Scoter; Surf Scoter; Barrow’s Goldeneye; Long-tailed Duck; Harlequin Duck; Somateria spectabilis; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Clangula hyemalis; Histrionicus histrionicus; Nonbreeding season; Disease

**Abstract:** Sampling of sea ducks for influenza A viruses in Alaska during winter provided no evidence for an epidemiologic peak of infection. Isolates were recovered, however, that provide information on viral diversity and dispersal that may not be realized through sampling efforts focused on other avian taxa.

**Notes:** Ramey, Andrew M. Reeves, Andrew B. Poulson, Rebecca L. Wasley, Jeff Esler, Daniel Stallknecht, David E.

**URL:** <Go to ISI>://WOS:000362441100022

**Reference Type:**  Journal Article

**Record Number:** 2329

**Author:** A. J. Raquel, J. H. Devries, D. W. Howerter, R. T. Alisauskas, S. W. Leach and R. G. Clark

**Year:** 2016

**Title:** Timing of nesting of upland-nesting ducks in the Canadian prairies and its relation to spring wetland conditions

**Journal:** Canadian Journal of Zoology

**Volume:** 94

**Issue:** 8

**Pages:** 575-581

**Date:** Aug

**Short Title:** Timing of nesting of upland-nesting ducks in the Canadian prairies and its relation to spring wetland conditions

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2016-0021

**Accession Number:** WOS:000380889000005

**Keywords:** White-winged Scoter; Melanitta fusca; Breeding Season; Behavior; Habitat

**Abstract:** Timing of breeding varies among waterfowl species and individuals, with strong effects on reproductive success, and may be related to habitat quality. Here, we analyse the start, span, and end of the nesting season for nine upland-nesting duck species at 166 Canadian Prairie-Parkland sites over 34 years to better characterize nesting patterns and test whether and how species respond to May pond abundances. Nesting metrics were compared between single-site versus multiple-site studies over 7 years to evaluate the effects of spatial scale and methodology. Strong, consistent differences in start of nesting were found among duck species, being earliest for Northern Pintail (Anas acuta L., 1758) and Mallard (Anas platyrhynchos L., 1758), followed by Northern Shoveler (Anas clypeata L., 1758), American Green-winged Teal (Anas crecca carolinensis Gmelin, 1789 = Anas carolinensis Gmelin, 1789), Blue-winged Teal (Anas discors L., 1766), American Wigeon (Anas americana Gmelin, 1789), Gadwall (Anas strepera L., 1758), and lastly by Lesser Scaup (Aythya affinis (Eyton, 1838)) and White-winged Scoter (Melanitta fusca deglandi (Bonaparte, 1850)). Span and end of nesting were related to May pond abundances, but the strength of these relationships varied among species, presumably reflecting the flexible (re-)nesting potential of individuals of some species in response to wetland-habitat quality.

**Notes:** Raquel, A. J. Devries, J. H. Howerter, D. W. Alisauskas, R. T. Leach, S. W. Clark, R. G.

**URL:** <Go to ISI>://WOS:000380889000005

**Reference Type:**  Journal Article

**Record Number:** 2255

**Author:** D. P. Rave, M. C. Zicus, J. R. Fieberg, L. Savoy and K. Regan

**Year:** 2014

**Title:** Trends in Eggshell Thickness and Mercury in Common Goldeneye and Hooded Merganser Eggs

**Journal:** Wildlife Society Bulletin

**Volume:** 38

**Issue:** 1

**Pages:** 9-13

**Date:** Mar

**Short Title:** Trends in Eggshell Thickness and Mercury in Common Goldeneye and Hooded Merganser Eggs

**ISSN:** 1938-5463

**DOI:** 10.1002/wsb.355

**Accession Number:** WOS:000351429800003

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Breeding Season; Contaminants

**Abstract:** Environmental contaminants such as dichloro diphenyl trichloroethane (DDT), polychlorinated biphenyls (PCBs), and mercury are associated with physiological problems in wildlife. DDT and PCBs were banned in North America in the 1970s, but these contaminants sometimes persist in the environment and can cause reproductive problems, including eggshell thinning. In contrast, mercury deposition from anthropogenic sources is a continuing if not growing concern globally. We measured thickness of common goldeneye (Bucephala clangula) and hooded merganser (Lophodytes cucullatus) eggshells collected in 2003-2004 in Minnesota, USA, to compare with measurements taken prior to (approx. 1900) and after (1981) widespread DDT use. We also compared egg-mercury concentration (ppm) in goldeneye and merganser eggs collected in 2003-2004 with a 1981 collection. Mean eggshell thickness was 0.401 mm (SE = 0.003) and 0.606 mm (SE = 0.008) for goldeneyes and mergansers, respectively. This was 9.0% (goldeneyes) and 6.0% (mergansers) greater than in 1981. Mean thickness of goldeneye eggshells remained 7.8% less than the mean prior to widespread DDT use; whereas, merganser eggshell thickness was statistically similar to pre-DDT thickness. Mean Ratcliffe's index, a measure of eggshell quality, also increased for goldeneyes (2.52, SE = 0.021) and mergansers (3.78, SE = 0.042) since 1981. Goldeneye values were statistically similar to, while merganser values remained 5.6% less than, pre-DDT values. Geometric mean concentrations of mercury (wet wt) have declined since 1981 in merganser eggs (0.33 ppm, SE = 0.024), and were statistically unchanged in goldeneye eggs (0.13 ppm, SE = 0.011). Continued monitoring of wildlife populations for contaminants is important because wildlife may serve as an indicator of overall ecosystem health. (C) 2013 The Wildlife Society.

**Notes:** Rave, David P. Zicus, Michael C. Fieberg, John R. Savoy, Lucas Regan, Kevin

**URL:** <Go to ISI>://WOS:000351429800003

**Reference Type:**  Report

**Record Number:** 2376

**Author:** G. H. Raven and D. L. Dickson

**Year:** 2006

**Title:** Changes in Distribution and Abundance of Birds on Western Victoria Island from 1992-1994 to 2004-2005

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 456

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Changes in Distribution and Abundance of Birds on Western Victoria Island from 1992-1994 to 2004-2005

**Keywords:** Common Eider; King Eider; Long-tailed Duck; Somateria mollissima; Somateria spectabilis; Clangula hyemalis; Breeding season; Abundance, Distribution, & Trends

**Abstract:** Annual waterfowl breeding population surveys do not adequately cover breeding grounds

for many species nesting in the Canadian arctic. Baseline surveys were conducted on western

Victoria Island 1992-1994. In 2004 and 2005 we resurveyed western Victoria Island to obtain

current population estimates and determine trends for bird species since the 1992-1994 surveys.

We calculated visibility correction factors (VCF) for the three main species encountered

during the 2004-2005 surveys using a double-count method. The VCF for King Eiders

(Somateria spectabilis) was 1.435, for Canada Geese (Branta hutchinsii) was 1.617, and for

Long-tailed Duck (Clangula hyemalis) was 1.833.

The mean breeding population estimate for King Eiders on western Victoria Island in

2004-2005 was 33 199, which is 54% below the mean estimate from the 1992-1994 surveys.

Proportional population decreases occurred throughout western Victoria Island for King Eiders

except on Diamond Jenness Peninsula where estimates decreased by 92%.

Long-tailed Duck densities remained low throughout western Victoria Island and

population estimates were slightly below those from the 1992-1994 surveys.

The mean breeding population estimate for Canada Geese on western Victoria Island was

80 092; an increase of 18% over the 1992-1994 mean estimate. Mean estimates for Canada

Geese on Prince Albert Peninsula increased by 244% between the two survey periods indicating

the breeding range is expanding northward. White-fronted Geese (Anser albifrons) were

common in the southwest but rare on northwestern Victoria Island, and showed no change in

number between survey periods. Lesser Snow Geese (Chen caerulescens caerulescens) numbers

more than doubled on southwestern Victoria Island between the two survey periods. Most

observations were small flocks of non-breeders. Black Brant (Branta bernicla nigricans) were

very rare on western Victoria Island and numbers have continued to decrease since the surveys

were last completed.

Estimates of Tundra Swans (Cygnus columbianus) were low in 2004 but rebounded in

2005. A late spring occurred on western Victoria Island in 2004 and likely affected estimates.

More typical spring conditions were observed in 2005. Highest densities on Tundra Swans

occurred in the Kagloryuak River valley and southwestern Victoria Island. Few swans were seen

north of Prince Albert Sound. Sandhill Crane (Grus canadensis) observations on northwestern

Victoria Island were low in 2004 but similar to swans they rebounded in 2005 to numbers more

representative of the earlier surveys.

Three species of loons (Gavia spp.) were observed on western Victoria Island: Yellowbilled

Loons (G. adamsii), Red-throated Loons (G. stellata), and Pacific Loons (G. pacifica).

Loons were distributed throughout western Victoria Island. Population indices for northwestern

Victoria Island were lower than those observed in the previous surveys but numbers were stable

in southwestern Victoria Island.

Three species of jaegers (Stercorarisu spp.) were observed on western Victoria Island:

Pomarine Jaegers (S. pomarinus), Parasitic Jaegers (S. parasiticus), and Long-tailed Jaegers (S.

longicaudus). Jaeger numbers decreased since the 1992-1994 surveys, although a rebound

occurred in 2005, largely due to an increasing number of Pomarine and Long-tailed Jaegers. The

population rebound of Pomarine and Long-tailed Jaegers occurred in conjunction with a rebound

in Snowy Owl (Bubo scandiacus) numbers, another predator of lemmings. Other raptors

observed on western Victoria Island were Rough-legged Hawks (Buteo lagopus), Peregrine

Falcons (Falco peregrinus), and Short-eared Owls (Asio flammeus).

Glaucous Gulls (Larus hyperboreus) were widespread throughout western Victoria Island

with a distribution similar to that observed during the 1992-1994 surveys. Although numbers

were low in 2004 compared to the earlier surveys, they appeared to recover in 2005.

**Reference Type:**  Report

**Record Number:** 2356

**Author:** G. H. Raven and D. L. Dickson

**Year:** 2009

**Title:** Surveys of Pacific Common Eiders (Somateria mollissima v-nigra) in the Bathurst Inlet area of Nunavut, 2006-2008.

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 503

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Surveys of Pacific Common Eiders (Somateria mollissima v-nigra) in the Bathurst Inlet area of Nunavut, 2006-2008.

**Keywords:** Common Eider; Somateria mollissima; Breeding season; Abundance, Distribution, & Trends; SDJV funded

**Abstract:** There is currently no regular breeding population survey to monitor Pacific Common

Eider (Somateria mollissima v nigra) population trends in Canada. Concern for this subspecies

of eider arose when migration counts showed a decline of more than 50% in the Canadian

breeding population between 1976 and 1996. A survey of much of their breeding range in the

central arctic in 1995 indicated that about 25% of the Canadian breeding population occurs

within the Bathurst Inlet area of Nunavut. Given the relatively high density of eiders, isolation

from the rest of the breeding range and logistical feasibility, we selected the Bathurst Inlet area

to establish a baseline for monitoring the Canadian breeding population of Pacific Common

Eider. Accordingly, we conducted three years of surveys from 2006-2008 using a technique

similar to that used in 1995.

We surveyed for eiders during the early stages of nest initiation each year between 24

June and 2 July. Near complete survey coverage was attained in 1995, 2007 and 2008, while in

2006 only about a third of the study area was surveyed. Numbers of Pacific Common Eiders

observed in 2007 were 4233 males and 4048 females. Results were similar but slightly higher in

2008 with 4916 males and 4578 females observed. These numbers are well below totals

observed for the same areas in 1995 when 8950 males and 7809 females were observed. These

data indicate a 43.3 - 50.6% decline in number of eiders in the Bathurst Inlet area since 1995.

Detection surveys using a double-counting technique were conducted in each of the three

recent years of the survey. In 2006 limited effort was put forth for detection surveys due to

limitations with aircraft time and weather. Detection surveys that year were done in areas with

low eider densities resulting in a small sample size and a visibility correction factor (VCF) of

2.04. In 2007 and 2008 detection surveys were conducted in areas with higher eider densities,

which better reflected the overall eider count, and resulted in a VCF of 1.19 and 1.12

respectively. Combining the 3 years of detection surveys yielded a VCF value of 1.18.

Based on this pilot study, we conclude that an effective and efficient breeding population

survey for Pacific Common Eiders can be completed in the Bathurst Inlet area in 3 to 4 days

when timed accordingly and conditions are favourable. Given the recent continental decline of

Pacific Common Eiders and the increased resource development in arctic regions including the

Beaufort Sea and Bathurst Inlet area, we recommend this survey in the Bathurst Inlet area

become an on-going operational survey. An annual survey would be ideal, but at the very least

the survey should be conducted for 3 years every 10 years. Consideration should be given to

expanding the survey to include the nearby offshore islands in northern Queen Maud Gulf.

**Reference Type:**  Journal Article

**Record Number:** 751

**Author:** S. G. Reebs, L. Boudreau, P. Hardie and R. A. Cunjak

**Year:** 1995

**Title:** Diel activity patterns of lake chubs and other fishes in a temperate stream

**Journal:** Canadian Journal of Zoology

**Volume:** 73

**Issue:** 7

**Pages:** 1221-1227

**Short Title:** Diel activity patterns of lake chubs and other fishes in a temperate stream

**Accession Number:** BCI:BCI199698590895

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Baited and unbaited minnow traps were set in Catamaran Brook and the Little Southwest Miramichi River, New Brunswick, and checked every 4 h to determine the diel activity pattern of four species of stream-dwelling fish (threespine stickleback (Gasterosteus aculeatus), juvenile white sucker (Catostomus commersoni), blacknose dace (Rhinichthys atratulus), and lake chub (Couesius plumbeus)). Secondary goals were to determine whether the presence of bait inside minnow traps affected the diel patterns of captures and to compare patterns of lake chub captures in minnow traps with movement through a nearby fish-counting fence. All fish except lake chubs were diurnal, although strict diurnality was less obvious when bait was present in the traps. Lake chubs, which are normally diurnal in the laboratory, were captured mostly near dawn or dusk in unbaited traps, throughout the day in baited traps, and mostly at night at the fish-counting fence. We infer that chubs are active mostly at dawn or dusk, except (i) when strong food cues are present, in which case their activity may extend into the day, and (ii) during the spawning migration, when they move mostly at night. Relative inactivity by chubs during the day may be caused by the presence of piscivorous birds such as kingfishers and common mergansers, whose hunting efficiency may be higher under brighter light.

**URL:** <Go to ISI>://BCI199698590895

**Reference Type:**  Book Section

**Record Number:** 1634

**Author:** A. Reed

**Year:** 1987

**Title:** Canadian Wildlife Service Report Series No. 47. Eider Ducks in Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Canadian Wildlife Service Report Series No. 47. Eider Ducks in Canada

**Accession Number:** BCI:BCI198834004256

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Nonbreeding Seasons;

**Abstract:** This volume consists of 18 papers written by various authors. The book is divided into 6 parts: distribution and abundance, races of common eiders, distribution in winter, ecology, use by people, and conclusions. Twelve of the papers are written in English and five are in French. Both French and English versions of the final paper are provided. Each paper has an abstract in French and English and eleven of the papers have an additional abstract in Inuktitut. Three appendices and a list of other publications in the Report Series are also included.

**URL:** <Go to ISI>://BCI198834004256

**Reference Type:**  Book Section

**Record Number:** 1637

**Author:** A. Reed

**Year:** 1987

**Title:** Eiderdown Harvesting and Other Uses of Common Eiders in Spring and Summer

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 138-146

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Eiderdown Harvesting and Other Uses of Common Eiders in Spring and Summer

**Accession Number:** BCI:BCI198834004271

**Keywords:** Common Eider; Somateria mollissima; Conservation; Breeding Season;

**URL:** <Go to ISI>://BCI198834004271

**Reference Type:**  Journal Article

**Record Number:** 1077

**Author:** A. Reed, Y. Aubry and E. Reed

**Year:** 1994

**Title:** Surf scoter, Melanitta perspicillata, nesting in Southern Quebec

**Journal:** Canadian Field-Naturalist

**Volume:** 108

**Issue:** 3

**Pages:** 364-365

**Short Title:** Surf scoter, Melanitta perspicillata, nesting in Southern Quebec

**Accession Number:** BCI:BCI199598277811

**Keywords:** Surf Scoter; Melanitta perspicillata; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** In late May, 1993, a Surf Scoter, Melanitta perspicillata, nest was found at 664 ha Malbaie Lake in the Laurentide Wildlife Reserve 95 km NNE of Quebec City. During subsequent brood surveys of the lake several broods were present and a peak count of 139 ducklings was obtained. This is the only published record of a nest in Quebec since 1833; the density of breeding pairs in the lake was high relative to other areas, and the lake is well south of the previously described range. The high elevation of Malbaie Lake (820 m) creates ecological conditions similar to those found in the typical high boreal-subarctic range of the species.

**URL:** <Go to ISI>://BCI199598277811

**Reference Type:**  Journal Article

**Record Number:** 201

**Author:** A. Reed and A. Bourget

**Year:** 1977

**Title:** Distribution and Abundance of Waterfowl Wintering in Southern Quebec

**Journal:** Canadian Field-Naturalist

**Volume:** 91

**Issue:** 1

**Pages:** 1-7

**Short Title:** Distribution and Abundance of Waterfowl Wintering in Southern Quebec

**Accession Number:** BCI:BCI197764019809

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** In Jan. and Feb. of 1974, 1975 and 1976, surveys of wintering waterfowl were conducted through most open-water areas of S Quebec [Canada]. These surveys indicated the presence of at least 171,000 ducks, mostly diving and sea ducks in the estuary and Gulf of St. Lawrence. Inland freshwater areas, mainly in the Montreal region, supported many common goldeneye (Bucephala clangula), common merganser (Mergus merganser) and black duck (Anas rubripes). The most abundant ducks on the estuarine portion were oldsquaw (Clangula hyemalis), common and Barrow's (Bucephala islandica) goldeneyes and black duck. In the gulf, common eider (Somateria mollissima), oldsquaw, common and Barrow's goldeneyes were abundant. The area of the estuary and gulf is of international importance as a sea- and dividing-duck wintering ground. Further study and close surveillance are required owing to the birds' apparently great vulnerability to oil pollution and habitat change in a very rigorous climate.

**URL:** <Go to ISI>://BCI197764019809

**Reference Type:**  Journal Article

**Record Number:** 1678

**Author:** A. Reed and G. Chapdelaine

**Year:** 1978

**Title:** Colonial Nesting Water Birds in the St-Lawrence River

**Journal:** Ibis

**Volume:** 120

**Issue:** 1

**Pages:** 124

**Short Title:** Colonial Nesting Water Birds in the St-Lawrence River

**Accession Number:** BCI:BCI197815011640

**Keywords:** Common Eider; Somateria mollissima; Breeding Season;

**URL:** <Go to ISI>://BCI197815011640

**Reference Type:**  Journal Article

**Record Number:** 1706

**Author:** A. Reed and J. G. Cousineau

**Year:** 1967

**Title:** Epidemics involving the common eider (Somateria mollissima) at He Blanche, Quebec

**Journal:** Natur Can

**Volume:** 94

**Issue:** (3)

**Pages:** 327-334

**Short Title:** Epidemics involving the common eider (Somateria mollissima) at He Blanche, Quebec

**Accession Number:** BCI:BCI19674800120412

**Keywords:** Common Eider; Somateria mollissima; Disease; Survival; Breeding Season;

**Abstract:** During the period 1963-66, two important outbreaks of epidemics amongst nesting common eiders (Somateria mollissima) have been observed,one in 1964 and the other in 1966. Both epidemics occurred on one of the several nesting islands under observation in the St. Lawrence Estuary. An estimated 1000 adult female eiders succumbed to the disease in 1964 and 700 in 1966. Total population for this island was about 4000 nesting females in each year. Post mortem and bacteriological investigations revealed Pasteurella multocida, the agent of fowl cholera, as the cause of death, None of the other bird species sharing this island, including the herring gull (Larus argentatus) and the double-crested cormorant (Phalacrocorax auritus) suffered mortality and bacteriological examinations of several specimens were negative for fowl cholera. The source of the infection remains unknown but the intensity of the epidemics is attributed partially to high nesting densities and humid conditions in and around the nests. Further study is proposed to clarify certain aspects of these outbreaks. || ABSTRACT AUTHORS: Author

**URL:** <Go to ISI>://BCI19674800120412

**Reference Type:**  Book Section

**Record Number:** 1636

**Author:** A. Reed, P. Dupuis, A. Bourget and H. L. Mendall

**Year:** 1987

**Title:** Races of the Common Eider Wintering in the Gulf of St. Lawrence Canada

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 89-92

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Races of the Common Eider Wintering in the Gulf of St. Lawrence Canada

**Accession Number:** BCI:BCI198834004265

**Keywords:** Common Eider; Somateria mollissima; Population Delineation; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI198834004265

**Reference Type:**  Book Section

**Record Number:** 1635

**Author:** A. Reed and A. J. Erskine

**Year:** 1987

**Title:** Populations of the Common Eider in the Eastern North America Their Size and Status

**Book Title:** Reed, A. (Ed.). Canadian Wildlife Service Report Series, No. 47. Eider Ducks in Canada. V+177p. Canadian Wildlife Service: Ste-Foy, Quebec, Canada. Illus. Maps. Paper

**Pages:** 156-162

**Series Title:** Canadian Wildlife Service Report Series

**Short Title:** Populations of the Common Eider in the Eastern North America Their Size and Status

**Accession Number:** BCI:BCI198834004273

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends;

**URL:** <Go to ISI>://BCI198834004273

**Reference Type:**  Journal Article

**Record Number:** 1189

**Author:** J. A. Reed and P. L. Flint

**Year:** 2007

**Title:** Movements and foraging effort of Steller's Eiders and Harlequin Ducks wintering near Dutch Harbor, Alaska

**Journal:** Journal of Field Ornithology

**Volume:** 78

**Issue:** 2

**Pages:** 124-132

**Date:** Jun 2007

**Short Title:** Movements and foraging effort of Steller's Eiders and Harlequin Ducks wintering near Dutch Harbor, Alaska

**Accession Number:** BCI:BCI200700395313

**Keywords:** Harlequin duck; Histrionicus histrionicus; Steller's eider; Polysticta stelleri; Dispersal; Behavior; Nonbreeding Seasons;

**Abstract:** We studied the movements and foraging effort of radio-marked Steller's Eiders (Polysticta stelleri) and Harlequin Ducks (Histrionicus histrionicus) to evaluate habitat quality in an area impacted by industrial activity near Dutch Harbor, Alaska. Foraging effort was relatively low, with Steller's Eiders foraging only 2.7 +/- 0.6 (SE) hours per day and Harlequin Ducks 4.1 +/- 0.5 hours per day. Low-foraging effort during periods of high-energetic demand generally suggests high food availability, and high food availability frequently corresponds with reductions in home range size. However, the winter ranges of Harlequin Ducks did not appear to be smaller than usual, with the mean range size in our study (5.5 +/- 1.1 km(2)) similar to that reported by previous investigators. The mean size of the winter ranges of Steller's Eiders was similar (5.1 +/- 1.3 km(2)), but no comparable estimates are available. Eutrophication of the waters near Dutch Harbor caused by seafood processing and municipal sewage effluent may have increased populations of the invertebrate prey of these sea ducks and contributed to their low-foraging effort. The threat of predation by Bald Eagles (Haliaeetus leucocephalus) that winter near Dutch Harbor may cause Steller's Eiders and Harlequin Ducks to move further offshore when not foraging, contributing to an increase in range sizes. Thus, the movement patterns and foraging behavior of these ducks likely represent a balance between the cost and benefits of wintering in a human-influenced environment.

**URL:** <Go to ISI>://BCI200700395313

**Reference Type:**  Journal Article

**Record Number:** 1359

**Author:** J. A. Reed, D. L. Lacroix and P. L. Flint

**Year:** 2007

**Title:** Depredation of Common Eider, Somateria mollissima, Nests on a Central Beaufort Sea Barrier Island: A Case Where No One Wins

**Journal:** Canadian Field-Naturalist

**Volume:** 121

**Issue:** 3

**Pages:** 308-312

**Date:** Jul-Sep 2007

**Short Title:** Depredation of Common Eider, Somateria mollissima, Nests on a Central Beaufort Sea Barrier Island: A Case Where No One Wins

**Accession Number:** BCI:BCI200900211181

**Keywords:** Common Eider; Somateria mollissima;Trophic Interactions; Productivity; Breeding Season;

**Abstract:** Along the central Beaufort Sea. Pacific Common Eiders (Somateria mollissima v-nigra) nest on unvegetated, barrier islands: often near nesting Glaucous Gulls (Larus hyperboreus). Nest-site choice likely reflects a strategy of predator avoidance: nesting on islands to avoid mammalian predators and near territorial gulls to avoid other avian predators. We observed a nesting colony of Common Eiders from first nest initiation through nesting termination on Egg Island near Prudhoe Bay, Alaska (2002 - 2003). Resident gulls depreciated many eider nests, mostly during initiation. All nests failed when an Arctic Fox (Alopex lagopus) visited the island and flushed hens from their nests, exposing the eggs to depredation by the fox and gulls (resident and non-resident). Common Eiders actively defended nests from gulls, but not from foxes. Likely all three species (i.e.. eiders, gulls. and foxes) ultimately achieved negligible benefit from their nest-site selection or predatory activity: (a) island nesting provided no safety from mammalian predators for ciders or gulls. (b) for Common Eiders, nesting near gulls increased egg loss, (c) for Glaucous Gulls, nesting near colonial ciders may have reduced nest success by attracting the fox, and (d) for Arctic Foxes, the depredation was of questionable value, as most eggs were cached and probably not recoverable (due to damage from fall storms). Thus, the predator-prey interactions we observed appear to be a case where little or no fitness advantage was realized by any of the species involved.

**URL:** <Go to ISI>://BCI200900211181

**Reference Type:**  Journal Article

**Record Number:** 296

**Author:** H. M. Regehr

**Year:** 2003

**Title:** Survival and movement of postfledging juvenile harlequin ducks

**Journal:** Wilson Bulletin

**Volume:** 115

**Issue:** 4

**Pages:** 423-430

**Date:** December 2003

**Short Title:** Survival and movement of postfledging juvenile harlequin ducks

**Accession Number:** BCI:BCI200400294013

**Keywords:** Harlequin duck; Histrionicus histrionicus; Survival; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** Age specific survival and movement are important components of demography and population structure, and quantification of these rates is useful for management and conservation. However, information on the postfledging ecology of waterfowl species frequently is unavailable to managers. I studied postfledging survival and movements of juvenile Harlequin Ducks (Histrionicus histrionicus) in the Strait of Georgia, British Columbia, using radio marking and capture-mark-recapture analysis of banded birds captured at coastal wintering areas. Survival of juvenile females was high, providing evidence that female winter survival may be similar among age groups. Radio-marked juvenile males were more likely to die than juvenile females, and juvenile males had lowest local survival rates of all sex-age classes. Proportions of banded juveniles found at their capture location during their second winter did not differ significantly between males and females, suggesting equal dispersal rates, and at least 25% (n = 9) of radio-marked females moved >30 km from their capture location. These results were unexpected, based on previous evidence for female philopatry and theories of male-biased dispersal in waterfowl, and suggest that males and females both likely contribute to gene flow and demographic connection among populations.

**URL:** <Go to ISI>://BCI200400294013

**Reference Type:**  Journal Article

**Record Number:** 227

**Author:** H. M. Regehr

**Year:** 2011

**Title:** Movement Rates and Distances of Wintering Harlequin Ducks: Implications for Population Structure

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 1

**Pages:** 19-31

**Date:** Mar 2011

**Short Title:** Movement Rates and Distances of Wintering Harlequin Ducks: Implications for Population Structure

**Accession Number:** BCI:BCI201100239666

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** Population structure of Harlequin Ducks (Histrionic-us histrionicus) wintering in the Strait of Georgia, British Columbia, was evaluated by generating age, sex, paired status and distance-specific movement rates with multi-stratum mark-recapture analyses, and age and sex-specific movement distances through surveys of marked individuals. Annual movement distances and rates did not differ by sex, but only 2-4% of adults (third year and after-third year) compared to 7-11% of subadults (hatch year and second year) moved among locations per year and distance moved decreased with age. Adults were highly site faithful regardless of sex and paired status. The stepping stone gene flow model estimated the among population component of genetic variance (F-ST) at 0.005, suggesting that winter movement by subadults was sufficient to explain results of previous genetic analyses that detected no fine scale genetic structuring. Seasonal movement rates indicated that at least 95% of individuals molt and winter in the same location, and that annual aggregation at Pacific Herring (Clupea pallasi) spawning sites facilitates demographic mixing and gene flow. Low annual movement rates (0.001) between the northern and southern Strait of Georgia and dispersal by both sexes suggest that a metapopulation distribution may function within the Pacific Coast range, which is relevant to the geographic scale of management. Movement rates and distances suggest that subadult survival rates are particularly vulnerable to underestimation. Received 28 February 2010, accepted 3 June 2010.

**URL:** <Go to ISI>://BCI201100239666

**Reference Type:**  Journal Article

**Record Number:** 295

**Author:** H. M. Regehr and M. S. Rodway

**Year:** 2003

**Title:** Evaluation of nasal discs and colored leg bands as markers for Harlequin Ducks

**Journal:** Journal of Field Ornithology

**Volume:** 74

**Issue:** 2

**Pages:** 129-135

**Date:** Spring 2003

**Short Title:** Evaluation of nasal discs and colored leg bands as markers for Harlequin Ducks

**Accession Number:** BCI:BCI200300254392

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** We evaluated nasal discs and colored leg bands for Harlequin Ducks (Histrionicus histrionicus) wintering in the Strait of Georgia, British Columbia, by comparing marker visibility and life span, and determining effects of nasal discs on behavior and pairing. Proportions resighted and frequency of sightings were higher for individuals marked with nasal discs than for those marked only with leg bands. Nasal disc loss followed a logistic function that predicted 50% loss by 396 d. Due to wear of leg bands, number of sightings per individual decreased with leg band age following a cubic function. We detected no effects of nasal discs on time spent in various behaviors, timing of pairing, or female pairing success. However, males with nasal discs had lower pairing success, and females with nasal discs were less likely to reunite with previous mates. We speculate that the effect of nasal discs on male pairing success may be due to a male-biased sex ratio and sexual selection on male appearance. Leg band wear should be considered for demographic models because its effects can violate assumptions and bias sighting and survival estimates.

**URL:** <Go to ISI>://BCI200300254392

**Reference Type:**  Journal Article

**Record Number:** 311

**Author:** H. M. Regehr, C. M. Smith, B. Arquilla and F. Cooke

**Year:** 2001

**Title:** Post-fledging broods of migratory Harlequin Ducks accompany females to wintering areas

**Journal:** Condor

**Volume:** 103

**Issue:** 2

**Pages:** 408-412

**Date:** May, 2001

**Short Title:** Post-fledging broods of migratory Harlequin Ducks accompany females to wintering areas

**Accession Number:** BCI:BCI200100278222

**Keywords:** Harlequin duck; Histrionicus histrionicus; Dispersal; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** We describe evidence that Harlequin Duck (Histrionicus histrionicus) broods accompany their mothers from breeding streams to coastal molting or wintering areas. Observations indicated that all surviving female-offspring groups left breeding areas together. We later sighted some family members at the coast near each other, suggesting that they had arrived together, then separated. We observed family groups at wintering areas in August and September. Family groups tended to separate quickly, although some family members maintained contact for over five months. To our knowledge the evidence we provide is the first suggesting that female migratory ducks bring their offspring to wintering areas, a pattern similar to geese and swans. This may be facilitated by an unusual strategy of wing molt, in which Harlequin Ducks molt after migrating to wintering areas. Due to winter pairing and strong philopatry in Harlequin Ducks, migration of families may contribute to genetic differentiation among populations.

**URL:** <Go to ISI>://BCI200100278222

**Reference Type:**  Journal Article

**Record Number:** 1153

**Author:** K. V. Regel

**Year:** 1987

**Title:** Morphology and Life Cycle of Echinocotyle-Clanguli New-Species Cestoda Hymenolepididae

**Journal:** Parazitologiya (St. Petersburg)

**Volume:** 21

**Issue:** 3

**Pages:** 482-488

**Short Title:** Morphology and Life Cycle of Echinocotyle-Clanguli New-Species Cestoda Hymenolepididae

**Accession Number:** BCI:BCI198885069388

**Keywords:** Long-tailed Duck; Clangula hyemalis; Parasites;

**Abstract:** The morphology and life cycle of the cestode Echinocotyle clanguli sp. n. parasitic in long-tailed ducks in East Subarctic are described. The new species differs from the earlier described hymenolepidids of this genus in comparatively large size (the cestode lenght is 56 to 89 mm), length of the proboscis hooks (49 to 51 .mu.), peculiar armature of adhesive suckers (thin cuticular spines covering the whole surface of suckers) and structure of the copulatory organ. Copulating couples of cestodes are described. The data on the developmental periods of the new species in the definitive and intermediate hosts were obtained.

**URL:** <Go to ISI>://BCI198885069388

**Reference Type:**  Journal Article

**Record Number:** 1412

**Author:** K. V. Regel

**Year:** 2005

**Title:** To the fauna of the cestode family Hymenolepididae from ducks of Chukotka : Microsomacanthus parasobolevi sp n. - A widely distributed parasite of eider ducks

**Journal:** Parazitologiya (St. Petersburg)

**Volume:** 39

**Issue:** 2

**Pages:** 146-154

**Date:** Mar-Apr 2005

**Short Title:** To the fauna of the cestode family Hymenolepididae from ducks of Chukotka : Microsomacanthus parasobolevi sp n. - A widely distributed parasite of eider ducks

**Accession Number:** BCI:BCI200800673272

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** A new species of the genus Microsomacanthus Lopez-Neyra, 1942 is described. The material was collected from eider ducks (Somateria mollissima, S. fischeri, and S. spectabilis) in the Chaunskaya lowland (North-Western Chukotka). Microsomacanthus parasobolevi sp. n. differs from the closest species of this genus (M. polystictae Regel, 1988, M. sobolevi Spassky et Jurpalova, 1964; M. strictophalius Tolkatchieva, 1966) by the structure and size of the copulatory organ. Wide distribution of the new species was detected based on the cestodes collections from eider ducks of the Eastern Chukotka, Lena River mouth (in the museum of the Institute of the Parasitology RAS) and Iceland (Karl Skirnisson's cestode collection of the common eider). Furthermore, this species was reported once of the common eider in Newfoundland and Labrador, but erroneously identified as Hymenglejns (Microsomacanthnis) formosoides Spasskaja et Spassky, 1961 by Bishop and Threlfall (1974).

**URL:** <Go to ISI>://BCI200800673272

**Reference Type:**  Journal Article

**Record Number:** 788

**Author:** T. E. Reimchen

**Year:** 1980

**Title:** Spine Deficiency and Polymorphism in a Population of Gasterosteus-Aculeatus an Adaptation to Predators

**Journal:** Canadian Journal of Zoology

**Volume:** 58

**Issue:** 7

**Pages:** 1232-1244

**Short Title:** Spine Deficiency and Polymorphism in a Population of Gasterosteus-Aculeatus an Adaptation to Predators

**Accession Number:** BCI:BCI198070076822

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** A population of G. aculeatus from a muskeg lake on the Queen Charlotte Islands shows a spine polymorphism, with 80% lacking the second dorsal spine and 68% lacking the pelvic spines. Females were more prevalent among phenotypes with greater spine number, and males were more common among those with fewer spines. Adult females and juveniles of both sexes with pelvic spines, were more frequent in the limnetic habitat; adult males and juveniles without pelvic spines were common in the littoral region. Species (5) of piscivorous birds, each in low numbers, foraged in the lake. Extensive predation in the limnetic region by Gavia immer and, secondarily, Podiceps spp. [P. grisegena and P. auritus], is implicated as a selective pressure favoring the greater spined phenotype. [Other bird species were Mergus Merganser, M. serrator, Lophodytes cucullatus and Megaceryle alcyon]. Odonate nymphs (Aeshna spp.) consumed juvenile fish in predation experiments and in the lake proper. Nymphs were common in the littoral zone, where submerged debris provided substrate for foraging. Spine loss in this population of G. aculeatus is an adaptation to the hunting technique of Aeshna; reduced external structures such as spines minimize frictional contact for a grappling predator. Experimental data and other gasterosteid populations are discussed with reference to these proposals.

**URL:** <Go to ISI>://BCI198070076822

**Reference Type:**  Journal Article

**Record Number:** 181

**Author:** T. E. Reimchen and S. Douglas

**Year:** 1984

**Title:** Seasonal and Diurnal Abundance of Aquatic Birds on the Drizzle Lake Reserve Queen Charlotte Islands British-Columbia Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 98

**Issue:** 1

**Pages:** 22-28

**Short Title:** Seasonal and Diurnal Abundance of Aquatic Birds on the Drizzle Lake Reserve Queen Charlotte Islands British-Columbia Canada

**Accession Number:** BCI:BCI198579001972

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** A 112 ha lake on the Argonaut Plain, Queen Charlotte Islands, was surveyed for abundance and movement of birds at weekly intervals from 1978-1982. Thirty-six species used the lake; species numbers were highest in April and May and total bird-days highest in Oct. and Nov. The majority of individuals were non-breeding and used the lake for foraging or overnighting red-throated Loon, common Loon, Canada goose, mallard and common merganser, which moved between nearby marine water and the lake on a daily basis, accounted for the greatest number of yearly bird-days. Estimates of yearly prey consumption by piscivores at the lake range from 0.25-0.49 g m2.

**URL:** <Go to ISI>://BCI198579001972

**Reference Type:**  Journal Article

**Record Number:** 743

**Author:** U. G. Reinhardt and M. C. Healey

**Year:** 1997

**Title:** Size-dependent foraging behaviour and use of cover in juvenile coho salmon under predation risk

**Journal:** Canadian Journal of Zoology

**Volume:** 75

**Issue:** 10

**Pages:** 1642-1651

**Date:** Oct., 1997

**Short Title:** Size-dependent foraging behaviour and use of cover in juvenile coho salmon under predation risk

**Accession Number:** BCI:BCI199800000362

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Foraging and use of cover by juvenile coho salmon (Oncorhynchus kisutch) were affected by predation threat in both seminatural channels and laboratory streams. In the field, coho salmon preferred stream sections with brushy cover only when under threat from hunting common mergansers. The mergansers had their highest capture success in pools without cover. Predation threat also caused coho salmon to use cover more as foraging habitat and to aggregate more in favourable positions at the head of the pool. In the laboratory, under simulated predation threat, fish using a refuge were significantly larger than those in the risky habitat. This pattern persisted for 2 days after the predation threat was discontinued. The average growth of coho salmon under predation threat was depressed and the difference in growth between large and small individuals was less than in control groups. We argue that larger fish were more averse to predation risk than smaller fish and that the smaller fish took advantage of feeding opportunities indirectly provided as a result of the predation risk. We speculate that in natural environments, predation may depress growth rates because of risk-avoidance behaviour but may also serve to reduce growth-rate differences among size classes within a cohort.

**URL:** <Go to ISI>://BCI199800000362

**Reference Type:**  Journal Article

**Record Number:** 1134

**Author:** O. Reitan and J. Sandvik

**Year:** 1996

**Title:** An assessment of retaining dams in hydropower reservoirs for enhancing bird habitat

**Journal:** Regulated Rivers Research and Management

**Volume:** 12

**Issue:** 4-5

**Pages:** 523-534

**Short Title:** An assessment of retaining dams in hydropower reservoirs for enhancing bird habitat

**Accession Number:** BCI:BCI199699245066

**Keywords:** Long-tailed Duck; Clangula hyemalis; Habitat; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The River Inna in the south Norwegian subalpine region was regulated in 1979-1982, creating a 6.7 km-2 reservoir with a 35 m range in water level. This reservoir inundated good habitat for wetland birds and, in general, provided poor habitat for birds. Along the main inflow river, but within the reservoir, a retaining dam was constructed after the breeding season in 1989 to create habitat for native ducks. The dam maintains a nearly constant water level about 1 m below the highest water level in the reservoir; this is especially important for ducks throughout the breeding season. The ducks showed an immediate response in the first season, increasing both in number of species and number of individuals of several species. To discern some factors responsible for attracting ducks to this pond, all ducks were censused at least 12 times each breeding season between 1990 and 1994. The numbers varied widely, both from one year to another and during each breeding season. Wigeon (Anas penelope) numbers after dam construction were highest early in the season. Tufted duck (Aythya fuligula) numbers mainly varied from one year to another, while long-tailed duck (Clangula hyemalis) numbers varied greatly through the season. In general, variations in water level had little effect on duck numbers. Four species established breeding populations in the pond. Such ponds may be valuable for establishing duck populations in many areas otherwise unsuitable for breeding water-birds. Appropriate management may also improve the chances of this being a rich habitat for several duck species in the future.

**URL:** <Go to ISI>://BCI199699245066

**Reference Type:**  Journal Article

**Record Number:** 1152

**Author:** P. Reynolds

**Year:** 1987

**Title:** Observations on the Time Budget and Diving Ecology of Long-Tailed Ducks in Eqalungmiut Nunaat West Greenland

**Journal:** Wildfowl

**Volume:** 38

**Pages:** 55-62

**Short Title:** Observations on the Time Budget and Diving Ecology of Long-Tailed Ducks in Eqalungmiut Nunaat West Greenland

**Accession Number:** BCI:BCI198834044396

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior;

**URL:** <Go to ISI>://BCI198834044396

**Reference Type:**  Journal Article

**Record Number:** 8

**Author:** G. Ribak, J. G. Swallow and D. R. Jones

**Year:** 2010

**Title:** Drag-Based 'Hovering' in Ducks: The Hydrodynamics and Energetic Cost of Bottom Feeding

**Journal:** PLoS One

**Volume:** 5

**Issue:** 9

**Pages:** e12565

**Date:** Sep 7 2010

**Short Title:** Drag-Based 'Hovering' in Ducks: The Hydrodynamics and Energetic Cost of Bottom Feeding

**Accession Number:** BCI:BCI201000560148

**Keywords:** Sea Ducks - General; Behavior;

**Abstract:** Diving ducks use their webbed feet to provide the propulsive force that moves them underwater. To hold position near the bottom while feeding, ducks paddle constantly to resist the buoyant force of the body. Using video sequences from two orthogonal cameras we reconstructed the 3-dimensional motion of the feet through water and estimated the forces involved with a quasi-steady blade-element model. We found that during station holding, near the bottom, ducks use drag based propulsion with the webbed area of the foot moving perpendicular to the trajectory of the foot. The body was pitched at 76 +/- 3.47 degrees below the horizon and the propulsive force was directed 26 +/- 1.9 degrees ventral to the body so that 98% of the propulsive force in the sagittal plane of the duck worked to oppose buoyancy. The mechanical work done by moving both feet through a paddling cycle was 1.1 +/- 0.2 J which was equivalent to an energy expenditure of 3.7 +/- 0.5 W to hold position while feeding at 1.5 m depth. We conclude that in shallow water the high energetic cost of feeding in ducks is due to the need to paddle constantly against buoyancy even after reaching the bottom. The mechanical energy spent on holding position near the bottom, while feeding, is approximately 2 fold higher than previous estimates that were made for similar bottom depths but based on the presumed motion of the body instead of motion of the feet.

**URL:** <Go to ISI>://BCI201000560148

**Reference Type:**  Journal Article

**Record Number:** 1945

**Author:** F. Ribeiro, L. V. Lins, V. M. Gomes, F. H. Nery and E. S. dos Reis

**Year:** 2011

**Title:** Dispersion and sexual maturity of Mergus octosetaceus Vieillot, 1817 in the Serra da Canastra, Minas Gerais, Brazil

**Journal:** Revista Brasileira De Ornitologia

**Volume:** 19

**Issue:** 3

**Pages:** 391-397

**Date:** Sep

**Short Title:** Dispersion and sexual maturity of Mergus octosetaceus Vieillot, 1817 in the Serra da Canastra, Minas Gerais, Brazil

**ISSN:** 0103-5657

**Accession Number:** WOS:000305115600010

**Keywords:** Brazilian Merganser; Mergus octosetaceus; Dispersal

**Notes:** Times Cited: 0

Ribeiro, Flavia Lins, Livia Vanucci Gomes, Vanessa Matos Nery, Flavio Henrique dos Reis, Edmar Simoes

0

**URL:** <Go to ISI>://WOS:000305115600010

**Reference Type:**  Journal Article

**Record Number:** 231

**Author:** M. A. Ricca, A. K. Miles, B. E. Ballachey, J. L. Bodkin, D. Esler and K. A. Trust

**Year:** 2010

**Title:** PCB exposure in sea otters and harlequin ducks in relation to history of contamination by the Exxon Valdez oil spill

**Journal:** Marine Pollution Bulletin

**Volume:** 60

**Issue:** 6

**Pages:** 861-872

**Date:** Jun 2010

**Short Title:** PCB exposure in sea otters and harlequin ducks in relation to history of contamination by the Exxon Valdez oil spill

**Accession Number:** BCI:BCI201000448193

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**Abstract:** Exposure to contaminants other than petroleum hydrocarbons could confound interpretation of Exxon Valdez oil spill effects on biota at Prince William Sound, Alaska. Hence, we investigated polychlorinated biphenyls (PCBs) in blood of sea otters and harlequin ducks sampled during 1998. PCB concentrations characterized by lower chlorinated congeners were highest in sea otters from the unoiled area, whereas concentrations were similar among harlequin ducks from the oiled and unoiled area. Blood enzymes often elevated by xenobiotics were not related to PCB concentrations in sea otters. Only sea otters from the unoiled area had estimated risk from PCBs, and PCB composition or concentrations did not correspond to reported lower measures of population performance in sea otters or harlequin ducks from the oiled area. PCBs probably did not influence limited sea otter or harlequin duck recovery in the oiled area a decade after the spill. Published by Elsevier Ltd.

**URL:** <Go to ISI>://BCI201000448193

**Reference Type:**  Journal Article

**Record Number:** 188

**Author:** W. J. Richardson and S. R. Johnson

**Year:** 1981

**Title:** Water Bird Migration near the Yukon Canada and Alaskan USA Coast of the Beaufort Sea 1. Timing Routes and Numbers in Spring

**Journal:** Arctic

**Volume:** 34

**Issue:** 2

**Pages:** 108-121

**Short Title:** Water Bird Migration near the Yukon Canada and Alaskan USA Coast of the Beaufort Sea 1. Timing Routes and Numbers in Spring

**Accession Number:** BCI:BCI198273015879

**Keywords:** Sea Ducks - General; Migration; Nonbreeding Seasons;

**Abstract:** Radars, systematic visual observations from the coast and aerial surveys were used to study migration near the Yukon (1975) and Alaskan (1977-1978) coasts of the Beaufort Sea. Conspicuous eastward migration of loons, brant, seaducks, jaegers and glaucous gulls occurs along the icebound coast, and in the Yukon some eastbound species (especially brant) concentrate coastally. Overall, eastward migration is predominantly broad-front with little coastal concentration. Most eiders and perhaps most oldsquaws, the commonest waterbirds, fly east offshore where there is more open water. Westward migration is much less conspicuous visually; swans, geese and pintails are the main groups seen. However, radar shows extensive broad-front westward flights, probably largely of shorebirds. Most spring migration, both east and west, is from May 15th-June 20th, with the coastal peak (May 25th-June 15th) apparently being later than that offshore. Some coastal migrants land on river water that overflows onto nearshore ice in early June. Some waterbirds bypass the largely ice-covered Alaskan Beaufort by flying northeast across interior Alaska and/or northwestern Canada from the Pacific Ocean to the Canadian Arctic. These overland migrants include some yellow-billed and arctic loons, brant and jaegers; probably most Thayer's gulls; and probably some oldsquaws, Sabine's gulls, arctic terns and other species.

**URL:** <Go to ISI>://BCI198273015879

**Reference Type:**  Journal Article

**Record Number:** 1239

**Author:** S. E. Richman and J. R. Lovvorn

**Year:** 2003

**Title:** Effects of clam species dominance on nutrient and energy acquisition by spectacled eiders in the Bering Sea

**Journal:** Marine Ecology Progress Series

**Volume:** 261

**Pages:** 283-297

**Date:** October 17, 2003

**Short Title:** Effects of clam species dominance on nutrient and energy acquisition by spectacled eiders in the Bering Sea

**Accession Number:** BCI:BCI200400080980

**Keywords:** White-winged Scoter; Melanitta fusca; Spectacled Eider; Somateria fischeri; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** The spectacled eider Somateria fischeri, a 'threatened' species, winters in pack ice of the Bering Sea. In dives of 40 to 70 m for benthic invertebrates, the high energy costs of foraging are offset by high benthic biomass. However, there is evidence that the dominant clam prey has changed from Macoma calcarea to Nuculana radiata, perhaps adversely affecting the foraging energetics of the eiders. We studied effects of differences in nutrient and energy content, crushing resistance of shells, digestibility, gut retention time, areal density, shell length, and depth in the sediments on the relative foraging value of M. calcarea versus N. radiata. To avoid using a 'threatened' species for experiments, we used common eiders Somateria mollissima for digestion studies and white-winged scoters Melanitta fusca (the same size as spectacled eiders) for foraging studies. For the prey size range comprising 93% of the eiders' diet (18 to 30 mm), M. calcarea including shells was lower in ash, and higher in nitrogen, lipid, and energy, than N. radiata. Digestibility was 76% for M. calcarea versus 67% for N. radiata, but gut retention time did not differ. In a tensometer, crushing resistance was much higher for N. radiata than M. calcarea for shells 18 to 24 mm long, but did not differ for 24 to 30 mm because shells of N. radiata were often severely abraded. For scoters foraging on freshly thawed Macoma balthica buried in sand in an aquarium 1.8 m deep, intake (no. s-1) decreased by 31% when burial depth in the sediments was increased from 4 to 7 cm; most N. radiata are <4 cm deep, and most M. balthica eaten by eiders are probably 7 to 10 cm deep. Considering energy content, digestibility, and intake rates at these burial depths for 1200 clams m-2, energy assimilated was 14 to 19% higher for N. radiata than M. calcarea of the same length classes. However, larger M. calcarea yielded 58% higher intake of assimilable energy than smaller N. radiata. These patterns emphasize that relative foraging value depends strongly on size (age) structures of different prey populations, which vary with recruitment, growth, and mortality in different seasons and years. Our results show that impacts of long-term benthic change on eiders depend not only on shifts in total clam abundance, but also on species differences in digestibility, size structure, and size-dependent nutrient content and burial depth.

**URL:** <Go to ISI>://BCI200400080980

**Reference Type:**  Journal Article

**Record Number:** 963

**Author:** S. E. Richman and J. R. Lovvorn

**Year:** 2008

**Title:** Costs of diving by wing and foot propulsion in a sea duck, the white-winged scoter

**Journal:** Journal of Comparative Physiology B Biochemical Systemic and Environmental Physiology

**Volume:** 178

**Issue:** 3

**Pages:** 321-332

**Date:** Mar 2008

**Short Title:** Costs of diving by wing and foot propulsion in a sea duck, the white-winged scoter

**Accession Number:** BCI:BCI200800244141

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Energetics and Nutrition;

**Abstract:** Most birds swim underwater by either feet alone or wings alone, but some sea ducks often use both. For white-winged scoters (Melanitta fusca), we measured costs (V-O2) of dives to 2 m with descent by feet only versus wings + feet (only feet are used at the bottom). Dive costs repaid during the recovery period after a dive bout were an important fraction (27-44%) of total dive costs, and removing costs of extraneous surface behaviors increased resolution of differences between dive types. Scoters using wings + feet had 13% shorter descent duration, 18% faster descent speed, 31% fewer strokes/m, and 59% longer bottom duration than with feet only. The cost of time underwater for dives using wings + feet was 32-37% lower than with feet only (P = 0.09 to 0.15). When indirect methods were used to partition descent costs from costs of ascent and bottom phases, using wings + feet lowered descent cost by an estimated 34%. Thus, using wings + feet increases descent speed and lowers descent cost, leaving more time and energy for bottom foraging. For birds in cold water, the large savings may result from both biomechanical and thermoregulatory factors.

**URL:** <Go to ISI>://BCI200800244141

**Reference Type:**  Journal Article

**Record Number:** 955

**Author:** S. E. Richman and J. R. Lovvorn

**Year:** 2009

**Title:** Predator size, prey size and threshold food densities of diving ducks: does a common prey base support fewer large animals?

**Journal:** Journal of Animal Ecology

**Volume:** 78

**Issue:** 5

**Pages:** 1033-1042

**Date:** Sep 2009

**Short Title:** Predator size, prey size and threshold food densities of diving ducks: does a common prey base support fewer large animals?

**Accession Number:** BCI:BCI200900506043

**Keywords:** White-winged Scoter; Melanitta fusca; Trophic Interactions; Energetics and Nutrition;

**Abstract:** P>1. Allometry predicts that a given habitat area or common prey biomass supports fewer numbers of larger than smaller predators; however, birds from related taxa or the same feeding guild often deviate from this pattern. In particular, foraging costs of birds may differ among locomotor modes, while intake rates vary with accessibility, handling times and energy content of different-sized prey. Such mechanisms might affect threshold prey densities needed for energy balance, and thus relative numbers of different-sized predators in habitats with varying prey patches.2. We compared the foraging profitability (energy gain minus cost) of two diving ducks: smaller lesser scaup (Aythya affinis, 450-1090 g) and larger white-winged scoters (Melanitta fusca, 950-1800 g). Calculations were based on past measurements of dive costs with respirometry, and of intake rates of a common bivalve prey ranging in size, energy content and burial depth in sediments.3. For scaup feeding on small prey < 12 mm long, all clams buried deeper than 5 cm were unprofitable at realistic prey densities. For clams buried in the top 5 cm, the profitability threshold decreased from 216 to 34 clams m(-2) as energy content increased from 50 to 300 J clam(-1).4. For larger scoters feeding on larger prey 18-24 mm long, foraging was profitable for clams buried deeper than 5 cm, with a threshold density of 147 m(-2) for clams containing 380 J clam(-1). For clams < 5 cm deep, the threshold density decreased from 86 to 36 clams m(-2) as energy content increased from 380 to 850 J clam(-1). If scoters decreased dive costs by swimming with wings as well as feet (not an option for scaup), threshold prey densities were 11-12% lower.5. Our results show that threshold densities of total prey numbers for different-sized ducks depend on prey size structure and depth in the sediments. Thus, heterogeneity in disturbance regimes and prey population dynamics can create a mosaic of patches favouring large or small predators. Whether a given area or total prey biomass will support greater numbers of larger or smaller predators will vary with these effects.

**URL:** <Go to ISI>://BCI200900506043

**Reference Type:**  Journal Article

**Record Number:** 857

**Author:** H. Richner

**Year:** 1988

**Title:** Temporal and Spatial Patterns in the Abundance of Wintering Red-Breasted Mergansers Mergus-Serrator in an Estuary

**Journal:** Ibis

**Volume:** 130

**Issue:** 1

**Pages:** 73-78

**Short Title:** Temporal and Spatial Patterns in the Abundance of Wintering Red-Breasted Mergansers Mergus-Serrator in an Estuary

**Accession Number:** BCI:BCI198885120074

**Keywords:** Red-breasted merganser; Mergus serrator; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Tidal, temporal and spatial aspects in the abundance of wintering Red-breasted Mergansers in the Ythan estuary, northeast Scotland [UK], were investigated. The number and location of birds were examined in relation to four variables: tidal cycle and tidal range, and month and time of day. A significant increase in the numbers of this piscivorous bird occurred as the winter progressed. Numbers were highest in early morning and then decreased significantly during the day. Spring tides were favoured over neap tides and a significant increase in numbers was recorded between low tide and high tide. The lower part of the estuary was preferred over the upper part with no detectable shift in the preference occurring in relation to any of the four variables.

**URL:** <Go to ISI>://BCI198885120074

**Reference Type:**  Journal Article

**Record Number:** 815

**Author:** B. Richter, C. Schulze, J. Kaemmerling, M. Mostegl and H. Weissenboeck

**Year:** 2010

**Title:** First report of typhlitis/typhlohepatitis caused by Tetratrichomonas gallinarum in three duck species

**Journal:** Avian Pathology

**Volume:** 39

**Issue:** 6

**Pages:** 499-503

**Short Title:** First report of typhlitis/typhlohepatitis caused by Tetratrichomonas gallinarum in three duck species

**Accession Number:** BCI:BCI201100067733

**Keywords:** Common Eider; Somateria mollissima; Hooded Merganser; Lophodytes cucullatus; Red-breasted merganser; Mergus serrator; Disease;

**Abstract:** Two Red-breasted Mergansers (Mergus serrator), one Hooded Merganser (Lophodytes cucullatus), and one Common Eider (Somateria mollissima) from a German zoological collection died of necrotizing typhlitis/typhlohepatitis within 2 years. Using a newly established chromogenic in situ hybridization assay, numerous intralesional trophozoites of Tetratrichomonas gallinarum could be detected in formalin-fixed and paraffin-embedded tissues from the caeca and livers of the affected birds. Partial sequencing of the 18S rRNA-gene revealed two unique nucleotide sequences very similar to T. gallinarum strains isolated from avian and human hosts. One turkey kept in the same zoological collection succumbed to histomonosis (blackhead disease) confirmed with chromogenic in situ hybridization at the time of the first duck fatalities. This turkey also harboured T. gallinarum trophozoites within necrotic cell debris in the caecal lumen, which might be epidemiologically related to the T. gallinarum infections in the ducks.

**URL:** <Go to ISI>://BCI201100067733

**Reference Type:**  Journal Article

**Record Number:** 1083

**Author:** M. L. Riedman and J. A. Estes

**Year:** 1988

**Title:** Predation on Seabirds by Sea Otters

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 6

**Pages:** 1396-1402

**Short Title:** Predation on Seabirds by Sea Otters

**Accession Number:** BCI:BCI198886090001

**Keywords:** Surf Scoter; Melanitta perspicillata; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Although rarely reported in the past, predation by sea otters (Enhydra lutris) on seabirds has been observed more frequently in the last decade. A total of 23 incidents of definite or probable predation on seabirds have been observed in California [USA] (20) and in Alaska at Amchitka Island (3). In California, the most commonly eaten species were western grebes, although cormorants, gulls common loons, and surf scoters were also consumed. All cases of seabird predation in California have occurred in the northern part of the sea otter's range in three locations: Point Lobos, Stillwater Cove, and the Monterey harbor area. When sex could be determined, most of the otters observed feeding on seabirds were adult males. At one site, it appeared that the same individual repeatedly captured birds. Predation on seabirds is indicative of the sea otter's ability to learn new and innovative foraging tactics, and is consistent with a high degree of individual variation in diet observed among sea otters in Monterey. Sea otters initially capture birds by diving and grabbing them from underwater while the bird rests on the surface, in a manner similar to that employed by coastal river otters to capture seabirds. When mink, freshwater-inhabiting otters, and sea otters are compared, a graded reduction in the tendency to eat birds appear to occur in the more aquatic mustelids, with the relative importance of birds in the diet being greatest in mink and least in sea otters.

**URL:** <Go to ISI>://BCI198886090001

**Reference Type:**  Journal Article

**Record Number:** 1296

**Author:** Y. Rigou and M. Guillemette

**Year:** 2010

**Title:** Foraging Effort and Pre-laying Strategy in Breeding Common Eiders

**Journal:** Waterbirds

**Volume:** 33

**Issue:** 3

**Pages:** 314-322

**Date:** Sep 2010

**Short Title:** Foraging Effort and Pre-laying Strategy in Breeding Common Eiders

**Accession Number:** BCI:BCI201100030009

**Keywords:** Common Eider; Somateria mollissima; Behavior; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** To face energetic demands of reproduction, female birds need to build up body reserves before breeding and/or feed while producing eggs and incubating. Five female Common Eiders were implanted with data loggers that recorded flying and diving activity for a year. The pre-laying period, defined as the interval between the end of spring migration and laying of the first egg, extended over eleven to 27 days and represented a period of intense foraging activity. Daily time spent diving (DTSD) during the pre-laying period averaged 159.6 +/- 16.0 min compared to an annual average of 91.4 +/- 37.8 min. Diving decreased to 69.8 +/- 7.4 min during laying and became almost negligible at the onset of incubation. Females showed hyperphagic behavior during follicular growth, suggesting that they may directly utilize ingested food for egg production and laying. Given the small number of instrumented females, available evidence was reviewed on foraging and time of arrival in various populations and subspecies. Despite large variations in migration distance, the pre-laying period was similar to other populations (16-28 days), as well as DTSD (160-211 min). Reduced take-off capability may constrain the timing of accumulation of body reserves and foraging effort. Further, the level of body mass required for nesting (laying and incubation) was estimated to be 543 g higher than in winter, of which about 41-72% would be accumulated on the breeding grounds. Protection of foraging areas during the pre-breeding period is important to maintain healthy populations. Received 2 March 2009, accepted 19 March 2010.

**URL:** <Go to ISI>://BCI201100030009

**Reference Type:**  Journal Article

**Record Number:** 287

**Author:** D. J. Rizzolo, D. Esler, D. D. Roby and R. L. Jarvis

**Year:** 2005

**Title:** Do wintering Harlequin Ducks forage nocturnally at high latitudes?

**Journal:** Condor

**Volume:** 107

**Issue:** 1

**Pages:** 173-177

**Date:** February 2005

**Short Title:** Do wintering Harlequin Ducks forage nocturnally at high latitudes?

**Accession Number:** BCI:BCI200500180857

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** We monitored radio-tagged Harlequin Ducks (Histrionicus histrionicus) to determine whether nocturnal feeding was part of their foraging strategy during winter in south-central Alaska. Despite attributes of our study site (low ambient temperatures, harsh weather, short day length) and study species (small body size, high daytime foraging rates) that would be expected to favor nocturnal foraging, we found no evidence of nocturnal dive-feeding. Signals from eight radio-tagged Harlequin Ducks never exhibited signal loss due to diving during a total of 780 minutes of nocturnal monitoring. In contrast, the same eight birds exhibited signal loss during 62 +/- 7% (SE) of 5-minute diurnal monitoring periods (total of 365 minutes of monitoring). Our results suggest that Harlequin Ducks in south-central Alaska face a stringent time constraint on daytime foraging during midwinter. Harlequin Ducks wintering at high latitudes, therefore, may be particularly sensitive to factors that increase foraging requirements or decrease foraging efficiency.

**URL:** <Go to ISI>://BCI200500180857

**Reference Type:**  Journal Article

**Record Number:** 1511

**Author:** M. Robards, H. G. Gilchrist and K. Allard

**Year:** 2000

**Title:** Breeding Atlantic Puffins, Fractercula arctica, and other bird species of Coburg Island, Nunavut

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 1

**Pages:** 72-77

**Date:** Jan.-March, 2000

**Short Title:** Breeding Atlantic Puffins, Fractercula arctica, and other bird species of Coburg Island, Nunavut

**Accession Number:** BCI:BCI200000297380

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Coburg Island and neighbouring waters were recently designated a Canadian National Wildlife Area. The large seabird colony at Cambridge Point has been previously described, and is dominated by Thick-billed Murres (160 000 pairs). We found that a small offshore island, named Princess Charlotte Monument. also supported breeding populations of seven marine bird species; three of which did not breed at the main colony (i.e., Northern Fulmar, Common Eider, and Atlantic Puffin). This is the most northern confirmed breeding site for Atlantic Puffins in Canada. Puffins at both Coburg Island and northern Greenland nest in rock crevices, apparently because permafrost in soil prevents burrow nesting. We suggest that puffin populations in the high arctic maybe limited by habitat, rather than prey availability.

**URL:** <Go to ISI>://BCI200000297380

**Reference Type:**  Journal Article

**Record Number:** 700

**Author:** W. H. Robb

**Year:** 1930

**Title:** Nuptial performance of the hooded merganser

**Journal:** Auk

**Volume:** 47

**Issue:** (2)

**Pages:** 244-245

**Short Title:** Nuptial performance of the hooded merganser

**Accession Number:** BCI:BCI19320600021058

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior;

**Abstract:** A detailed description.

**URL:** <Go to ISI>://BCI19320600021058

**Reference Type:**  Report

**Record Number:** 2378

**Author:** M. Robert, R. Benoit, C. Marcotte, J.-P. L. Savard, D. Bordage and D. Bourget

**Year:** 2003

**Title:** Le Garrot d’Islande dans l’estuaire du Saint-Laurent : calendrier de présence annuelle, répartition, abondance, âge-ratio et sex-ratio.

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 398

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Le Garrot d’Islande dans l’estuaire du Saint-Laurent : calendrier de présence annuelle, répartition, abondance, âge-ratio et sex-ratio.

**Keywords:** Barrow’s Goldeneye; Bucephala islandica; Nonbreeding season; Abundance, Distribution, & Trends; Habitat; SDJV funded

**Abstract:** From 1997 to 2002, we studied the population of Barrow’s Goldeneye wintering in the St.

Lawrence Upper and Lower Estuaries. Our goals were: to better assess the number of wintering

goldeneyes in the estuary and to identify important concentration areas in mid-winter; to count

goldeneyes on a weekly basis at selected sites throughout the winter and identify the areas used at

these sites; to estimate population age and sex ratios; and to determine the seasonal use of the

estuary by goldeneyes. To achieve these objectives, we carried out six helicopter surveys (three in

January and February 1999, and three in January and February 2002) and 1484 ground surveys (in

winter 1997-1998 and 1998-1999, and in Fall 2001). We also analysed the ÉPOQ and Christmas

Bird Count databases.

Ground surveys indicated that, in fall, the first Barrow’s Goldeneyes arrive on the south shore of

the estuary during the first half of October and on the north shore, during the second half.

Barrow’s Goldeneyes were present at some sites until the end of May. Goldeneyes were not found

on the south shore of the estuary during the coldest winter months but were quite numerous in

spring and fall. In contrast, large numbers of goldeneyes used the north shore of the estuary in

January and February, the two coldest months. The mean monthly number of goldeneyes

observed during ground surveys showed that Baie des Anglais (Baie-Comeau) and Baie-des-

Rochers were by far the sites with the greatest concentrations of Barrow’s Goldeneyes. Up to

1020 and 604 birds were counted there, respectively. Other sites included, by order of importance,

La Malbaie (max. 473 ind.), Anse à Mercier (315 ind.), Cap-à-l’Aigle (302 ind.), Franquelin (295

ind.), Baie du Ha! Ha! (500 ind.), and Baie Mitis (284 ind.). Barrow’s Goldeneyes were most

numerous in Baie des Anglais during January and February. In Baie-des-Rochers and other north

shore sites, they were abundant from December to April. Overall, the population was composed

of 75% adults and 25% immatures. Male and female immatures were equally abundant. Among

adults however, males were more numerous than females, accounting for 45% of the population

compared to 30% only for females. The proportion of immatures increased in late spring from

29.5% in April to 44.6% in May, as adults departed for their breeding areas. During the six

helicopter surveys, we counted an average of 2232 + 690 (SD) Barrow’s Goldeneyes, mainly

(between 92.6% and 96.8% depending of the survey) on the north shore of the estuary. At most,

only 1.2% (max. 54 ind.) of the birds was on the south shore of the estuary during a given survey

and between 3.0% and 7.3% (max. 430 ind.) were around the islands of the estuary. The sites

where we found most of the birds were: Baie-Comeau, Baie-Sainte-Catherine, Baie-des-Rochers,

Cap-à-l’Aigle, Godbout, Petite-Romaine, Île aux Lièvres and La Malbaie.

This study shows that the St. Lawrence Estuary is the major wintering area for the Eastern North

American population of Barrow’s Goldeneyes, supporting over 50% of the population estimated

at no more than 4,500 birds. It also shows that during the coldest parts of winter, Barrow’s

Goldeneyes are restricted to the large intertidal areas of the north shore of the estuary as, because

of prevailing winds and currents, intertidal areas of the south shore are covered by ice during that

period. This study also revealed that, contrary to previous belief, Barrow’s Goldeneyes are nearly

as numerous as Common Goldeneyes in the St. Lawrence Estuary in winter. However, both

species have different distribution along the shores both at local and regional scales. We also

showed that previous surveys did not provide a clear idea of the abundance of Barrow’s

Goldeneyes in the St. Lawrence Estuary. We argue that the winter concentration of Barrow’s

Goldeneyes in the estuary could be disastrous in the event of an oil spill, and that the species

should be classified as of high priority within the Urgence Contigency Plan (Plan d’intervention

d’urgence) of the Canadian Wildlife Service, Québec Region. On the other hand, this

concentration should allow close monitoring of numbers and population structure. Our study

provides a general overview of the Barrow’s Goldeneye population wintering in the St. Lawrence

Estuary, but more detail studies are needed to identify the factors (i.e., microhabitats, food

preferences) controlling the distribution of the species in the St. Lawrence corridor, so that the

survival of this population can be assured.

**Reference Type:**  Journal Article

**Record Number:** 390

**Author:** M. Robert, R. Benoit and J.-P. L. Savard

**Year:** 2002

**Title:** Relationship among breeding, molting, and wintering areas of male Barrow's Goldeneyes (Bucephala islandica) in eastern North America

**Journal:** Auk

**Volume:** 119

**Issue:** 3

**Pages:** 676-684

**Date:** July, 2002

**Short Title:** Relationship among breeding, molting, and wintering areas of male Barrow's Goldeneyes (Bucephala islandica) in eastern North America

**Accession Number:** BCI:BCI200200528941

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Migration; Population Delineation; Molt; Nonbreeding Seasons; Breeding Season; SDJV funded

**Abstract:** Little is known of the eastern North American population of Barrow's Goldeneyes (Bucephala islandica), which was recently listed as "of special concern" in Canada. In 1998 and 1999, we marked 18 adult males wintering along the St. Lawrence River, Quebec, with satellite transmitters to document their breeding, molting, and wintering distribution and phenology, and to describe timing and routes of their spring, molt, and fall migrations. Thirteen males moved inland from the St. Lawrence River to breed; the spring migration averaged 5.9 days, and birds arrived on breeding areas on average 9 May. All breeding areas were inland, on the north shore of the St. Lawrence River estuary and gulf. Breeding areas averaged 64.8 km from the St. Lawrence corridor. Males stayed on their respective breeding area a mean of 34.5 days, and left on average 11 June. Twelve males were tracked to their molting areas, one of which stayed on its wintering area until 5 June and flew directly to its molting area. Their molt migration averaged 18.6 days, and the mean arrival date on molting areas was 30 June. All molting areas were located north and averaged 986 km from breeding areas. Four males molted in Hudson Bay, four in Ungava Bay, two in northern Labrador, one on Baffin Island, and one inland, near the Quebec-Labrador border. The mean length of stay on the molting areas was 105.3 days, and the mean date of departure from molting areas was 4 October. All goldeneyes for which the radio still functioned during fall migration returned to winter in the St. Lawrence River estuary, on average 6 November. Our results refute the idea that the main breeding area of the eastern North American population of Barrow's Goldeneyes is located in northern Quebec and Labrador and rather indicate that it is in the boreal forest just north of the St. Lawrence River estuary and gulf. They also indicate that Barrow's Goldeneye males undertake a genuine molt migration, and highlight the importance of molting areas because birds stayed there approximately four months each year.

**URL:** <Go to ISI>://BCI200200528941

**Reference Type:**  Journal Article

**Record Number:** 395

**Author:** M. Robert, D. Bordage, J.-P. L. Savard, G. Fitzgerald and F. Morneau

**Year:** 2000

**Title:** The breeding range of the Barrow's Goldeneye in eastern North America

**Journal:** Wilson Bulletin

**Volume:** 112

**Issue:** 1

**Pages:** 1-7

**Date:** March, 2000

**Short Title:** The breeding range of the Barrow's Goldeneye in eastern North America

**Accession Number:** BCI:BCI200000163365

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Habitat; Breeding Season;

**Abstract:** The breeding range of Barrow's Goldeneye (Bucephala islandica) is largely restricted to northwestern North America, and little is known of the small population that winters in eastern Canada. Based on weak evidence, this eastern population was thought to nest mainly in northern Labrador. Our May 1990 to 1998 surveys identified a breeding area in the forest regions of the Quebec Laurentian Highlands. We observed Barrow's Goldeneyes on 137 lakes and 5 rivers, of which 95.2% were along the north shore of the St. Lawrence estuary and gulf. The species was found mainly on small lakes (ltoreq 10 ha) at greater than 500 m elevation. Most occupied lakes (96.5%) were within 100 km of the St. Lawrence River and 48.9% of them were headwater lakes. Four broods observed in 1998 represent the first eastern North American documentation of breeding. By means of satellite telemetry, 5 of 7 males captured on the wintering grounds were relocated on the north shore of the St. Lawrence River in May, 60-140 km inland from the estuary and gulf. Each male spent 34-50 days at its respective site, presumably with a mate. The north shore of the estuary and gulf may be the core breeding area for Barrow's Goldeneyes wintering along the St. Lawrence River.

**URL:** <Go to ISI>://BCI200000163365

**Reference Type:**  Journal Article

**Record Number:** 310

**Author:** M. Robert and L. Cloutier

**Year:** 2001

**Title:** Summer food habits of Harlequin Ducks in eastern North America

**Journal:** Wilson Bulletin

**Volume:** 113

**Issue:** 1

**Pages:** 78-84

**Date:** March, 2001

**Short Title:** Summer food habits of Harlequin Ducks in eastern North America

**Accession Number:** BCI:BCI200100398608

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Breeding Season;

**Abstract:** We collected feces of breeding Harlequin Ducks (Histrionicus histrionicus) from interior rivers of Northern Quebec, Labrador and Newfoundland to document their summer food habits. We obtained 42 samples from 50 ducks. All samples contained recognizable food items, and the mean number of taxa identified per sample was 3.6 (SD = 1.6, range = 1-7). Overall, a total of 10,222 organisms from 25 taxa were identified. Nearly all (99.7%) food items were insects; the rest were mollusks and mites. Among insects, Simuliidae larvae were the most common food item, representing 87.2% of all prey counted. Other insects had low relative frequencies, the highest being Trichoptera with only 8.0%. However, in terms of frequency of occurrence, many insects were well represented: Trichoptera (83.3%), Ephemeroptera (64.3%), Diptera (61.9%), Plecoptera (33.3%), Coleoptera (11.9%), and Heteroptera (9.5%). Although Simuliidae larvae may represent the most important food taken in terms of absolute numbers, the relative importance of Trichoptera may be much higher in terms dry weight. These results are consistent with observations that Harlequin Ducks usually feed on the bed of fast stretches of rivers, and occasionally in slow-moving waters.

**URL:** <Go to ISI>://BCI200100398608

**Reference Type:**  Journal Article

**Record Number:** 379

**Author:** M. Robert, B. Drolet and J.-P. L. Savard

**Year:** 2006

**Title:** Effects of backpack radio-transmitters on female Barrow's Goldeneyes

**Journal:** Waterbirds

**Volume:** 29

**Issue:** 1

**Pages:** 115-120

**Date:** Mar 2006

**Short Title:** Effects of backpack radio-transmitters on female Barrow's Goldeneyes

**Accession Number:** BCI:BCI200600374483

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Techniques; Behavior; Breeding Season; SDJV funded

**Abstract:** We compared time-budgets and return rates of breeding female Barrow's Goldeneyes (Bucephala islandica) fitted, or not, with transmitters attached with backpack harnesses in 2001-2004 in southern Quebec. We compared the mean proportion of time devoted to feeding, locomotion, alert, resting, preening, and maintenance (i.e., resting Plus preening) by females observed >= 200 min. Females with backpacks (N=5) spent significantly less time feeding (x SE: 25 +/- 5% versus 43 +/- 3%) and more time in maintenance activities (51 +/- 6% versus 31 +/- 4%) than females without transmitters (N=6). Mean time devoted to other behavior did not differ significantly. Upon release, females appeared disturbed with the backpack, actively bathing, preening and/or flapping wings. Of the females with transmitters observed >= 200 min, three spent 4%, 8%, and 57% of their preening time at their transmitter, antennae or harness. None of the 16 females harnessed in 2001-2003 were recaptured in nest boxes or seen again on the study area in 2002-2004. For comparison, 66% of adult female Barrow's Goldeneyes captured in nest. boxes and marked with leg bands in 2000-2002 were recaptured or seen again in subsequent years. We do not recommend the rise of harnesses on diving ducks and sea ducks as it may affect their behavior and survival, at least for birds wintering in areas where conditions are severe.

**URL:** <Go to ISI>://BCI200600374483

**Reference Type:**  Journal Article

**Record Number:** 374

**Author:** M. Robert, B. Drolet and J.-P. L. Savard

**Year:** 2008

**Title:** Habitat features associated with Barrow's Goldeneye breeding in eastern Canada

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 2

**Pages:** 320-330

**Date:** Jun 2008

**Short Title:** Habitat features associated with Barrow's Goldeneye breeding in eastern Canada

**Accession Number:** BCI:BCI200800376454

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Habitat; Trophic Interactions; Breeding Season;

**Abstract:** We investigated environmental variables linked to presence of Barrow's Goldeneye (Bucephala islandica) pairs from the eastern North American population on 412 lakes of the Sainte-Marguerite River watershed, Quebec, Canada. We analysed habitat relationships at two spatial scales (i.e., considering all lakes surveyed and high elevation lakes only) and predetermined the high elevation lakes as those including 90% of Barrow's Goldeneye occurrences. Barrow's Goldeneye were found on 59 lakes, all of which were >= 490 m elevation (maximum = 822 m) with 90% at >= 610 m. Six variables tested using multivariate logistic regressions contributed to explain the occurrence of goldeneyes. Four were significant (P < 0.10) in both the complete and the high elevation data sets: nest boxes (+) and brook trout (Salvelinus fontinalis) (-) occurrences, altitude (+), and the interaction between altitude and mean slope (+). The models explained only a small proportion of Barrow's Goldeneye occurrence for both data sets (R-2 = 0.27 and 0.23, respectively). The negative relationship between Barrow's Goldeneye and brook trout occurrences, and the positive relationship with altitude probably reflect a positive relationship between goldeneye and highly productive aquatic ecosystems. Barrow's Goldeneye from eastern North America primarily use high altitudinal, productive lakes during the breeding season, which emphasizes the importance of fishless lakes for that population at risk.

**URL:** <Go to ISI>://BCI200800376454

**Reference Type:**  Journal Article

**Record Number:** 246

**Author:** M. Robert, G. H. Mittelhauser, B. Jobin, G. Fitzgerald and P. Lamothe

**Year:** 2008

**Title:** New Insights on Harlequin Duck Population Structure in Eastern North America as Revealed by Satellite Telemetry

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 159-172

**Short Title:** New Insights on Harlequin Duck Population Structure in Eastern North America as Revealed by Satellite Telemetry

**Accession Number:** BCI:BCI200900160429

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** In order to better delineate affiliations between breeding, molting, and staging areas of the small Harlequin Duck (Histrionicus histrionicus) population wintering in eastern North America, in April 2001 satellite transmitters were implanted in eight adult males at Isle an Haut, Maine, a major wintering area for this population. Two birds were confirmed breeding on rivers on the Gaspe Peninsula, Quebec, two birds molted in northern Labrador, and four birds migrated to southwestern Greenland during the molting season, including one bird that bred in Quebec. The four birds tracked to southwestern Greenland likely molted there, although molting could be confirmed for only one bird. All birds tracked to Greenland, to breeding areas, and to molting locations returned to wintering sites in Maine the following wintering season. This study is the first confirmation of wintering male Harlequin Ducks from eastern North America molting in Greenland.

**URL:** <Go to ISI>://BCI200900160429

**Reference Type:**  Journal Article

**Record Number:** 380

**Author:** M. Robert and J.-P. L. Savard

**Year:** 2006

**Title:** The St. Lawrence River Estuary and Gulf: A stronghold for Barrow's Goldeneyes wintering in eastern North America

**Journal:** Waterbirds

**Volume:** 29

**Issue:** 4

**Pages:** 437-450

**Date:** Dec 2006

**Short Title:** The St. Lawrence River Estuary and Gulf: A stronghold for Barrow's Goldeneyes wintering in eastern North America

**Accession Number:** BCI:BCI200700180233

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Abundance, Distribution, and Trends; Nonbreeding Seasons; SDJV funded

**Abstract:** From 1997 to 2005, the distribution, seasonal abundance, and age and sex ratios of wintering Barrow's Goldeneyes (Bucephala islandica) was documented in the St. Lawrence River Estuary and Gulf, Canada, with a combination of ground and helicopter surveys. Ground surveys showed that Baie-Comeau and Baie-des-Rochers were the most important localities, with monthly averages of 250 (max. = 1020) and 273 (604) individuals, respectively, from November through April. Helicopter surveys showed that four areas (Baie-Comeati, Baie-des-Rochers, Baie-Sainte-Catherine and La Malbaie/Cap-a-l'Aigle) harboured on average 74% of all Barrow's Goldeneyes in the estuary, that numbers of individuals were more stable at these sites, and that the distribution of Common Goldeneyes (Bucephala clangula) within the estuary differed from that of Barrow's Goldeneyes. Because of ice conditions, goldeneyes were not found on the south shore of the estuary during the coldest winter months, although they were quite numerous in spring and fall. In contrast, large numbers of goldeneyes used the north shore of the estuary all winter long and through the end of April. In January-February of 1999, 2002 and 2005, helicopter surveys (N = 8) yielded on average 2428 Barrow's Goldeneyes (CV = 8%), 2503 Common Goldeneyes (6%) and 1320 Red-breasted Mergansers (Mergus serrator, 70%) per year in the estuary. These species averaged 2087 (CV = 81%), 2214 (41%) and 2898 (34%) individuals/year, respectively, in the gulf in January-February of 2002 and 2005 (N = 3). Helicopter survey results indicated possible identification errors between these three species, stressing the need to survey them concurrently. The January-February ratio of adult males and 'brown heads' was greater in 1998 (57.0%) that) it) 1999 (51.8%), partly because there were more immatures in the population in 1999 (18.1 %) than in 1998 (10.2%). Adult sex ratios were significantly different from 1/1 in January-February of 1998 (P < 0.0001) and 1999 (P = 0.0072), whereas immature sex ratios were not (P >= 0.27). The monthly proportion of immatures increased between January and May of 1998 (P < 0.0001) and 1999 (P < 0.0001), because of adults departing for breeding areas. The eastern North American wintering population of Barrow's Goldeneyes may include a maximum of 6187 individuals, of which > 90% would winter along the St. Lawrence Estuary and Gulf. Thus, the St. Lawrence corridor should undoubtedly be considered as the winter stronghold for Barrow's Goldeneyes in eastern North America.

**URL:** <Go to ISI>://BCI200700180233

**Reference Type:**  Journal Article

**Record Number:** 363

**Author:** M. Robert, M.-A. Vaillancourt and P. Drapeau

**Year:** 2010

**Title:** Characteristics of nest cavities of Barrow's Goldeneyes in eastern Canada

**Journal:** Journal of Field Ornithology

**Volume:** 81

**Issue:** 3

**Pages:** 287-293

**Date:** Sep 2010

**Short Title:** Characteristics of nest cavities of Barrow's Goldeneyes in eastern Canada

**Accession Number:** BCI:BCI201000545324

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Habitat; Breeding Season;

**Abstract:** Barrow's Goldeneyes (Bucephala islandica) are secondary cavity nesters found in western North America and, to a lesser extent, in eastern North America. The eastern North American population is concentrated in the province of Quebec and totals about 2000 pairs. Characteristics of nest cavities used by Barrow's Goldeneyes have been described in western North America, but no nest cavities have been found in eastern North America. From 2004 to 2008, we searched for nest cavities in the species' core breeding area in the boreal forests north of the St. Lawrence River. We captured 12 adult females on their breeding grounds and fitted them with transmitters, but none apparently nested so we conducted ground searches in areas near lakes where paired birds were observed. We found 11 cavities, with 10 in dead, decaying trees and one in the dead part of a dying tree. Nine cavities were in white birch (Betula papyrifera) trees. Mean cavity height was 3.5 +/- 1.6 (SD) m (range = 1.2-6.6 m) and mean diameter at breast height (DBH) of cavity trees was 37.8 +/- 4.7 cm (range = 32.2-47.5 cm). In contrast to the population in western North America, Barrow's Goldeneyes in eastern North America appear to rely on the availability of natural cavities formed in large, decaying trees for nesting. Current forestry regulations in Quebec do not promote the retention of either large trees or older forests, reducing the availability of potential nest cavities for Barrow's Goldeneyes and likely threatening their long-term conservation. Therefore, we recommend that guidelines be developed to promote silvicultural practices aimed at preserving the long-term availability of large (DBH >= 30 cm) decaying trees across the breeding range of Barrow's Goldeneyes.

**URL:** <Go to ISI>://BCI201000545324

**Reference Type:**  Journal Article

**Record Number:** 2228

**Author:** A. J. Roberts and M. R. Conover

**Year:** 2014

**Title:** Role of Benthic Substrate in Waterbird Distribution on Great Salt Lake, Utah

**Journal:** Waterbirds

**Volume:** 37

**Issue:** 3

**Pages:** 298-306

**Date:** Sep

**Short Title:** Role of Benthic Substrate in Waterbird Distribution on Great Salt Lake, Utah

**ISSN:** 1524-4695

**Accession Number:** WOS:000342476000007

**Keywords:** Common Goldeneye; Bucephala clangula; Nonbreeding season; Habitat; Abundance, Distribution, & Trends

**Abstract:** Benthic substrate has a large impact on aquatic plant and invertebrate assemblages and likely directly or indirectly influences waterbird distributions. The association of birds with various substrates can be important in survey design or habitat management. Northern Shoveler (Anas clypeata), Common Goldeneye (Bucephala clangula), Eared Grebe (Podiceps nigricollis), Ring-billed Gull (Larus delawarensis) and California Gull (L. californicus) densities on the hypersaline Great Salt Lake, Utah, were estimated to determine the association of bird distributions with benthic substrates. Three of the four groups of species monitored had densities that varied by benthic substrate; gulls were the exception. Eared Grebes occurred at the highest densities over calcareous reef-like structures known as bioherms, either as a result of ideal water depths for foraging or greater prey densities, than over other substrates. The highest densities of Northern Shovelers and Common Goldeneyes were observed Over mud substrates. This was likely due to mud being common near freshwater inflow sites and in lower salinity bays, areas waterfowl concentrate in because of the lower osmoregulatory demands compared to more pelagic areas of the Great Salt Lake. Knowing the relationship between waterbird densities and substrate will help managers estimate avian populations on hypersaline lakes.

**Notes:** Roberts, Anthony J. Conover, Michael R.

**URL:** <Go to ISI>://WOS:000342476000007

**Reference Type:**  Journal Article

**Record Number:** 2229

**Author:** A. J. Roberts, M. R. Conover and J. L. Vest

**Year:** 2016

**Title:** ENVIRONMENTAL INFLUENCES ON WINTERING DUCK ABUNDANCE AT GREAT SALT LAKE, UTAH

**Journal:** Western North American Naturalist

**Volume:** 76

**Issue:** 1

**Pages:** 18-26

**Date:** Mar

**Short Title:** ENVIRONMENTAL INFLUENCES ON WINTERING DUCK ABUNDANCE AT GREAT SALT LAKE, UTAH

**ISSN:** 1527-0904

**Accession Number:** WOS:000380879000003

**Keywords:** Barrow’s Goldeneye; Common Goldeneye; Bucephala islandica; Bucephala clangula; Nonbreeding season; Habitat

**Abstract:** North American waterfowl winter throughout a large geographic area, and the choice of wintering site has a direct impact on survival and fitness. Climatic and food variables are the most commonly cited factors influencing abundance and distribution of wintering migratory birds, including waterfowl. We conducted stratified aerial surveys at a northern latitude wintering site, Great Salt Lake (GSL), Utah, to describe the importance of this wintering area and to examine the influence of weather and food on the abundance of total ducks, Northern Shovelers (Anas clypeata), and goldeneye species (Bucephala spp.). Surveys indicated that up to 270,000 ducks use the GSL during winter, making it an important wintering area in the Pacific Flyway. Peak abundance of total ducks was positively correlated with overwinter temperatures. Northern Shoveler abundance was positively correlated with elevation of the GSL; higher lake elevation indicated more open water and hence more overwintering habitat. Goldeneye abundance was correlated with the continental population of the species and food abundance. All models had moderate fit (r(2) > 0.40). The GSL is unique in the United States as it is a large body of water where consistent ice cover does not occur and foraging habitat is available to ducks throughout winter. Our results suggest that ambient temperature and habitat availability are primary factors in the abundance of total wintering waterfowl, though food abundance seemed to influence wintering population size of individual duck species. We hypothesize that ducks endure the cold, hypersaline conditions on the GSL to exploit the abundant food supply and remain close to primary breeding regions.

**Notes:** Roberts, Anthony J. Conover, Michael R. Vest, Josh L.

**URL:** <Go to ISI>://WOS:000380879000003

**Reference Type:**  Journal Article

**Record Number:** 1562

**Author:** G. J. Robertson

**Year:** 1995

**Title:** Factors affecting nest site selection and nesting success in the Common Eider Somateria mollissima

**Journal:** Ibis

**Volume:** 137

**Issue:** 1

**Pages:** 109-115

**Short Title:** Factors affecting nest site selection and nesting success in the Common Eider Somateria mollissima

**Accession Number:** BCI:BCI199598169221

**Keywords:** Common Eider; Somateria mollissima; Habitat; Productivity; Breeding Season;

**Abstract:** Nesting site selection and nesting success in Common Eiders Somateria mollissima were studied over a 3-year period (1991-1993) in the Mast River delta (58 degree 24'N, 94 degree 24'W), 40 km east of Churchill, Manitoba, Canada. Eiders preferentially nested on islands that had incubating Lesser Snow Geese Anser caerulescens caerulescens on them; this effect was also seen between years on the same islands. Eiders which nested on islands with geese had a reduced chance of having eggs taken by predators during egg-laying and had a greater chance of hatching once incubation had begun, independent of the number of other eiders nesting on the island. The distance to a goose nest was less in nests which did not lose eggs prior to incubation than in those which did, but there was no difference in the distance to a goose nest in eider clutches which did or did not hatch. Artificial eider eggs placed closer to goose nests had a lower probability of being predated than those placed farther away. Nests on islands farther up the river and farther from the mainland had higher nesting success, presumably because these nesting islands were inaccessible to Arctic Foxes Alopex lagopus.

**URL:** <Go to ISI>://BCI199598169221

**Reference Type:**  Journal Article

**Record Number:** 1563

**Author:** G. J. Robertson

**Year:** 1995

**Title:** Annual variation in common eider egg size: Effects of temperature, clutch size, laying date, and laying sequence

**Journal:** Canadian Journal of Zoology

**Volume:** 73

**Issue:** 9

**Pages:** 1579-1587

**Short Title:** Annual variation in common eider egg size: Effects of temperature, clutch size, laying date, and laying sequence

**Accession Number:** BCI:BCI199698605770

**Keywords:** Common Eider; Somateria mollissima; Physiology; Productivity; Breeding Season;

**Abstract:** Annual variation in volumes of eggs laid by common eiders (Somateria mollissima sedentaria) nesting at La Perouse Bay, Manitoba (58 degree 43'N, 93 degree 27'W), was studied over 3 years (1991-1993). Temperatures during the egg-laying period were higher in 1991 than in 1992 and 1993. However, the eiders began nesting in 1993 at the same time as in 1991, whereas in 1992 the eiders began laying approximately 2 weeks later. Eiders laid significantly smaller clutches in 1992 than in the other 2 years. Egg size did not correlate with clutch size or laying date in any year. However, eiders laid smaller eggs in 1992 and 1993 than in 1991. In five egg clutches, the pattern of intraclutch egg-size variation was different among years. The last laid eggs of five egg clutches were disproportionately smaller in 1992 and 1993 (cold years) than those laid in 1991. Minimum daily temperatures before the egg-laying period (during rapid yolk development) were positively correlated with egg size. However, this effect was not significant when year and egg sequence were controlled for. Egg-size variation was correlated with the overall ambient temperatures during the laying period, whereas annual clutch-size variation was correlated with laying date, suggesting that the proximate mechanisms affecting clutch and egg size are different.

**URL:** <Go to ISI>://BCI199698605770

**Reference Type:**  Journal Article

**Record Number:** 1538

**Author:** G. J. Robertson

**Year:** 1998

**Title:** Egg adoption can explain joint egg-laying in common eiders

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 43

**Issue:** 4-5

**Pages:** 289-296

**Date:** Oct., 1998

**Short Title:** Egg adoption can explain joint egg-laying in common eiders

**Accession Number:** BCI:BCI199800472228

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Hypotheses regarding the evolution and maintenance of intraspecific nest parasitism were tested with data collected during a 3-year study of common eiders (Somateria mollissima) breeding near Churchill, Manitoba. The nest parasitism rate was highest (42.4% of nests) during the year with the highest nest density and the best environmental conditions, and lowest (20.2% of nests) in the year with the lowest nest density and the poorest environmental conditions. Over the nesting season, parasitic eggs were laid at the same time as normally laid eggs. Most parasitic eggs (>75%) were laid before the host female laid her third egg. The majority of the parasitic eggs were the first or second egg produced by the parasitic female. When a parasitic egg was laid before or on the same day as the host female initiated her clutch, the probability of her first egg being depredated before incubation was significantly lowered. First- and second-laid eggs suffered a high rate of predation probably because nesting females do not attend their clutch until their second or third egg is laid. Hypotheses that some females use intraspecific nest parasitism to parasitize the parental care of other females were inconsistent with these data. Egg adoption is a likely explanation for the prevalence of females incubating parasitic eggs in this population.

**URL:** <Go to ISI>://BCI199800472228

**Reference Type:**  Journal Article

**Record Number:** 244

**Author:** G. J. Robertson

**Year:** 2008

**Title:** Using Winter Juvenile/Adult Ratios as Indices of Recruitment in Population Models

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 152-158

**Short Title:** Using Winter Juvenile/Adult Ratios as Indices of Recruitment in Population Models

**Accession Number:** BCI:BCI200900160428

**Keywords:** Harlequin duck; Histrionicus histrionicus; Sea Ducks; Population Dynamics; Productivity; Population Model; Nonbreeding Seasons;

**Abstract:** There is an increasing interest in using winter juvenile counts as indices of recruitment in species that show delayed plumage maturation, especially for species, such as dispersed breeders, for which it is difficult to obtain good productivity estimates. To date, however, the needed mathematical work to assist in interpreting these winter juvenile/adult ratios has not been conducted. A matrix-based population model is presented that is modified to allow the fecundity component to be measured ill mid- to late winter. This model is simplified to a set of equations that relate adult survival, winter juvenile/adult ratios and population growth rates, allowing all assessment of population trend with only one survival rate and age ratio data. These models have the advantage of not requiring that age of first breeding be well known. As all example, age ratios and survival rates of Harlequin Duck (Histrionicus histrionicus) populations in British Columbia and Maine are presented. Models for both populations suggest recruitment of young is insufficient to compensate for adult mortality, which is contrary to observed trends. Although some further methodological work is needed, such as better estimates of true adult survival and a further understanding of how to obtain unbiased estimates of juvenile/adult ratios, these models may prove to be a useful tool to assess population trends when detailed demographic data are not available.

**URL:** <Go to ISI>://BCI200900160428

**Reference Type:**  Journal Article

**Record Number:** 1582

**Author:** G. J. Robertson and F. Cooke

**Year:** 1993

**Title:** Intraclutch egg-size variation and hatching success in the common eider

**Journal:** Canadian Journal of Zoology

**Volume:** 71

**Issue:** 3

**Pages:** 544-549

**Short Title:** Intraclutch egg-size variation and hatching success in the common eider

**Accession Number:** BCI:BCI199396003208

**Keywords:** Common Eider; Somateria mollissima; Physiology; Productivity; Breeding Season;

**Abstract:** Intraclutch egg-size variation and hatching success were studied in a population of Hudson Bay common eiders (Somateria mollissima sedentaria) at La Perouse Bay, Manitoba (58 degree 24'N, 94 degree 24'W), to test the hypothesis that females allocate more nutrient reserves to eggs that are more likely to hatch. Egg volumes were calculated for 575 known-sequence eggs in 134 complete clutches of 3-6 eggs. In general, the length of eggs decreased linearly with position in the laying sequence, whereas the breadth of eggs followed a curvilinear pattern, the second or third egg being the widest. For all clutch sizes, the last-laid egg was the smallest and the second- or third-laid egg the largest. Hatching success also varied with position in the laying sequence. Pre-incubation failure declined over the laying sequence, whereas hatching failure (dead, infertile, or rotten eggs) increased. In all cases pre-incubation failure was the major cause of egg loss (84% of total loss). Overall, third and fourth eggs were the most successful and first eggs were the least successful. With one exception, successful and unsuccessful eggs were the same size within a laying sequence. We conclude that there is no clear relationship between egg size and hatching success, and that laying sequence per se has a greater effect on hatching success. Female eiders do not appear to allocate more reserves to eggs that are most likely to hatch, and we consider other proximate, physiological mechanisms to explain the observed pattern of intraclutch egg-size variation.

**URL:** <Go to ISI>://BCI199396003208

**Reference Type:**  Journal Article

**Record Number:** 120

**Author:** G. J. Robertson and F. Cooke

**Year:** 1999

**Title:** Winter philopatry in migratory waterfowl

**Journal:** Auk

**Volume:** 116

**Issue:** 1

**Pages:** 20-34

**Date:** Jan., 1999

**Short Title:** Winter philopatry in migratory waterfowl

**Accession Number:** BCI:BCI199900121444

**Keywords:** Sea Ducks - General; Dispersal; Population Delineation; Nonbreeding Seasons;

**Abstract:** Philopatry in migratory species can apply to any location used during the annual cycle. The degree of philopatry influences the genetic structure of populations, but only at the stage of the annual cycle when pair formation and gene exchange occur. Because pair formation in birds typically occurs during the breeding season, most studies have focused on breeding-site philopatry. Waterfowl (Anseriformes) are an important exception to this pattern because pair formation often occurs during the winter months. Yet, surprisingly few studies have examined winter philopatry in waterfowl. To serve as an impetus for future research, we summarize published information on winter philopatry in waterfowl and examine these patterns in light of current hypotheses proposed to explain philopatric behavior. Our analyses indicate that geese, swans, and sea ducks show high levels of winter philopatry, with homing rates varying between 49 and 98% to small study areas. In contrast, return rates (0 to 20%) and homing rates (35 to 85%) to large study areas probably are comparatively lower for dabbling ducks and pochards. Unfortunately, detailed comparisons among groups are hindered by variation in the scale at which philopatric behavior is evaluated (ranging from <1 km2 to 105 km2), and by confounding of return rates with homing rates. Future studies of winter philopatry would benefit by the adoption of a more standardized methodology. Many of the hypotheses proposed to explain breeding philopatry apply equally well to winter philopatry. In particular, both genetic and ecological mechanisms may play a role in the evolution of philopatry to the wintering ground. Additional field studies are needed to test these hypotheses, and we suggest future directions for a more detailed examination of this neglected area of research.

**URL:** <Go to ISI>://BCI199900121444

**Reference Type:**  Journal Article

**Record Number:** 338

**Author:** G. J. Robertson, F. Cooke, R. I. Goudie and W. S. Boyd

**Year:** 1998

**Title:** The timing of arrival and moult chronology of Harlequin Ducks Histrionicus histrionicus

**Journal:** Wildfowl

**Volume:** 48

**Issue:** 0

**Pages:** 147-155

**Date:** 1997 (1998)

**Short Title:** The timing of arrival and moult chronology of Harlequin Ducks Histrionicus histrionicus

**Accession Number:** BCI:BCI199800178202

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Molt; Nonbreeding Seasons;

**Abstract:** The timing of arrival and moulting chronology of a population of post-breeding Harlequin Ducks was studied over a three year period in south-western British Columbia. Males first arrived on the moulting and wintering grounds in mid-June and most had returned from the breeding areas by the end of July. Females first arrived in late July and continued to arrive until the end of September The flightless period for the mates ranged from late July to late August. Flightless females could be seen throughout August and September. Wings took 30-31 days to regrow, compared to 26 days for tails. Assuming birds can fly at 70% remex growth this corresponds to a flightless period of about 21 days. Yearlings of both sexes exhibited moulting chronologies similar to adult males. All birds initiated moulting as soon as they arrived on the non-breeding grounds, suggesting an advantage for early moulting. The reasons for this are likely to be different for the two sexes. Males probably initiate moult quickly to be able to return to their alternate plumage and begin courting females. Females may moult early to complete wing growth before the onset of winter.

**URL:** <Go to ISI>://BCI199800178202

**Reference Type:**  Journal Article

**Record Number:** 339

**Author:** G. J. Robertson, F. Cooke, R. I. Goudie and W. S. Boyd

**Year:** 1998

**Title:** Moult speed predicts pairing success in male harlequin ducks

**Journal:** Animal Behaviour

**Volume:** 55

**Issue:** 6

**Pages:** 1677-1684

**Date:** June, 1998

**Short Title:** Moult speed predicts pairing success in male harlequin ducks

**Accession Number:** BCI:BCI199800355793

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Molt; Nonbreeding Seasons;

**Abstract:** The bright plumage of male ducks in sexually dichromatic species is thought to have evolved through intense sexual selection. This study examined the relationship between the timing and speed of moult into this bright plumage and subsequent mating success of male harlequin ducks, Histrionicus histrionicus. Males that moulted relatively slowly had a lower chance of establishing a pair bond than others. The timing of moult was unrelated to whether a male obtained a mate. Moult speed and timing were not correlated within individual males, but were significantly repeatable in individual males over 2 years. Moult speed probably reflects the condition of males, whereas timing of moult is more likely to be related to the distance to an individual's breeding area, which determines the timing of arrival to the moulting grounds. In waterfowl species that have been studied, males usually form dominance hierarchies before pairing and females tend to choose dominant males. We suggest that male harlequin ducks that moult slowly are poor-quality individuals, which are relegated to subordinate status and are unlikely to attract a mate the following autumn.

**URL:** <Go to ISI>://BCI199800355793

**Reference Type:**  Journal Article

**Record Number:** 340

**Author:** G. J. Robertson, F. Cooke, R. I. Goudie and W. S. Boyd

**Year:** 1998

**Title:** The timing of pair formation in Harlequin ducks

**Journal:** Condor

**Volume:** 100

**Issue:** 3

**Pages:** 551-555

**Date:** Aug., 1998

**Short Title:** The timing of pair formation in Harlequin ducks

**Accession Number:** BCI:BCI199800427859

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** The timing of pair formation varies within and among species of ducks. In this study we documented the chronology of pair formation in a population of wintering Harlequin Ducks (Histrionicus histrionicus) in southwestern British Columbia. Harlequin Ducks began forming pair bonds in October and over half of the females were paired by December. This timing is much earlier than other ducks of similar size. A segment of this population was individually marked, and we documented the reunion of mates in subsequent years. In all cases where both members of the pair returned to their wintering grounds they reunited in the fall. New pair bonds, involving young males and females, were formed in the spring. We suggest that pair reunion in this species reduces the costs of courtship and pair bond maintenance and allows males to pair early in the nonbreeding season, compared to other species.

**URL:** <Go to ISI>://BCI199800427859

**Reference Type:**  Journal Article

**Record Number:** 318

**Author:** G. J. Robertson, F. Cooke, R. I. Goudie and W. S. Boyd

**Year:** 2000

**Title:** Spacing patterns, mating systems, and winter philopatry in Harlequin Ducks

**Journal:** Auk

**Volume:** 117

**Issue:** 2

**Pages:** 299-307

**Date:** April, 2000

**Short Title:** Spacing patterns, mating systems, and winter philopatry in Harlequin Ducks

**Accession Number:** BCI:BCI200000240151

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Dispersal; Nonbreeding Seasons;

**Abstract:** Many species of waterfowl form pair bonds during the nonbreeding season, yet current descriptions of mating systems and patterns of philopatry in waterfowl focus on the breeding grounds. We studied wintering Harlequin Ducks (Histrionicus histrionicus) in southwestern British Columbia to examine mating systems and philopatric behavior outside of the breeding season. The number of males at our study area was far more variable than that of females. Males that were unsuccessful in obtaining a mate were observed over a larger area than were paired males. Habitat use overlapped considerably among paired males, and no territorial boundaries were formed. Annual return rates to the nonbreeding grounds were high for both sexes (62% for females, 77% for males). Individuals not only returned to the general study area, but also to specific sections within the study area. Males that did not pair in the previous year returned to the study area in the subsequent year with the same frequency as males that had obtained mates; however, they tended to leave the study area prior to courtship. Therefore, it is possible that males return to the same wintering grounds each year to reunite with a previous mate. High levels of philopatry by both sexes allow pairs to reunite in fall, potentially increasing the benefits of philopatry for both sexes.

**URL:** <Go to ISI>://BCI200000240151

**Reference Type:**  Journal Article

**Record Number:** 1539

**Author:** G. J. Robertson and H. G. Gilchrist

**Year:** 1998

**Title:** Evidence of population declines among common eiders breeding in the Belcher Islands, Northwest Territories

**Journal:** Arctic

**Volume:** 51

**Issue:** 4

**Pages:** 378-385

**Date:** Dec., 1998

**Short Title:** Evidence of population declines among common eiders breeding in the Belcher Islands, Northwest Territories

**Accession Number:** BCI:BCI199900136486

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Information regarding the status of common eiders Somateria mollissima breeding in the Canadian Arctic is sorely lacking. In 1997, we surveyed five island archipelagoes in the Belcher Islands in Hudson Bay (56degree00'-57degree30'N, 79degree30'-80degree00'W) from 3 to 23 July. Our results were compared with eider surveys of the same islands completed between 1985 and 1989 using a standard protocol. We found 1416 eiders on 431 islands. Most (94.1%) were found while the female was still incubating. In all five island groups surveyed, the number of nesting eiders declined significantly (overall decline of 75.0% from 1985 - 88 to 1997, range: 62.3-84.0%). In 1997, nesting islands and adjacent waters were free of ice, and eiders nested early and laid large clutches (range: 4.0-4.4 +- 1.0-1.2 SD). These conditions indicate a good nesting season, and we inferred that extensive nonbreeding by female eiders in 1997 did not account for the observed decline. A large reported die-off of eiders during the winter of 1991-92, which occurred when areas of open water froze, was the most likely cause of the decline. Our results raise serious conservation concerns, because eider populations are sensitive to reductions in adult survival and this population is harvested throughout the year by subsistence hunters.

**URL:** <Go to ISI>://BCI199900136486

**Reference Type:**  Journal Article

**Record Number:** 1449

**Author:** G. J. Robertson and H. G. Gilchrist

**Year:** 2003

**Title:** Wintering Snowy Owls feed on sea ducks in the Belcher Islands, Nunavut, Canada

**Journal:** Journal of Raptor Research

**Volume:** 37

**Issue:** 2

**Pages:** 164-166

**Date:** June 2003

**Short Title:** Wintering Snowy Owls feed on sea ducks in the Belcher Islands, Nunavut, Canada

**Accession Number:** BCI:BCI200300462513

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200300462513

**Reference Type:**  Journal Article

**Record Number:** 245

**Author:** G. J. Robertson, G. H. Mittelhauser, T. Chubbs, P. Trimper, R. I. Goudie, P. W. Thomas, S. Brodeur, M. Robert, S. G. Gilliland and J.-P. L. Savard

**Year:** 2008

**Title:** Morphological Variation among Harlequin Ducks in the Northwest Atlantic

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 194-203

**Short Title:** Morphological Variation among Harlequin Ducks in the Northwest Atlantic

**Accession Number:** BCI:BCI200900160433

**Keywords:** Harlequin duck; Histrionicus histrionicus; Physiology; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) were captured and measured at a variety of staging, breeding, molting and wintering sites across their Northwest Atlantic range from 1996-2002. The consistency in the body measurements taken oil the same birds across time and sites, as indexed by repeatability, was adequate (0.4-0.75), with the notable exception of total tarsus, which showed poor repeatability. Correlations among morphological measurements; were weak within each sex. Some differences among locations were detected, notably in wing length, with birds breeding in Labrador showing longer wings than birds breeding further south and those wintering in Maine. Overall, however, major differences among sites were not apparent. Recent satellite and banding information indicate that. many of these locations are linked and these observations are supported by this morphological data. Harlequin Ducks are similar to other ducks (except ciders) in that they are wide ranging and have disjunct populations, but show. at best, weak morphological differentiation across their range.

**URL:** <Go to ISI>://BCI200900160433

**Reference Type:**  Journal Article

**Record Number:** 1494

**Author:** G. J. Robertson, A. Reed and H. G. Gilchrist

**Year:** 2001

**Title:** Clutch, egg and body size variation among common eiders breeding in Hudson Bay, Canada

**Journal:** Polar Research

**Volume:** 20

**Issue:** 1

**Pages:** 85-94

**Short Title:** Clutch, egg and body size variation among common eiders breeding in Hudson Bay, Canada

**Accession Number:** BCI:BCI200100424976

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season;

**Abstract:** The Hudson Bay common eider (Somateria molissima sedentaria) is a unique subspecies of eider that remains within the confines of Hudson Bay throughout the year. We compared clutch, egg and body size variation among populations of common eiders breeding in eastern and western Hudson Bay. Clutch size did not differ substantially among these populations. All eiders in Hudson Bay laid larger clutches than other subspecies in eastern North America. As Hudson Bay common eiders do not undergo extensive migrations, they may have more energy reserves available to them for egg production. Eiders nesting in eastern Hudson Bay laid larger eggs than eiders nesting in western Hudson Bay. Further, eiders in eastern Hudson Bay tended to be structurally larger, but had smaller bill processes. These differences may have a genetic basis. Smaller egg size and body size may arise in western Hudson Bay from mixing with the smaller borealis subspecies nesting to the north. Further work to resolve genetic affinities, determine levels of male and female dispersal, and examine variation in reproductive ecology are needed to resolve the sources of these differences.

**URL:** <Go to ISI>://BCI200100424976

**Reference Type:**  Journal Article

**Record Number:** 1128

**Author:** G. J. Robertson and J.-P. L. Savard

**Year:** 2002

**Title:** Long-tailed duck: Clangula hyemalis

**Journal:** Birds of North America

**Issue:** 651

**Pages:** 1-27

**Short Title:** Long-tailed duck: Clangula hyemalis

**Accession Number:** BCI:BCI200300038857

**Keywords:** Long-tailed Duck; Clangula hyemalis; Nonbreeding Seasons; Breeding Season;

**URL:** <Go to ISI>://BCI200300038857

**Reference Type:**  Journal Article

**Record Number:** 1593

**Author:** G. J. Robertson, M. D. Watson and F. Cooke

**Year:** 1992

**Title:** Frequency, timing and costs of intraspecific nest parasitism in the common eider

**Journal:** Condor

**Volume:** 94

**Issue:** 4

**Pages:** 871-879

**Short Title:** Frequency, timing and costs of intraspecific nest parasitism in the common eider

**Accession Number:** BCI:BCI199395071780

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Intraspecific nest parasitism was studied in the Hudson Bay race of the Common Eider (Somateria mollissima sedentaria), near Churchill, Manitoba (58 degree 24'N, 94 degree 24'W). Nest parasitism was detected by three methods: (1) multiple eggs laid in the same nest on a single day, (2) eggs laid before or after the host's clutch was laid, and (3) large within-clutch variances in egg size and color. It was determined that 42.4% (n = 153) of completed clutches were parasitized. Parasitic eggs were laid significantly earlier in the host's laying sequence than expected by chance: 65% of parasitic eggs were laid on the first two days of laying. Number of parasitic eggs laid, as a proportion of all eggs, did not change significantly throughout the laying period. The probability of parasitic and host eggs hatching was not significantly different from that in unparasitized nests. Hosts did not reduce their clutch size in response to parasitism, when data were controlled for initiation date, nor did they hatch any fewer of their own young for a given clutch size than unparasitized nests. Parasitized nests were found in areas with higher densities (number of neighbors within 10 m) at initiation. Parasitism in this species does not appear to be a salvage strategy and may be part of a mixed or conditional strategy.

**URL:** <Go to ISI>://BCI199395071780

**Reference Type:**  Journal Article

**Record Number:** 2350

**Author:** G. J. a. J.-P. L. S. Robertson

**Year:** 2002

**Title:** Long-tailed Duck (Clangula hyemalis)

**Journal:** The Birds of North America

**Short Title:** Long-tailed Duck (Clangula hyemalis)

**Keywords:** Long-tailed Duck; Clangula hyemalis

**Reference Type:**  Journal Article

**Record Number:** 2351

**Author:** G. J. a. R. I. G. Robertson

**Year:** 1999

**Title:** Harlequin Duck (Histrionicus histrionicus)

**Journal:** The Birds of North America

**Short Title:** Harlequin Duck (Histrionicus histrionicus)

**Keywords:** Harlequin Duck; Histrionicus histrionicus

**Reference Type:**  Journal Article

**Record Number:** 1224

**Author:** H. W. Robinson

**Year:** 1926

**Title:** The nesting of Steller's Eider in Norway

**Journal:** Ibis

**Volume:** 2

**Issue:** (3)

**Pages:** 631

**Short Title:** The nesting of Steller's Eider in Norway

**Accession Number:** BCI:BCI19290300016976

**Keywords:** Steller's eider; Polysticta stelleri; Breeding Season;

**Abstract:** Comment on a recent record of Polysticta stelleri (Pallas) by George Bolam. || ABSTRACT AUTHORS: W. W. Bowen

**URL:** <Go to ISI>://BCI19290300016976

**Reference Type:**  Journal Article

**Record Number:** 836

**Author:** J. A. Robinson

**Year:** 1999

**Title:** Migration and morphometrics of the Red-breasted Merganser Mergus serrator in northern Eurasia and the implications for conservation of this species in Britain and Ireland

**Journal:** Wildfowl

**Issue:** 50

**Pages:** 139-148

**Short Title:** Migration and morphometrics of the Red-breasted Merganser Mergus serrator in northern Eurasia and the implications for conservation of this species in Britain and Ireland

**Accession Number:** BCI:BCI200000114773

**Keywords:** Red-breasted merganser; Mergus serrator; Population Delineation; Dispersal; Nonbreeding Seasons; Breeding Season;

**Abstract:** Criterion 3c of the Ramsar Convention on wetlands of international importance suggests that a wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of a species or subspecies of waterfowl. A review of the status of Red-breasted Merganser Mergus serrator populations in Europe was conducted to investigate how the 1% threshold for this species should be determined for the UK. Four discrete breeding populations of the nominate race of the Red-breasted Merganser have been identified in northern Eurasia. Ringing recoveries indicate that some birds from the Iceland, east Greenland, Britain and Ireland group are dispersive within their own countries in the non-breeding season whereas others move to coastal waters around Iceland, Britain and Ireland. There is a small amount of evidence, from ringing recoveries and systematic counts, of interchange between birds from this group and those from the rest of north-west Europe. For the designation/identification of 1% thresholds in the UK, the evidence available at present suggests that the north-west and central European population should not be considered separate from those birds which breed in Iceland, east Greenland, Britain and Ireland. However, caution should be taken when interpreting these data and further studies are urgently required to clarify this matter.

**URL:** <Go to ISI>://BCI200000114773

**Reference Type:**  Journal Article

**Record Number:** 1946

**Author:** F. Robledano, M. A. Esteve, J. Martinez-Fernandez and P. Farinos

**Year:** 2011

**Title:** Determinants of wintering waterbird changes in a Mediterranean coastal lagoon affected by eutrophication

**Journal:** Ecological Indicators

**Volume:** 11

**Issue:** 2

**Pages:** 395-406

**Date:** Mar

**Short Title:** Determinants of wintering waterbird changes in a Mediterranean coastal lagoon affected by eutrophication

**ISSN:** 1470-160X

**DOI:** 10.1016/j.ecolind.2010.06.010

**Accession Number:** WOS:000285035000021

**Notes:** Times Cited: 1

Robledano, F. Esteve, M. A. Martinez-Fernandez, J. Farinos, P.

Martinez, Julia/J-9681-2012

Martinez, Julia/0000-0001-8675-947X

1

**URL:** <Go to ISI>://WOS:000285035000021

**Reference Type:**  Journal Article

**Record Number:** 1993

**Author:** H. Rodriguez-Perez and A. J. Green

**Year:** 2012

**Title:** Strong seasonal effects of waterbirds on benthic communities in shallow lakes

**Journal:** Freshwater Science

**Volume:** 31

**Issue:** 4

**Pages:** 1273-1288

**Date:** Dec

**Short Title:** Strong seasonal effects of waterbirds on benthic communities in shallow lakes

**DOI:** 10.1899/11-129.1

**Notes:** Rodriguez-Perez, Hector Green, Andy J.

**Reference Type:**  Journal Article

**Record Number:** 335

**Author:** M. S. Rodway

**Year:** 1998

**Title:** Habitat use by Harlequin Ducks breeding in Hebron Fiord, Labrador

**Journal:** Canadian Journal of Zoology

**Volume:** 76

**Issue:** 5

**Pages:** 897-901

**Date:** May, 1998

**Short Title:** Habitat use by Harlequin Ducks breeding in Hebron Fiord, Labrador

**Accession Number:** BCI:BCI199800493865

**Keywords:** Harlequin duck; Histrionicus histrionicus; Habitat; Breeding Season;

**Abstract:** Understanding of breeding habitat requirements is vital to recovery plans for the endangered eastern North American population of Harlequin Ducks (Histrionicus histrionicus). I compared habitat characteristics and benthic invertebrate fauna between streams in Hebron Fiord, Labrador, used and unused by Harlequin Ducks in 1996. Used streams were narrower, had higher pH and temperature, a larger substrate, steeper shorelines, and greater vegetation cover on islands and shorelines than unused streams. Greater numbers of invertebrates were recovered from kick samples, simuliid larvae and plecopteran nymphs were more frequent, and chironomid larvae and emphemeropteran nymphs were less frequent in used than in unused streams. Results from this study will help focus future survey and conservation efforts.

**URL:** <Go to ISI>://BCI199800493865

**Reference Type:**  Journal Article

**Record Number:** 336

**Author:** M. S. Rodway

**Year:** 1998

**Title:** Activity patterns, diet, and feeding efficiency of Harlequin Ducks breeding in northern Labrador

**Journal:** Canadian Journal of Zoology

**Volume:** 76

**Issue:** 5

**Pages:** 902-909

**Date:** May, 1998

**Short Title:** Activity patterns, diet, and feeding efficiency of Harlequin Ducks breeding in northern Labrador

**Accession Number:** BCI:BCI199800493423

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Trophic Interactions; Breeding Season;

**Abstract:** The lack of data on summer diet and feeding behaviour for the endangered eastern North American population of Harlequin Ducks (Histrionicus histrionicus) prompted a study of activity patterns and feeding ecology in a coastal stream in Hebron Fiord, Labrador. Diurnal activity patterns varied by habitat and changed through the season. Extensive feeding occurred in slow-moving waters, contrary to expectation. Females spent 40% of daylight hours feeding during the prelaying period, more than twice the time spent by males and higher than that reported in other studies. Diurnal feeding patterns showed little variation in the prelaying period and major peaks of activity in the morning and evening during incubation and brood rearing. Larval Simuliidae (Diptera) were absent from a fecal sample taken in July but dominated the prey remains in feces collected in August. Dive times averaged 10-24 s and varied with depth of water. Dive-pause ratios of 1.7-2.2 were lower than previously reported. The results support the hypothesis that populations are food-limited on the breeding grounds, and suggest that there may be greater energy constraints on foraging effort in river specialists than in dabbling or other diving waterfowl.

**URL:** <Go to ISI>://BCI199800493423

**Reference Type:**  Journal Article

**Record Number:** 279

**Author:** M. S. Rodway

**Year:** 2006

**Title:** Have winter spacing patterns of harlequin ducks been partially shaped by sexual selection?

**Journal:** Waterbirds

**Volume:** 29

**Issue:** 4

**Pages:** 415-426

**Date:** Dec 2006

**Short Title:** Have winter spacing patterns of harlequin ducks been partially shaped by sexual selection?

**Accession Number:** BCI:BCI200700180231

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Habitat; Nonbreeding Seasons;

**Abstract:** Sexual selection can operate throughout the annual cycle and likely shapes the winter plumage and courtship displays of many northern waterfowl that choose mates during winter. Less conspicuous effects of sexual selection are likely and in this study I asked whether winter distribution patterns and grouping behavior of Harlequin Ducks (Histrionicus histrionicus) are partially shaped by sexual selection. Harlequin Ducks are typically dispersed in small groups and observed grouping behavior supported the hypothesis that unpaired adult and immature birds will show sexually-selected changes in their spacing to facilitate courtship and mate sampling. Unpaired birds occurred in larger groups than paired birds during October-February, and group-relalated differences in the sex ratio and in the proportion of females that were unpaired indicated that unpaired birds were aggregating g specifically for courtship. Behavior similar to lekking was observed at one site. Males gathered at this site at daybreak, unpaired females visited the site each apparently to attract a group of courting males, and these courting groups left the site without feeding. When herring spawn was available in March, unpaired birds were more likely to move to exploit it and gained both direct nutritional benefits as well as indirect benefits related to changes in time budgets and spacing behavior that facilitated courtship and mate sampling. Overall, results suggest that sexually-selected behaviors that affect the process of mate choice and the timing of pairing are important to consider if we are trying to explain winter spacing patterns of waterfowl.

**URL:** <Go to ISI>://BCI200700180231

**Reference Type:**  Journal Article

**Record Number:** 272

**Author:** M. S. Rodway

**Year:** 2007

**Title:** Timing of pairing in waterfowl II: Testing the hypotheses with Harlequin Ducks

**Journal:** Waterbirds

**Volume:** 30

**Issue:** 4

**Pages:** 506-520

**Date:** Dec 2007

**Short Title:** Timing of pairing in waterfowl II: Testing the hypotheses with Harlequin Ducks

**Accession Number:** BCI:BCI200800170204

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** Intra-specific predictions of the male-costs and mutual-choice hypotheses to explain variation in the timing of pairing in waterfowl were tested in a longitudinal study of marked, known-aged Harlequin Ducks (Histrionicus histrionicus). Pairing chronologies and seasonal changes in time-activity budgets and rates of aggressive interactions were compared in relation to sex, age, and paired status. Results supported the mutual-choice and not the male-costs hypothesis. Paired females gained no immediate benefits relative to unpaired females from mate defense and vigilance, and there was no evidence that females preferred to pair as early as possible, as postulated by the male-costs hypothesis. Unpaired males spent much more time in courtship than paired males spent in mate defense and constraints on male time and energy budgets was not a plausible reason for delayed and protracted pairing of young and re-pairing females. As predicted by the mutual-choice hypothesis, decisions by females about how much time and energy to allocate to the pairing process appeared to be the main factor controlling the timing of pairing in Harlequin Ducks. Newly-pairing females invested an extended period of time in courtship and mate sampling before pairing, in spite of an abundance of courting males clearly energetically capable of maintaining a pair bond. Many young females decided to pair during mid-winter when time constraints to males should have been most severe. Time-budget trade-offs were apparent for young females and their date of pairing was related to the amount of time per day that they allocated to courtship. Pairing success of males was not related to their rate of courtship, nor was it related to the length of time they invested in courtship as they began courting while they were still immature and generally courted for several years before pairing.

**URL:** <Go to ISI>://BCI200800170204

**Reference Type:**  Journal Article

**Record Number:** 1947

**Author:** M. S. Rodway

**Year:** 2013

**Title:** Pair-bond Defense Relates to Mate Quality in Harlequin Ducks (Histrionicus histrionicus)

**Journal:** Waterbirds

**Volume:** 36

**Issue:** 2

**Pages:** 189-198

**Date:** Jun

**Short Title:** Pair-bond Defense Relates to Mate Quality in Harlequin Ducks (Histrionicus histrionicus)

**ISSN:** 1524-4695

**Accession Number:** WOS:000320345000007

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Breeding Season

**Notes:** Times Cited: 0

Rodway, Michael S.

0

**URL:** <Go to ISI>://WOS:000320345000007

**Reference Type:**  Journal Article

**Record Number:** 309

**Author:** M. S. Rodway and F. Cooke

**Year:** 2001

**Title:** Effect of food availability on arrival and departure decisions of Harlequin Ducks at diurnal feeding grounds

**Journal:** Condor

**Volume:** 103

**Issue:** 4

**Pages:** 870-874

**Date:** November, 2001

**Short Title:** Effect of food availability on arrival and departure decisions of Harlequin Ducks at diurnal feeding grounds

**Accession Number:** BCI:BCI200200024489

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** We investigated three types of decisions made by Harlequin Ducks (Histrionicus histrionicus) in moving between nearshore feeding and offshore resting areas: when to move, whether to move synchronously, and whether to form dense flocks on the roosting grounds. We used the spawning of Pacific herring (Clupea pallasi) as a natural food-supplementation experiment. Birds arrived at nearshore feeding areas a few minutes later and departed almost an hour earlier relative to sunrise and sunset when spawn was available than before and after. Cloud cover and high winds resulted in earlier departures, especially during spawning. Arriving, departing, and offshore groups consisted most frequently of two ducks, and birds showed little tendency to synchronize movements or to form dense flocks when resting. Results indicate that Harlequin Ducks avoid crepuscular and nocturnal periods near shore when not constrained by food availability and the length of daylight in which to feed.

**URL:** <Go to ISI>://BCI200200024489

**Reference Type:**  Journal Article

**Record Number:** 300

**Author:** M. S. Rodway and F. Cooke

**Year:** 2002

**Title:** Use of fecal analysis to determine seasonal changes in the diet of wintering Harlequin Ducks at a herring spawning site

**Journal:** Journal of Field Ornithology

**Volume:** 73

**Issue:** 4

**Pages:** 363-371

**Date:** Autumn 2002

**Short Title:** Use of fecal analysis to determine seasonal changes in the diet of wintering Harlequin Ducks at a herring spawning site

**Accession Number:** BCI:BCI200300091909

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Techniques; Nonbreeding Seasons;

**Abstract:** Few data are available on seasonal changes in winter diet of Harlequin Ducks (Histrionicus histrionicus), especially in relation to their use of Pacific herring (Clupea pallasi) spawn. We used fecal analyses to determine seasonal changes in Harlequin Duck winter diet at a site where Pacific herring spawn. We measured frequency of occurrence and relative abundance by volume of prey remains in 202 fecal samples collected during four date periods in 1998 and 1999. These two measures were highly correlated. We identified snails, crabs, limpets, and chitons as the principal animal prey, and ranked relative importance of most prey types in similar order as previous studies using stomach analyses. Crabs parts constituted the majority of prey remains during molt, and we concluded that crabs were dominant in the diet during molt because crabs generally have greater organic content and less hard-part remains per unit of body mass than other hard-shelled prey consumed at that time. Snail remains were highest in frequency of occurrence during winter. Herring eggs were not detected in feces until a week after herring spawned, but abrupt changes in other prey types indicated that herring eggs were the principal prey throughout the spawn period. Polychaetes increased in importance in winter and spring, and rated third in frequency of occurrence in spring. We recommend using fecal analyses to determine frequency of occurrence of prey in the diet of other sea-ducks that are known to feed on hard-shelled molluscs and crustaceans. Measures of relative abundance of prey remains can be useful if conversion factors relating hard-part remains to whole-body biomass are available.

**URL:** <Go to ISI>://BCI200300091909

**Reference Type:**  Journal Article

**Record Number:** 337

**Author:** M. S. Rodway, J. W. Goose, Jr., I. Fong and W. A. Montevecchi

**Year:** 1998

**Title:** Discovery of a Harlequin Duck nest in Eastern North America

**Journal:** Wilson Bulletin

**Volume:** 110

**Issue:** 2

**Pages:** 282-285

**Date:** June, 1998

**Short Title:** Discovery of a Harlequin Duck nest in Eastern North America

**Accession Number:** BCI:BCI199800358580

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Harlequin Ducks (Histrionicus histrionicus) were observed breeding on a tributary of the northwestern arm of Hebron Fiord, Labrador. Peak population numbers were 11 males and 13 females on 17 June; females consistently outnumbered males. Breeding was confirmed by the presence of a nest with eggs and the presence of downy chicks.

**URL:** <Go to ISI>://BCI199800358580

**Reference Type:**  Journal Article

**Record Number:** 293

**Author:** M. S. Rodway, H. M. Regehr, J. Ashley, P. V. Clarkson, R. I. Goudie, D. E. Hay, C. M. Smith and K. G. Wright

**Year:** 2003

**Title:** Aggregative response of Harlequin Ducks to herring spawning in the Strait of Georgia, British Columbia

**Journal:** Canadian Journal of Zoology

**Volume:** 81

**Issue:** 3

**Pages:** 504-514

**Date:** March 2003

**Short Title:** Aggregative response of Harlequin Ducks to herring spawning in the Strait of Georgia, British Columbia

**Accession Number:** BCI:BCI200300291021

**Keywords:** Harlequin duck; Histrionicus histrionicus; Trophic Interactions; Dispersal; Nonbreeding Seasons;

**Abstract:** We determined the scale of aggregative response of Harlequin Ducks (Histrionicus histrionicus) to seasonally and locally superabundant prey at Pacific herring (Clupea pallasi) spawning sites in the northern Strait of Georgia, British Columbia, in 1995-2002. Aggregations of 3400-5500 birds gathered at a small number of sites along the same 8-km stretch of shoreline each year that spawn was available there. Aggregations occurred in only a small fraction of the habitat area where spawn was available. Duration of stay at spawning sites averaged 2-3 weeks and many birds returned to their wintering grounds afterwards. Birds moving to spawning sites represented 55-87% of the total wintering population. The proportion of local wintering populations that moved to spawning sites was negatively related to the distance they had to travel, and few birds travelled farther than 80 km. The decline in proportions moving with increasing distance suggests that more distant individuals may be constrained by a lack of information or that there are trade-offs between the benefits of exploiting spawn and the costs of movement. This raises a conservation concern because the temporal and geographic range of herring spawning in British Columbia is contracting and some wintering water-bird populations may be losing access to this important late-winter food.

**URL:** <Go to ISI>://BCI200300291021

**Reference Type:**  Journal Article

**Record Number:** 294

**Author:** M. S. Rodway, H. M. Regehr and F. Cooke

**Year:** 2003

**Title:** Sex and age differences in distribution, abundance, and habitat preferences of wintering Harlequin Ducks: Implications for conservation and estimating recruitment rates

**Journal:** Canadian Journal of Zoology

**Volume:** 81

**Issue:** 3

**Pages:** 492-503

**Date:** March 2003

**Short Title:** Sex and age differences in distribution, abundance, and habitat preferences of wintering Harlequin Ducks: Implications for conservation and estimating recruitment rates

**Accession Number:** BCI:BCI200300291020

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Habitat; Productivity; Techniques; Nonbreeding Seasons;

**Abstract:** We determined the sex- and age-specific distribution, abundance, and habitat preferences of wintering Harlequin Ducks (Histrionicus histrionicus) and evaluated potential biases in measuring ratios of immature males to adult males to estimate recruitment rates. A comparison of the occurrence of birds with habitat availability at the 1-km scale indicated a preference for wide intertidal habitat with cobble-gravel or bedrock-boulder substrate, small offshore islets and shoreline with attached or nearby reefs and islets, areas without streams, and areas with a greater historical abundance of herring spawn. Where the substrate was bedrock-boulder, birds preferred areas with tidal rapids. Densities of birds were highest along linear and complex shorelines with reefs or islets where intertidal habitat was >100 m wide and substrate was cobble-gravel or bedrock-boulder. Patterns of habitat use among sex and age classes were the same at the 1-km scale but differed at smaller scales, with adult and immature males occurring farther offshore than females. Age ratios varied among areas and were biased by survey method and misidentification of distant birds. Correcting for detected biases gave an estimated male age ratio of 9.8%. Calculated estimates of female recruitment suggest a declining population, but it is necessary to incorporate emigration in estimates of adult survival before demographic trends can be confidently inferred.

**URL:** <Go to ISI>://BCI200300291020

**Reference Type:**  Journal Article

**Record Number:** 939

**Author:** U. Roed

**Year:** 1971

**Title:** Molting Migration in Southern Jutland and at Kalmarsund

**Journal:** Flora og Fauna

**Volume:** 77

**Issue:** 2

**Pages:** 45-51

**Short Title:** Molting Migration in Southern Jutland and at Kalmarsund

**Accession Number:** BCI:BCI197152134347

**Keywords:** Common Eider; Somateria mollissima; Black Scoter; Melanitta nigra; Migration; Molt; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197152134347

**Reference Type:**  Journal Article

**Record Number:** 47

**Author:** R. A. Ronconi

**Year:** 2006

**Title:** Predicting bird oiling events at oil sands tailings ponds and assessing the importance of alternate waterbodies for waterfowl: A preliminary assessment

**Journal:** Canadian Field-Naturalist

**Volume:** 120

**Issue:** 1

**Pages:** 1-9

**Date:** Jan-Mar 2006

**Short Title:** Predicting bird oiling events at oil sands tailings ponds and assessing the importance of alternate waterbodies for waterfowl: A preliminary assessment

**Accession Number:** BCI:BCI200700503317

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** Tailings ponds are an integral part of oil sands mining development in northeastern Alberta, but waterfowl and shorebirds often land in these ponds during spring migration where they may become covered with oil. For decades, managers have developed and implemented methods for deterring birds from landing in these ponds, yet no deterrent strategy is fully effective. Therefore, to enhance deterrence strategies, it will be important to understand the environmental conditions that influence bird use of tailings ponds. This study quantified waterfowl flights over, and use of, tailings ponds and compared this use to waterfowl activity at natural waterbodies in the region over a single spring migration period. Results suggest that waterfowl are most likely to land on tailings ponds before lakes have thawed, after which migratory ducks appeared mainly to use natural waterbodies for migratory stopover sites. Very high numbers of waterfowl were observed on one waterbody, Kearl Lake, suggesting that this lake may be of greater importance to spring staging waterfowl than previously thought. A small sample of birds oiled at tailings ponds were examined in relation to spring weather conditions. Logistic regression analysis demonstrated that the probability of birds being oiled tended to increase with precipitation levels. Results of this study suggest that (1) preservation of natural waterbodies may play an important role in minimizing bird use of tailings ponds, and (2) future bird deterrence efforts should especially aim to deter birds during rainy weather conditions when birds may be more likely to become oiled. These results were from a small sample size, are preliminary in nature, and should be interpreted with caution. A concerted and careful effort to collect and thoroughly analyze long-term records of oiled birds may reveal important environmental effects predicting bird oiling events.

**URL:** <Go to ISI>://BCI200700503317

**Reference Type:**  Journal Article

**Record Number:** 90

**Author:** R. A. Ronconi and S. N. P. Wong

**Year:** 2003

**Title:** Estimates of changes in seabird numbers in the Grand Manan Archipelago, New Brunswick, Canada

**Journal:** Waterbirds

**Volume:** 26

**Issue:** 4

**Pages:** 462-472

**Date:** December 2003

**Short Title:** Estimates of changes in seabird numbers in the Grand Manan Archipelago, New Brunswick, Canada

**Accession Number:** BCI:BCI200400165385

**Keywords:** Sea Ducks - General; Common Eider; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** A census of the Grand Manan Archipelago, New Brunswick, Canada, found nine seabird species nesting at 22 sites. Herring Gull (Larus argentatus) and Common Eider (Somateria mollissima) were the most widely distributed species, with a combined 89% of all breeding seabirds in the region. Although fewer, the Great Black-backed Gull (Larus marinus) and Black Guillemot (Cepphus grylle) were widely distributed. Other seabirds had more limited distributions; one Common Tern (Sterna hirundo) colony, three Double-crested Cormorant (Phalacrocorax auritus) colonies and one mixed colony of Razorbill (Alca torda) and Common Murre (Uria aalge). Leach's Storm-Petrel (Oceanodroma leucorhoa) numbers were not determined, but were found nesting on three islands and were suspected to be nesting on two others. Comparisons with historical data showed increases in gulls, Razorbill and Common Murre, whereas eiders had remained relatively stable over the past two decades, but had decreased in recent years. Insufficient data are available to assess trends of other seabird species nesting around Grand Manan. Fluctuations in cormorant numbers may be a result of moving breeding sites. The recent decrease in eider numbers may be a consequence of low survival rates of young and increasing numbers of predatory gulls. Considerable discrepancies were observed between recent and historical gull numbers which may have resulted from 1) differences in survey methodology, and 2) survey timing. This study provides estimates of breeding seabirds, which can be used as baseline data for future monitoring in the Grand Manan Archipelago.

**URL:** <Go to ISI>://BCI200400165385

**Reference Type:**  Journal Article

**Record Number:** 1948

**Author:** M. Ronka, L. Saari, M. Hario, J. Hanninen and E. Lehikoinen

**Year:** 2011

**Title:** Breeding success and breeding population trends of waterfowl: implications for monitoring

**Journal:** Wildlife Biology

**Volume:** 17

**Issue:** 3

**Pages:** 225-239

**Date:** Sep

**Short Title:** Breeding success and breeding population trends of waterfowl: implications for monitoring

**ISSN:** 0909-6396

**DOI:** 10.2981/09-064

**Accession Number:** WOS:000295894100001

**Keywords:** Common eider; somateria mollissima; productivity; Abundance, Distribution, and Trends; Techniques; Breeding Season

**Notes:** Times Cited: 2

Ronka, Mia Saari, Lennart Hario, Martti Hanninen, Jari Lehikoinen, Esa

Lehikoinen, Esa /I-6128-2013

Lehikoinen, Esa /0000-0002-6932-3604

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**URL:** <Go to ISI>://WOS:000295894100001

**Reference Type:**  Journal Article

**Record Number:** 68

**Author:** M. T. H. Ronka, C. L. V. Saari, E. A. Lehikoinen, J. Suomela and K. Hakkila

**Year:** 2005

**Title:** Environmental changes and population trends of breeding waterfowl in northern Baltic Sea

**Journal:** Annales Zoologici Fennici

**Volume:** 42

**Issue:** 6

**Pages:** 587-602

**Date:** Dec 21 2005

**Short Title:** Environmental changes and population trends of breeding waterfowl in northern Baltic Sea

**Accession Number:** BCI:BCI200600194533

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Causes behind the changes in waterfowl populations in the Archipelago Sea, SW Finland, have until now not been quantitatively analysed. We modelled the impact of eutrophication, winter severity, weather conditions during breeding and water salinity on the breeding populations of ten waterfowl species (ducks, great crested grebe Podiceps cristatus and coot Fulica atra) using generalised linear models and the program TRIM (TRends and Indices in Monitoring data). The populations of the goldeneye Bucephala clangula, coot and velvet scoter Melanitta fusca decreased with increasing eutrophication. The populations of the goldeneye, coot, mallard Anas platyrhynchos, mute swan Cygnus olor and eider Somateria mollissima were most vulnerable to winter severity. We did not find evidence for impacts of weather conditions during breeding or water salinity on population trends. We also discuss alternative explanations to the observed population trends, such as predation and disturbance.

**URL:** <Go to ISI>://BCI200600194533

**Reference Type:**  Journal Article

**Record Number:** 46

**Author:** M. T. H. Ronka, L. Saari, E. A. Lehikoinen and J. Suomela

**Year:** 2006

**Title:** Environmental changes and population trends in breeding waterfowl in the northern Baltic Sea

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 17

**Date:** Aug 2006

**Short Title:** Environmental changes and population trends in breeding waterfowl in the northern Baltic Sea

**Accession Number:** BCI:BCI200700132222

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**URL:** <Go to ISI>://BCI200700132222

**Reference Type:**  Journal Article

**Record Number:** 2198

**Author:** K. A. Rose, P. G. Tickle, J. J. Lees, K. A. Stokkan and J. R. Codd

**Year:** 2014

**Title:** Neither season nor sex affects the cost of terrestrial locomotion in a circumpolar diving duck: the common eider (Somateria mollissima)

**Journal:** Polar Biology

**Volume:** 37

**Issue:** 6

**Pages:** 879-889

**Date:** Jun

**Short Title:** Neither season nor sex affects the cost of terrestrial locomotion in a circumpolar diving duck: the common eider (Somateria mollissima)

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-014-1488-8

**Accession Number:** WOS:000338278200011

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Behavior

**Abstract:** Locomotion accounts for a significant proportion of the energy budget in birds, and selection is likely to act on its economy, particularly where energy conservation is essential for survival. Birds are capable of different forms of locomotion, such as walking/running, swimming, diving and flying, and adaptations for these affect the energetic cost [cost of locomotion (CoL)] and kinematics of terrestrial locomotion. Furthermore, seasonal changes in climate and photoperiod elicit physiological and behavioural adaptations for survival and reproduction, which also influence energy budget. However, little is understood about how this might affect the CoL. Birds are also known to exhibit sex differences in size, behaviour and physiology; however, sex differences in terrestrial locomotion have only been studied in two cursorially adapted galliform species in which males achieved higher maximum speeds, and in one case had a lower mass-specific CoL than females. Here, using respirometry and high-speed video recordings, we sought to determine whether season and sex would affect the CoL and kinematics of a principally aquatic diving bird: the circumpolar common eider (Somateria mollissima). We demonstrate that eiders are only capable of a walking gait and exhibit no seasonal or sex differences in mass-specific CoL or maximum speed. Despite sharing identical limb morphometrics, the birds exhibited subtle sex differences in kinematic parameters linked to the greater body mass of the males. We suggest that their principally aquatic lifestyle accounts for the observed patterns in their locomotor performance. Furthermore, sex differences in the CoL may only be found in birds in which terrestrial locomotion directly influences male reproductive success.

**Notes:** Rose, Kayleigh A. Tickle, Peter G. Lees, John J. Stokkan, Karl-Arne Codd, Jonathan R.

**URL:** <Go to ISI>://WOS:000338278200011

**Reference Type:**  Journal Article

**Record Number:** 2301

**Author:** D. H. Rosenberg, M. J. Petrula, J. L. Schamber, D. Zwiefelhofer, T. E. Hollmen and D. D. Hill

**Year:** 2014

**Title:** Seasonal Movements and Distribution of Steller's Eiders (Polysticta stelleri) Wintering at Kodiak Island, Alaska

**Journal:** Arctic

**Volume:** 67

**Issue:** 3

**Pages:** 347-359

**Date:** Sep

**Short Title:** Seasonal Movements and Distribution of Steller's Eiders (Polysticta stelleri) Wintering at Kodiak Island, Alaska

**ISSN:** 0004-0843

**Accession Number:** WOS:000343641200005

**Keywords:** Steller’s Eider; Polysticta stelleri; Nonbreeding season; Migration; Molt; Habitat

**Abstract:** We used satellite telemetry in 2004-06 to describe the annual movements and habitat use of a segment of the Pacific population of Steller's Eiders (Polysticta stelleri) that winters at Kodiak Island, Alaska. Information about broad-scale patterns of seasonal distribution and links among annual cycle stages is critical for interpreting population trends and developing conservation strategies. We captured birds in Chiniak Bay at Kodiak Island in late February and early March and monitored the movements after departure from Kodiak Island of 24 satellite-tagged birds: 16 after-second-year (ASY) age class females, one second-year age class female, and seven ASY males. All birds used the same intercontinental migration corridor during spring, but routes and chronology of spring migration appeared to vary by year and among individuals. Sixteen of the 24 birds that were tracked migrated to breeding areas along the Arctic coast of Russia from the Chukotka Peninsula to the Taymyr Peninsula; five birds, assumed to be non-breeding, spent the summer in nearshore waters of Russia and Alaska; and the remaining three birds either died during spring migration or had failed transmitters. Thirteen birds were tracked to molt sites that were broadly distributed along the coast of Alaska. Molt sites included St. Lawrence Island, the Kuskokwim Shoals, Kamishak Bay, and three sites along the Alaska Peninsula. Twelve of these 13 birds returned to Kodiak Island to winter, and a single male wintered on the Alaska Peninsula. Steller's Eiders marked during winter at Kodiak Island were widely distributed during the breeding season,. but a large proportion of marked birds returned to molting and wintering areas in two years of the study.

**Notes:** Rosenberg, Daniel H. Petrula, Michael J. Schamber, Jason L. Zwiefelhofer, Denny Hollmen, Tuula E. Hill, Douglas D.

**URL:** <Go to ISI>://WOS:000343641200005

**Reference Type:**  Journal Article

**Record Number:** 1493

**Author:** B. P. Ross, J. Lien and R. W. Furness

**Year:** 2001

**Title:** Use of underwater playback to reduce the impact of eiders on mussel farms

**Journal:** ICES Journal of Marine Science

**Volume:** 58

**Issue:** 2

**Pages:** 517-524

**Date:** April, 2001

**Short Title:** Use of underwater playback to reduce the impact of eiders on mussel farms

**Accession Number:** BCI:BCI200100336136

**Keywords:** Common Eider; Somateria mollissima; Techniques; Conservation; Nonbreeding Seasons;

**Abstract:** One of the most commonly employed methods of reducing damage by diving ducks to mussel stocks on mussel farms in Atlantic Canada and in Scotland is chasing birds by boat. While effective in the short term, the frequency of chases is often restricted by high costs, both in time and fuel. Tests in Scotland used underwater recordings of chase-boat engines replayed at regular intervals on continuous loop tapes through an underwater loudspeaker in an attempt to reduce predation pressure by eiders on mussel farms. Trials of the underwater playback system (UPS) gave significant reductions in eider numbers of 50-80%, while a control trial with the playback of an unassociated noise gave no reduction in numbers. The mean return time of birds to the farm after chasing by boat also increased significantly. As the presence of workers on mussel farms reduces the number of eiders feeding there, the UPS is a useful deterrent when workers are not present. The long-term habituation of ducks to the system was negligible when workers are absent, providing there is occasionally reinforcement of the deterrent by boat chasing. Potential factors effecting the efficacy of the UPS are discussed.

**URL:** <Go to ISI>://BCI200100336136

**Reference Type:**  Journal Article

**Record Number:** 932

**Author:** R. K. Ross

**Year:** 1983

**Title:** An Estimate of the Black Scoter Melanitta-Nigra Population Molting in James and Hudson Bays Canada

**Journal:** Canadian Field-Naturalist

**Volume:** 97

**Issue:** 2

**Pages:** 147-150

**Short Title:** An Estimate of the Black Scoter Melanitta-Nigra Population Molting in James and Hudson Bays Canada

**Accession Number:** BCI:BCI198477090298

**Keywords:** Black Scoter; Melanitta nigra; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** On July 26 and 27, 1977, an aerial survey was made of the flocks of molting black scoter (M. nigra) off the northern Shore of Ontario. On that flight, 88,700 molting male black scoters were counted by means of aerial photography; such a total could represent up to 320,300 birds in eastern North America in the early fall. Only 7% of that number were located during wintering ground surveys in the eastern USA. On regaining their powers of flight, most of the black scoter apparently moved from the Ontario shore to southeastern James Bay where they staged during Aug. and Sept. prior to the fall migration.

**URL:** <Go to ISI>://BCI198477090298

**Reference Type:**  Journal Article

**Record Number:** 98

**Author:** R. K. Ross, K. F. Abraham, T. R. Gadawski, R. S. Rempel, T. S. Gabor and R. Maher

**Year:** 2002

**Title:** Abundance and distribution of breeding waterfowl in the Great Clay Belt of northern Ontario

**Journal:** Canadian Field-Naturalist

**Volume:** 116

**Issue:** 1

**Pages:** 42-50

**Date:** January-March 2002

**Short Title:** Abundance and distribution of breeding waterfowl in the Great Clay Belt of northern Ontario

**Accession Number:** BCI:BCI200300093707

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The abundance and distribution of breeding waterfowl in the Great Clay Belt of northern Ontario was determined through helicopter surveys of 117 fixed plots (2X2 km each) during the nest initiation periods from 1988 to 1990. This area has higher fertility, flat topography, high water table and better access than the surrounding Boreal Forest, and therefore has greater potential for increased waterfowl production through habitat management. Overall breeding density averaged 112.5 indicated breeding pairs per 100 km2, 68% being of the four most common species (Mallard (Anas platyrhynchos), Ring-necked Duck (Aythya collaris), American Black Duck (Anas rubripes), and Common Goldeneye (Bucephala clangula)); 13 other species were encountered. The average total of breeding waterfowl for the region was estimated at 59330 pairs. Distributions of the species were related to ecodistrict and to surficial geology. The more northerly of the two main ecodistricts had higher densities of American Black Ducks, Ring-necked Ducks, Common Goldeneyes, and Canada Geese (Branta canadensis). Mallard and Hooded Merganser (Lophodytes cucullatus) distributions correlated with presence of surficial clay and moraines, respectively. Less common species including Green-winged Teal (Anas crecca) and American Wigeon (Anas americana) appeared to be concentrated in smaller-scaled habitat features (beaver pond sequences and estuarine marshes, respectively). Results generally agreed with those of earlier Clay Belt surveys. Total breeding density of waterfowl is slightly higher than that of surrounding regions.

**URL:** <Go to ISI>://BCI200300093707

**Reference Type:**  Journal Article

**Record Number:** 1112

**Author:** R. K. Ross, S. A. Petrie, S. S. Badzinski and A. Mullie

**Year:** 2005

**Title:** Autumn diet of greater scaup, lesser scaup, and long-tailed ducks on eastern Lake Ontario prior to zebra mussel invasion

**Journal:** Wildlife Society Bulletin

**Volume:** 33

**Issue:** 1

**Pages:** 81-91

**Date:** Spr 05

**Short Title:** Autumn diet of greater scaup, lesser scaup, and long-tailed ducks on eastern Lake Ontario prior to zebra mussel invasion

**Accession Number:** BCI:BCI200510143925

**Keywords:** Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Diving ducks staging on the lower Great Lakes have responded to the introduction and subsequent population increase of zebra mussels (Dreissena polymorpha) by consuming this readily available food. However, nutritional and contaminant-related implications of recent dietary shifts are hindered by the fact that few studies have documented foods consumed by diving ducks before zebra mussels invaded the Great Lakes in 1988. We examined diets of greater scaup (Aythya marila), lesser scaup (Aythya affinis), and long-tailed ducks (Clangula hyemalis) collected from eastern Lake Ontario during autumn 1986 and 1987 to determine differences among the 3 species. Gastropods were the main food item of greater (92% aggregate dry mass) and lesser scaup (86%), but they consumed relatively small amounts (3% and 7%, respectively) of amphipods. In contrast, amphipods made up 66% of the diets of long-tailed ducks; gastropods were 28% of their diet. Amphipod populations have increased and native gastropods decreased in the presence of zebra mussels in the lower Great Lakes, such that zebra mussel invasion likely has had greater dietary implications for scaup than for long-tailed ducks. Dietary shifts from nonfilter-feeding gastropods to filter-feeding zebra mussels likely contributed to elevated contaminant burdens in lesser and greater scaup on the lower Great Lakes. We encourage further research into the diet-, nutrient-, and contaminant-related implications of zebra mussel induced ecological changes to the Great Lakes.

**URL:** <Go to ISI>://BCI200510143925

**Reference Type:**  Book

**Record Number:** 2369

**Author:** T. C. Rothe, P. I. Padding, L. C. Naves, and G. J. Robertson

**Year:** 2015

**Title:** Harvest of sea ducks in North America: A contemporary summary

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 417-467

**Short Title:** Harvest of sea ducks in North America: A contemporary summary

**Keywords:** Conservation

**Abstract:** Sea ducks present unique challenges to waterfowl harvest management because the species have relatively low intrinsic population growth rates and varied population structure and harvest occurs under a diversity of rangewide hunting traditions. Sea duck harvest occurs throughout North America, ranging from inland harvest of widely distributed species, such as goldeneyes and mergansers, to specialized harvest of eiders and scoters in coastal and northern regions. Harvest of widely distributed species is well represented in continental waterfowl harvest monitoring programs. More localized harvests, such as those in coastal and remote areas, have proven challenging to monitor, and some special surveys have been implemented. Sea duck harvest regulations have evolved over the decades according to changes in population levels, management philosophies, and improvements in harvest information. Hunting of goldeneyes and Buffleheads has usually been regulated within general bag limits for ducks. Regulations for large mergansers have been liberal, but limits for Hooded Mergansers have remained conservative. Harvest regulations for eiders, scoters, Long-tailed Ducks, and Harlequin Ducks have recently become more restrictive, subject to special seasons and bag limits in primary coastal hunting areas. With a few exceptions, harvest of widely distributed species and most species along the Pacific Coast is considered sustainable. Common Eider harvest in the Atlantic Flyway is a management concern given fluctuations in eider populations, high harvest pressure, and the presence of two subspecies. Sea ducks are important subsistence resources in the North; eiders are harvested by coastal communities and scoters by inland communities. Harvest estimates are now available for most northern jurisdictions, and management is undertaken in cooperation with First Nations and Inuit organizations in Canada and subsistence management bodies in Alaska. Additional information on the delineation and demography of sea duck populations is essential, along with improved harvest estimation techniques, to inform collaborative harvest management and to ensure sustainable harvest.

**Reference Type:**  Journal Article

**Record Number:** 902

**Author:** R. F. N. Rothschild and L. K. Duffy

**Year:** 2005

**Title:** Mercury concentrations in muscle, brain and bone of Western Alaskan waterfowl

**Journal:** Science of the Total Environment

**Volume:** 349

**Issue:** 1-3

**Pages:** 277-283

**Date:** Oct 15 2005

**Short Title:** Mercury concentrations in muscle, brain and bone of Western Alaskan waterfowl

**Accession Number:** BCI:BCI200510309755

**Keywords:** Black Scoter; Melanitta nigra; Contaminants;

**Abstract:** Total mercury (THg), which includes both inorganic (Hg2+) and methylmercury (MeHg) species, has been reported for seabirds in the North Pacific and Alaska. For the Yup'ik and Aleut people of Alaska, waterfowl are a small but important seasonal component of the diet, but many Alaskan species have not been studied extensively for the presence of mercury. Birds are good subjects for examination of mercury concentrations because they feed at different trophic levels, they can be long-lived, and many are both abundant and widely distributed. In this study, we present the levels of mercury in muscle, brain, and bone tissue of 140 birds taken by subsistence food users across Western Alaska. THg wet weight mean concentrations in the 18 species of waterfowl surveyed ranged from 0.8 to 268.6 ng/g in muscle, from 0.4 to 197.7 ng/g in brain and from 0.7 to 422.9 ng/g in bone. The null hypothesis that there are no interspecific differences in the level of total mercury in the 18 species of Alaska birds surveyed was not supported. We found interspecific differences with the Lesser Scaup (Aythya affinis), and the Black Scoter (Melanitta nigra), having the highest muscle tissue levels of THg. In general, THg mean levels were higher in muscle than in brain with the exceptions of the Bar-tailed Godwit and Northern Shoveler. Bone THg were highest in the Black Scoter. The mean values for THg in the species studied are unlikely to cause adverse reproductive or behavioral effects in the birds. (c) 2005 Published by Elsevier B.V.

**URL:** <Go to ISI>://BCI200510309755

**Reference Type:**  Journal Article

**Record Number:** 1561

**Author:** M. J. C. Rozemeijer, J. P. Boon, C. Swennen, A. Brouwer and A. J. Murk

**Year:** 1995

**Title:** Dioxin type and mixed type induction of the cytochrome P-450 system of common eider ducklings (Somateria mollissima) by PCBs: With indications for biotransformation

**Journal:** Aquatic Toxicology (Amsterdam)

**Volume:** 32

**Issue:** 2-3

**Pages:** 93-113

**Short Title:** Dioxin type and mixed type induction of the cytochrome P-450 system of common eider ducklings (Somateria mollissima) by PCBs: With indications for biotransformation

**Accession Number:** BCI:BCI199598385378

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** In order to investigate the effects of PCBs on biotransformation enzymes and metabolism, 4-week-old common eider ducklings were exposed to single ip doses of 3,3',4,4' tetrachlorobiphenyl (CB 77) (5 or 50 mg/kg) or the technical mixture Clophen A50 (Clo A50) (50 or 200 mg/kg). The control group was injected with corn oil only (5 ml/kg). Comparison of CB patterns in adipose tissue of the Clo A50 injected groups with the original Clo A50 mixture revealed specific reduction of congeners with vicinal H atoms in the meta and para positions, suggesting biotransformation by the monooxygenase system (MO) as the most probable cause. For the group injected with 200 mg Clo A50, a difference in congener pattern was shown between liver and adipose tissue. This indicates either a saturation of the hepatic biotransformation capacity, or slow redistribution of the congeners from the adipose tissue to the site of metabolism (liver). Using only one adipose tissue concentration point in time, indicative biological half-lives for metabolizable congeners were calculated from congener pattern changes, ranging from 3.6 days for CB 44 to 16.1 days for CB 101. CB 77 caused a dose-dependent induction of total cytochrome P450, whole liver cytochrome P450, EROD and PROD activity. On the contrary, Clo A50 had no inducing effects after this specific incubation period. PROD activity measurements suggest that the PROD assay may not be not a suitable indicator for CYP2B induction in common eider ducklings. Sex difference and parasitic infection had no influence on the biochemical responses measured. Internal dose-induction response curves were established; a very tentative maximum no effect level on toxic equivalents (TEQ) basis is suggested (7 ng TEQ/g lipid). Under these incubation conditions, exposure to CB 77 and Clophen A50 did not influence the infection rates of the intestinal parasite Polymorphus botulus (Acanthocephala).

**URL:** <Go to ISI>://BCI199598385378

**Reference Type:**  Journal Article

**Record Number:** 491

**Author:** V. Ruusila

**Year:** 1999

**Title:** Maternal investment, female philopatry and reproductive success in the common goldeneye Bucephala clangula

**Journal:** Annales Universitatis Turkuensis Series A II Biologica-Geographica-Geologica

**Volume:** 129

**Pages:** i

**Short Title:** Maternal investment, female philopatry and reproductive success in the common goldeneye Bucephala clangula

**Accession Number:** BCI:BCI200100173425

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Dispersal; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI200100173425

**Reference Type:**  Journal Article

**Record Number:** 488

**Author:** V. Ruusila, H. Poysa and P. Runko

**Year:** 2000

**Title:** Characteristics of maternal family lineages in a Common Goldeneye Bucephala clangula breeding population

**Journal:** Ornis Fennica

**Volume:** 77

**Issue:** 2

**Pages:** 77-82

**Short Title:** Characteristics of maternal family lineages in a Common Goldeneye Bucephala clangula breeding population

**Accession Number:** BCI:BCI200000462580

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI200000462580

**Reference Type:**  Journal Article

**Record Number:** 480

**Author:** V. Ruusila, H. Poysa and P. Runko

**Year:** 2001

**Title:** Female wing plumage reflects reproductive success in Common Goldeneye Bucephala clangula

**Journal:** Journal of Avian Biology

**Volume:** 32

**Issue:** 1

**Pages:** 1-5

**Date:** March, 2001

**Short Title:** Female wing plumage reflects reproductive success in Common Goldeneye Bucephala clangula

**Accession Number:** BCI:BCI200100228864

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**Abstract:** Recent studies on the function of female plumage characteristics have yielded ambiguous results. Some studies have found an association between different physiological, ecological or behavioural traits and female plumage, while others have found no association and interpret female plumage as neutral in function. We observed a high variance among females in both wing plumage and breeding success in female Common Goldeneyes Bucephala clangula, a sexually plumage-dimorphic diving duck. We studied the association between female wing plumage and hatching date. Principal component analysis of four wing patch area measurements derived a single factor describing wing plumage. Wing plumage was strongly associated with hatching date, which is the most important determinant of goldeneye recruit production; irrespective of age, females with more white in the wing bred earlier than individuals with more black in the wing. We propose that the wing pattern in Common Goldeneye females reflects individual quality.

**URL:** <Go to ISI>://BCI200100228864

**Reference Type:**  Journal Article

**Record Number:** 481

**Author:** V. Ruusila, H. Poysa and P. Runko

**Year:** 2001

**Title:** Costs and benefits of female-biased natal philopatry in the common goldeneye

**Journal:** Behavioral Ecology

**Volume:** 12

**Issue:** 6

**Pages:** 686-690

**Date:** Nov.-Dec., 2001

**Short Title:** Costs and benefits of female-biased natal philopatry in the common goldeneye

**Accession Number:** BCI:BCI200200000759

**Keywords:** Common Goldeneye; Bucephala clangula; Dispersal; Behavior; Breeding Season;

**Abstract:** Sex-biased natal dispersal in long-lived species may result in interactions between parents and mature young of the philopatric sex. To investigate the evolutionary basis of natal philopatry in a noncooperative species, the common goldeneye Bucephala clangula, we studied possible costs and benefits of simultaneous breeding of females and philopatric daughters. We did not find any fitness consequences of a daughter's breeding on their mother's breeding in terms of nest-site selection, body weight, clutch size, hatching date, or hatching success. Our results, therefore, did not support the assumption of the local resource competition hypothesis, that the natally philopatric sex should be more costly to a breeding parent. As possible benefits for daughters returning to their natal area, we tested inheritance of nest sites from mothers and explored whether daughters utilize the presence of their mother by parasitically sneaking into her mother's nest. Daughters' nest-site selection was not associated with the presence of their mothers. A comparison between daughters and control females revealed that daughters chose their nest site closer to their natal nest than expected by nest-site availability alone. Daughters could not expect to inherit a nest site from their mother, and we did not find other indications of cooperation between relatives either. The mother's clutch size did not increase in the year breeding with the daughter, indicating daughters do not parasitize their mother's nest. We suggest that benefits such as decreased nest predation risk associated with nesting close to the natal nest site may be important in the natal philopatric behavior of the species.

**URL:** <Go to ISI>://BCI200200000759

**Reference Type:**  Journal Article

**Record Number:** 1528

**Author:** G. D. Ruxton

**Year:** 1999

**Title:** Are attentive mothers preferentially parasitised?

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 46

**Issue:** 1

**Pages:** 71-72

**Date:** June, 1999

**Short Title:** Are attentive mothers preferentially parasitised?

**Accession Number:** BCI:BCI199900352719

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199900352719

**Reference Type:**  Journal Article

**Record Number:** 1233

**Author:** K. E. Ryding, J. J. Millspaugh and J. R. Skalski

**Year:** 2007

**Title:** Using time series to estimate rates of population change from abundance data

**Journal:** Journal of Wildlife Management

**Volume:** 71

**Issue:** 1

**Pages:** 202-207

**Date:** Feb 2007

**Short Title:** Using time series to estimate rates of population change from abundance data

**Accession Number:** BCI:BCI200700344955

**Keywords:** Spectacled Eider; Somateria fischeri; Population Dynamics; Abundance, Distribution, and Trends; Breeding Season; Techniques;

**Abstract:** Assessing the dynamics of wild populations often involves an estimate of the finite rate of population increase (lambda) or the instantaneous rate of increase (r). However, a pervasive problem in trend estimation is that many analytical techniques assume independent errors among the observations. To be valid, variance estimates around lambda (or r) must account for serial correlation that exists in abundance data. Time series analysis provides a method for estimating population trends and associated variances when serial correlation of errors occurs. We offer an approach and present an example for estimating lambda and its associated variance when observations are correlated over time. We present a simplified time series method and variance estimator to account for autocorrelation based on a moving average process. We illustrate the procedure using a spectacled eider (Somateria fischeri) data set of estimated annual abundances from aerial transect surveys conducted from 1957 to 1995. The analytic variance estimator provides a way to plan future studies to reduce uncertainty and bias in estimates of population growth rates. Demographic studies with policy implications or those involving species of conservation concern should especially consider the correlated nature of population trend data.

**URL:** <Go to ISI>://BCI200700344955

**Reference Type:**  Journal Article

**Record Number:** 962

**Author:** D. E. Safine and M. S. Lindberg

**Year:** 2008

**Title:** Nest habitat selection of White-winged Scoters on Yukon Flats, Alaska

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 3

**Pages:** 582-593

**Date:** Sep 2008

**Short Title:** Nest habitat selection of White-winged Scoters on Yukon Flats, Alaska

**Accession Number:** BCI:BCI200800586673

**Keywords:** White-winged Scoter; Melanitta fusca; Habitat; Breeding Season; SDJV funded

**Abstract:** Breeding bird surveys indicate a long-term decline in numbers of scoters (Melanitta spp.) breeding in North America. Little is known about the breeding habitat and reproductive life history of White-winged Scoters (M. fusca) in their primary breeding areas in the boreal forest of Alaska and northern Canada. We characterized selection of nest habitats and attributes within those habitats by measuring variables at nests and random sites on the Yukon Flats National Wildlife Refuge, Alaska. White-winged Scoters avoided nesting in meadows. but nested ill Scrub or forested habitat types in proportion to their availability (chi(2)(5) = 9.7, P = 0.08). Nests of radio-marked females were farther from water and edge (+210 +/- 43 and + 10 +/- 4 m, respectively). and in slightly thicker cover (+6 +/- 4%) than nests located Without aid of radio transmitters. Females selected sites with more variable and abundant overhead and lateral cover, and sites closer to edge and water than random sites. The results imply nearly random use of scrub kind forested habitat types within the Study area, but selective use of attributes within those habitat types. This generalist approach to nest site selection at a larger scale may be all adaptive response to reduce detection by nest predators. Nests located without use of radio-marked females may not be representative of the population of nests at a study site. White-winged Scoters often selected nest sites with dense cover far from water. which may increase nest Survival. However. concealed sites are difficult for heavy-bodied birds to escape and females may be trading productivity against their own mortality.

**URL:** <Go to ISI>://BCI200800586673

**Reference Type:**  Journal Article

**Record Number:** 7

**Author:** Y. Sakoda, S. Sugar, D. Batchluun, T.-O. Erdene-Ochir, M. Okamatsu, N. Isoda, K. Soda, H. Takakuwa, Y. Tsuda, N. Yamamoto, N. Kishida, K. Matsuno, E. Nakayama, M. Kajihara, A. Yokoyama, A. Takada, R. Sodnomdarjaa and H. Kida

**Year:** 2010

**Title:** Characterization of H5N1 highly pathogenic avian influenza virus strains isolated from migratory waterfowl in Mongolia on the way back from the southern Asia to their northern territory

**Journal:** Virology

**Volume:** 406

**Issue:** 1

**Pages:** 88-94

**Date:** Oct 10 2010

**Short Title:** Characterization of H5N1 highly pathogenic avian influenza virus strains isolated from migratory waterfowl in Mongolia on the way back from the southern Asia to their northern territory

**Accession Number:** BCI:BCI201000561330

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Disease; Breeding Season;

**Abstract:** H5N1 highly pathogenic avian influenza (HPAI) viruses were isolated from dead wild waterfowl at Khunt, Erkhel, Doityn Tsagaan, Doroo, and Ganga Lakes in Mongolia in July 2005, May 2006, May 2009, July 2009, and May 2010, respectively. The isolates in 2005 and 2006 were classified into genetic clade 2.2, and those in 2009 and 2010 into clade 2.3.2. A/whooper swan/Mongolia/6/2009 (H5N1) experimentally infected ducks and replicated systemically with higher mortality than that of the isolates in 2005 and 2006. Intensive surveillance of avian influenza in migratory waterfowl flying from their nesting lakes in Siberia to Mongolia in every autumn indicate that HPAI viruses have not perpetuated at their nesting lakes until 2009. The present results demonstrate that wild waterfowl were sporadically infected with H5N1 HPAI viruses prevailing in domestic poultry in the southern Asia and died in Mongolia on the way back to their northern territory in spring. (C) 2010 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI201000561330

**Reference Type:**  Journal Article

**Record Number:** 191

**Author:** R. E. Salter, M. A. Gollop, S. R. Johnson, W. R. Koski and C. E. Tull

**Year:** 1980

**Title:** Distribution and Abundance of Birds on the Arctic Coastal Plain of Northern Yukon and Adjacent Northwest-Territories Canada 1971-1976

**Journal:** Canadian Field-Naturalist

**Volume:** 94

**Issue:** 3

**Pages:** 219-238

**Short Title:** Distribution and Abundance of Birds on the Arctic Coastal Plain of Northern Yukon and Adjacent Northwest-Territories Canada 1971-1976

**Accession Number:** BCI:BCI198171022584

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Breeding Season; Nonbreeding Seasons;

**Abstract:** Observations on avian distribution, abundance, habitat relationships and seasonal movements are summarized. A total of 122 spp. were recorded; at least 46 (and possibly an additional 14) nest in the area. Known breeding ranges of brant (Branta bernicla), mallard (Anas platyrhynchos), pintail (A. acuta), American wigeon (A. americana), northern shoveler (A. clypeata), scaup (Aythya spp.), pectoral sandpiper (Calidris melanotos), stilt sandpiper (Micropalama himantopus), buff-breasted sandpiper (Tryngites subruficollis), red phalarope (Phalaropus fulicarius). Say's phoebe (Sayornis saya), yellow wagtail (Motacilla flava), yellow warbler (Dendroica petechia), white-crowned sparrow (Zonotrichia leucophrys), and fox sparrow (Passerella iliaca) are extended. The study area is the main fall staging region for post-breeding snow geese (Chen caerulescens) of the western Canadian Arctic, and includes an important molting site for oldsquaws (Clangula hyemalis) and surf scoters (Melanitta perspicillata). The coast is a major migration route for various waterfowl and shorebirds. Only gyrfalcon (Falco rusticolus), willow ptarmigan (Lagopus lagopus), snowy owl (Nyctea scandiaca) and common raven (Corvus corax) remain during winter. The avifaunas of the Canadian and Alaskan portions of the coastal Plain are similar, with the primary exception that Asiatic, Beringian and maritime stragglers are confined largely to the Alaskan portion.

**URL:** <Go to ISI>://BCI198171022584

**Reference Type:**  Journal Article

**Record Number:** 813

**Author:** J. C. Salyer, II and K. F. Lagler

**Year:** 1940

**Title:** The food and habits of the American Merganser during winter in Michigan, considered in relation to fish management

**Journal:** Jour Wildlife Management

**Volume:** 4

**Issue:** (2)

**Pages:** 186-219

**Short Title:** The food and habits of the American Merganser during winter in Michigan, considered in relation to fish management

**Accession Number:** BCI:BCI19401400009982

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation; Nonbreeding Seasons;

**Abstract:** Areas of maximum autumn and spring concs. for the American merganser (Mergus merganser americanus) in Michigan are the waters margining the northern half of the Lower Peninsula. During unusually cold or prolonged winters when these waters freeze over, large numbers of mergansers are forced onto inland waters, frequently trout streams. The food of 345 specimens from all types of fishing waters showed that the sp. at times on trout streams constitutes a serious menace to the sport fishery whereas on other natural waters it is either innocuous or beneficial. "Merganser drives" are described as a means for controlling concs. on trout streams. Mechanical devices which exclude or frighten mergansers are adequate for protecting fishes in rearing ponds. Feeding is largely diurnal and by sight; 1/3-1/2 of the body wt. is estimated as the average daily food consumption of wintering birds. Because of their food and habits, the Red-breasted (M. senator), and Hooded Mergansers (Lophodytes cucullatus) are considered to be of no importance to fish management in Michigan. || ABSTRACT AUTHORS: K. F. Lagler

**URL:** <Go to ISI>://BCI19401400009982

**Reference Type:**  Journal Article

**Record Number:** 887

**Author:** G. Sangster

**Year:** 2009

**Title:** Acoustic Differences between the Scoters Melanitta Nigra Nigra and M. N. Americana

**Journal:** Wilson Journal of Ornithology

**Volume:** 121

**Issue:** 4

**Pages:** 696-702

**Date:** Dec 2009

**Short Title:** Acoustic Differences between the Scoters Melanitta Nigra Nigra and M. N. Americana

**Accession Number:** BCI:BCI201000099049

**Keywords:** Black Scoter; Melanitta nigra; Behavior; Taxonomy;

**Abstract:** Scoter vocalizations may have a role in pair formation and pair bonding. I compared the courtship calls of male Black Scoters (Melanitta nigra nigra and M. n. americana) using published and archived recordings. Courtship calls of the two subspecies differed diagnosably in duration. In contrast, recordings from different localities within the ranges of each taxon showed no diagnosable differentiation. This finding represents the first indication these taxa differ in characters other than bill morphology and supports recent proposals to treat M. it. americana as a distinct species (M. americana). Vocal displays, in contrast to courtship displays, of anatids have not been used for assessment of species limits in Anatidae. My results indicate vocalizations are a potentially useful additional character in species-level taxonomy of anatids. Received 7 September 2004. Accepted 10 May 2009.

**URL:** <Go to ISI>://BCI201000099049

**Reference Type:**  Journal Article

**Record Number:** 2199

**Author:** G. Sangster, J. M. Collinson, P. A. Crochet, G. M. Kirwan, A. G. Knox, D. T. Parkin and S. C. Votier

**Year:** 2016

**Title:** Taxonomic recommendations for Western Palearctic birds: 11th report

**Journal:** Ibis

**Volume:** 158

**Issue:** 1

**Pages:** 206-212

**Date:** Jan

**Short Title:** Taxonomic recommendations for Western Palearctic birds: 11th report

**ISSN:** 0019-1019

**DOI:** 10.1111/ibi.12322

**Accession Number:** WOS:000368727700022

**Keywords:** Common Eider; Somateria mollissima; Taxonomy

**Notes:** Sangster, George Collinson, J. Martin Crochet, Pierre-Andre Kirwan, Guy M. Knox, Alan G. Parkin, David T. Votier, Stephen C.

**URL:** <Go to ISI>://WOS:000368727700022

**Reference Type:**  Journal Article

**Record Number:** 663

**Author:** Y. Sato, T. Aoyagi, S. Matsuura, S. Fukui, I. Kitazawa, K. Nishimori and Y. Yokomizo

**Year:** 1996

**Title:** An occurrence of avian tuberculosis in hooded merganser (Lophodytes cucullatus)

**Journal:** Avian Diseases

**Volume:** 40

**Issue:** 4

**Pages:** 941-944

**Short Title:** An occurrence of avian tuberculosis in hooded merganser (Lophodytes cucullatus)

**Accession Number:** BCI:BCI199799366333

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Disease;

**Abstract:** Two imported male hooded mergansers (Lophodytes cucullatus) were introduced into a zoological aviary in Japan, and one of them died 10 mo later. postmortem revealed numerous white yellowish nodules of various sizes in the liver. Two large nodules were also observed below the right lung and on the top of the left kidney. Histopathologically, a large number of tubercles with acid-fast bacilli were seen in the liver. The amyloid was deposited in the connective tissue of the tubercles. Bacteriologically, Mycobacterium avium serovar 1 was isolated from the liver.

**URL:** <Go to ISI>://BCI199799366333

**Reference Type:**  Journal Article

**Record Number:** 622

**Author:** L. Savard J-P

**Year:** 1982

**Title:** Intraspecific and Interspecific Competition between Barrows Goldeneye Bucephala-Islandica and Bufflehead Bucephala-Albeola

**Journal:** Canadian Journal of Zoology

**Volume:** 60

**Issue:** 12

**Pages:** 3439-3446

**Short Title:** Intraspecific and Interspecific Competition between Barrows Goldeneye Bucephala-Islandica and Bufflehead Bucephala-Albeola

**Accession Number:** BCI:BCI198477000265

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** Barrow's goldeneye and bufflehead pairs defend well-delineated territories from which they exclude conspecifics. Only the male defends the territory and does so even when the female is absent. After the young have hatched, females of both species defend brood territories from which they exclude conspecifics. Both species are also interspecifically territorial. Barrow's goldeneye and bufflehead drakes threatened and (or) attacked 15 and 11 spp., respectively. Of Barrow's goldeneye interspecific encounters, 55% were with bufflehead and 52% of bufflehead encounters were with Barrow's goldeneye. Barrow's goldeneye drakes always excluded bufflehead from their territory whereas bufflehead drakes successfully excluded yearlings, females and unpaired Barrow's goldeneye drakes but were usually dominated by paired males. Female Barrow's goldeneye excluded all bufflehead from the brood territory and were particularly aggressive toward bufflehead broods. Food and mates are the most likely defended resources in intraspecific encounters. In interspecific encounters diving ducks were more violently attacked than dabbling ducks indicating that food may be the defended resource. Interspecific aggression of Barrow's goldeneye toward bufflehead does not appear to be misdirected intraspecfic aggression but rather a directed aggression toward a food competitor and may be adaptive.

**URL:** <Go to ISI>://BCI198477000265

**Reference Type:**  Journal Article

**Record Number:** 552

**Author:** L. Savard J-P

**Year:** 1984

**Title:** Territorial Behavior of Common Goldeneye Bucephala-Clangula Barrows Goldeneye Bucephala-Islandica and Bufflehead Bucephala-Albeola in Areas of Sympatry

**Journal:** Ornis Scandinavica

**Volume:** 15

**Issue:** 4

**Pages:** 211-216

**Short Title:** Territorial Behavior of Common Goldeneye Bucephala-Clangula Barrows Goldeneye Bucephala-Islandica and Bufflehead Bucephala-Albeola in Areas of Sympatry

**Accession Number:** BCI:BCI198580027847

**Keywords:** Bufflehead; Bucephala albeola; Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Like barrow's goldeneye B. islandica and bufflehead B. albeola, comon goldeneye B. clangula defend territories on their breeding grounds. Territorial behavior of the 3 spp. is similar: paired drakes exclude all conspecifics but their mates from their territories; interactions with neighboring territorial drakes lst longer, are less violent and more ritualized than interactions with strangers. All 3 spp. are interspecifically territorial and interspecific confrontations are similar to intraspecific ones. Both goldeneyes dominate bufflehead. Barrow's goldeneye appear more aggressive than common goldeneye but neither species clearly dominate the other common goldeneye and bufflehead occur on both fresh and saline ponds whereas barrow's goldeneye prefer saline ones.

**URL:** <Go to ISI>://BCI198580027847

**Reference Type:**  Journal Article

**Record Number:** 421

**Author:** L. Savard J-P

**Year:** 1985

**Title:** Evidence of Long-Term Pair Bonds in Barrows Goldeneye Bucephala-Islandica

**Journal:** Auk

**Volume:** 102

**Issue:** 2

**Pages:** 389-391

**Short Title:** Evidence of Long-Term Pair Bonds in Barrows Goldeneye Bucephala-Islandica

**Accession Number:** BCI:BCI198529037444

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior;

**URL:** <Go to ISI>://BCI198529037444

**Reference Type:**  Journal Article

**Record Number:** 420

**Author:** L. Savard J-P

**Year:** 1986

**Title:** Polygyny in Barrow's Goldeneye Bucephala-Islandica

**Journal:** Condor

**Volume:** 88

**Issue:** 2

**Pages:** 250-252

**Short Title:** Polygyny in Barrow's Goldeneye Bucephala-Islandica

**Accession Number:** BCI:BCI198631041169

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI198631041169

**Reference Type:**  Journal Article

**Record Number:** 612

**Author:** L. Savard J-P

**Year:** 1987

**Title:** Causes and Functions of Brood Amalgamation in Barrow's Goldeneye and Bufflehead

**Journal:** Canadian Journal of Zoology

**Volume:** 65

**Issue:** 6

**Pages:** 1548-1553

**Short Title:** Causes and Functions of Brood Amalgamation in Barrow's Goldeneye and Bufflehead

**Accession Number:** BCI:BCI198784096684

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Behavior; Breeding Season;

**Abstract:** I recorded 42 cases of brood amalgamation in Barrow's Goldeneye (Bucephala islandica) and 31 cases in Bufflehead (B. albeola). In four witnessed brood encounters, there was no evidence of behaviour facilitating brood amalgamation in either the young or the female. Females did not attempt to steal other females' young but rather tried to chase them away or even kill them. Females abandoned their young only after violent fights and often made several attempts to regain them. Brood encounters had various outcomes: (i) establishment of territorial boundaries, (ii) expulsion from lake, (iii) death of young, (iv) complete or partial brood amalgamation. In 3 years of observations there was no significant relationship between brood size and duckling survival. I contend that brood amalgamation in Barrow's Goldeneye and in Bufflehead has not evolved as an adaptation to increase young and (or) female survival but that it is simply an accidental outcome of territorial aggressiveness.

**URL:** <Go to ISI>://BCI198784096684

**Reference Type:**  Journal Article

**Record Number:** 415

**Author:** L. Savard J-P

**Year:** 1988

**Title:** Winter Spring and Summer Territorality in Barrow's Goldeneye Characteristics and Benefits

**Journal:** Ornis Scandinavica

**Volume:** 19

**Issue:** 2

**Pages:** 119-128

**Short Title:** Winter Spring and Summer Territorality in Barrow's Goldeneye Characteristics and Benefits

**Accession Number:** BCI:BCI198886089977

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Nonbreeding Seasons; Breeding Season;

**Abstract:** Barrow's Goldeneye Bucephala islandica have a multi-stage territorial system, defending district pair, brood, and winter territories. Only paired birds defend winter territories and their territorial behaviour is similar to that observed on the breeding areas. Breeding pair territories averaged 0.44 ha (range: 0.05-1.85 ha) whereas brood territories averaged 0.91 ha (range: 0.27-2.79 ha). Breeding pair territories were not centered around the females but had well defined boundaries, and were defended even when the female was absent. Removal of two pairs suggests that territory size was determined mostly by pair density as territories expanded after the removals. Breeding pair and brood territories averaged approximately 0.35 km from the nest site (range: 0.2-9 km). Broods usually settled on the lake closest to the main advantage of spring and winter pair territoriality may be in providing an exclusive and undisturbed feeding area for the female. Similarly brood territories provide an exclusive feeding area for the young.

**URL:** <Go to ISI>://BCI198886089977

**Reference Type:**  Journal Article

**Record Number:** 416

**Author:** L. Savard J-P

**Year:** 1988

**Title:** Use of Nest Boxes by Barrow's Goldeneyes Nesting Success and Effect on the Breeding Population

**Journal:** Wildlife Society Bulletin

**Volume:** 16

**Issue:** 2

**Pages:** 125-132

**Short Title:** Use of Nest Boxes by Barrow's Goldeneyes Nesting Success and Effect on the Breeding Population

**Accession Number:** BCI:BCI198835044914

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI198835044914

**Reference Type:**  Journal Article

**Record Number:** 541

**Author:** L. Savard J-P and J. M. Eadie

**Year:** 1989

**Title:** Survival and Breeding Philopatry in Barrow's and Common Goldeneyes

**Journal:** Condor

**Volume:** 91

**Issue:** 1

**Pages:** 198-203

**Short Title:** Survival and Breeding Philopatry in Barrow's and Common Goldeneyes

**Accession Number:** BCI:BCI198936120023

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Survival; Dispersal; Breeding Season;

**URL:** <Go to ISI>://BCI198936120023

**Reference Type:**  Journal Article

**Record Number:** 1080

**Author:** L. Savard J-P and P. Lamothe

**Year:** 1991

**Title:** Distribution Abundance and Aspects of Breeding Ecology of Black Scoters Melanitta Nigra and Surf Scoters Melanitta-Perspicillata in Northern Quebec

**Journal:** Canadian Field-Naturalist

**Volume:** 105

**Issue:** 4

**Pages:** 488-496

**Short Title:** Distribution Abundance and Aspects of Breeding Ecology of Black Scoters Melanitta Nigra and Surf Scoters Melanitta-Perspicillata in Northern Quebec

**Accession Number:** BCI:BCI199294129821

**Keywords:** Black Scoter; Melanitta nigra; Surf Scoter; Melanitta perspicillata; Abundance, Distribution, and Trends; Behavior; Breeding Season;

**Abstract:** In northern Quebec and Labrador, the breeding ranges of black scoter (Melanitta nigra) and surf scoter (M. perspicillata) correspond roughly to the subarctic zone. Near Lake Bienville, Quebec, black scoter broods were more abundant (4-14/100 km2) than those of surf scoters (2-5/100 km2), and higher than elsewhere in North America. Brood density estimates derived from single aerial surveys were nearly half those derived from repeated surveys of an area. The breeding chronology of both scoter species was similar with laying beginning in the first week of June and broods hatching in the 2nd and 3rd weeks of July. Duckling mortality was high. Newly hatched Surf scoters spent 60% of their time feeding whereas the attending females spent only 30%. Brood feeding periods (37.3 .+-. 3.6 minutes) were longer than resting periods (22.2 .+-. 4.1 minutes). Resting periods averaged longer on land (.hivin.x = 24.9 .+-. 2.8 minutes) than on water (.hivin.x = 15.4 .+-. 2.2 minutes). Timing of feeding and resting activities probably affect the accuracy of aerial surveys for scoters on the breeding grounds.

**URL:** <Go to ISI>://BCI199294129821

**Reference Type:**  Journal Article

**Record Number:** 599

**Author:** L. Savard J-P, G. E. J. Smith and J. N. M. Smith

**Year:** 1991

**Title:** Duckling Mortality in Barrow's Goldeneye and Bufflehead Broods

**Journal:** Auk

**Volume:** 108

**Issue:** 3

**Pages:** 568-577

**Short Title:** Duckling Mortality in Barrow's Goldeneye and Bufflehead Broods

**Accession Number:** BCI:BCI199192098253

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Survival; Breeding Season;

**Abstract:** We compared duckling mortality patterns in Barrow's Goldeneyes (Bucephala islandica) and Buffleheads (B. albeola) in the aspen parkland of central British Columbia, Canada. Hatching phenology of both species varied between years in relation to spring temperatures. Buffleheads hatched on average a few days later than Barrow's Goldeneyes each year. Mortality estimates for duckling differed by as much as 55%, and depended on the technique used. Estimates of mortality rates per brood were higher and more variable than those calculated per duckling. The Mayfield estimate of mortality per duckling day, adjusted for duckling age, was the most accurate. Mortality rates of Barrow's Goldeneyes and Buffleheads varied similarly between years. Mortality patterns in relation to duckling age, however, varied between species and between years. The highest mortality usually occurred in the week after hatching. Hatching date influenced mortality rates in 3 of 5 yr, but there was no consistent pattern. Barrow's Goldeneye ducklings suffered higher mortality than Bufflehead ducklings in 4 of 5 yr. This pattern was reversed in 1984, when the largest number of Barrow's Goldeneye broods occurred. Duckling mortality was higher on ponds with several broods than on ponds with single broods, which implies density-dependent mortality. This may have been due to intra- and interspecific aggression. The high mortality of Barrow's Goldeneye ducklings in 1983 was followed by lowered female recruitment in 1985. Because aggressiveness by Barrow's Goldeneyes has more impact on conspecifics, Barrow's Goldeneyes and Buffleheads can coexist at low to moderate densities of goldeneyes. At high goldeneyes densities, Buffleheads may be excluded from some ponds.

**URL:** <Go to ISI>://BCI199192098253

**Reference Type:**  Journal Article

**Record Number:** 418

**Author:** L. Savard J-P and J. N. M. Smith

**Year:** 1987

**Title:** Interspecific Aggression by Barrow's Goldeneye a Descriptive and Functional Analysis

**Journal:** Behaviour

**Volume:** 102

**Issue:** 3-4

**Pages:** 168-184

**Short Title:** Interspecific Aggression by Barrow's Goldeneye a Descriptive and Functional Analysis

**Accession Number:** BCI:BCI198885035802

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** We describe interspecific aggression and territoriality by a diving duck, the Barrow's goldeneye. Males of this species are strongly interspecifically territorial early during the breeding season, and in winter. Females are interspecifically territorial while tending broods of ducklings. Aggression was strongest against conspecifics, and against the congeneric bufflehead, which shares the same breeding habitat. Other diving ducks, which overlap in diet with goldeneyes, were frequently attacked, while dabbling ducks, with differing feeding habits, were generally tolerated, and were seldom attacked. One dabbling duck, the blue-winged teal, in which the drake resembles the Barrow's goldeneye drake in plumage, was attacked more strongly than other dabblers. We propose that the strong interspecific aggressiveness exhibited by the Barrow's goldeneye, and its congeners the bufflehead and common goldeneye, is a consequence of the strong intraspecific aggressiveness of these species. Selectivity in aggression towards victims of different species can be explained by two hypotheses. Species that have (1) similar diets, and (2) similar plumages to Barrow's goldeneye was selectively attacked.

**URL:** <Go to ISI>://BCI198885035802

**Reference Type:**  Book

**Record Number:** 2370

**Author:** J.-P. L. a. M. R. P. Savard

**Year:** 2015

**Title:** Remigial molt of sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 305-335

**Short Title:** Remigial molt of sea ducks

**Keywords:** Molt; Habitat; Behavior; Energetics and Nutrition

**Abstract:** Molt is a dynamic process occurring throughout much of the year in waterfowl. The molt of flight feathers by waterfowl, especially sea ducks, however, occurs over a compressed period of time and in specific areas used each year. We provide an overview of the flight feather molt of sea ducks. We focus on the need to molt and why, the timing and duration of flight feather molt, and the duration birds remain at molting areas; energetics of molt and strategies for managing energetic needs; molt migration; food resources and foraging behavior; predation risks; temporal constraints and competition; response to disturbance; and molt habitats and seasonal differences in habitat used by sea ducks. We conclude by presenting and discussing data gaps and emphasize the continuing need for a holistic approach to sea duck management and international cooperation among countries.

**Reference Type:**  Journal Article

**Record Number:** 1949

**Author:** J. P. L. Savard, L. Lesage, S. G. Gilliland, H. G. Gilchrist and J. F. Giroux

**Year:** 2011

**Title:** Molting, Staging, and Wintering Locations of Common Eiders Breeding in the Gyrfalcon Archipelago, Ungava Bay

**Journal:** Arctic

**Volume:** 64

**Issue:** 2

**Pages:** 197-206

**Date:** Jun

**Short Title:** Molting, Staging, and Wintering Locations of Common Eiders Breeding in the Gyrfalcon Archipelago, Ungava Bay

**ISSN:** 0004-0843

**Accession Number:** WOS:000292226100005

**Keywords:** Common eider; somateria mollissima; migration; habitat; population delineation; Breeding Season; Nonbreeding Seasons

**Notes:** Times Cited: 0

Savard, Jean-Pierre L. Lesage, Louis Gilliland, Scott G. Gilchrist, H. Grant Giroux, Jean-Francois

0

**URL:** <Go to ISI>://WOS:000292226100005

**Reference Type:**  Journal Article

**Record Number:** 1070

**Author:** J. P. L. Savard, A. Reed and L. Lesage

**Year:** 1999

**Title:** Brood amalgamation in Surf Scoters Melanitta perspicillata and other Mergini

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 129-138

**Short Title:** Brood amalgamation in Surf Scoters Melanitta perspicillata and other Mergini

**Accession Number:** BCI:BCI199900298053

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior; Breeding Season;

**Abstract:** Brood amalgamation is frequent within the Tribe Mergini. We quantified amalgamation in the Surf Scoter (Melanitta perspicillata) by a combination of observations on marked and unmarked broods at Lake Malbaie, Quebec. Brood amalgamation was frequent, especially when brood density was high. Broods, amalgamated or not, were always tended by a single female. Lone females sometimes associated with broods for short periods of time, but occasionally threatened and attacked young. Most often, lone females were chased off by the attending female. Females with young did not try to attract other young and were quite aggressive towards strange young. No behaviour suggesting any voluntary abandonment of young by females was observed. Brood amalgamation in this population apparently occurred accidentally, presumably favoured by crowding, a variable level of aggressiveness between females and apparently weak female-young bonds. A review of the literature on brood amalgamation in the tribe Mergini supports these findings.

**URL:** <Go to ISI>://BCI199900298053

**Reference Type:**  Journal Article

**Record Number:** 1950

**Author:** J. P. L. Savard and M. Robert

**Year:** 2013

**Title:** Relationships among Breeding, Molting and Wintering Areas of Adult Female Barrow's Goldeneyes (Bucephala islandica) in Eastern North America

**Journal:** Waterbirds

**Volume:** 36

**Issue:** 1

**Pages:** 34-42

**Date:** Mar

**Short Title:** Relationships among Breeding, Molting and Wintering Areas of Adult Female Barrow's Goldeneyes (Bucephala islandica) in Eastern North America

**ISSN:** 1524-4695

**Accession Number:** WOS:000317089500004

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Population Delineation; Migration; Breeding Season; Nonbreeding Seasons; SDJV funded

**Notes:** Times Cited: 0

Savard, Jean-Pierre L. Robert, Michel

0

**URL:** <Go to ISI>://WOS:000317089500004

**Reference Type:**  Journal Article

**Record Number:** 157

**Author:** J.-P. L. Savard, W. S. Boyd and G. E. J. Smith

**Year:** 1994

**Title:** Waterfowl-wetland relationships in the Aspen Parkland of British Columbia: Comparison of analytical methods

**Journal:** Hydrobiologia

**Volume:** 279-280

**Issue:** 0

**Pages:** 309-325

**Short Title:** Waterfowl-wetland relationships in the Aspen Parkland of British Columbia: Comparison of analytical methods

**Accession Number:** BCI:BCI199497325675

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Habitat; Breeding Season;

**Abstract:** We explored the relationships between aquatic bird abundance and various pond features (physical and chemical) using data from 112 ponds located in the Aspen Parkland of British Columbia. As expected, pond size was the most important factor influencing the number of aquatic birds present. Total dissolved nitrogen, conductivity and calcium were positively associated with the abundance of several species whereas chloride tended to be negatively associated. The abundance of dabbling ducks was positively associated with turbidity and total dissolved nitrogen and negatively with percent of forested shoreline, percent of marsh and chloride. The abundance of diving ducks was associated positively with pond depth, conductivity and total dissolved nitrogen and negatively with percent of marsh and phosphorus levels. Pond area influenced more the abundance of diving ducks than dabbling ducks. Relationships between bird density and pond features were affected significantly by the area unit used to calculate density. For example, the density of Bufflehead (Bucephala albeola) was correlated positively with pH and conductivity when expressed per area of water 0-2 m deep but negatively ,%,hen expressed per total area of pond. Results highlight the problems associated with interpreting correlative type studies especially the difficulties in assessing the biological significance of the observed correlations. It underscores the urgent need for experimental approaches to bird-habitat studies.

**URL:** <Go to ISI>://BCI199497325675

**Reference Type:**  Journal Article

**Record Number:** 1050

**Author:** J.-P. L. Savard, A. Reed and L. Lesage

**Year:** 2007

**Title:** Chronology of breeding and molt migration in surf scoters (Melanitta perspicillata)

**Journal:** Waterbirds

**Volume:** 30

**Issue:** 2

**Pages:** 223-229

**Date:** Jun 2007

**Short Title:** Chronology of breeding and molt migration in surf scoters (Melanitta perspicillata)

**Accession Number:** BCI:BCI200700513472

**Keywords:** Surf Scoter; Melanitta perspicillata; Migration; Breeding Season;

**Abstract:** Little is known about the molt migration of the Surf Scorer (Melanitta perspicillata), a species endemic to North America. Our objective in this study was to document the breeding and molting chronology of Surf Scoters in Quebec. Breeding birds were studied at Lake Malbaie, located about 90 km north of Quebec City, Canada. Surf Scorers arrived at Lake Malbaie in the fourth week of May and most males stayed only for approximately three weeks. This relatively early departure of males from the breeding areas emphasizes the importance of saltwater habitats for these birds. Unsuccessful adult females did not leave with the males but remained on their breeding lake. These females left the lake from mid to late July, nearly a month after the departure of males and much earlier than females with broods which left from mid to late August after abandoning their brood. This departure sequence was observed during the three years of the study. The difference in timing of molt migration between age and sex groups has important management implications as it potentially exposes them to different levels of mortality. For example, late molters, mostly adult females that bred successfully may still be flightless at the beginning of the hunting season in some areas. Better understanding of molt chronology and habitat selection by various sex and age groups will permit a more holistic and efficient management of Surf Scoters.

**URL:** <Go to ISI>://BCI200700513472

**Reference Type:**  Journal Article

**Record Number:** 457

**Author:** J.-P. L. Savard and M. Robert

**Year:** 2007

**Title:** Use of nest boxes by Goldeneyes in eastern North America

**Journal:** Wilson Journal of Ornithology

**Volume:** 119

**Issue:** 1

**Pages:** 28-34

**Date:** Mar 2007

**Short Title:** Use of nest boxes by Goldeneyes in eastern North America

**Accession Number:** BCI:BCI200700291107

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common Goldeneye; Bucephala clangula; Techniques; Breeding Season; SDJV funded

**Abstract:** We evaluated and monitored use of 105-133 nest boxes by Common Goldeneye (Bucephala clangula) and Barrow's Goldeneye (Bucephala islandica) during 1999-2004 on 60 lakes of high plateaus of the Laurentian Highlands, in the boreal forest of Quebec, Canada. Only three species of birds used nest boxes regularly, American Kestrel (Falco sparverius), Barrow's Goldeneye, and Common Goldeneye. The proportion of nest boxes used by goldeneyes in 2000-2004 ranged from 23 to 43% whereas hatching success ranged from 37 to 67%. Successful Barrow's and Common goldeneye clutches averaged 6.76 +/- 0.38 (SE, n = 29) and 7.77 +/- 0.44 eggs (n = 31), respectively. Predation in nest boxes was not a major mortality factor. Goldeneyes used all nest boxes independent of their location but reproductive success was lower in nest boxes 25-160 m from shore in clearcuts. The number of Barrow's and Common goldeneye breeding pairs increased between 1999 and 2003, but number of broods remained stable after an increase in 2000.

**URL:** <Go to ISI>://BCI200700291107

**Reference Type:**  Journal Article

**Record Number:** 243

**Author:** J.-P. L. Savard, M. Robert and S. Brodeur

**Year:** 2008

**Title:** Harlequin Ducks in Quebec

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 19-31

**Short Title:** Harlequin Ducks in Quebec

**Accession Number:** BCI:BCI200900160411

**Keywords:** Harlequin duck; Histrionicus histrionicus; Nonbreeding Seasons; Breeding Season;

**Abstract:** In the last decade, several survey and research efforts have been undertaken to better understand the ecology and distribution of Harlequin Ducks (Histrionicus histrionicus) in Quebec. The results of these efforts are summarized and new survey, research and management needs arc identified. Harlequin Ducks breed oil rivers and streams of the Gaspe Peninsula, the Quebec North Shore, and the immense Hudson Bay and Ungava Bay drainage basins. Quebec is possibly the most important breeding area for Harlequin Ducks in eastern Canada, and there is every indication that a significant proportion of the birds wintering in south-western Greenland and in eastern North America breed in Quebec. In spring, significant numbers of birds spend a few days or weeks along the Gaspe Peninsula before departing for their breeding or molting areas. The most important molting sites in Quebec are Bonaventure Island, the Port-Daniel/New-port area, and the Pointe du Sud-Onset/Jupiter River area oil Anticosti Island. Known fall staging areas include the coastal waters of the Gaspe Peninsula, the Pointe du Sud-Ouest/Jupiter River area, and Brion Island, oil the Magdalen Islands. The few Harlequin Ducks that overwinter in Quebec are mostly in Baie des Chaleurs, oil the south shore of the Gaspe Peninsula. There are no good data on trends; of Harlequin Ducks' in Quebec. Major threats to population recovery/health include hydroelectric development,,, illegal mid subsistence harvests, coastal exploitation (aquaculture, fisheries, boating), and recreational activities on breeding rivers and streams. Survey, research and management needs include better estimates of breeding densities and distribution, characterization of spring, summer and fall coastal habitats, comprehensive generic analysis, monitoring, and Public education oil the status of Harlequin Ducks.

**URL:** <Go to ISI>://BCI200900160411

**Reference Type:**  Journal Article

**Record Number:** 1755

**Author:** V. M. Savinov, G. W. Gabrielsen and T. N. Savinova

**Year:** 2003

**Title:** Cadmium, zinc, copper, arsenic, selenium and mercury in seabirds from the Barents Sea: Levels, inter-specific and geographical differences

**Journal:** Science of the Total Environment

**Volume:** 306

**Issue:** 1-3

**Pages:** 133-158

**Date:** 1 May, 2003

**Short Title:** Cadmium, zinc, copper, arsenic, selenium and mercury in seabirds from the Barents Sea: Levels, inter-specific and geographical differences

**Accession Number:** BCI:BCI200300286672

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Contaminants; Breeding Season;

**Abstract:** Trace elements Cd, Zn, Cu, As, Se and Hg were analysed in muscle and liver of Brunnich's guillemot, Common guillemot, Puffin, Black guillemot, Little auk, Razorbill, Common eider, King eider, Glaucous gull, Herring gull, Black-legged kittiwake, Northern fulmar and Arctic tern collected in 1991-1992 at the main breeding colonies in the Barents Sea. The highest levels of the most toxic elements Cd and Hg were found in birds nesting north of Spitsbergen. Extremely high levels of As were detected in tissues of all seabird species collected at colonies in Chernaya Guba (Novaya Zemlya), where nuclear tests were carried out in the 1960s. In general, levels of all of the trace elements in the Barents Sea seabirds were similar or lower in comparison with those reported for the same seabird species from the other Arctic areas. Data on metallothionein concentrations in different seabird species need to be collected in order to understand the mechanism of bioaccumulation and possible toxic effects of trace elements in Arctic seabirds.

**URL:** <Go to ISI>://BCI200300286672

**Reference Type:**  Journal Article

**Record Number:** 1560

**Author:** T. N. Savinova, A. Polder, G. W. Gabrielsen and J. U. Skaare

**Year:** 1995

**Title:** Chlorinated hydrocarbons in seabirds from the Barents Sea area

**Journal:** Science of the Total Environment

**Volume:** 160-161

**Issue:** 0

**Pages:** 497-504

**Short Title:** Chlorinated hydrocarbons in seabirds from the Barents Sea area

**Accession Number:** BCI:BCI199598130006

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**URL:** <Go to ISI>://BCI199598130006

**Reference Type:**  Journal Article

**Record Number:** 559

**Author:** R. D. Sayler and A. D. Afton

**Year:** 1981

**Title:** Ecological Aspects of Common Goldeneyes Bucephala-Clangula Wintering on the Upper Mississippi River USA

**Journal:** Ornis Scandinavica

**Volume:** 12

**Issue:** 2

**Pages:** 99-108

**Short Title:** Ecological Aspects of Common Goldeneyes Bucephala-Clangula Wintering on the Upper Mississippi River USA

**Accession Number:** BCI:BCI198273030384

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Habitat; Nonbreeding Seasons;

**Abstract:** Roosting flight characteristics of common goldeneyes, B. clangula, were correlated with ambient temperature, wind direction, feeding area location and date. More birds remained near the communal roost during days when colder temperatures prevailed and early in winter when feeding was common by a brewery discharge outlet. Roosting populations declined under colder daily temperatures but increased during winter. Roosting sites were vacated temporarily by most birds in periods of extremely cold temperatures (< -25.degree. C). Daytime sex ratio counts were adult male biased throughout winter, indicating males returned to the roost site from feeding areas earlier in the day than did females. Adult males occasionally defended small individual foraging sites from intruding conspecifics of both sexes. Available data indicate that sexual segregation within habitats and between wintering areas is influenced by climatic effects interacting with several ecological factors: body size-weight-metabolic relationships, intersexual competion for food and sexual selection pressures.

**URL:** <Go to ISI>://BCI198273030384

**Reference Type:**  Journal Article

**Record Number:** 884

**Author:** J. L. Schamber, F. J. Broerman and P. L. Flint

**Year:** 2010

**Title:** Reproductive Ecology and Habitat Use of Pacific Black Scoters (Melanitta nigra americana) Nesting on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Waterbirds

**Volume:** 33

**Issue:** 2

**Pages:** 129-139

**Date:** Jun 2010

**Short Title:** Reproductive Ecology and Habitat Use of Pacific Black Scoters (Melanitta nigra americana) Nesting on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI201100030023

**Keywords:** Black Scoter; Melanitta nigra; Habitat; Productivity; Breeding Season;

**Abstract:** Abundance indices of Black Scoters (Melanitta nigra americana) breeding in Alaska indicate a long-term population decline without obvious cause(s). However, few life history data are available for the species in North America. In 2001-2004, information was collected on nesting habitat and reproductive parameters (i.e. components of productivity) from a population of Black Scoters nesting on the Yukon-Kuskokwim Delta, Alaska. A total of 157 nests were found over four years. Primarily, nests were among dense vegetation in shrub edge habitat, predominantly dwarf birch ( Betula glandulosa) and Alaska spiraea (Spiraea beauverdiana), an average of 58 in from water. Females initiated nests from 11 June and 17 July across years. Clutch size averaged 7.5 eggs and did not vary annually. Nest success was highly variable among years and ranged from 0.01 to 0.37. Duckling survival to 30 days old varied among years, and ranged from 0.09-0.35. Nest success was poor in three of four years, likely due to predation by Red Fox (Vulpes vulpes). Black Scoters appear to have low but variable productivity, consistent with life-history Patterns of other sea duck species. Information gained will direct future demographic research on Black Scoters, and highlights knowledge gaps impeding management strategies needed for population recovery. Received 10 June 2009, accepted 17 December 2009.

**URL:** <Go to ISI>://BCI201100030023

**Reference Type:**  Journal Article

**Record Number:** 1100

**Author:** J. L. Schamber, P. L. Flint, J. B. Grand, H. M. Wilson and J. A. Morse

**Year:** 2009

**Title:** Population Dynamics of Long-tailed Ducks Breeding on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Arctic

**Volume:** 62

**Issue:** 2

**Pages:** 190-200

**Date:** Jun 2009

**Short Title:** Population Dynamics of Long-tailed Ducks Breeding on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200900404285

**Keywords:** Long-tailed Duck; Clangula hyemalis; Survival; Productivity; Population Dynamics; Population Model; Breeding Season; SDJV funded

**Abstract:** Population estimates for long-tailed ducks in North America have declined by nearly 50% over the past 30 years. Life history and population dynamics of this species are difficult to ascertain, because the birds nest at low densities across a broad range of habitat types. Between 1991 and 2004, we collected information on productivity and survival of long-tailed ducks at three locations on the Yukon-Kuskokwim Delta. Clutch size averaged 7.1 eggs, and nesting success averaged 30%. Duckling survival to 30 days old averaged 10% but was highly variable among years, ranging from 0% to 25%. Apparent annual survival of adult females based on mark-recapture of nesting females was estimated at 74%. We combined these estimates of survival and productivity into a matrix-based population model, which predicted an annual population decline of 19%. Elasticities indicated that population growth rate (lambda) was most sensitive to changes in adult female survival. Further, the relatively high sensitivity (lambda) to duckling survival suggests that low duckling survival may be a bottleneck to productivity in some years. These data represent the first attempt to synthesize a population model for this species. Although our analyses were hampered by the small sample sizes inherent in studying a dispersed nesting species, our model provides a basis for management actions and can be enhanced as additional data become available.

**URL:** <Go to ISI>://BCI200900404285

**Reference Type:**  Journal Article

**Record Number:** 1681

**Author:** D. Schamel

**Year:** 1977

**Title:** Breeding of the Common Eider Somateria-Mollissima on the Beaufort Sea Coast of Alaska USA

**Journal:** Condor

**Volume:** 79

**Issue:** 4

**Pages:** 478-485

**Short Title:** Breeding of the Common Eider Somateria-Mollissima on the Beaufort Sea Coast of Alaska USA

**Accession Number:** BCI:BCI197866007463

**Keywords:** Common Eider; Somateria mollissima; Productivity; Breeding Season; Habitat;

**Abstract:** Common eiders breeding along the coast of the Beaufort Sea, Alaska [USA], have adapted well to the problems of a brief nesting period and predators. By arriving already paired at the time of break-up, they minimize the pre-laying period. These eiders appear to avoid fox predation by nesting almost exclusively on offshore islands and postponing nesting attempts until the islands are surrounded by open water. Only the earliest nesting birds maintain a pair bond through the 1st few days of incubation. This allows for rapid renesting in the event of predation. Females choose nest sites that offer camoflage, wind protection and sufficient elevation to avoid flooding. Males are brightly colored, but staying away from nests help to keep them hidden. Although eiders did not nest close together, they seemed to cluster just inside the territorial boundaries of glaucous gulls. These nests were more successful than those elsewhere in the colony studied.

**URL:** <Go to ISI>://BCI197866007463

**Reference Type:**  Journal Article

**Record Number:** 1167

**Author:** D. Schamel

**Year:** 1978

**Title:** Bird Use of a Beaufort Sea Barrier Island in Summer

**Journal:** Canadian Field-Naturalist

**Volume:** 92

**Issue:** 1

**Pages:** 55-60

**Short Title:** Bird Use of a Beaufort Sea Barrier Island in Summer

**Accession Number:** BCI:BCI197866032216

**Keywords:** Long-tailed Duck; Clangula hyemalis; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** The number and distribution of birds near a barrier island west of Prudhoe Bay, Alaska [USA] were recorded during the phenologically late summer of 1972. During eastward (spring) migration, most birds were restricted to a small area of open water in the nearby river delta. Although numerous eiders (Somateria sp.) fed and rested in the island area during spring migration, few did so in late summer, when oldsquaws (Clangula hyemalis) and red phalaropes (Phalaropus fulicarius) congregated near the island. [Additional birds in the area were Gavia adamsii, G. arctica, G. stellata, Somateria mollissima var. nigra, S. spectabilis, Larus hyperboreus and Sterna paradisaea. Only 4 plant species were found: Honckenya peploides, Mertensia maritima, Elymus arenarius mollis and Puccinellia phryganodes.].

**URL:** <Go to ISI>://BCI197866032216

**Reference Type:**  Journal Article

**Record Number:** 1709

**Author:** H. Scheel

**Year:** 1964

**Title:** The sea eagle and its food

**Journal:** Gron Land

**Volume:** 2

**Pages:** 92-97

**Short Title:** The sea eagle and its food

**Accession Number:** BCI:BCI19664700024996

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The se eagle (Haliaeetus albicilla) is still fairly common along Greenland's west coast. It does not take newborn lambs but feeds mostly on salmon during the summer. When lakes and streams freeze it takes eider ducks and other sea birds. It captures diving birds as they come to the surface and does not take birds in flight. || ABSTRACT AUTHORS: V. Flyger

**URL:** <Go to ISI>://BCI19664700024996

**Reference Type:**  Journal Article

**Record Number:** 24

**Author:** G. Scheiffarth and P. H. Becker

**Year:** 2008

**Title:** Roosting waterbirds at the Osterems, German Wadden Sea: seasonal and spatial trends studied by aerial and ground surveys

**Journal:** Senckenbergiana Maritima

**Volume:** 38

**Issue:** 2

**Pages:** 137-142

**Date:** Dec 2008

**Short Title:** Roosting waterbirds at the Osterems, German Wadden Sea: seasonal and spatial trends studied by aerial and ground surveys

**Accession Number:** BCI:BCI200900233531

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Waterbirds migrating through and wintering in the Wadden Sea depend on undisturbed roost sites close to their feeding areas. Birds at these remote places are, however, often not counted within standard monitoring programmes. As in the Osterems a new remote sandbank island, the Kachelotplate, is emerging, we initiated a Pilot Study based on aerial counts to evaluate the importance of this island as roost site for waterbirds in the context of the Surrounding islands. To check for the representativeness of the aerial Counts, we compared numbers (i) on one occasion with a synchronous ground survey, and (ii) all aerial Counts with the long-term average for chose areas regularly covered by ground Counts. Numbers of birds in flocks counted during synchronous aerial and ground counts were in good agreement. Nevertheless, birds in structured areas and small waders were difficult to count from the air. In general, a calibration of aerial Counts and long-term experience is necessary to obtain realistic results by Counting waterbirds from an aeroplane. Waterbirds in the Osterems showed the typical seasonal phenology for the East-Frisian Wadden Sea. Given the size of the study area, bird numbers were relatively high. Besides the Kachelotplate, which was important for the Common Eider and gulls for roosting, another remote island, Lutje Horn, was of paramount importance as roost site, in particular for the Eurasian Oystercatcher, Eurasian Curlew, and in spring for terns. A clear distinction could be made between outer, open islands like the Kachelotplate, which were used by birds feeding on pelagic food Sources, and sheltered areas, used by benthic foragers, Supporting the idea that birds try to reduce travelling costs between feeding and roosting areas. Furthermore, the Study underlined the importance of remote, undisturbed roosting areas for waterbirds in the Wadden Sea.

**URL:** <Go to ISI>://BCI200900233531

**Reference Type:**  Journal Article

**Record Number:** 1389

**Author:** G. Scheiffarth, D. Frank, U. Bradter and B. Thoden

**Year:** 2006

**Title:** Crushing shells in a stomach: more than simple mechanics

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 246

**Date:** Aug 2006

**Short Title:** Crushing shells in a stomach: more than simple mechanics

**Accession Number:** BCI:BCI200700133016

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**URL:** <Go to ISI>://BCI200700133016

**Reference Type:**  Journal Article

**Record Number:** 1085

**Author:** L. E. Schenkeveld and R. C. Ydenberg

**Year:** 1985

**Title:** Synchronous Diving by Surf Scoter Melanitta-Perspicillata Flocks

**Journal:** Canadian Journal of Zoology

**Volume:** 63

**Issue:** 11

**Pages:** 2516-2519

**Short Title:** Synchronous Diving by Surf Scoter Melanitta-Perspicillata Flocks

**Accession Number:** BCI:BCI198681070882

**Keywords:** Surf Scoter; Melanitta perspicillata; Behavior; Nonbreeding Seasons;

**Abstract:** We studied the diving and surfacing synchrony of foraging flocks of wintering surf scoters (Melanitta perspicillata). Our data support the hypothesis that synchronous diving is an adaptation that reduces kleptoparasitism by glaucous-winged gulls (Larus glaucescens), which frequently attend foraging flocks. We developed a statistical method for measuring and comparing synchrony between flocks, and applied it to videotape records of 30 flocks. The results show that diving and surfacing are highly synchronous, and that there is a large variation between flocks in the degree of synchrony exhibited. The most pronounced effect is for surfacing synchrony to be higher in the presence of gulls. This seems to arise because individual birds curtail their dives so that less synchrony is lost between diving and surfacing during a group dive. This curtailment of dive length may lead to a reduction in the average size of prey captured.

**URL:** <Go to ISI>://BCI198681070882

**Reference Type:**  Journal Article

**Record Number:** 740

**Author:** A. M. Scheuhammer, A. H. K. Wong and D. Bond

**Year:** 1998

**Title:** Mercury and selenium accumulation in common loons (Gavia immer) and common mergansers (Mergus merganser) from eastern Canada

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 17

**Issue:** 2

**Pages:** 197-201

**Date:** Feb., 1998

**Short Title:** Mercury and selenium accumulation in common loons (Gavia immer) and common mergansers (Mergus merganser) from eastern Canada

**Accession Number:** BCI:BCI199800128957

**Keywords:** Common merganser; Mergus merganser; Contaminants;

**Abstract:** Liver, kidney, and breast muscle tissue from common loons (Gavia immer) and common mergansers (Mergus merganser) from eastern Canada were analyzed for total Hg, organic Hg, and Se concentrations. In both species, Hg and Se concentrations were generally highest in liver, followed by kidney, then breast muscle. As total Hg concentrations increased in liver and kidney tissues, the fraction that was methylmercury (MeHg) decreased. Livers and kidneys with the highest total Hg concentrations (>100 mug/g dry weight) had only 5 to 7% of the total as MeHg. Concentrations of MeHg were < 10 mug/g (dry weight) regardless of the total Hg concentration in liver and kidney. In contrast, the proportion of MeHg in breast muscle remained high (80-100%) in both loons and mergansers regardless of total Hg concentration, which ranged from 0.7 to 35 mug/g (dry weight). Strong positive correlations were observed between total Hg and Se concentrations, but not between MeHg and Se, in kidney and liver tissues for both loons and mergansers. Mercury concentrations were significantly higher (analysis of variance, p < 0.0001) in all three tissues of loons found in an emaciated condition compared with apparently healthy loons. Non-emaciated loons had Hg concentrations comparable to those of healthy mergansers, and concentrations were lower than those associated with Hg toxicity in birds. The elevated Hg concentrations in emaciated loons may have contributed to their impaired conditions; alternatively, the wasting of their muscle and other tissues may have caused apparent tissue Hg concentrations to increase. In any case, total Hg concentrations in liver and/or kidney tissue are insufficient criteria for making toxicologically relevant judgments of possible Hg toxicity. Because of the varying degrees of apparent Hg demethylation in liver, kidney, and other tissues and the association of the resulting inorganic Hg with Se in an apparently stable, toxicologically inert complex, estimates of organic Hg and Se concentrations, in addition to total Hg, in these organs are recommended.

**URL:** <Go to ISI>://BCI199800128957

**Reference Type:**  Journal Article

**Record Number:** 1276

**Author:** E. L. Schiller

**Year:** 1954

**Title:** Studies on the helminth fauna of Alaska. XVIII. Cestode parasites in young Anseriformes on the Yukon delta nesting grounds

**Journal:** Trans Amer Microsc Soc

**Volume:** 73

**Issue:** (2)

**Pages:** 194-201

**Short Title:** Studies on the helminth fauna of Alaska. XVIII. Cestode parasites in young Anseriformes on the Yukon delta nesting grounds

**Accession Number:** BCI:BCI19552900004646

**Keywords:** Spectacled Eider; Somateria fischeri; Parasites; Breeding Season;

**Abstract:** In the summer of 1952, 32 emperor geese, 27 crackling geese, 13 spectacled eider, and 2 pintail ducks, were collected on the Yukon delta, Aladka, and examined for helminth parasites. All birds but 2 were downy young. Emperor geese were infected with Hymenolepis lanceolata, H. barrowensis and H. nyrocae. Cackling geese were infected with Hymenolepis lanceolata, H. barrowensis, H. nyrocae, and H. setigera. Eleven spectacled eider were infected with Hymenolepis sacciperum, H. yukonensis, Diorchis flavescens. and Schistocephalus solidus. The pintail ducks were infected with Hymenolepis stolli. A cestode from the spectacled eider, Hymenolepis yukonensis. is descr. as new, and is differentiated from anseriform cestodes of the genus Hymenolepis on the basis of rostellar hook size and shape, length of strobila, size of scolex, and size and extent of cirrus sac. Additional notes on the morphology of H. barrowensis. are presented, and the emperor goose and cackling goose are listed as new host spp. for this cestode. A description of the scolex of Hymenolepis stolli is given for the 1st time. It was concluded that Hymenolepis defilae is synonymous with H. stolli. Evidence is presented that helminth infections are acquired on the nesting grounds by the young birds soon after hatching. Conditions allowing helminth infection appeared very favorable. It was observed that widespread cestode infections occur on nesting grounds with little host mortality. || ABSTRACT AUTHORS: R. V. Rausch

**URL:** <Go to ISI>://BCI19552900004646

**Reference Type:**  Journal Article

**Record Number:** 1274

**Author:** E. L. Schiller

**Year:** 1955

**Title:** Studies on the helminth fauna of Alaska. XXIII. Some cestode parasites of eider ducks

**Journal:** Jour Parasitol

**Volume:** 41

**Issue:** (1)

**Pages:** 79-88

**Short Title:** Studies on the helminth fauna of Alaska. XXIII. Some cestode parasites of eider ducks

**Accession Number:** BCI:BCI19563000003133

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Parasites;

**Abstract:** Helminth parasites of 4 spp. of eider ducks, 2 of which are used in great numbers by Alaskan Eskimo for food, are considered. Two cestodes are described as new: Haploparaxis polystictae (From Steller's eider, Polysticta stelleri), and Hymenolepis arctica (type host, king eider, Somateria spectabilis). Two spp. of cestodes are redescribed: Hymenolepis fallax (Krabbe, 1869), from Pacific eider (Somateria mollissima v-nigra) and king eider; and Hvmenolepis sibirica (v. Linstow, 1905), from Steller's eider. Of 10 Steller's eider ducks collected, 7 harbored specimens of Hymenolepis sibirica and Haploparaxis polystictae. Of 36 examined, 21 Pacific eider were found to contain the following cestodes: Lateriporus teres, Hvmenolepis microsoma, Hymenolepis fallax, Hvmenolepis fausti, Fimbriarioides intermedia, Hymenolepis tenuirostris, and H. arctica. Of 32 king eider ducks, 22 were infected with L. teres, F. intermedia, H. fallax, H. microsoma, and H. arctica. Thirteen of 15 spectacled eider (Arctonetta fischeri) were infected with H. arctica, L. teres, Hvmenolepis sacciperum, Hvmenolepis yukonensis, Diorchis flavescens, and Schisto-cephalus solidus. The foregoing are listed in order of frequency of occurrence. It is concluded that Lateriporus geographicus Cooper, 1921, is conspecific with Lateriporus teres (Krabbe, 1869), and the former is therefore placed in synonymy with L. teres. || ABSTRACT AUTHORS: R. V. Rausch

**URL:** <Go to ISI>://BCI19563000003133

**Reference Type:**  Journal Article

**Record Number:** 432

**Author:** G. D. Schmidt

**Year:** 1965

**Title:** Polymorphus swartzi sp. n., and other Acanthocephala of Alaskan ducks

**Journal:** J Parasitol

**Volume:** 51

**Issue:** (5)

**Pages:** 809-813

**Short Title:** Polymorphus swartzi sp. n., and other Acanthocephala of Alaskan ducks

**Accession Number:** BCI:BCI19664700014692

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Parasites;

**Abstract:** Polymorphus swartzi sp. n. is described from Barrow's goldeneye (Bucephala islanctica) from Alaska. It has greatest morphological similarity with P. strumosoides, Lundstrom, 1942, differing from it in body shape, proboscis armature, distribution of trunk spines, shape of lemnisci, and size of eggs. The presence of P. minutus (Goeze, 1742) Luhe, 1911 and P. marilis Van Cleave, 1939 in Alaskan ducks is also discussed. A key to the species in Polymorphus is included. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19664700014692

**Reference Type:**  Journal Article

**Record Number:** 465

**Author:** J. H. Schmidt, E. J. Taylor and E. A. Rexstad

**Year:** 2005

**Title:** Incubation behaviors and patterns of nest attendance in common goldeneyes in interior Alaska

**Journal:** Condor

**Volume:** 107

**Issue:** 1

**Pages:** 167-172

**Date:** February 2005

**Short Title:** Incubation behaviors and patterns of nest attendance in common goldeneyes in interior Alaska

**Accession Number:** BCI:BCI200500180856

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** We hypothesized that nest attendance characteristics in Common Goldeneyes (Bucephala clangula) at the northern limit of their range differ from those of more southern populations. In 2002 and 2003, we used artificial eggs containing temperature-sensing data loggers to obtain nest attendance data from 20 incubating females over 515 days. On average (+/-SE), each female spent 79.8 +/- 0.3% of the day on the nest, and took 2.9 +/- 0.1 recesses per day, each averaging 100.7 +/- 1.5 minutes. These recess characteristics were comparable to those reported for other Common Goldeneye populations. Most recesses (88%) occurred between 09:00 and 22:00 Alaskan Daylight Time although recesses were initiated at all times of day. Female incubation behavior does not appear to be strongly influenced by coarse-level environmental variables or the female-specific variables that we measured, but could be related to a complex assortment of fine-scale environmental or endogenous factors.

**URL:** <Go to ISI>://BCI200500180856

**Reference Type:**  Journal Article

**Record Number:** 462

**Author:** J. H. Schmidt, E. J. Taylor and E. A. Rexstad

**Year:** 2006

**Title:** Survival of common goldeneye ducklings in interior Alaska

**Journal:** Journal of Wildlife Management

**Volume:** 70

**Issue:** 3

**Pages:** 792-798

**Date:** Jun 2006

**Short Title:** Survival of common goldeneye ducklings in interior Alaska

**Accession Number:** BCI:BCI200700452775

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Breeding Season; SDJV funded

**Abstract:** Duckling survival is an important component of waterfowl population dynamics, and we provide the first-known estimates of duckling survival for common goldeneyes (Bucephala clangula) at the northern limit of their range in Interior Alaska. We color-marked common goldeneye ducklings from 91 broods and radio-marked a subset of the females (n = 39) from a nest-box population in the boreal forest during the summers of 2002 and 2003. We monitored 46 broods in 2002 and 2003 combined and estimated daily survival rates (DSR) and survival to 30 days of age using program MARK. We modeled DSR in relation to year, linear trend across season, duckling age, female age, female body condition, initial brood size, and daily precipitation. Model-averaged duckling survival estimates from the mean yearly hatch date to 30 days of age were 0.64 (95% Cl, 0.37-0.90) and 0.67 (95% Cl, 0.54-0.80) for 2002 and 2003, respectively. Our best-approximating model indicated that survival differed by year and increased in a linear manner over the course of the 2002 season. Precipitation had a consistent negative effect on duckling survival in both years across models, whereas duckling age did not explain much of the variation in daily survival rates. In light of the decline of many populations of sea ducks, we suggest that more effort should be expended to obtain estimates of other population parameters for common goldeneyes, and monitoring programs should attempt to estimate populations more precisely to identify population-level changes in the future.

**URL:** <Go to ISI>://BCI200700452775

**Reference Type:**  Journal Article

**Record Number:** 442

**Author:** J. H. Schmidt, J. A. Walker, M. S. Lindberg, D. S. Johnson and S. E. Stephens

**Year:** 2010

**Title:** A General Bayesian Hierarchical Model for Estimating Survival of Nests and Young

**Journal:** Auk

**Volume:** 127

**Issue:** 2

**Pages:** 379-386

**Date:** Apr 2010

**Short Title:** A General Bayesian Hierarchical Model for Estimating Survival of Nests and Young

**Accession Number:** BCI:BCI201000335977

**Keywords:** Common Goldeneye; Bucephala clangula; Survival; Techniques; Breeding Season;

**Abstract:** Models for estimating survival probability of nests and young have changed dramatically since the development of the Mayfield method. Improvements in software and a steady increase in computing power have allowed more complexity and realism in these models, allowing researchers to provide better estimates of survival and to relate survival rates to relevant covariates. However, many current analysis methods utilize fixed-effects models with the implicit assumption that the covariates explain all of the variation in the data, other than random variation within a specified family of distributions. This is generally a strong assumption, and, in the presence of heterogeneity and lack of independence, these estimates have been shown to be negatively biased. Others have begun to explore random-effects models for these situations, but a readily applicable Bayesian approach has been lacking. We present a general Bayesian modeling framework appropriate for survival of both nests and young that simultaneously allows for the inclusion of individual covariates and random effects and provides a measure of goodness-of-fit. We used previously published data on survival of Common Goldeneye (Bucephala clangula) ducklings in interior Alaska and on nest survival in three species of prairie-nesting clucks that nested in the Missouri Coteau region of North Dakota to demonstrate this approach. The inclusion of a brood-level random effect in the Common Goldeneye example increased point estimates and credible interval [CI] coverage from 0.62 (95% Cl: 0.49-0.73) and 0.66 (95% CI: 0.58-0.74) for 2002 and 2003, respectively, to 0.69 (95% CI: 0.42-0.88) and 0.74 (95% CI: 0.57-0.88) for 2002 and 2003, respectively. Received 4 January 2009, accepted 10 September 2009.

**URL:** <Go to ISI>://BCI201000335977

**Reference Type:**  Journal Article

**Record Number:** 1657

**Author:** J. K. Schmutz, R. J. Robertson and F. Cooke

**Year:** 1982

**Title:** Female Sociality in the Common Eider Duck Somateria-Mollissima During Brood Rearing

**Journal:** Canadian Journal of Zoology

**Volume:** 60

**Issue:** 12

**Pages:** 3326-3331

**Short Title:** Female Sociality in the Common Eider Duck Somateria-Mollissima During Brood Rearing

**Accession Number:** BCI:BCI198477000263

**Keywords:** Common Eider; Somateria mollissima; Behavior; Physiology; Breeding Season;

**Abstract:** The potential adaptive significance was investigated of the behavior of female common eider ducks (Somateria mollissima) which have no young of their own (aunts) but accompany other females and young. Aunts exhibited ambivalent aggression and protection toward ducklings. There was no evidence that the presence of aunts enhanced the survival of the ducklings they accompanied. Both females which had their clutch removed and females which had not laid eggs behaved as aunts. The level of circulating prolactin hormone in aunts was lower than in incubating females and similar to the basal level of males. The hypothesis that maternal care was misdirected during hormonal adjustment from breeding to nonbreeding is rejected. Aunts which have lost a clutch or brood spend some time feeding away from the colony and then return to the nesting grounds after replenishing their nutrient reserves. Upon returning, aunts may select sites for nesting in future years. During this time they are temporarily attracted to broods. Aunts flock and fend off predators during an attack in an attempt to seek safety in a flock rather than to protect ducklings of other females.

**URL:** <Go to ISI>://BCI198477000263

**Reference Type:**  Journal Article

**Record Number:** 1654

**Author:** J. K. Schmutz, R. J. Robertson and F. Cooke

**Year:** 1983

**Title:** Colonial Nesting of the Hudson Bay Eider Duck Somateria-Mollissima-Sedentaria

**Journal:** Canadian Journal of Zoology

**Volume:** 61

**Issue:** 11

**Pages:** 2424-2433

**Short Title:** Colonial Nesting of the Hudson Bay Eider Duck Somateria-Mollissima-Sedentaria

**Accession Number:** BCI:BCI198478017986

**Keywords:** Common Eider; Somateria mollissima; Habitat; Behavior; Breeding Season;

**Abstract:** The factors influencing colonial nesting of the Hudson Bay eider duck (S. m. sedentaria) were evaluated. Colonial nesting reflected both selection of appropriate nesting habitat by female common eiders and advantages gained through social cooperation in predator defense. Female common eiders preferred to nest on small islands or on promontories near the shore and under shrubs of medium height. Nesting densities were greatest where a relatively large expanse of open water facilitated landing and taking flight. Nesting females gave alarm calls and formed dense flocks in response to a fox model. Egg predation was less in artificial nests which were close to an incubating female than in those situated further away. There was no correlation between degree of nesting synchrony and density of females on an island. Certain groups, exhibited greater nesting synchrony than expected by chance and the variance in egg shape among these females suggested that they were genetically related.

**URL:** <Go to ISI>://BCI198478017986

**Reference Type:**  Journal Article

**Record Number:** 1633

**Author:** S. M. Schmutz, J. K. Schmutz, N. E. Simpson and H. Tabel

**Year:** 1987

**Title:** Serum Protein Polymorphism in Common Eiders Detected by Isoelectric Focusing

**Journal:** Biochemical Genetics

**Volume:** 25

**Issue:** 3-4

**Pages:** 191-196

**Short Title:** Serum Protein Polymorphism in Common Eiders Detected by Isoelectric Focusing

**Accession Number:** BCI:BCI198733035169

**Keywords:** Common Eider; Somateria mollissima; Physiology;

**URL:** <Go to ISI>://BCI198733035169

**Reference Type:**  Journal Article

**Record Number:** 180

**Author:** V. Schricke

**Year:** 1984

**Title:** The Seasonal Variations of the Numbers of Waterfowl Using Mont-Saint-Michel Bay France

**Journal:** Alauda

**Volume:** 52

**Issue:** 1

**Pages:** 1-30

**Short Title:** The Seasonal Variations of the Numbers of Waterfowl Using Mont-Saint-Michel Bay France

**Accession Number:** BCI:BCI198478026017

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Wildfowl counts made at Mont Saint-Michel Bay in northern Brittany, France were analyzed. Counts were annual from 1967-1979 (each Jan.) and monthly during the years 1980-1982. The bay is of particular interest for the large populations of wintering mallard Anas platyrhynchos (.apprx. 6000 in Jan. 1981) and white-fronted geese Anser albifrons albifrons; the later species only regular over-wintering site in France. Although always present, numbers of wigeon Anas penelope increase after very cold weather (20,000 in Jan. 1979, 25,000 in Jan. 1982). The area serves in 5 main ways: as a regular wintering site for mallard, wigeon, teal A. crecca, shelduck Tadorna tadorna, brent geese Branta bernicla and common scoter Melanitta nigra; strategic resting point during migration for pintail A. acuta, shoveler A. clypeata, garganey A. querquedula, wigeon and greylag geese Anser anser; molting site for the common scoter; nesting site for shelduck; refuge during hard weather, particularly for wigeon, mallard and white-fronted geese.

**URL:** <Go to ISI>://BCI198478026017

**Reference Type:**  Journal Article

**Record Number:** 1951

**Author:** C. Schulze, J. Kammerling, P. Kutzer, A. Engelhardt and B. Richter

**Year:** 2012

**Title:** Cryptosporidium baileyi - infection in Red-breasted Merganser (Mergus serrator) ducklings from a zoological garden

**Journal:** Berliner Und Munchener Tierarztliche Wochenschrift

**Volume:** 125

**Issue:** 9-10

**Pages:** 428-431

**Date:** Sep-Oct

**Short Title:** Cryptosporidium baileyi - infection in Red-breasted Merganser (Mergus serrator) ducklings from a zoological garden

**ISSN:** 0005-9366

**DOI:** 10.2376/0005-9366-125-428

**Accession Number:** WOS:000310557700010

**Keywords:** Red-breasted merganser; Mergus serrator; Disease; Breeding Season

**Notes:** Times Cited: 0

Schulze, Christoph Kaemmerling, Jens Kutzer, Peter Engelhardt, Andreas Richter, Barbara

0

**URL:** <Go to ISI>://WOS:000310557700010

**Reference Type:**  Journal Article

**Record Number:** 1952

**Author:** C. Schulze, J. Kammerling, P. Kutzer and B. Richter

**Year:** 2012

**Title:** CRYPTOSPORIDIUM BAILEYI INFECTION IN RED-BREASTED MERGANSER DUCKLINGS

**Journal:** Journal of Comparative Pathology

**Volume:** 146

**Issue:** 1

**Pages:** 70-70

**Date:** Jan

**Short Title:** CRYPTOSPORIDIUM BAILEYI INFECTION IN RED-BREASTED MERGANSER DUCKLINGS

**ISSN:** 0021-9975

**Accession Number:** WOS:000300141900102

**Keywords:** Red-breasted merganser; Mergus serrator; Disease; Breeding Season

**Notes:** Times Cited: 0

Schulze, C. Kaemmerling, J. Kutzer, P. Richter, B.

0

**URL:** <Go to ISI>://WOS:000300141900102

**Reference Type:**  Journal Article

**Record Number:** 1953

**Author:** M. L. Schummer, R. B. Allen and G. M. Wang

**Year:** 2011

**Title:** Sizes and Long-term Trends of Duck Broods in Maine, 1955-2007

**Journal:** Northeastern Naturalist

**Volume:** 18

**Issue:** 1

**Pages:** 73-86

**Short Title:** Sizes and Long-term Trends of Duck Broods in Maine, 1955-2007

**ISSN:** 1092-6194

**Accession Number:** WOS:000302828500007

**Keywords:** common eider; somateria mollissima; productivity; Breeding Season

**Notes:** Times Cited: 0

Schummer, Michael L. Allen, R. Bradford Wang, Guiming

0

**URL:** <Go to ISI>://WOS:000302828500007

**Reference Type:**  Journal Article

**Record Number:** 576

**Author:** M. L. Schummer, S. S. Badzinski, S. A. Petrie, Y.-W. Chen and N. Belzile

**Year:** 2010

**Title:** Selenium Accumulation in Sea Ducks Wintering at Lake Ontario

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 58

**Issue:** 3

**Pages:** 854-862

**Date:** Apr 2010

**Short Title:** Selenium Accumulation in Sea Ducks Wintering at Lake Ontario

**Accession Number:** BCI:BCI201000236636

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Contaminants; Nonbreeding Seasons;

**Abstract:** Numbers of wintering sea ducks, including buffleheads (Bucephala albeola; BUFF), common goldeneyes (Bucephala clangula; COGO), and long-tailed ducks (Clangula hyemalis; LTDU), increased substantially at Lake Ontario after Dreissenid mussels (Dreissena bugensis and D. polymorpha) colonized the Great Lakes. Invertebrates, including Dreissenid mussels, are major diving duck prey items that can transfer some trace elements, such as selenium (Se) to higher trophic levels. Se can be problematic for waterfowl and it often has been detected at elevated levels in organisms using the Great Lakes. There are, however, few data on hepatic Se concentrations in sea ducks, particularly during the winter at Lake Ontario. In this study, we evaluated interspecific differences and temporal trends in hepatic Se concentrations among BUFF (n = 77), COGO (n = 77), and LTDU (n = 79) wintering at Lake Ontario. All three species accumulated Se throughout winter, but COGO did so at a higher rate than did BUFF and LTDU. Overall, Se concentrations were higher in LTDU [(x) over bar = 22: 7; 95% CI = 20.8-24.8 mu g/g dry weight (dw)] than in BUFF ((x) over bar = 12: 3; 95% CI = 11.6-13.1 mu g/g dw) and COGO ((x) over bar = 12: 0; 95% CI = 10.7-3.5 mu g/g dw) throughout the winter. Se concentrations were deemed elevated (>33 mu g/g dw) in 0%, 5%, and 19% of BUFF, COGO, and LTDU, respectively. Presently there are no data on Se toxicity end points for these species, so it is unclear how acquiring concentrations of these magnitudes affect their short-and long-term health or reproduction.

**URL:** <Go to ISI>://BCI201000236636

**Reference Type:**  Journal Article

**Record Number:** 575

**Author:** M. L. Schummer, I. Fife, S. A. Petrie and S. S. Badzinski

**Year:** 2011

**Title:** Artifact Ingestion in Sea Ducks Wintering at Northeastern Lake Ontario

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 1

**Pages:** 51-58

**Date:** Mar 2011

**Short Title:** Artifact Ingestion in Sea Ducks Wintering at Northeastern Lake Ontario

**Accession Number:** BCI:BCI201100239669

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Contaminants; Conservation; Nonbreeding Seasons;

**Abstract:** The incidence of lead shot, ingestion in waterfowl has declined in the lower Great Lakes (LGL) following the 1999 Canada-wide ban on use of toxic shot for waterfowl hunting, but few data exist on ingestion frequencies of spent shot or fishing weights for sea ducks wintering at the LGL. Artifact ingestion was evaluated in 269 Buffleheads (Bucephala albeola), 224 Common Goldeneyes (B. clangula) and 256 Long-tailed Ducks (Clangula hyemalis) collected at Lake Ontario during winter 2002-03 and 2003-04. Long-tailed Ducks ingested total shot (lead and steel shot combined) more frequently (6.6%) than did Common Goldeneye (1.8%) and Bufflehead (0.4%). Lead shot was ingested by Long-tailed Ducks (5.1%) and Buffleheads (0.4%), but not by Common Goldeneyes. One Long-tailed Duck, 0.1% of all specimens, ingested one lead fishing weight. Substrate type influenced artifact ingestion frequency and diving ducks that specialize on prey associated with hard substrates may continue to ingest artifacts more than ducks using soft substrate marshes. The results suggest lead toxicosis from spent shotgun pellets is presently non-existent to low in sea ducks wintering at northeastern Lake Ontario and that further restrictions on use of lead fishing tackle may have little implication for sea ducks in this region. Received 12 March 2010, accepted 14 July 2010.

**URL:** <Go to ISI>://BCI201100239669

**Reference Type:**  Journal Article

**Record Number:** 578

**Author:** M. L. Schummer, S. A. Petrie and R. C. Bailey

**Year:** 2008

**Title:** Interaction between macroinvertebrate abundance and habitat use by diving ducks during winter on northeastern Lake Ontario

**Journal:** Journal of Great Lakes Research

**Volume:** 34

**Issue:** 1

**Pages:** 54-71

**Date:** Mar 2008

**Short Title:** Interaction between macroinvertebrate abundance and habitat use by diving ducks during winter on northeastern Lake Ontario

**Accession Number:** BCI:BCI200800314167

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Habitat; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Although numbers of buffleheads (Bucephala albeola), common goldeneyes (Bucephala clangula) and long-tailed ducks (Clangula hyemalis) over-wintering on Lake Ontario have increased substantially over the past two decades, factors influencing habitat use and the potential for competition have not been investigated. The purpose of this study was to determine the relationship between prey availability and community structure of diving ducks during winter on northeastern Lake Ontario. Benthic and nektonic samples collected during fall, winter, and spring 2002-2004 indicated that macroinvertebrate numbers differed by location but generally did not decline throughout winter. Large accumulations of macroinvertebrates, apparently moved by wave action and currents, were documented in nearshore areas. Surveys showed that diving ducks congregated in mixed species flocks within areas of higher food abundance. Mixed species flocks were common in nearshore areas, likely because energy-dense foods (Amphipoda and Chironomidae) were abundant in the narrow zone of shallow water, close to shore. Although macroinvertebrate numbers likely affected habitat use by diving ducks, birds did not greatly reduce abundance of macroinvertebrates. It is unlikely that exploitative competition was occurring and interference competition appeared below threshold levels that would cause species to spatially segregate. Overall, our results suggest that food availability is not a limiting factor for buffleheads, common goldeneyes, or long-tailed ducks wintering on northeastern Lake Ontario.

**URL:** <Go to ISI>://BCI200800314167

**Reference Type:**  Journal Article

**Record Number:** 579

**Author:** M. L. Schummer, S. A. Petrie and R. C. Bailey

**Year:** 2008

**Title:** Dietary overlap of sympatric diving ducks during winter on northeastern Lake Ontario

**Journal:** Auk

**Volume:** 125

**Issue:** 2

**Pages:** 425-433

**Date:** Apr 2008

**Short Title:** Dietary overlap of sympatric diving ducks during winter on northeastern Lake Ontario

**Accession Number:** BCI:BCI200800567423

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Food resources available to diving ducks wintering on the Great Lakes have changed dramatically since the introduction of dreissenid mussels (Dreissena bugensis and D. polymorpha). We investigated the diets of Buffleheads (Bucephala albeola), Common Goldeneyes (B. clangula), and Long-tailed Ducks (Clangula hyemalis) during winter, 2002-2004, on northeastern Lake Ontario and determined the levels of dietary overlap. Dietary niche-breadth values were low, and dietary overlap values (prey size and type) were high for all species. Ducks primarily consumed high-quality, energy-dense prey (Amphipoda, Chironomidae), which were abundant. Our results highlighted three patterns: (1) dreissenid mussels constituted 85% of the macroinvertebrate community in Lake Ontario but were consumed in relatively low amounts during winter, (2) foods of high energy-density such as Amphipoda and Chironomidae were likely abundant enough for ducks to selectively feed on them, and (3) some constraint caused ducks to select energy-dense prey instead of the most available items (dreissenid mussels). Although the abundance of prey may have allowed numbers of diving ducks to increase in the past few decades on the Great Lakes, the long-term implications of high levels of dietary overlap among diving ducks is relatively unknown and warrants continued monitoring.

**URL:** <Go to ISI>://BCI200800567423

**Reference Type:**  Journal Article

**Record Number:** 1955

**Author:** M. L. Schummer, S. A. Petrie, R. C. Bailey and S. S. Badzinski

**Year:** 2012

**Title:** FACTORS AFFECTING LIPID RESERVES AND FORAGING ACTIVITY OF BUFFLEHEADS, COMMON GOLDENEYES, AND LONG-TAILED DUCKS DURING WINTER AT LAKE ONTARIO

**Journal:** Condor

**Volume:** 114

**Issue:** 1

**Pages:** 62-74

**Date:** Feb

**Short Title:** FACTORS AFFECTING LIPID RESERVES AND FORAGING ACTIVITY OF BUFFLEHEADS, COMMON GOLDENEYES, AND LONG-TAILED DUCKS DURING WINTER AT LAKE ONTARIO

**ISSN:** 0010-5422

**DOI:** 10.1525/cond.2012.110050

**Accession Number:** WOS:000301687000006

**Keywords:** Bufflehead; Common Goldeneye; Long-tailed Duck; Bucephala albeola; Bucephala clangula; Clangula hyemalis; energetics and Nutrition; Behavior; Nonbreeding Seasons

**Notes:** Times Cited: 2

Schummer, Michael L. Petrie, Scott A. Bailey, Robert C. Badzinski, Shannon S.

2

**URL:** <Go to ISI>://WOS:000301687000006

**Reference Type:**  Journal Article

**Record Number:** 45

**Author:** P. Schwemmer and S. Garthe

**Year:** 2006

**Title:** Sea ducks and impacts of ship traffic in the Baltic Sea

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 249

**Date:** Aug 2006

**Short Title:** Sea ducks and impacts of ship traffic in the Baltic Sea

**Accession Number:** BCI:BCI200700133028

**Keywords:** Black Scoter; Melanitta nigra; Sea Ducks - General; Conservation;

**URL:** <Go to ISI>://BCI200700133028

**Reference Type:**  Journal Article

**Record Number:** 1956

**Author:** P. Schwemmer, B. Mendel, N. Sonntag, V. Dierschke and S. Garthe

**Year:** 2011

**Title:** Effects of ship traffic on seabirds in offshore waters: implications for marine conservation and spatial planning

**Journal:** Ecological Applications

**Volume:** 21

**Issue:** 5

**Pages:** 1851-1860

**Date:** Jul

**Short Title:** Effects of ship traffic on seabirds in offshore waters: implications for marine conservation and spatial planning

**ISSN:** 1051-0761

**Accession Number:** WOS:000292766100032

**Keywords:** Sea Ducks; Conservation; Nonbreeding Seasons

**Notes:** Times Cited: 7

Schwemmer, Philipp Mendel, Bettina Sonntag, Nicole Dierschke, Volker Garthe, Stefan

7

**URL:** <Go to ISI>://WOS:000292766100032

**Reference Type:**  Journal Article

**Record Number:** 1718

**Author:** C. A. Scott, J. A. K. Mazet and A. N. Powell

**Year:** 2010

**Title:** Health Evaluation of Western Arctic King Eiders (Somateria spectabilis)

**Journal:** Journal of Wildlife Diseases

**Volume:** 46

**Issue:** 4

**Pages:** 1290-1294

**Date:** Oct 2010

**Short Title:** Health Evaluation of Western Arctic King Eiders (Somateria spectabilis)

**Accession Number:** BCI:BCI201100005070

**Keywords:** King Eider; Somateria spectabilis; Physiology; Energetics and Nutrition; Breeding Season;

**Abstract:** The western arctic population of King Eiders (Somateria spectabilis) has declined by >50% in recent years. A health assessment was conducted for adult King Eiders breeding on the north slope of Alaska, USA, to evaluate body condition (n=90, 2002-2006) and baseline biochemical and hematologic values (n=20-30, 2005-2006). Body condition for males and females was excellent. Total protein, calcium, alkaline phosphatase, amylase, and globulin were significantly higher in females than in males, likely because of differences in reproductive physiology. These baseline health data can be used to promote conservation of King Eiders and other closely related species of concern.

**URL:** <Go to ISI>://BCI201100005070

**Reference Type:**  Journal Article

**Record Number:** 44

**Author:** G. R. Scott and W. K. Milsom

**Year:** 2006

**Title:** Flying high: A theoretical analysis of the factors limiting exercise performance in birds at altitude

**Journal:** Respiratory Physiology & Neurobiology

**Volume:** 154

**Issue:** 1-2

**Pages:** 284-301

**Date:** Nov 2006

**Short Title:** Flying high: A theoretical analysis of the factors limiting exercise performance in birds at altitude

**Accession Number:** BCI:BCI200700053427

**Keywords:** Sea Ducks - General; Physiology;

**Abstract:** The ability of some bird species to fly at extreme altitude has fascinated comparative respiratory physiologists for decades, yet there is still no consensus about what adaptations enable high altitude flight. Using a theoretical model of O-2 transport, we performed a sensitivity analysis of the factors that might limit exercise performance in birds. We found that the influence of individual physiological traits on oxygen consumption (Vo(2)) during exercise differed between sea level, moderate altitude, and extreme altitude. At extreme altitude, haemoglobin (Hb) O-2 affinity, total ventilation, and tissue diffusion capacity for O-2 (D-To2) had the greatest influences on Vo(2); increasing these variables should therefore have the greatest adaptive benefit for high altitude flight. There was a beneficial interaction between D-To2 and the P-50 of Hb, such that increasing D-To2 had a greater influence on V-o2 when P-50 was low. Increases in the temperature effect on P-50 could also be beneficial for high flying birds, provided that cold inspired air at extreme altitude causes a substantial difference in temperature between blood in the lungs and in the tissues. Changes in lung diffusion capacity for O-2, cardiac output, blood Hb concentration, the Bohr coefficient, or the Hill coefficient likely have less adaptive significance at high altitude. Our sensitivity analysis provides theoretical suggestions of the adaptations most likely to promote high altitude flight in birds and provides direction for future in vivo studies. (c) 2006 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200700053427

**Reference Type:**  Journal Article

**Record Number:** 1254

**Author:** K. T. Scribner and T. D. Bowman

**Year:** 1998

**Title:** Microsatellites identify depredated waterfowl remains from glaucous gull stomachs

**Journal:** Molecular Ecology

**Volume:** 7

**Issue:** 10

**Pages:** 1401-1405

**Date:** Oct., 1998

**Short Title:** Microsatellites identify depredated waterfowl remains from glaucous gull stomachs

**Accession Number:** BCI:BCI199800494073

**Keywords:** Spectacled Eider; Somateria fischeri; Trophic Interactions; Breeding Season;

**Abstract:** Prey remains can provide valuable sources of information regarding causes of predation and the species composition of a predator's diet. Unfortunately, the highly degraded state of many prey samples from gastrointestinal tracts often precludes unambiguous identification. We describe a procedure by which PCR amplification of taxonomically informative microsatellite loci were used to identify species of waterfowl predated by glaucous gulls (Larus hyperboreus). We found that one microsatellite locus unambiguously distinguished between species of the subfamily Anserinae (whistling ducks, geese and swans) and those of the subfamily Anatidae (all other ducks). An additional locus distinguished the remains of all geese and swan species known to nest on the Yukon-Kuskokwim delta in western Alaska. The study focused on two waterfowl species which have experienced precipitous declines in population numbers: emperor geese (Chen canagica) and spectacled eiders (Somateria fischeri). No evidence of predation on spectacled eiders was observed. Twenty-six percent of all glaucous gull stomachs examined contained the remains of juvenile emperor geese.

**URL:** <Go to ISI>://BCI199800494073

**Reference Type:**  Journal Article

**Record Number:** 1243

**Author:** K. T. Scribner, M. R. Petersen, R. L. Fields, S. L. Talbot, J. M. Pearce and R. K. Chesser

**Year:** 2001

**Title:** Sex-biased gene flow in spectacled eiders (Anatidae): Inferences from molecular markers with contrasting modes of inheritance

**Journal:** Evolution

**Volume:** 55

**Issue:** 10

**Pages:** 2105-2115

**Date:** October, 2001

**Short Title:** Sex-biased gene flow in spectacled eiders (Anatidae): Inferences from molecular markers with contrasting modes of inheritance

**Accession Number:** BCI:BCI200200000074

**Keywords:** Spectacled Eider; Somateria fischeri; Population Delineation; Dispersal; Breeding Season;

**Abstract:** Genetic markers that differ in mode of inheritance and rate of evolution (a sex-linked Z-specific microsatellite locus, five biparentally inherited microsatellite loci, and maternally inherited mitochondrial (mtDNA) sequences) were used to evaluate the degree of spatial genetic structuring at macro- and microgeographic scales, among breeding regions and local nesting populations within each region, respectively, for a migratory sea duck species, the spectacled eider (Somateria fisheri). Disjunct and declining breeding populations coupled with sex-specific differences in seasonal migratory, patterns and life history provide a series of hypotheses regarding rates and directionality of gene flow among breeding populations from the Indigirka River Delta, Russia, and the North Slope and Yukon-Kuskokwim Delta, Alaska. The degree of differentiation in mtDNA haplotype frequency among breeding regions and populations within regions was high (variant phiCT=0.189, P<0.01; variant phiSC=0.059, P<0.01, respectively). Eleven of 17 mtDNA haplotypes were restricted to a single breeding region. Genetic differences among regions were considerably lower for nuclear DNA loci (sex-linked: variant phiST=0.001, P>0.05; biparentally inherited microsatellites: mean theta=0.001, P>0.05) than was observed for mtDNA. Using models explicitly designed for uniparental and biparentally inherited genes, estimates of spatial divergence based on nuclear and mtDNA data together with elements of the species' breeding ecology were used to estimate effective population size and degree of male and female gene flow. Differences in the magnitude and spatial patterns of gene correlations for maternally inherited and nuclear genes revealed that females exhibit greater natal philopatry than do males. Estimates of generational female and male rates of gene flow among breeding regions differed markedly (3.67X10-4 and 1.28X10-2, respectively). Effective population size for mtDNA was estimated to be at least three times lower than that for biparental genes (30,671 and 101,528, respectively). Large disparities in population sizes among breeding areas greatly reduces the proportion of total genetic variance captured by dispersal, which may accelerate rates of inbreeding (i.e., promote higher coancestries) within populations due to nonrandom pairing of males with females from the same breeding population.

**URL:** <Go to ISI>://BCI200200000074

**Reference Type:**  Journal Article

**Record Number:** 1600

**Author:** K. L. Seip, E. Sandersen, F. Mehlum and J. Ryssdal

**Year:** 1991

**Title:** Damages to Seabirds from Oil Spills Comparing Simulation Results and Vulnerability Indexes

**Journal:** Ecological Modelling

**Volume:** 53

**Issue:** 1-2

**Pages:** 39-60

**Short Title:** Damages to Seabirds from Oil Spills Comparing Simulation Results and Vulnerability Indexes

**Accession Number:** BCI:BCI199192014789

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Conservation; Techniques;

**Abstract:** The present model for estimating oil damage to seabirds is intended as a tool for a decision-support system in oil combat planning. The model systematizes the most well-known factors which determine seabirds' susceptibility to oil spills and the subsequent recovery of bird populations. The model is formulated as a simulation model describing the two-dimensional distribution pattern of seabird population on the coast and the two-dimensional spreading of an oil slick drifting towards land. Formulations for population dynamics include seabird age structure, recruitment, mortality, and migration. We have demonstrated the use of the model by applying it to a spill affecting three different seabird populations: kittiwake, Rissa tridactyla; common guillemot, Uria aalge; and common eider, Somateria mollissima. Model results are compared to the results of an index system ranging seabird species' vulnerability to oil spills. The simulation model and the index system give about the same level of vulnerability for kittiwake, but the simulation model predicts less effect on common guillemot and common eider than the vulnerability indexes suggest.

**URL:** <Go to ISI>://BCI199192014789

**Reference Type:**  Journal Article

**Record Number:** 18

**Author:** M. Sekler, A. Ruzica, D. Krnjaic, T. Palic, N. Milic, J. Tanja, K. Dragana, B. Plavsic, S. Dragica, D. Vidanovic and N. Asanin

**Year:** 2009

**Title:** Examination of Presence of Specific Antibodies against Avian Influenza Virus in Some Species of Wild Birds

**Journal:** Acta Veterinaria (Belgrade)

**Volume:** 59

**Issue:** 4

**Pages:** 381-402

**Short Title:** Examination of Presence of Specific Antibodies against Avian Influenza Virus in Some Species of Wild Birds

**Accession Number:** BCI:BCI200900602829

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Disease;

**Abstract:** Infections caused by the avian influenza virus have been known for a long time and they are present, to a smaller or greater extent, in both extensive and intensive poultry production in many parts of the world. Epidemiological investigations have established a definite significance of the population of wild birds in maintaining and spreading this infection. Avian influenza is a zoonosis, and the virus has a great potential for causing mortality in humans, in particular its subtypes H5 and H7, which is why it has lately been provoking much attention among scientists and experts, as well as the general public.The objective of the work was to catch a certain number of wild birds in several locations in the Republic of Serbia, to identify them, and to collect samples of their blood serum for the determination of specific antibodies against the avian influenza virus. Birds were caught in ten locations in a manner that was safe for the birds themselves, as well as for the staff that did the catching. The birds were caught in especially produced nets, and in some cases in special traps. The caught wild birds were identified using the methods described in reference literature. All the names of the wild birds were coordinated with the valid Serbian nomenclature of European birds, prepared by prominent ornithologist and bird lover Milan Ruzic. Following catching and identification, blood samples were taken from the birds from the wing vein (in bigger birds) or from the leg vein (in smaller birds). In taking blood samples from wild birds, all the principles of asepsis and antisepsis were followed in order to prevent any possibility of infection. After that, the birds were returned to their natural habitat, to the same locations in which they were caught. Serums were isolated from the taken blood samples and they were stored at -20 degrees C until the final examinations. A total of 46 species of wild birds were identified among a total of 259 birds from which 259 samples of blood serum were isolated. The following were used for the detection of the presence of specific antibodies against the avian influenza virus in blood serum samples of wild birds: agar gel precipitation (AGP), the hemagglutination inhibition test (HI) for subtypes H5 and H7, the cELISA test with antigen for the A type avian infleunza virus, and the cELISA test with antigen for subtype H5 of the avian influenza virus. Due to the fact that about 360 different species of wild birds live in the Republic of Serbia, the number of 46 identified species covered by these investigations account for 12.77% of the total number of bird species present in Serbia, which is considered a good sample. Specific antibodies against the A type avian influenza virus were established in serum samples of only 9 of the 259 birds covered by examinations using the cELISA test. Of the 46 identified wild bird species, 6 belonged to birds that live exclusively in water habitats and are considered a reservoir of the avian influenza virus (white stork, mallard, mute swan, common pochard, common goldeneye, and Eurasian coot). Among the listed species, particular attention was drawn to 4 species of wild birds of the order Anseriformes and the family Anatidae (mallard, mute swan, common pochard, common goldeneye) of which there were 30 birds among the total of 259 examined. In the 30 blood serum samples of the listed bird species, specific antibodies against the A type avian influenza virus were established in 9 (30%.) serum samples using cELISA. Specific antibodies against the avian inluenza virus subtype H5 were established in 3 serum samples of mute swans (one serum sample originated from a mute swan which was tagged in Poland) and in one blood serum sample of a common pochard, or a total of 4 (13.33%) serum samples, using the hemagglutination inhibition test. Specific antibodies against the avian inluenza virus subtype H7 were established in 3 (10%) blood serum samples, in two serum samples from mallards and one sample from a mute swan, using the hemagglutination inhibition test. Specific antibodies against the avian inluenza virus type A were not established in any examined bird species using the AGP test.In the opulation of wild bird species in the Republic of Serbia covered by these investigations, specific antibodies against the avian influenza virus were established only in serum samples of birds of the family Anatidae, Specific antibodies against the avian inluenza virus type A established in 3 (6.52%) species of wild birds, and against subtypes H5 and H7 in 2 (4.34%) of the total of 46 examined species, The sensitivity of the cELISA test for the avian inluenza virus subtype H5 and the hemagglutination inhibition test for subtype H5 amounted to 100%.

**URL:** <Go to ISI>://BCI200900602829

**Reference Type:**  Journal Article

**Record Number:** 1148

**Author:** D. Sellin

**Year:** 1990

**Title:** Fish Spawn as Food of Birds

**Journal:** Vogelwelt

**Volume:** 111

**Issue:** 6

**Pages:** 217-223

**Short Title:** Fish Spawn as Food of Birds

**Accession Number:** BCI:BCI199191083183

**Keywords:** Sea Ducks - General; Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Fish spawn has rarely been mentioned in the ornithological literature as food of birds. Most authors regarded this type of diet as exceptional. Systematic surveys of water birds in the Grefswalder Bodden area (southern Baltic Sea, NE Germany), an area well-known as a herring spawning ground for more than 700 years, yielded many observations of birds eating spawn. During 1981 to 1990 there were 37 such records concerning 18 species and ca. 250,000 individuals. Herring spawn is especially important for wintering Long-tailed Ducks, up to 10,000 of which have been seen feeding on it on seven occasions. Concentrations of wintering Long-tailed Ducks are closely correlated with favoured herring spawning areas. According to our observations at Greifswalder Bodden fish spawn can also be an important component of the diet of Greater Scaup, Tufted Duck, Goldeneye and Black-headed Gull, at least temporarily.

**URL:** <Go to ISI>://BCI199191083183

**Reference Type:**  Journal Article

**Record Number:** 2200

**Author:** M. W. Seltmann, K. Jaatinen, B. B. Steele and M. Ost

**Year:** 2014

**Title:** Boldness and Stress Responsiveness as Drivers of Nest-Site Selection in a Ground-Nesting Bird

**Journal:** Ethology

**Volume:** 120

**Issue:** 1

**Pages:** 77-89

**Date:** Jan

**Short Title:** Boldness and Stress Responsiveness as Drivers of Nest-Site Selection in a Ground-Nesting Bird

**ISSN:** 0179-1613

**DOI:** 10.1111/eth.12181

**Accession Number:** WOS:000328215000008

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior

**Abstract:** Nest-site selection involves trade-offs between the probability of nest discovery by egg predators, danger to the incubating parent from predators and provision of an appropriate microclimate for incubation, and all three components are potentially influenced by nest concealment and distance to habitat edge. Personality traits also affect habitat choice, and the trade-off hypothesis suggests that variable stress-coping strategies may evolve because individuals prioritize either productivity (proactive coping) or survival (reactive coping), both of which cannot be simultaneously maximized. Applying this hypothesis to understand nest-site selection by female eider ducks (Somateria mollissima), we predicted that bold individuals with attenuated stress responsiveness should select concealed nests further away from the shore, thereby promoting clutch survival at the potential expense of reduced escape opportunities for themselves. In testing this prediction, we controlled for individual quality (female body condition and breeding experience) and verified that individual stress responses and nest-site preferences were consistent by analysing their repeatability. Finally, we analysed how the viable proportion of the clutch was related to nest-site and female characteristics. Our prediction was supported: bold females [short flight initiation distance (FID)] and those with lower handling-induced body temperature were found in concealed nests, and bold females and those with lower handling-induced corticosterone concentrations occupied nests farther from the shore. The viable proportion of the clutch peaked at intermediate proportional nest-cover and increased linearly with increasing nest distance from the shore. Stress coping styles may thus be related to nest-site selection, but their fitness consequences may be manifested indirectly through the nest-site characteristics.

**Notes:** Seltmann, Martin W. Jaatinen, Kim Steele, Benjamin B. Ost, Markus

**URL:** <Go to ISI>://WOS:000328215000008

**Reference Type:**  Journal Article

**Record Number:** 1958

**Author:** M. W. Seltmann, M. Ost, K. Jaatinen, S. Atkinson, K. Mashburn and T. Hollmen

**Year:** 2012

**Title:** Stress responsiveness, age and body condition interactively affect flight initiation distance in breeding female eiders

**Journal:** Animal Behaviour

**Volume:** 84

**Issue:** 4

**Pages:** 889-896

**Date:** Oct

**Short Title:** Stress responsiveness, age and body condition interactively affect flight initiation distance in breeding female eiders

**ISSN:** 0003-3472

**DOI:** 10.1016/j.anbehav.2012.07.012

**Accession Number:** WOS:000309601400020

**Keywords:** Common eider; Somateria mollissima; Behavior; energetics and Nutrition; Breeding Season

**Notes:** Times Cited: 3

Seltmann, Martin W. Ost, Markus Jaatinen, Kim Atkinson, Shannon Mashburn, Kendall Hollmen, Tuula

Jaatinen, Kim/A-3221-2011

3

**URL:** <Go to ISI>://WOS:000309601400020

**Reference Type:**  Journal Article

**Record Number:** 1278

**Author:** E. Senechal, J. Bety and H. G. Gilchrist

**Year:** 2011

**Title:** Interactions between lay date, clutch size, and postlaying energetic needs in a capital breeder

**Journal:** Behavioral Ecology

**Volume:** 22

**Issue:** 1

**Pages:** 162-168

**Date:** Jan-Feb 2011

**Short Title:** Interactions between lay date, clutch size, and postlaying energetic needs in a capital breeder

**Accession Number:** BCI:BCI201100197813

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Productivity; Breeding Season;

**Abstract:** The condition-dependent model of optimal clutch size assumes body reserves required to initiate egg production include those for subsequent breeding phases. The threshold is expected to be similar among individuals, and hence postlaying condition should be independent of clutch size and lay date. Alternatively, the cost of incubation hypothesis predicts that females laying larger clutches should secure extra resources for incubation, and the expected fitness hypothesis suggests females adjust their condition according to the anticipated fitness benefits of the clutch. In these 2 cases, postlaying condition is predicted to be positively related to clutch size. We tested these predictions in common eider (Somateria mollissima), a precocial bird that produce eggs mostly from stored lipids and partly from endogenous proteins and rely extensively on reserves to incubate. We collected females at incubation onset and measured body condition indicators. Clutch size (number of eggs laid or number found in the nest at incubation onset) was not related to postlaying fat stores but females that laid fewer eggs maintained extra protein reserves. Timing of breeding was not related to postlaying body mass or protein reserves, whereas lay date's relationship with fat stores varied annually. Our results are generally consistent with the condition-dependent model and indicate variation in postlaying condition is mostly driven by factors other than clutch size and lay date. These data are inconsistent with the cost of incubation and the expected fitness hypotheses and suggest body store differences at incubation onset are mostly caused by environmental conditions encountered by laying females.

**URL:** <Go to ISI>://BCI201100197813

**Reference Type:**  Journal Article

**Record Number:** 1279

**Author:** E. Senechal, J. Bety, H. G. Gilchrist, K. A. Hobson and S. E. Jamieson

**Year:** 2011

**Title:** Do purely capital layers exist among flying birds? Evidence of exogenous contribution to arctic-nesting common eider eggs

**Journal:** Oecologia (Berlin)

**Volume:** 165

**Issue:** 3

**Pages:** 593-604

**Date:** Mar 2011

**Short Title:** Do purely capital layers exist among flying birds? Evidence of exogenous contribution to arctic-nesting common eider eggs

**Accession Number:** BCI:BCI201100168963

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**Abstract:** The strategy of relying extensively on stored resources for reproduction has been termed capital breeding and is in contrast to income breeding, where needs of reproduction are satisfied by exogenous (dietary) resources. Most species likely fall somewhere between these two extremes, and the position of an organism along this gradient can influence several key life-history traits. Common eiders (Somateria mollissima) are the only flying birds that are still typically considered pure capital breeders, suggesting that they depend exclusively on endogenous reserves to form their eggs and incubate. We investigated the annual and seasonal variation in contributions of endogenous and exogenous resources to egg formation in eiders breeding at the East Bay colony in the Canadian Arctic. We collected prey items along with females and their eggs during various stages of breeding and used two complementary analytical approaches: body reserve dynamics and stable isotope [delta C-13, delta N-15] mixing models. Indices of protein reserves remained stable from pre-laying to post-laying stages, while lipid reserves declined significantly during laying. Similarly, stable isotope analyses indicated that (1) exogenous nutrients derived from marine invertebrates strongly contributed to the formation of lipid-free egg constituents, and (2) yolk lipids were constituted mostly from endogenous lipids. We also found evidence of seasonal variation in the use of body reserves, with early breeders using proportionally more exogenous proteins to form each egg than late breeders. Based on these results, we reject the hypothesis that eiders are pure capital layers. In these flying birds, the fitness costs of a strict capital breeding strategy, such as temporary loss of flight capability and limitation of clutch and egg size, may outweigh benefits such as a reduction in egg predation rate.

**URL:** <Go to ISI>://BCI201100168963

**Reference Type:**  Journal Article

**Record Number:** 642

**Author:** H. Senechal, G. Gauthier and J.-P. L. Savard

**Year:** 2008

**Title:** Nesting Ecology of Common Goldeneyes and Hooded Mergansers in a Boreal River System

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 4

**Pages:** 732-742

**Date:** Dec 2008

**Short Title:** Nesting Ecology of Common Goldeneyes and Hooded Mergansers in a Boreal River System

**Accession Number:** BCI:BCI200900123309

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Habitat; Breeding Season;

**Abstract:** Common Goldeneyes (Bucephala clangula) and Hooded Mergansers (Lophodytes cucullatus) are common cavity-nesting ducks but the importance of fast-flowing rivers as suitable nesting habitat may have been overlooked. We monitored the use of > 90 nest boxes installed along a boreal forest river over a 5-year period. A high nest box occupancy rate was reached in the second year (40%) and was maintained thereafter (48 to 55%). On average, 35 nest boxes were occupied by goldeneyes and 11 by mergansers each year. Laying date was similar between the two species but merganser nests hatched slightly later. Both species had similar clutch sizes but merganser nests contained more eggs than goldeneye nests when heterospecific parasitic eggs were included. On average, 16% of goldeneye nests were parasitized by mergansers, and 49% of merganser nests were parasitized by goldeneyes. Density of suitable natural cavities in the area was relatively low suggesting the hi,,h occupancy rate of nest boxes may be a response to lack of suitable cavities. Nest box use was positively related to the total surface area of ponds in the vicinity and negatively to distance to the river. Use of nest sites along fast-flowing rivers appears to be an opportunistic strategy and may be dependant on the presence of nearby ponds and lakes.

**URL:** <Go to ISI>://BCI200900123309

**Reference Type:**  Journal Article

**Record Number:** 2293

**Author:** M. G. Sexson, D. M. Mulcahy, M. Spriggs and G. E. Myers

**Year:** 2014

**Title:** Factors Influencing Immediate Post-Release Survival of Spectacled Eiders Following Surgical Implantation of Transmitters With Percutaneous Antennae

**Journal:** Journal of Wildlife Management

**Volume:** 78

**Issue:** 3

**Pages:** 550-560

**Date:** Apr

**Short Title:** Factors Influencing Immediate Post-Release Survival of Spectacled Eiders Following Surgical Implantation of Transmitters With Percutaneous Antennae

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.690

**Accession Number:** WOS:000336027400019

**Keywords:** Spectacled Eider; Somateria fischeri; Survival; Techniques; Physiology

**Abstract:** Surgically implanted transmitters are a common method for tracking animal movements. Immediately following surgical implantation, animals pass through a critical recovery phase when behaviors may deviate from normal and the likelihood of individual survival may be reduced. Therefore, data collected during this period may be censored to minimize bias introduced by surgery-related behaviors or mortality. However, immediate post-release mortalities negate a sampling effort and reduce the amount of data potentially collected after the censoring period. Wildlife biologists should employ methods to support an animal's survival through this period, but factors contributing to immediate post-release survival have not been formally assessed. We evaluated factors that potentially influenced the immediate post-release survival of 56 spectacled eiders (Somateria fischeri) marked with coelomically implanted satellite transmitters with percutaneous antennae in northern Alaska in 2010 and 2011. We modeled survival through the first 14 days following release and assessed the relative importance and effect of 15 covariates hypothesized to influence survival during this immediate post-release period. Estimated daily survival rate increased over the duration of the immediate post-release period; the probability of mortality was greatest within the first 5 days following release. Our top-ranking model included the effect of 2 blood analytes, pH and hematocrit, measured prior to surgical implantation of a transmitter. We found a positive response to pH; eiders exhibiting acidemia (low pH) prior to surgery were less likely to survive the immediate post-release period. We found a curvilinear response to hematocrit; eiders exhibiting extremely low or high pre-surgery hematocrit were also less likely to survive the immediate post-release period. In the interest of maximizing the survival of marked birds following release, hematological data obtained prior to surgical implantation of telemetry equipment may be useful when screening for optimal surgical candidates or informing appropriate response to mitigate potentially deleterious disorders such as acidemia. Published 2014. This article is a U. S. Government work and is in the public domain in the USA.

**Notes:** Sexson, Matthew G. Mulcahy, Daniel M. Spriggs, Maria Myers, Gwen E.

**URL:** <Go to ISI>://WOS:000336027400019

**Reference Type:**  Journal Article

**Record Number:** 2294

**Author:** M. G. Sexson, M. R. Petersen, G. A. Breed and A. N. Powell

**Year:** 2016

**Title:** Shifts in the distribution of molting Spectacled Eiders (Somateria fischeri) indicate ecosystem change in the Arctic

**Journal:** Condor

**Volume:** 118

**Issue:** 3

**Pages:** 463-476

**Date:** Aug

**Short Title:** Shifts in the distribution of molting Spectacled Eiders (Somateria fischeri) indicate ecosystem change in the Arctic

**ISSN:** 0010-5422

**DOI:** 10.1650/condor-15-139.1

**Accession Number:** WOS:000383091000002

**Keywords:** Spectacled Eider; Somateria fischeri; Nonbreeding season; Molt; Habitat; Abundance, Distribution, & Trends

**Abstract:** Shifts in the distribution of benthivorous predators provide an indication of underlying environmental changes in benthic-mediated ecosystems. Spectacled Eiders (Somateria fischeri) are benthivorous sea ducks that spend the nonbreeding portion of their annual cycle in the Bering, Chukchi, Beaufort, and East Siberian seas. Sea ducks generally molt in biologically productive areas with abundant prey. If the distribution of eiders at molting areas matches prey abundance, spatial shifts may indicate changes in environmental conditions in the Arctic. We used a randomization procedure to test for shifts in the distribution of satellite telemetry locations received from Spectacled Eiders in the 1990s and 2008-2011 within 4 late-summer, ice-free molting areas: Indigirka-Kolyma, northern Russia; Ledyard Bay, eastern Chukchi Sea; Norton Sound, northeastern Bering Sea; and Mechigmenskiy Gulf, northwestern Bering Sea. We also tested for interannual and interdecadal changes in dive depth required to reach prey, which might affect the energetic costs of foraging during the molting period. Transmitter-marked birds used each molting area in each year, although the distribution of Spectacled Eiders shifted within each area. Interdecadal shifts in Ledyard Bay and Norton Sound decreased dive depth in recent years, although minor differences in depth were biologically negligible in relation to the energetic expense of feather growth. Shifts in Mechigmenskiy Gulf and Indigirka-Kolyma did not occur consistently within or among decades, which suggests greater interannual variability among environmental factors that influence distribution in these areas. Shifts in each molting area suggest dynamic ecosystem processes, with implications for Spectacled Eiders if changes result in novel competition or predation, or in shifting prey regimes.

**Notes:** Sexson, Matthew G. Petersen, Margaret R. Breed, Greg A. Powell, Abby N.

**URL:** <Go to ISI>://WOS:000383091000002

**Reference Type:**  Journal Article

**Record Number:** 97

**Author:** J. Seys, H. Offringa, P. Meire, J. Van Waeyenberge and E. Kuijken

**Year:** 2002

**Title:** Long-term changes in oil pollution off the Belgian coast: Evidence from beached bird monitoring

**Journal:** Belgian Journal of Zoology

**Volume:** 132

**Issue:** 2

**Pages:** 111-118

**Date:** July, 2002

**Short Title:** Long-term changes in oil pollution off the Belgian coast: Evidence from beached bird monitoring

**Accession Number:** BCI:BCI200200589339

**Keywords:** Sea Ducks - General; Contaminants; Nonbreeding Seasons;

**Abstract:** Trends in oil pollution in the southernmost (Belgian) part of the North Sea were analysed using a dataset of 37 years (1962-99) of annual national beached bird surveys conducted in February each year. The most abundant seabird groups represented in the beached birds were auks (31%), gulls (28%), scoters (17%) and Kittiwake (9%). Oil rates of most bird species/taxa indicate a decline in oil pollution, though only Larus-gulls, Common Guillemot and Razorbill show significant reductions. The slope in the linear decreasing trend is steeper in inshore and midshore species, than in pelagic species. A power analysis of the results demonstrated that statistically significant trends in annual indices would be expected within 17 years for Razorbill, 29 years for Larus-gulls and 31 years for Common Guillemot. For other species/taxa, at least 50 years of surveying would be required. Long-term oil pollution monitoring in Belgium should be continued with a major focus on a set of abundant bird taxa, sensitive to oil-pollution and occurring in various marine habitats. Most appropriate for this purpose are grebes (inshore), Larus-gulls, Common Guillemot and Razorbill (midshore) and Kittiwake and Fulmar (offshore).

**URL:** <Go to ISI>://BCI200200589339

**Reference Type:**  Journal Article

**Record Number:** 1962

**Author:** M. Q. Shao, B. B. Zeng, H. Tim, L. X. Chen, C. Y. You, H. B. Wang and N. H. Dai

**Year:** 2012

**Title:** Winter Ecology and Conservation Threats of Scaly-sided Merganser Mergus squamatus in Poyang Lake Watershed, China

**Journal:** Pakistan Journal of Zoology

**Volume:** 44

**Issue:** 2

**Pages:** 503-510

**Date:** Mar-Apr

**Short Title:** Winter Ecology and Conservation Threats of Scaly-sided Merganser Mergus squamatus in Poyang Lake Watershed, China

**ISSN:** 0030-9923

**Accession Number:** WOS:000302000600029

**Keywords:** Scaly-sided Merganser; Mergus squamatus

**Notes:** Times Cited: 0

Shao, Mingqin Zeng, Binbin Tim, Hounsome Chen, Lixin You, Chaying Wang, Hongbin Dai, Nianhua

1

**URL:** <Go to ISI>://WOS:000302000600029

**Reference Type:**  Journal Article

**Record Number:** 2241

**Author:** R. B. Siegel, P. Pyle, J. H. Thorne, A. J. Holguin, C. A. Howell, S. Stock and M. W. Tingley

**Year:** 2014

**Title:** Vulnerability of birds to climate change in California's Sierra Nevada

**Journal:** Avian Conservation and Ecology

**Volume:** 9

**Issue:** 1

**Date:** Jun

**Short Title:** Vulnerability of birds to climate change in California's Sierra Nevada

**ISSN:** 1712-6568

**DOI:** 10.5751/ace-00658-090107

**Accession Number:** WOS:000338926700007

**Keywords:** Common Merganser; Mergus merganser; Breeding Season; Habitat; Conservation

**Abstract:** In a rapidly changing climate, effective bird conservation requires not only reliable information about the current vulnerability of species of conservation concern, but also credible projections of their future vulnerability. Such projections may enable managers to preempt or reduce emerging climate-related threats through appropriate habitat management. We used NatureServe's Climate Change Vulnerability Index (CCVI) to predict vulnerability to climate change of 168 bird species that breed in the Sierra Nevada mountains of California, USA. The CCVI assesses species-specific exposure and sensitivity to climate change within a defined geographic area, through the integration of (a) species' range maps, (b) information about species' natural history traits and ecological relationships, (c) historic and current climate data, and (d) spatially explicit climate change projections. We conducted the assessment under two different downscaled climate models with divergent projections about future precipitation through the middle of the 21st century. Assessments differed relatively little under the two climate models. Of five CCVI vulnerability ranking categories, only one species, White-tailed Ptarmigan (Lagopus leucura), received the most vulnerable rank, Extremely Vulnerable. No species received the second-highest vulnerability ranking, Highly Vulnerable. Sixteen species scored as Moderately Vulnerable using one or both climate models: Common Merganser (Mergus merganser), Osprey (Pandion haliaetus), Bald Eagle (Haliaeetus leucocephalus), Northern Goshawk (Accipiter gentilis), Peregrine Falcon (Falco peregrinus), Prairie Falcon (Falco mexicanus), Spotted Sandpiper (Actitis macularius), Great Gray Owl (Strix nebulosa), Black Swift (Cypseloides niger), Clark's Nutcracker (Nucifraga columbiana), American Dipper (Cinclus mexicanus), Swainson's Thrush (Catharus ustulatus), American Pipit (Anthus rubescens), Gray-crowned Rosy-Finch (Leucosticte tephrocotis), Pine Grosbeak (Pinicola enucleator), and Evening Grosbeak (Coccothraustes vespertinus). Species associated with alpine/subalpine habitats and aquatic habitats received significantly more vulnerable rankings than birds associated with other habitats. In contrast, species of foothill, sagebrush, and chaparral habitats ranked as less vulnerable than other species, and our results suggest these species may respond to climate change in the region with population increases or range expansions.

**Notes:** Siegel, Rodney B. Pyle, Peter Thorne, James H. Holguin, Andrew J. Howell, Christine A. Stock, Sarah Tingley, Morgan W.

**URL:** <Go to ISI>://WOS:000338926700007

**Reference Type:**  Journal Article

**Record Number:** 686

**Author:** W. R. Siegfried

**Year:** 1974

**Title:** Climbing ability of ducklings of some cavity-nesting waterfowl

**Journal:** Wildfowl

**Volume:** 25

**Pages:** 74-80

**Short Title:** Climbing ability of ducklings of some cavity-nesting waterfowl

**Accession Number:** BCI:BCI201000334930

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI201000334930

**Reference Type:**  Journal Article

**Record Number:** 110

**Author:** L. Sileo, L. H. Creekmore, D. J. Audet, M. R. Snyder, C. U. Meteyer, J. C. Franson, L. N. Locke, M. R. Smith and D. L. Finley

**Year:** 2001

**Title:** Lead poisoning of waterfowl by contaminated sediment in the Coeur d'Alene River

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 41

**Issue:** 3

**Pages:** 364-368

**Date:** October, 2001

**Short Title:** Lead poisoning of waterfowl by contaminated sediment in the Coeur d'Alene River

**Accession Number:** BCI:BCI200100470934

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** The Coeur d'Alene River basin in Idaho has been contaminated by mine tailings that have impaired the health of wildlife since the early 1900s. In other parts of the world, virtually all lead poisoning of waterfowl is caused by the ingestion of manmade lead artifacts, primarily spent lead shot-shell pellets or, occasionally, fishing sinkers. However, in the Coeur d'Alene River basin in Idaho, nonartifactual lead poisoning was the ultimate cause of death of most of 219 (77%) of 285 waterfowl carcasses that had been found sick or dead from 1992 through 1997. The majority of these 219 waterfowl (172 tundra swans (Cygnus columbianus), 33 Canada geese (Branta canadensis), and 14 other species) were poisoned by ingesting river sediment that was contaminated with lead. The next most common cause of death (20 instances, 7%) was lead poisoning accompanied by ingested shotshell pellets. The remaining 46 waterfowl succumbed to trauma, infectious diseases (aspergillosis, avian cholera, tuberculosis), or miscellaneous problems, or the cause of death was not determined.

**URL:** <Go to ISI>://BCI200100470934

**Reference Type:**  Journal Article

**Record Number:** 1964

**Author:** E. D. Silverman, D. T. Saalfeld, J. B. Leirness and M. D. Koneff

**Year:** 2013

**Title:** Wintering Sea Duck Distribution Along the Atlantic Coast of the United States

**Journal:** Journal of Fish and Wildlife Management

**Volume:** 4

**Issue:** 1

**Pages:** 178-198

**Date:** Jun

**Short Title:** Wintering Sea Duck Distribution Along the Atlantic Coast of the United States

**ISSN:** 1944-687X

**DOI:** 10.3996/122012-jfwm-107

**Accession Number:** WOS:000320306700019

**Keywords:** Sea Ducks; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Notes:** Times Cited: 0

Silverman, Emily D. Saalfeld, David T. Leirness, Jeffery B. Koneff, Mark D.

0

**URL:** <Go to ISI>://WOS:000320306700019

**Reference Type:**  Journal Article

**Record Number:** 43

**Author:** E. Sinclair, D. T. Mayack, K. Roblee, N. Yamashita and K. Kannan

**Year:** 2006

**Title:** Occurrence of perfluoroalkyl surfactants in water, fish, and birds from New York State

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 50

**Issue:** 3

**Pages:** 398-410

**Date:** Apr 2006

**Short Title:** Occurrence of perfluoroalkyl surfactants in water, fish, and birds from New York State

**Accession Number:** BCI:BCI200600280889

**Keywords:** Sea Ducks - General; Common merganser; Contaminants;

**Abstract:** Concentrations of perfluorooctanesulfonate (PFOS) and several other perfluoroalkyl surfactants (PASs) were determined in nine major water bodies (n = 51) of New York State (NYS). These PASs were also measured in the livers of two species of sport fish (n = 66) from 20 inland lakes in NYS. Finally, perfluorinated compounds were measured in the livers of 10 species of waterfowl (n = 87) from the Niagara River region in NYS. PFOS, perfluorooctanoic acid (PFOA), and perfluorohexanesulfonate (PFHS) were ubiquitous in NYS waters. PFOA was typically found at higher concentrations than were PFOS and PFHS. Elevated concentrations of PFOS were found in surface waters of Lake Onondaga, and elevated concentrations of PFOA were found in the Hudson River. PFOS was the most abundant perfluorinated compound in all fish and bird samples. PFOS concentrations in the livers of fishes ranged from 9 to 315 ng/g wet weight. PFOS, PFOA, and PFOSA (perfluorooctanesulfonamide) concentrations in smallmouth and largemouth bass (taken together) caught in remote mountain lakes with no known point sources of PAS contamination were 14 to 207, < 1.5 to 6.1, and < 1.5 to 9.8 ng/g wet weight, respectively. PFOS concentrations in the livers of birds ranged from 11 to 882 ng/g wet weight. PFOS concentrations were 2.5-fold greater (p = 0.001) in piscivorous birds than in non-piscivorous birds. However, PFOA, PFOSA, and PFHS were not found in bird livers. Overall, average concentrations of PFOS in fish were 8850-fold greater than those in surface water. An average biomagnification factor of 8.9 was estimated for PFOS in common merganser relative to that in fish. This study highlights the significance of dietary fish in PFOS accumulation in the food chain. Furthermore, our results provide information on the distribution of PASs in natural waters, fish, and several bird species in NYS.

**URL:** <Go to ISI>://BCI200600280889

**Reference Type:**  Journal Article

**Record Number:** 2201

**Author:** S. M. Singh, M. Tsuji, P. Gawas-Sakhalker, M. Loonen and T. Hoshino

**Year:** 2016

**Title:** Bird feather fungi from Svalbard Arctic

**Journal:** Polar Biology

**Volume:** 39

**Issue:** 3

**Pages:** 523-532

**Date:** Mar

**Short Title:** Bird feather fungi from Svalbard Arctic

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-015-1804-y

**Accession Number:** WOS:000371640300009

**Keywords:** Common Eider; Somateria mollissima; Parasites

**Abstract:** Despite feather fungi being an important component of the Arctic fungal flora, their ecological role and diversity are not fully known. In the current study, fungal cultures were isolated from feathers (barnacle goose, common eider, and glaucous gull) collected in the Ny-lesund region, Svalbard. Isolates were identified by ITS region sequences, which include the ITS1, ITS2, and 5.8S rRNA. The result showed culturable yeast and filamentous fungi belonging to three classes: Ascomycota (Pyrenochaetopsis pratorum, Cladosporium herbarum, Thelebolus microsporus, Aspergillus versicolor, Penicillium commune, and Venturia sp.), Basidiomycota (Mrakia blollopis and Rhodotorula mucilaginosa), and Zygomycota (Mucor flavus). Most of the fungal isolates appeared to be cold-tolerant, and about 60 % of the isolates showed keratinase activity. The reasonably low fungal diversity colonizing feathers indicates that the birds of Svalbard are casual carriers of fungi which may result in a negligible impact on their health. To the best of our knowledge, this is the first record of fungal communities present on the feathers of birds in the high Arctic.

**Notes:** Singh, Shiv M. Tsuji, Masaharu Gawas-Sakhalker, Puja Loonen, Maarten J. J. E. Hoshino, Tamotsu

**URL:** <Go to ISI>://WOS:000371640300009

**Reference Type:**  Journal Article

**Record Number:** 1432

**Author:** V. O. Sipia, K. M. Karlsson, J. A. O. Meriluoto and H. T. Kankaanpaa

**Year:** 2004

**Title:** Eiders (Somateria mollissima) obtain nodularin, a cyanobacterial hepatotoxin, in Baltic Sea food web

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 23

**Issue:** 5

**Pages:** 1256-1260

**Date:** May 2004

**Short Title:** Eiders (Somateria mollissima) obtain nodularin, a cyanobacterial hepatotoxin, in Baltic Sea food web

**Accession Number:** BCI:BCI200400440256

**Keywords:** Common Eider; Somateria mollissima; Disease; Nonbreeding Seasons;

**Abstract:** Nodularin (NODLN) is a cyclic pentapeptide hepatotoxin produced by the cyanobacterium Nodularia spumigena, which occurs regularly in the Baltic Sea during the summer season. Nodularia blooms have caused several animal kills in the Baltic Sea area, and NODLN has been found in mussels and fish caught from the northern Baltic Sea in 1996 to 2002. We analyzed liver samples of common eider (Somateria mollissima) for NODLN by enzyme-linked immunosorbent assay (ELISA) and liquid chromatography/mass spectrometry (LC-MS). Eiders feed extensively on mussel and can be exposed to NODLN by contaminated mussels. Fifteen ciders were shot and collected from three different sites in the western Gulf of Finland (northern Baltic Sea) in August and September 2002. Analyses by ELISA and LC-MS showed that eider liver samples contained 3 to 180 mug NODLN/kg dry weight and 0.1 to 5.8 mug NODLN/liver (dry wt). This is the first documentation of NODLN in seabirds and additional evidence for the transfer of NODLN in different parts of the Baltic Sea food web.

**URL:** <Go to ISI>://BCI200400440256

**Reference Type:**  Journal Article

**Record Number:** 1341

**Author:** V. O. Sipia, M.-R. Neffling, J. S. Metcalf, S. M. K. Nybom, J. A. O. Meriluoto and G. A. Codd

**Year:** 2008

**Title:** Nodularin in feathers and liver of eiders (Somateria mollissima) caught from the western Gulf of Finland in June-September 2005

**Journal:** Harmful Algae

**Volume:** 7

**Issue:** 1

**Pages:** 99-105

**Date:** Jan 2008

**Short Title:** Nodularin in feathers and liver of eiders (Somateria mollissima) caught from the western Gulf of Finland in June-September 2005

**Accession Number:** BCI:BCI200800258852

**Keywords:** Common Eider; Somateria mollissima; Disease; Breeding Season;

**Abstract:** Nodularins are cyanobacterial hepatotoxins, which may cause intoxication at very low exposure levels. The nodularin-producing cyanobacterium Nodularia spumigena usually forms massive blooms in much of the Baltic Sea during the summer season. Breast feathers and liver samples from common eider (Somateria mollissima) were analysed for nodularins by liquid chromatography-mass spectrometry (LC-MS) and enzyme-linked immunosorbent assay (ELISA). Fifteen ciders from the western Gulf of Finland were caught by hunters between June and September 2005. Blue mussels (Mytilus edulis), a dietary component of the birds, were also obtained by diving near the same marine area and time as the collection of the ducks. Eider breast feathers contained 6-52 mu g nodularin-R (Nod-R)/kg dry weight (dw) by ELISA, and 8-43 mu g Nod-R/kg dw by LC-MS. No Nodularia filaments were adhered to feather samples according to light microscopy assessment. Liver samples from the same individuals contained Nod-R between 3 and 48 mu g/kg dw by LC-MS. Mussel samples from the area contained Nod-R at concentrations of 12-80 mu g/kg dw by LC-MS. Analysis of bird feathers offers a facile and non-invasive means of assessing the exposure of birds to nodularins. (c) 2007 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200800258852

**Reference Type:**  Journal Article

**Record Number:** 1388

**Author:** V. O. Sipia, O. Sjovall, T. Valtonen, D. L. Barnaby, G. A. Codd, J. S. Metcalf, M. Kilpi, O. Mustonen and J. A. O. Meriluoto

**Year:** 2006

**Title:** Analysis of nodularin-R in eider (Somateria mollissima), roach (Rutilus rutilus L.), and flounder (Platichthys flesus L.) liver and muscle samples from the western Gulf of Finland, northern Baltic Sea

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 25

**Issue:** 11

**Pages:** 2834-2839

**Date:** Nov 2006

**Short Title:** Analysis of nodularin-R in eider (Somateria mollissima), roach (Rutilus rutilus L.), and flounder (Platichthys flesus L.) liver and muscle samples from the western Gulf of Finland, northern Baltic Sea

**Accession Number:** BCI:BCI200600629987

**Keywords:** Common Eider; Somateria mollissima; Disease;

**Abstract:** Nodularin (NODLN) is a cyanobacterial hepatotoxin that may cause toxic effects at very low exposure levels. The NODLN-producing cyanobacterium Nodularia spumigena forms massive blooms in the northern Baltic Sea, especially during the summer. We analyzed liver and muscle (edible meat) samples from common eider (Somateria mollissima), roach (Rutilus rutilus L.), and flounder (Platichthys flesus L.) for NODLN-R by liquid chromatography/mass spectrometry (LC-MS) and enzyme-linked immunosorbent assay (ELISA). Thirty ciders, 11 roach, and 15 flounders were caught from the western Gulf of Finland between September 2002 and October 2004. Eiders from April to June 2003 were found dead. The majority of samples were analyzed by LC-MS and ELISA from the same sample extracts (water:methanol:n-butanol, 75:20:5, v:v:v). Nodularin was detected in 27 ciders, nine roach, and eight flounders. Eider liver samples contained NODLN up to approximately 200 mu g/kg dry weight and muscle samples at approximately 20 mu g/kg dry weight, roach liver samples 20 to 900 mu g NODLN/kg dry weight and muscle samples 2 to 200 mu g NODLN/kg dry weight, and flounder liver samples approximately 5 to 1,100 mu g NODLN/kg dry weight and muscle samples up to 100 mu g NODLN/kg dry weight. The NODLN concentrations found in individual muscle samples of flounders, eiders, and roach (1-200 mu g NODLN/kg dry wt) indicate that screening and risk assessment of NODLN in Baltic Sea edible fish and wildlife are required for the protection of consumer's health.

**URL:** <Go to ISI>://BCI200600629987

**Reference Type:**  Journal Article

**Record Number:** 750

**Author:** J. Sirois

**Year:** 1995

**Title:** Confirmed winter residency of common goldeneye and common merganser in the Northwest Territories

**Journal:** Blue Jay

**Volume:** 53

**Issue:** 3

**Pages:** 140-143

**Short Title:** Confirmed winter residency of common goldeneye and common merganser in the Northwest Territories

**Accession Number:** BCI:BCI199698724870

**Keywords:** Common Goldeneye; Bucephala clangula; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199698724870

**Reference Type:**  Journal Article

**Record Number:** 2330

**Author:** J. Sitko and I. Rzad

**Year:** 2014

**Title:** Diplostomum and Ornithodiplostomum scardinii (Diplostomidae, Digenea) species from naturally infected birds (Anatinae) in the Czech Republic and in Poland: morphological, morphometric and ecological features

**Journal:** Helminthologia

**Volume:** 51

**Issue:** 3

**Pages:** 215-224

**Date:** Sep

**Short Title:** Diplostomum and Ornithodiplostomum scardinii (Diplostomidae, Digenea) species from naturally infected birds (Anatinae) in the Czech Republic and in Poland: morphological, morphometric and ecological features

**ISSN:** 0440-6605

**DOI:** 10.2478/s11687-014-0232-9

**Accession Number:** WOS:000342211200008

**Keywords:** Common Eider; White-winged Scoter; Common Goldeneye; Long-tailed Duck; Common Merganser; Somateria mollissima; Melanitta fusca; Bucephala clangula; Clangula hyemalis; Mergus merganser; Parasites

**Abstract:** The study aimed to describe morphological and morphometric characteristics of species representing the genera Diplostomum Nordmann, 1832 and Ornithodiplostomum Dubois, 1936, originating from naturally infected birds in the Czech Republic and in Poland, and to compare their species richness and the intensity of infection in their avian hosts. Diplostomum mergi Dubois, 1932, D. parviventosum Dubois, 1932, D. phoxini (Faust, 1918), D. pusillum (Dubois, 1928), and Ornithodiplostomum scardinii (Schulman, 1952) were found in the gossander (Mergus merganser). D. parviventosum was found in the velvet scoter (Melanitta fusca). D. pungitii Shigin, 1965 was found in the tufted duck (Aythya fuligula), common eider (Somateria mollissima), common goldeneye (Bucephala clangula), and in the long-tailed duck (Clangula hyemalis). D. spathaceum (Rudolphi, 1819) was found in the mallard (Anas platyrhynchos). Morphology and morphometry of those Diplostomum species from the Czech Republic and from Poland were not analyzed before. The morphological and morphometric description of the adult form of O. scardinii presented in this study has been the first such description of a specimen obtained from a naturally infected bird. The highest intensity of infection was observed in the gossander (D. pusillum and D. mergi). Study results provided new data on the occurrence of the Diplostomum and O. scardinii trematodes in the Czech Republic and in Poland.

**Notes:** Sitko, J. Rzad, I.

**URL:** <Go to ISI>://WOS:000342211200008

**Reference Type:**  Journal Article

**Record Number:** 1770

**Author:** B. Sittler, O. Gilg and T. B. Berg

**Year:** 2000

**Title:** Low abundance of king eider nests during low lemming years in Northeast Greenland

**Journal:** Arctic

**Volume:** 53

**Issue:** 1

**Pages:** 53-60

**Date:** March, 2000

**Short Title:** Low abundance of king eider nests during low lemming years in Northeast Greenland

**Accession Number:** BCI:BCI200000242898

**Keywords:** King Eider; Somateria spectabilis; Productivity; Trophic Interactions; Breeding Season;

**Abstract:** Long-term surveys on Traill Island (Northeast Greenland) show that numbers of king eider (Somateria spectabilis) nests are correlated with high densities of collared lemming (Dicrostonyx groenlandicus). These observations match other zoological records from this region and agree with similar observations recorded elsewhere for arctic geese. Processes at work may be related to the fact that mammalian predators focus on lemmings when lemming numbers are high, but exert higher predation pressure on other prey at low lemming densities. Predators seem to increase their search effort during such low lemming years, thus increasing the likelihood that they will discover eider nests. This study highlights the importance of studying patterns at the community level in any attempt to interpret cyclic fluctuations in northern ecosystems.

**URL:** <Go to ISI>://BCI200000242898

**Reference Type:**  Journal Article

**Record Number:** 678

**Author:** J. G. Sivak and R. F. Glover

**Year:** 1986

**Title:** Anatomy of the Avian Membrana Nictitans

**Journal:** Canadian Journal of Zoology

**Volume:** 64

**Issue:** 4

**Pages:** 963-972

**Short Title:** Anatomy of the Avian Membrana Nictitans

**Accession Number:** BCI:BCI198682058685

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology;

**Abstract:** The anatomy of the membrana nictitans was examined in the rockhopper penguin (Eudyptes crestatus) and in two ducks, a diver (Mergus cucullatus, hooded merganser) and a nondiver (Anas platyrhynchos, common mallard), by light and transmission microscopy. In general, the nictitans is organized in a manner reminiscent of the cornea, i.e., an external epithelium, an internal endothelium, and a fibrous stromal layer in between. However, it is thinner than the cornea, a fact reflected by the relatively thin stroma. Nictitans organization varies between species and in different regions of the same membrane. The cellular and acelluar components are less organized and not as tightly packed in the nondiver than in the two other species. In addition, portions of the nictitans that would be coincident with the cornea when it is in place in front of the eye are more highly organized in both divers. The anatomy of the leading edge of the nictitans, including the marginal plait, which may help lock the membrane in position, is described.

**URL:** <Go to ISI>://BCI198682058685

**Reference Type:**  Journal Article

**Record Number:** 869

**Author:** K. Sjoberg

**Year:** 1975

**Title:** Food Choice and Predation Efficiency by Mergansers in Laboratory Tests

**Journal:** Fauna och Flora Naturhistoriska Riksmuseet

**Volume:** 70

**Issue:** 6

**Pages:** 241-246

**Short Title:** Food Choice and Predation Efficiency by Mergansers in Laboratory Tests

**Accession Number:** BCI:BCI197662046816

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Trophic Interactions; Behavior;

**Abstract:** Laboratory tests with 2 goosanders (Mergus merganser L.) and 1 red-breasted merganser (M. serrator L.) have shown that the birds have the capacity to select certain favored fish species before others when all are offered together in a small trough devoid of bottom material. However, they only demonstrated this capacity when they were fed prior to the test and then presented a surplus of fish. When not fed before the test for at least 2 h, they picked the nearest and most easily caught specimens. When the same fish species were presented to the mergansers in a stream tank (0.8 .times. 9.5 m) with a bottom material of sand, gravel and stones of different size and with a water level of 0.3 .times. 0.4 m and a velocity of approximately 0.5 m/s, the order of preference from the laboratory tests was not repeated. The opportunity for the birds to catch different species in the stream tank was very much influenced by the behavior of the fish species and their capacity to hide, and in differences in fugitive behavior when discovered by the merganser. Because of the behavioral differences, some species were caught before others even in the stream tank, but these species were not the same as in the laboratory tests. This indicates an opportunistic food seeking behavior, resulting in overrepresentation of some species, not necessarily the preferred species.

**URL:** <Go to ISI>://BCI197662046816

**Reference Type:**  Journal Article

**Record Number:** 861

**Author:** K. Sjoberg

**Year:** 1985

**Title:** Foraging Activity Patterns in the Goosander Mergus-Merganser and the Red-Breasted Merganser Mergus-Serrator in Relation to Patterns of Activity in Their Major Prey Species

**Journal:** Oecologia (Berlin)

**Volume:** 67

**Issue:** 1

**Pages:** 35-39

**Short Title:** Foraging Activity Patterns in the Goosander Mergus-Merganser and the Red-Breasted Merganser Mergus-Serrator in Relation to Patterns of Activity in Their Major Prey Species

**Accession Number:** BCI:BCI198681002290

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Trophic Interactions; Behavior; Breeding Season;

**Abstract:** Diel and seasonal foraging activity patterns of goosanders (Mergus merganser L.) and red-breasted mergansers (M. serrator L.) were studied during the breeding season on the Ricklea River in northern Sweden (64.degree.05'N). In addition, the locomotor activity patterns of their most important prey species, the river lamprey (Lampetra fluviatilis (L.)) and the three-spined stickleback (Gasterosteus aculeatus L.), were recorded. During spring, as mergansers arrived in the breeding area, both species exhibited a bimodal, diurnal pattern of activity with morning and evening peaks. By June (the spawning period for the river lamprey and the migratory period for the three-spined stickleback), goosander activity had shifted to late in the evening. This new activity peak correlated well with the main activity period in the river lamprey. Red-breasted mergansers remained predominantly diurnal throughut the observation period. Their diurnal activity correlated with the activity of their major prey, the three-spined stickleback. Both merganser species utilize a specialized foraging technique, i.e. probing the river-bottom with the bill, to catch hiding fish more or less at random. This behaviour probable helps them to forage during the relatively bright summer nights and thus prey upon the abundant nocturnal river lamprey. The goosander preys upon the river lamprey to a greater extent than does the red-breasted merganser, thus leading to a temporal segration in food source utilization between the two duck species.

**URL:** <Go to ISI>://BCI198681002290

**Reference Type:**  Journal Article

**Record Number:** 856

**Author:** K. Sjoberg

**Year:** 1988

**Title:** Food Selection Food-Seeking Patterns and Hunting Success of Captive Goosanders Mergus-Merganser and Red-Breasted Mergansers Mergus-Serrator in Relation to the Behavior of Their Prey

**Journal:** Ibis

**Volume:** 130

**Issue:** 1

**Pages:** 79-93

**Short Title:** Food Selection Food-Seeking Patterns and Hunting Success of Captive Goosanders Mergus-Merganser and Red-Breasted Mergansers Mergus-Serrator in Relation to the Behavior of Their Prey

**Accession Number:** BCI:BCI198885120075

**Keywords:** Common merganser; Mergus merganser; Red-breasted merganser; Mergus serrator; Behavior; Trophic Interactions;

**Abstract:** Food selection and food-seeking behaviour of hand-raised Goosanders Mergus merganser and Red-breasted Mergansers M. serrator were tested in experimental situations. When different combinations of two species of fish were presented simultaneously to hungry birds in a small trough where the prey was easily and equally available, neither duck species showed any preferences in prey selection. However, when these same fish species were presented to satiated birds, they showed definite preferences; the most preferred species were baltic salmon and brown trout followed in decreasing order by minnow, whitefish, sculpin, burbot and river lamprey. This was also the case when combinations of five to seven species were presented. However, under semi-natural conditions in a stream tank, the number of each species of fish caught was related to their escape behaviour, not to the previously determined predator preferences. When salmon and minnows of different size were presented to hungry birds, they selected the larger fish regardless of species. In contrast, when satiated, they preferred small fish over large fish. Under the experimental conditions, the use of certain elements of foraging behaviour clearly differed between the two bird species: Mergus serrator spent more time hunting underwater than did M. merganser. Results are discussed in relation to the predator-prey situation existing under natural conditions in northern Swedish rivers.

**URL:** <Go to ISI>://BCI198885120075

**Reference Type:**  Journal Article

**Record Number:** 854

**Author:** K. Sjoberg

**Year:** 1989

**Title:** Time-Related Predator-Prey Interactions between Birds and Fish in a Northern Swedish River

**Journal:** Oecologia (Berlin)

**Volume:** 80

**Issue:** 1

**Pages:** 1-10

**Short Title:** Time-Related Predator-Prey Interactions between Birds and Fish in a Northern Swedish River

**Accession Number:** BCI:BCI198988083189

**Keywords:** Red-breasted merganser; Mergus serrator; Common merganser; Mergus merganser; Behavior; Trophic Interactions;

**Abstract:** Seasonal and diel activity patterns of mergansers, gulls, and terns along a river in northern Sweden were documented, as were those of their fish prey. The seasonal and diel activity patterns of goosanders Mergus merganser and gulls (Larus canus, L. argentatus, and L. fuscus) were closely related to that of the river lamprey Lampetra fluviatilis. During the peak spawning of the river lamprey, birds showed a nocturnal peak in fishing activity. During the summer solstice, birds were active for 24 h. The activity patterns of red-breasted merganser Mergus serrator terns Sterna spp., and three-spined sticklebacks Gasterosteus aculeatus were also similar. Activity pattern of the prey apparently influenced breeding time, diel activity and foraging area of the two Mergus species. Social relations between gulls probably coordinated their peak in fishing, which coincided with the time lampreys were most efficiently exploited.

**URL:** <Go to ISI>://BCI198988083189

**Reference Type:**  Journal Article

**Record Number:** 67

**Author:** L. F. Skerratt, J. C. Franson, C. U. Meteyer and T. E. Hollmen

**Year:** 2005

**Title:** Causes of mortality in sea ducks (Mergini) necropsied at the USGS-National Wildlife Health Center

**Journal:** Waterbirds

**Volume:** 28

**Issue:** 2

**Pages:** 193-207

**Date:** Jun 05

**Short Title:** Causes of mortality in sea ducks (Mergini) necropsied at the USGS-National Wildlife Health Center

**Accession Number:** BCI:BCI200510098732

**Keywords:** Sea Ducks - General; Disease; Parasites;

**Abstract:** A number of factors were identified as causes of mortality in 254 (59%) of 431 sea ducks Submitted for necropsy at the USGS-National Wildlife Health Center, Madison, Wisconsin from 1975 until 2003. Bacteria causing large outbreaks of mortality were Pasteurella multocida and Clostridium botulinum Type E. Starvation was responsible for large mortality events as well as sporadic deaths of individuals. Lead toxicity, gunshot and exposure to petroleum were important anthropogenic factors. Other factors that caused mortality were avian pox virus, bacteria (Clostridium botulinum Type C, Riemerella analipestifer and Clostridium perfringens), fungi (Aspergillus fumigatus and an unidentified fungus), protozoans (unidentified coccidia), nematodes (Eustrongylides spp.), trematodes (Sphaoidiotrema globulus and Schistosoma spp.), acanthocephalans (Polymorphus spp.), predation, cyanide and trauma (probably due to collisions). There were also a number of novel infectious organisms in free-living sea ducks in North America, which were incidental to the death, including avipoxvirus and reovirus, bacteria Alycobacterium avium, protozoans Sarcocystis sp. and nematodes Streptocara sp. Apart from anthropogenic factors, the other important mortality factors listed here have not been studied as possible causes for the decline of sea ducks in North America.

**URL:** <Go to ISI>://BCI200510098732

**Reference Type:**  Journal Article

**Record Number:** 2203

**Author:** K. Skirnisson

**Year:** 2015

**Title:** Association of helminth infections and food consumption in common eiders Somateria mollissima in Iceland

**Journal:** Journal of Sea Research

**Volume:** 104

**Pages:** 41-50

**Date:** Oct

**Short Title:** Association of helminth infections and food consumption in common eiders Somateria mollissima in Iceland

**ISSN:** 1385-1101

**DOI:** 10.1016/j.seares.2015.05.005

**Accession Number:** WOS:000362619400005

**Keywords:** Common Eider; Somateria mollissima; Parasites

**Abstract:** Common eider Somateria mollissima L. 1758, subsp. borealis, is widely distributed along the coasts of Iceland. In this study association of parasite infections and food composition was studied among 40 females and 38 males (66 adults, 12 subadults), shot under license on four occasions within the same year (February; before egg-laying in May; after the breeding period in late June; and in November) in Skerjafjorour, SW Iceland. Parasitological examinations revealed 31 helminth species (11 digeneans, ten cestodes, seven nematodes, and three acanthocephalans). Distinct digenean species parasitized the gallbladder, kidney and bursa of Fabricius, whereas other helminths parasitized the gastrointestinal tract. Thirty-six invertebrate prey species were identified as food; waste and bread fed by humans, were also consumed by some birds. Amidostomum acutum was the only parasite found with a direct life cycle, whereas other species were food transmitted and ingested with different invertebrate prey. Opposite to females male birds rarely utilized periwinkles and gammarids as a food source. As a result, Microphallus and Microsomacanthus infection intensities were low except in February, when subadult males were responsible for an infection peak. Females caring for young increased their consumption of periwinkles close to the littoral zone in June; during pre-breeding, females also increased their gammarid intake. As a consequence, Microphallus and Microsomacanthus infection intensities temporarily peaked. Increased food intake (including Mytilus edulis) of females before the egg-laying period resulted in twofold higher Gymnophallus bursicola infection intensity than observed for males. Profilicollis botulus infection reflected seasonal changes in decapod consumption in both genders. Different life history strategies of males and females, especially before and during the breeding season and caring of young, and during molting in distinct feeding areas in summer, promote differences in consumption of prey-transmitted parasites that result in distinct infection patterns of the genders. (C) 2015 Elsevier B.V. All rights reserved.

**Notes:** Skirnisson, Karl

**URL:** <Go to ISI>://WOS:000362619400005

**Reference Type:**  Journal Article

**Record Number:** 1469

**Author:** K. Skirnisson and K. V. Galaktionov

**Year:** 2002

**Title:** Life cycles and transmission patterns of seabird digeneans in SW Iceland

**Journal:** Sarsia

**Volume:** 87

**Issue:** 2

**Pages:** 144-151

**Date:** 15 July, 2002

**Short Title:** Life cycles and transmission patterns of seabird digeneans in SW Iceland

**Accession Number:** BCI:BCI200200477541

**Keywords:** Common Eider; Somateria mollissima; Parasites;

**Abstract:** Flukes (digeneans) are common parasites of seabirds in Arctic and subarctic regions. This study examined the distribution of such parasites in 1998 and 1999 in the intertidal zones of two study areas in SW Iceland (Skerjafjordur and Grindavik) by investigating seven species of littoral snail, Littorina saxatilis, L. obtusata, L. fabalis, Onoba aculeus, Hydrobia ventrosa, Epheria vincta and Nucella lapillus, which are known to be first intermediate hosts of many species of digenean. A total of 2556 snails was collected and the intramolluscan stages of 23 seabird digenean species were identified. The local occurrence and abundance of final hosts, such as gulls, eiders and waders, largely explain prevalence differences in the study areas. Seabird digeneans with life cycles involving two intermediate hosts and one/two free-living larvae are more frequent in the Icelandic localities studied than in coastal areas of northern Europe (Barents Sea, White Sea, northern Norway). This indicates that the environmental conditions in the coastal ecosystem of SW Iceland are favourable for the transmission of complex life cycles. Also, the abundance and diversity of both potential final hosts (birds) and second intermediate hosts (littoral invertebrates and fishes) are considered to contribute to the richness of the digenean fauna of SW Iceland.

**URL:** <Go to ISI>://BCI200200477541

**Reference Type:**  Journal Article

**Record Number:** 30

**Author:** H. Skov, J. Durinck, M. F. Leopold and M. L. Tasker

**Year:** 2007

**Title:** A quantitative method for evaluating the importance of marine areas for conservation of birds

**Journal:** Biological Conservation

**Volume:** 136

**Issue:** 3

**Pages:** 362-371

**Date:** May 2007

**Short Title:** A quantitative method for evaluating the importance of marine areas for conservation of birds

**Accession Number:** BCI:BCI200700417595

**Keywords:** Sea Ducks - General; Conservation;

**Abstract:** Objective criteria are needed for ranking marine sites when examining candidate areas for protection measures. We suggest a Marine Classification Criterion (MCC) which allows the application of the widely used Ramsar 1% criterion for wetlands for seabirds with clustered distribution in offshore habitats. The maximum size of an area considered to be internationally important has not been defined by the Ramsar Convention. Terrestrial and coastal sites generally have obvious hydrological or physical boundaries, whereas such boundaries are less obvious at sea. The smallest unit which would pass the demands set by the MCC is 1% of the bio-geographic population of a particular species concentrated in an area (site) supporting a density exceeding a value equivalent of four times the average density of the species in the investigated regional sea. The effect of choosing smaller or larger reference densities is tested. The results indicate that the chosen threshold density is a suitable requirement for the inclusion of the most important areas for seabird species with at least 25% of their bio-geographic population occurring in the studied regions of the North Sea and the Baltic Sea. The test cases indicate that provided the MCC is based on geo-statistical analyses of un-biased survey data the boundaries of areas holding large concentrations of seabirds can be estimated with confidence. The MCC could be used to identify concentrations of seabirds and other marine animals of conservation priority and to rank marine areas by their cumulative importance to different species. (C) 2007 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200700417595

**Reference Type:**  Journal Article

**Record Number:** 1104

**Author:** B. Skwarzec and J. Fabisiak

**Year:** 2007

**Title:** Bioaccumulation of polonium Po-210 in marine birds

**Journal:** Journal of Environmental Radioactivity

**Volume:** 93

**Issue:** 2

**Pages:** 119-126

**Short Title:** Bioaccumulation of polonium Po-210 in marine birds

**Accession Number:** BCI:BCI200700313322

**Keywords:** White-winged Scoter; Melanitta fusca; Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons;

**Abstract:** The aim of this work was to determine the Po-210 content in marine birds which permanently or temporally live in the Polish part of the Baltic Sea. We chose 11 species of sea birds: three species permanently residing at southern Baltic Sea, four species of wintering birds and three species of migrating birds. The results show that the polonium is non-uniformly distributed in the marine birds. The highest activities of Po-210 were observed in feathers, muscles and liver and the lowest in skin and skeleton. Species of birds that eat crustaceans, molluscs, fish and plants (long-tailed duck Clangula hyemalis, white-winged scoter Melanitta fitsca) accumulated more polonium than species that eat mainly fish (great cormorant Phalacrocorar carbo, common guillemot Uria aalge) or plants (tufted duck Aythya fuligula). Moreover, about 63% of the Po-210 that was located in feathers of razorbil (Alca torda) and long-tailed duck (C. hyenralis) was apparently adsorbed, suggesting an external source such as the air. It means that the adsorption of Po-210 on the feather surface may be an important transfer from air to water. (c) 2007 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200700313322

**Reference Type:**  Journal Article

**Record Number:** 2331

**Author:** A. D. Smith, S. R. McWilliams, K. J. Winiarski, C. L. Trocki, B. Harris, J. E. Osenkowski and P. W. C. Paton

**Year:** 2015

**Title:** Using Land-based Surveys to Assess Sea Duck Abundance and Behavior in Nearshore Waters of Southern New England, USA

**Journal:** Waterbirds

**Volume:** 38

**Issue:** 3

**Pages:** 252-259

**Date:** Sep

**Short Title:** Using Land-based Surveys to Assess Sea Duck Abundance and Behavior in Nearshore Waters of Southern New England, USA

**ISSN:** 1524-4695

**Accession Number:** WOS:000361930800004

**Keywords:** Common Eider; Black Scoter; White-winged Scoter; Surf Scoter; Somateria mollissima; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Nonbreeding season; Migration; Behavior; Abundance, Distribution, & Trends; Techniques

**Abstract:** Nearshore waters provide very important habitat for sea ducks (Tribe Mergini) during migration and winter, but gathering information on sea duck use of shallow nearshore waters is challenging because traditional aerial and boat-based surveys are expensive, are usually conducted infrequently, and are often not feasible near the coast. The objective of this study was to use land-based surveys to characterize spatiotemporal variation in the abundance and behavior (e.g., foraging, flying) of Common Eider (Somateria mollissima) and scoters (Melanitta spp.) in nearshore waters of southern New England. Surveys (60-120 min per survey, n = 1,044 surveys) were conducted throughout the day from February 2009 to July 2010 to assess diurnal and seasonal variation in sea duck behavior and spatial distribution at nine sites in southern Rhode Island. The density of sea ducks resting or foraging on the water exhibited little diurnal variation, whereas flight activity dramatically increased nearer to sunrise. Sea duck densities and passage rates (individuals/km(2)/hr) peaked during migration periods from October through November and February through April, although there were important seasonal differences between sites. For example, the highest densities of Common Eider during fall were in a protected estuary, whereas abundance of scoters during fall was greater at a coastal headland. The relative activity of Common Eider on the water and in flight was similar among sites, whereas scoters exhibited highly variable activity among sites, particularly during winter and spring. The spatiotemporal patterns in abundance and behavior of sea ducks in nearshore waters that we detected using land-based surveys provides essential, complementary information to that available from other types of waterfowl and seabird surveys in southern New England.

**Notes:** Smith, Adam D. McWilliams, Scott R. Winiarski, Kristopher J. Trocki, Carol L. Harris, Brian Osenkowski, Jason E. Paton, Peter W. C.

**URL:** <Go to ISI>://WOS:000361930800004

**Reference Type:**  Journal Article

**Record Number:** 384

**Author:** B. D. Smith, W. S. Boyd and M. R. Evans

**Year:** 2005

**Title:** A clutch and brood survival model that discriminates random and correlated mortality

**Journal:** Ecological Applications

**Volume:** 15

**Issue:** 1

**Pages:** 281-293

**Date:** February 2005

**Short Title:** A clutch and brood survival model that discriminates random and correlated mortality

**Accession Number:** BCI:BCI200500166457

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Population Dynamics; Survival; Techniques; Breeding Season;

**Abstract:** Quantitative conservation methodologies such as Population Viability Analysis (PVA) require reliable estimates of life history parameters such as breeding success. The utility of such metrics for egg-laying species is complicated by the fact that the mortality of eggs and juveniles can occur both randomly and independently over time,. or catastrophically, as in the sudden loss of a clutch or brood. Not knowing the nature of mortality caused by either or both of abiotic (e.g., weather) and biotic (e.g., predation) events limits our. ability to confidently assess a population's demography and. sustainability, or rank competing hypotheses. To address this deficiency, we describe a statistical model that estimates egg and juvenile survival rates continuously from laying to fledging based on periodic observations of individual clutches and broods. Adjunct data on environmental or predation threats can be included in the model as covariate series potentially affecting juvenile survival. Our model can statistically characterize mortality between the extremes of random and catastrophic mortality and can determine if unwitnessed mortalities occurred independently or were correlated (i.e., overdispersed, where catastrophe is extreme overdispersion). Overdispersion is estimated as a parameter of the beta-binomial probability distribution of survival. outcomes, which differs from its treatment in Program MARK where overdispersion is an a posteriori diagnostic referred to as e. We used data for the sea duck Barrow's Goldeneye to illustrate our model. Specifically, we contribute to the argument that a larger brood confers a fitness advantage to a tending hen by concluding that brood size on hatch day is positively correlated with a juvenile's probability of surviving to fledge.

**URL:** <Go to ISI>://BCI200500166457

**Reference Type:**  Journal Article

**Record Number:** 328

**Author:** C. Smith, F. Cooke and R. I. Goudie

**Year:** 1999

**Title:** Ageing Harlequin Duck Histrionicus histrionicus drakes using plumage characteristics

**Journal:** Wildfowl

**Volume:** 49

**Issue:** 0

**Pages:** 245-248

**Short Title:** Ageing Harlequin Duck Histrionicus histrionicus drakes using plumage characteristics

**Accession Number:** BCI:BCI199900307444

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Nonbreeding Seasons;

**Abstract:** Most ducks (Subfamily Anatinae) progress through a sequence of moults from natal downy plumage to definitive alternate plumage. The accurate identification of age classes by plumage allows the proportion of immature males to adult males in the autumn and winter populations to be used as an index of recruitment and to determine age-specific mortality. By observing Harlequin Ducks (tribe Mergini) that were banded as ducklings on streams in North America we show that males are distinguishable in the autumn of the hatch year. The Alternate I plumage is variable and could result from differences of up to 10 weeks in hatch date, or could reflect the physical condition of individual birds. We also show that males attain definitive alternate plumage after the pre-alternate moult in the second calendar year. These plumage characteristics are useful both in the field and in working with specimens.

**URL:** <Go to ISI>://BCI199900307444

**Reference Type:**  Journal Article

**Record Number:** 317

**Author:** C. M. Smith, F. Cooke, G. J. Robertson, R. I. Goudie and W. S. Boyd

**Year:** 2000

**Title:** Long-term pair bonds in Harlequin Ducks

**Journal:** Condor

**Volume:** 102

**Issue:** 1

**Pages:** 201-205

**Date:** Feb., 2000

**Short Title:** Long-term pair bonds in Harlequin Ducks

**Accession Number:** BCI:BCI200000122554

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons; Breeding Season;

**Abstract:** We documented the frequency of pair reunion in Harlequin Ducks (Histrionicus histrionicus) on breeding streams in Alberta, and at a molting/wintering area in southwestern British Columbia. As long as their mate is alive, Harlequin Duck pairs reunite on the wintering area and return to the breeding stream together. Pairs reunite even if the female is unsuccessful at breeding the previous season, which suggests that reuniting with the same mate year after year is important. Some males that have lost their mate and fail to re-pair on the wintering area show fidelity to their former breeding site.

**URL:** <Go to ISI>://BCI200000122554

**Reference Type:**  Journal Article

**Record Number:** 308

**Author:** C. M. Smith, R. I. Goudie and F. Cooke

**Year:** 2001

**Title:** Winter age ratios and the assessment of recruitment of Harlequin Ducks

**Journal:** Waterbirds

**Volume:** 24

**Issue:** 1

**Pages:** 39-44

**Date:** April, 2001

**Short Title:** Winter age ratios and the assessment of recruitment of Harlequin Ducks

**Accession Number:** BCI:BCI200100279489

**Keywords:** Harlequin duck; Histrionicus histrionicus; Productivity; Techniques; Nonbreeding Seasons;

**Abstract:** Recruitment is the process by which young birds are added to the breeding population. The two most commonly used methods to estimate recruitment in ducks are pair/brood counts, and fall age ratios based on wings returned by hunters. Direct counts on the wintering area to determine the proportion of young males to adult males (age ratios), can be used for species with delayed plumage maturation. This is useful for species that are difficult to study on the breeding grounds and are seldom hunted, such as Harlequin Ducks (Histrionicus histrionicus). Such an approach is only valid if age classes are equally sampled. Between 1994 and 1999, the proportion of male Harlequin Ducks that were immatures in the Strait of Georgia, British Columbia, was estimated at 0.068. The proportions differed across years. Little difference occurred through the winter months until spring, when there was a significant increase in proportions in March. If these age ratios are accurate, then recruitment would not be compensating for annual adult mortality and the population could have been declining during the period of our study. However, if immature males are not distributed evenly among the population, then our assessment may underestimate or overestimate proportions. Delayed breeding means that immature birds experience several additional seasons of mortality prior to breeding, and thus the actual recruitment rate into the breeding population would be lower than that presented here.

**URL:** <Go to ISI>://BCI200100279489

**Reference Type:**  Journal Article

**Record Number:** 2248

**Author:** C. M. Smith, P. G. Trimper, L. J. Bate, S. Brodeur, W. K. Hansen and M. Robert

**Year:** 2015

**Title:** A Mist-Net Method for Capturing Harlequin Ducks on Rivers

**Journal:** Wildlife Society Bulletin

**Volume:** 39

**Issue:** 2

**Pages:** 373-377

**Date:** Jun

**Short Title:** A Mist-Net Method for Capturing Harlequin Ducks on Rivers

**ISSN:** 1938-5463

**DOI:** 10.1002/wsb.530

**Accession Number:** WOS:000356879900018

**Keywords:** Harlequin Duck; Histrionicus histrionicus; Breeding Season; Techniques

**Abstract:** Many sea ducks are captured during wing molt at intertidal areas; however, to study the breeding ecology of some species, researchers need to capture them on streams and rivers, which are often flowing with high water. In fast-flowing and deep water, wading streams during net set-up and extraction of birds is impossible to complete safely. Between 1995 and 2013, we captured 720 adult and 241 hatch-year harlequin ducks (Histrionicus histrionicus) on 37 streams in eastern and western North America. We used a mist net extended across the stream with modified riggings that allowed above-water retrieval of captured birds without technicians entering the stream. This method can be used across deep, fast water that is not wadable; requires equipment that is compact and easily transported; is suitable for remote areas; can be operated by a crew of 4-6 people; and has a low risk of injury to the birds. Care must be taken when using this method to capture large numbers of ducks simultaneously because it becomes difficult to keep the birds above the fast water. This capture method could be used for other ducks, and with different mesh sizes could also be used for other birds, such as American dippers (Cinclus americanus) and spotted sandpipers (Actitis macularius), at these inland locations. The mobility of this capture method means that species and individuals that are not of interest can be avoided by orienting the net to a horizontal position to allow non-target species to pass by unhindered. (C) 2015 The Wildlife Society.

**Notes:** Smith, Cyndi M. Trimper, Perry G. Bate, Lisa J. Brodeur, Serge Hansen, Warren K. Robert, Michel

**URL:** <Go to ISI>://WOS:000356879900018

**Reference Type:**  Journal Article

**Record Number:** 616

**Author:** L. M. Smith, L. D. Vangilder, R. T. Hoppe, S. J. Morreale and I. L. J. Brisbin

**Year:** 1986

**Title:** Effect of Diving Ducks on Benthic Food Resources During Winter in South Carolina USA

**Journal:** Wildfowl

**Volume:** 37

**Pages:** 136-141

**Short Title:** Effect of Diving Ducks on Benthic Food Resources During Winter in South Carolina USA

**Accession Number:** BCI:BCI198783095395

**Keywords:** Bufflehead; Bucephala albeola; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The effect of diving duck predation on benthic macroinvertebrate numbers and biomass was investigated with the use of exclosures, during winter 1983-84, in a South Carolina reservoir. The relationship of food quality with increasing water depth was also studied. The most numerous waterfowl species occurring that feed on benthic invertebrates were Lesser Scaup Aythya affinis, Ring-necked Duck A. collaris, Bufflehead Bucephala albeola, and Ruddy Duck Oxyura jamaicensis. Birds reached peak numbers in early January, and departed in late March. Waterfowl had litle overall impact on benthic macroinvertebrate biomass and numbers during winter except for clams (Corbiculidae). For most invertebrate taxa, deeper waters did not contain richer food supplies when compared with shallow waters. A hypothesized relationship of food quality and water depth may not play an important role in the habitat segregation of male and female diving ducks.

**URL:** <Go to ISI>://BCI198783095395

**Reference Type:**  Journal Article

**Record Number:** 96

**Author:** W. A. Smith, J. A. K. Mazet and D. C. Hirsh

**Year:** 2002

**Title:** Salmonella in California wildlife species: Prevalence in rehabilitation centers and characterization of isolates

**Journal:** Journal of Zoo and Wildlife Medicine

**Volume:** 33

**Issue:** 3

**Pages:** 228-235

**Date:** September 2002

**Short Title:** Salmonella in California wildlife species: Prevalence in rehabilitation centers and characterization of isolates

**Accession Number:** BCI:BCI200300011743

**Keywords:** Sea Ducks - General; Disease;

**Abstract:** Fecal samples from 212 selected marine mammals, marine birds, and raptors were cultured for Salmonella spp. on arrival at rehabilitation centers in California from May 1999 through July 2000. Salmonella spp. were cultured from nine (4%) animals, and seven serotypes were isolated: Johannesberg, Montevideo, Newport, Ohio, Saint Paul, Enteritidis Group D, and 4,5,12:1 Monophasic. One western gull (Larus occidentalis) had two serotypes. Antibiotic susceptibilities and chromosomal fingerprints were evaluated for Salmonella isolates. Some isolates were resistant to gentamicin, amoxicillin-clavulanic acid, and ampicillin. Chromosomal fingerprints with XbaI and XhoI restriction enzymes differed between serotypes but not between individuals carrying the same serotype of Salmonella.

**URL:** <Go to ISI>://BCI200300011743

**Reference Type:**  Journal Article

**Record Number:** 1387

**Author:** W. E. Smith

**Year:** 2006

**Title:** Moulting common eiders devoured by killer whales

**Journal:** British Birds

**Volume:** 99

**Issue:** 5

**Pages:** 264

**Date:** May 2006

**Short Title:** Moulting common eiders devoured by killer whales

**Accession Number:** BCI:BCI200600483552

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Molt; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200600483552

**Reference Type:**  Journal Article

**Record Number:** 1158

**Author:** R. R. Snell

**Year:** 1985

**Title:** Underwater Flight of Long-Tailed Duck Oldsquaw Clangula-Hyemalis

**Journal:** Ibis

**Volume:** 127

**Issue:** 2

**Pages:** 267

**Short Title:** Underwater Flight of Long-Tailed Duck Oldsquaw Clangula-Hyemalis

**Accession Number:** BCI:BCI198529037227

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior;

**URL:** <Go to ISI>://BCI198529037227

**Reference Type:**  Journal Article

**Record Number:** 1998

**Author:** C. L. Snellen, P. J. Hodum and E. Fernandez-Juricic

**Year:** 2007

**Title:** Assessing western gull predation on purple sea urchins in the rocky intertidal using optimal foraging theory

**Journal:** Canadian Journal of Zoology-Revue Canadienne De Zoologie

**Volume:** 85

**Issue:** 2

**Pages:** 221-231

**Date:** Feb

**Short Title:** Assessing western gull predation on purple sea urchins in the rocky intertidal using optimal foraging theory

**DOI:** 10.1139/z06-203

**Notes:** Snellen, C. L. Hodum, P. J. Fernandez-Juricic, E.

**Reference Type:**  Journal Article

**Record Number:** 1614

**Author:** W. D. Snow, H. L. Mendall and W. B. Krohn

**Year:** 1990

**Title:** Capturing Common Eiders by Night-Lighting in Coastal Maine USA

**Journal:** Journal of Field Ornithology

**Volume:** 61

**Issue:** 1

**Pages:** 67-72

**Short Title:** Capturing Common Eiders by Night-Lighting in Coastal Maine USA

**Accession Number:** BCI:BCI199089101826

**Keywords:** Common Eider; Somateria mollissima; Techniques; Breeding Season;

**Abstract:** From 1970 to 1973, 762 Common Eiders (Somateria mollissima) were captured by night-lighting from boats in the shoal waters of outer Penobscot Bay, Maine. An average of 38 eiders were banded per night (range: 4-141), with 95% of the birds being flightless young and the remainder adults or subadults. Eiders were most readily captured on calm, dark nights. Ducklings 2-6 weeks of age were to capture than older young and adults. More female than male ducklings were banded in three of the four years with an overall that some young eiders moved east from Maine to southeastern Nova Scotia in late summer or early fall. Total recoveries (n = 52) suggest that Maine eiders winter in coastal Maine or migrate south to Massachusetts, while others winter in Nova Scotia.

**URL:** <Go to ISI>://BCI199089101826

**Reference Type:**  Journal Article

**Record Number:** 1

**Author:** D. V. Solovyeva and J. M. Pearce

**Year:** 2011

**Title:** Comparative mitochondrial genetics of North American and Eurasian mergansers with an emphasis on the endangered scaly-sided merganser (Mergus squamatus)

**Journal:** Conservation Genetics

**Volume:** 12

**Issue:** 3

**Pages:** 839-844

**Date:** Jun 2011

**Short Title:** Comparative mitochondrial genetics of North American and Eurasian mergansers with an emphasis on the endangered scaly-sided merganser (Mergus squamatus)

**Accession Number:** BCI:BCI201100339955

**Keywords:** Sea Ducks - General; Taxonomy;

**Abstract:** The scaly-sided merganser, Mergus squamatus, is considered one of the most threatened sea duck species in the Palearctic with limited breeding and wintering distribution in China and Russia. To provide information for future conservation efforts, we sequenced a portion of the mitochondrial (mt) DNA control region in four species of mergansers and three additional sea duck taxa to characterize the evolutionary history of the scaly-sided merganser, infer population trends that may have led to its limited geographic distribution, and to compare indices of genetic diversity among species of mergansers. Scaly-sided mergansers exhibit substantially lower levels of mtDNA genetic diversity (h = 0.292, pi = 0.0007) than other closely related sea ducks and many other avian taxa. The four haplotypes observed differed by a single base pair suggesting that the species has not experienced a recent population decline but has instead been at a low population level for some time. A phylogenetic analysis placed the scaly-sided merganser basal to North American and European forms of the common merganser, M. merganser. Our inclusion of a small number of male samples doubled the number of mtDNA haplotypes observed, suggesting that additional genetic variation likely exists within the global population if there is immigration of males from unsampled breeding areas.

**URL:** <Go to ISI>://BCI201100339955

**Reference Type:**  Journal Article

**Record Number:** 982

**Author:** N. Sonntag, O. Engelhard and S. Garthe

**Year:** 2004

**Title:** Summer occurrence and moult of Black Scoters Melanitta nigra and Velvet Scoters M-fusca on the Oderbank (southers Baltic Sea)

**Journal:** Vogelwelt

**Volume:** 125

**Issue:** 2

**Pages:** 77-82

**Short Title:** Summer occurrence and moult of Black Scoters Melanitta nigra and Velvet Scoters M-fusca on the Oderbank (southers Baltic Sea)

**Accession Number:** BCI:BCI200500183853

**Keywords:** Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Abundance, Distribution, and Trends; Molt; Nonbreeding Seasons;

**Abstract:** Ship surveys in the Pomeranian Bight, southern Baltic Sea, revealed an offshore summer occurrence of Black and Velvet Scoters on the Oderbank. Population sizes were estimated to be 110,000 to 220,000 Black Scoters for July to September 2003 and June 2004. In summer 2003 we also observed moulting birds. Their percentage varied between 0.2% (September) and 32% (August) of all Black Scoters. Velvet Scoters were present with about 260 individuals from July to September 2003, including four moulting birds in July, but with only five individuals in total in June 2004. The Oderbank is an important summer and moulting site for Black Scoters and probably the southernmost summer and perhaps even moulting area for Velvet Scoters. A special protection status is required to conserve this unique habitat in the German Baltic Sea.

**URL:** <Go to ISI>://BCI200500183853

**Reference Type:**  Journal Article

**Record Number:** 42

**Author:** N. Sonntag, B. Mendel and S. Garthe

**Year:** 2006

**Title:** Distribution of seabirds and waterbirds in the German Baltic Sea throughout the year

**Journal:** Vogelwarte

**Volume:** 44

**Issue:** 2

**Pages:** 81-112

**Date:** May 2006

**Short Title:** Distribution of seabirds and waterbirds in the German Baltic Sea throughout the year

**Accession Number:** BCI:BCI200600663518

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Habitat; Nonbreeding Seasons; Breeding Season;

**Abstract:** The German Baltic Sea is a very important area for seabirds and waterbirds. 38 species are regularly found in coastal or offshore waters. Many of them occur in international important concentrations and are subject to various conservation-related conventions and directives, especially the EU Birds Directive and the African-Eurasian Waterbird Agreement (AEWA).From 2000 to 2005, several research projects were dedicated to describe and analyse the distribution and abundance of seabirds in the offshore area in the German Baltic Sea at high spatial and temporal resolutions. In this study, we present for the first time the distribution of seabirds and waterbirds in the German Baltic Sea throughout the year, based on transect counts from ships. The main focus is on the offshore areas. For the most numerous species we present the distribution for the four seasons summer, autumn, winter and spring, defined species-specific. The maps clearly show spatial and temporal differences in the distribution of the various species. While Red-breasted Mergansers, Great Crested Grebes or Great Cormorants occur predominantely close to the coast, Red-necked Grebes, Slavonian Grebes and Common Guillemots, among others, prefer offshore-areas. The most numerous and characteristic species are the sea ducks Common Eider, Long-tailed Duck, Common Scoter and Velvet Scoter. They prefer areas with low water depth along the coast or on shallow banks in the offshore area. While Common Eiders occur chiefly in the western parts of the German Baltic Sea, Velvet Scoters are mainly found in the eastern parts. Both species have high densities in the winter half-year but only small numbers during summer. Long-tail Ducks and Common Scoters are distributed over large areas of the German Baltic Sea, but while the former species occurs in the winter, half-year only, the latter species is present throughout the whole year. Gulls are widespread throughout the study area and show only local and/or short-term concentrations. Aggregations are often in the vicinity of high fishing activities. The most frequent gull species is the Herring Gull. Terns occur only in very small numbers in the German Baltic Sea, with Black Terns exhibiting small concentrations in the eastern part during late summer.Species that occur predominantly in coastal areas of the German Baltic Sea are not presented in detail. However, for Mute Swan, Greater Scaup, Common Goldeneye and Goosander we present maps for the winter half-year (October-April), as the nearshore distribution of these species sometimes extent into offshore areas. For species occuring only seldom within the study area we present a list with the total number of individuals seen during the surveys. Coastal or migrating waterbird species are only named. Together with previously published information on the distribution of seabirds and waterbirds in the German Baltic Sea, available mainly for the winter and spring periods, this study gives a comprehensive overview about the spatial and temporal distribution of the most numerous and widespread seabirds and waterbirds in the German Baltic Sea. In addition, current population estimates of these species are given for the recently designated Special Protection Area "Pommersche Bucht" in the Exclusive Economic Zone (EEZ) of the eastern part of the German Baltic Sea.

**URL:** <Go to ISI>://BCI200600663518

**Reference Type:**  Journal Article

**Record Number:** 1295

**Author:** S. A. Sonsthagen, S. L. Talbot, R. B. Lanctot and K. G. McCracken

**Year:** 2010

**Title:** Do common eiders nest in kin groups? Microgeographic genetic structure in a philopatric sea duck

**Journal:** Molecular Ecology

**Volume:** 19

**Issue:** 4

**Pages:** 647-657

**Date:** Feb 2010

**Short Title:** Do common eiders nest in kin groups? Microgeographic genetic structure in a philopatric sea duck

**Accession Number:** BCI:BCI201000135627

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** We investigated local genetic associations among female Pacific common eiders (Somateria mollissima v-nigrum) nesting in a stochastic Arctic environment within two groups of barrier islands (Simpson Lagoon and Mikkelsen Bay) in the Beaufort Sea, Alaska. Nonrandom genetic associations were observed among nesting females using regional spatial autocorrelation analyses for distance classes up to 1000 m in Simpson Lagoon. Nearest- neighbour analyses identified clusters of genetically related females with positive lr values observed for 0-13% and 0-7% of the comparisons in Simpson Lagoon and Mikkelsen Bay, respectively, across years. These results indicate that a proportion of females are nesting in close proximity to more genetically related individuals, albeit at low frequency. Such kin groupings may form through active association between relatives or through natal philopatry and breeding site fidelity. Eiders nest in close association with driftwood, which is redistributed annually by seasonal storms. Yet, genetic associations were still observed. Microgeographic structure may thus be more attributable to kin association than natal philopatry and site fidelity. However, habitat availability may also influence the level of structure observed. Regional structure was present only within Simpson Lagoon and this island group includes at least three islands with sufficient driftwood for colonies, whereas only one island at Mikkelsen Bay has these features. A long-term demographic study is needed to understand more fully the mechanisms that lead to fine-scale genetic structure observed in common eiders breeding in the Beaufort Sea.

**URL:** <Go to ISI>://BCI201000135627

**Reference Type:**  Journal Article

**Record Number:** 1318

**Author:** S. A. Sonsthagen, S. L. Talbot, R. B. Lanctot, K. T. Scribner and K. G. McCracken

**Year:** 2009

**Title:** Hierarchical Spatial Genetic Structure of Common Eiders (Somateria Mollissima) Breeding Along a Migratory Corridor

**Journal:** Auk

**Volume:** 126

**Issue:** 4

**Pages:** 744-754

**Date:** Oct 2009

**Short Title:** Hierarchical Spatial Genetic Structure of Common Eiders (Somateria Mollissima) Breeding Along a Migratory Corridor

**Accession Number:** BCI:BCI200900638463

**Keywords:** Common Eider; Somateria mollissima; Population Delineation; Breeding Season; Dispersal;

**Abstract:** Documentation of spatial genetic discordance among breeding populations of Arctic-nesting avian species is important, because anthropogenic change is altering environmental linkages at micro- and macrogeographic scales. We estimated levels of population subdivision within Pacific Common Eiders (Somateria mollissima v-nigrum) breeding on 12 barrier islands in the western Beaufort Sea, Alaska, using molecular markers and capture-mark-recapture (CMR) data. Common Eider populations were genetically structured on a microgeographic scale. Regional comparisons between populations breeding on island groups separated by 90 km (Mikkelsen Bay and Simpson Lagoon) revealed structuring at 1.4 microsatellite loci (F-ST = 0.004, P < 0.01), a nuclear intron (F-ST = 0.022, P = 0.02), and mitochondrial DNA (Phi(ST) = 0.082, P < 0.05). The CMR data (n = 34) did not indicate female dispersal between island groups. Concordance between genetic and CMR data indicates that females breeding in the western Beaufort Sea are strongly philopatric to island groups rather than to a particular island. Despite the apparent high site fidelity of females, coalescence-based models of gene flow suggest that asymmetrical western dispersal occurs between island groups and is likely mediated by Mikkelsen Bay females stopping early on spring migration at Simpson Lagoon to breed. Alternatively, late-arriving females may be predisposed to nest in Simpson Lagoon because of the greater availability and wider distribution of nesting habitat. Our results indicate that genetic discontinuities, mediated by female philopatry, can exist at microgeographic scales along established migratory corridors. Received 31 October 2008, accepted 3 May 2009.

**URL:** <Go to ISI>://BCI200900638463

**Reference Type:**  Journal Article

**Record Number:** 1358

**Author:** S. A. Sonsthagen, S. L. Talbot and K. G. McCracken

**Year:** 2007

**Title:** Genetic characterization of Common Eiders breeding in the Yukon-Kuskokwim Delta, Alaska

**Journal:** Condor

**Volume:** 109

**Issue:** 4

**Pages:** 878-893

**Date:** Nov 2007

**Short Title:** Genetic characterization of Common Eiders breeding in the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200800126204

**Keywords:** Common Eider; Somateria mollissima; Population Delineation; Breeding Season;

**Abstract:** We assessed population genetic subdivision among four colonies of Common Eiders (Somateria niollissima v-nigrum) breeding in the Yukon-Kuskokwim Delta (YKD), Alaska, using microsatellite genotypes and DNA sequences with differing modes of inheritance. Significant, albeit low, levels of genetic differentiation were observed between mainland populations and Kigigak Island for nuclear intron lamin A and mitochondrial DNA (mtDNA) control region. Intercolony variation in haplotypic frequencies also was observed at mtDNA. Positive growth signatures assayed from microsatellites, nuclear introns, and mtDNA indicate recent colonization of the YKD, and may explain the low levels of structuring observed. Gene flow estimates based on microsatellites, nuclear introns, and mtDNA suggest asymmetrical gene flow between mainland colonies and Kigigak Island, with more individuals on average dispersing from mainland populations to Kigigak Island than vice versa. The directionality of gene flow observed may be explained by the colonization of the YKD from northern glacial refugia or by YKD metapopulation dynamics.

**URL:** <Go to ISI>://BCI200800126204

**Reference Type:**  Journal Article

**Record Number:** 1967

**Author:** S. A. Sonsthagen, S. L. Talbot, K. T. Scribner and K. G. McCracken

**Year:** 2011

**Title:** Multilocus phylogeography and population structure of common eiders breeding in North America and Scandinavia

**Journal:** Journal of Biogeography

**Volume:** 38

**Issue:** 7

**Pages:** 1368-1380

**Date:** Jul

**Short Title:** Multilocus phylogeography and population structure of common eiders breeding in North America and Scandinavia

**ISSN:** 0305-0270

**DOI:** 10.1111/j.1365-2699.2011.02492.x

**Accession Number:** WOS:000292695200012

**Keywords:** Common eider; somateria mollissima; Population Delineation; Breeding Season

**Notes:** Times Cited: 13

Sonsthagen, Sarah A. Talbot, Sandra L. Scribner, Kim T. McCracken, Kevin G.

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**URL:** <Go to ISI>://WOS:000292695200012

**Reference Type:**  Journal Article

**Record Number:** 1968

**Author:** S. A. Sonsthagen, S. L. Talbot, R. E. Wilson, M. R. Petersen, J. C. Williams, G. V. Byrd and K. G. McCracken

**Year:** 2013

**Title:** GENETIC STRUCTURE OF THE COMMON EIDER IN THE WESTERN ALEUTIAN ISLANDS PRIOR TO FOX ERADICATION

**Journal:** Condor

**Volume:** 115

**Issue:** 1

**Pages:** 28-39

**Date:** Feb

**Short Title:** GENETIC STRUCTURE OF THE COMMON EIDER IN THE WESTERN ALEUTIAN ISLANDS PRIOR TO FOX ERADICATION

**ISSN:** 0010-5422

**DOI:** 10.1525/cond.2012.110054

**Accession Number:** WOS:000315659800005

**Keywords:** Common eider; Somateria mollissima; Population Delineation; Conservation; Breeding Season

**Notes:** Times Cited: 0

Sonsthagen, Sarah A. Talbot, Sandra L. Wilson, Robert E. Petersen, Margaret R. Williams, Jeffrey C. Byrd, G. Vernon McCracken, Kevin G.

0

**URL:** <Go to ISI>://WOS:000315659800005

**Reference Type:**  Report

**Record Number:** 2357

**Author:** C. E. Soulliere and P. W. Thomas

**Year:** 2009

**Title:** Harlequin Duck Threat Assessment, Eastern Population

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 491

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Harlequin Duck Threat Assessment, Eastern Population

**Keywords:** Harlequin Duck; Histrionicus histrionicus; Conservation

**Abstract:** Seasonal changes in habitat use and behaviour, and the wide geographic range of

Harlequin Ducks in eastern North America result in diverse threats to population viability, which

vary across regions and across seasons. In Part I of the Threat Assessment, potential and plausible

threats to Harlequin Duck in eastern Canada are evaluated; those causing disproportionate stress

to breeding females and those with the potential to affect aggregations of ducks at sea are of

greatest concern. As the relevance, timing, and intensity of threats differ between the political

boundaries of the Provinces in Atlantic Canada, analysis of the status of threats for each Atlantic

Province is provided in Part II. Recommendations for threat management and avenues for threat

mitigation are discussed within the provincial analyses. This document is intended to be used as a

resource and guide for population and habitat managers, environmental assessment officers, and

other individuals, agencies, or organizations with a practical interest in the minimization of

threats to Harlequin Ducks.

**Reference Type:**  Journal Article

**Record Number:** 677

**Author:** G. J. Soulliere

**Year:** 1987

**Title:** Distinguishing Hooded Merganser and Wood Duck Nests by Eggshell Thickness

**Journal:** Journal of Wildlife Management

**Volume:** 51

**Issue:** 3

**Pages:** 534

**Short Title:** Distinguishing Hooded Merganser and Wood Duck Nests by Eggshell Thickness

**Accession Number:** BCI:BCI198784117539

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Techniques; Breeding Season;

**Abstract:** Although eggshells of hooded mergansers (Mergus cucullatus) and wood ducks (Aix sponsa) are difficult to distinguish by color, I found that eggshell thickness (0.541 vs. 0.255 mm, respectively) provided reliable identification.

**URL:** <Go to ISI>://BCI198784117539

**Reference Type:**  Journal Article

**Record Number:** 662

**Author:** G. J. Soulliere and T. P. Rusch

**Year:** 1996

**Title:** Nesting characteristics of hooded mergansers, wood ducks, European starlings and tree swallows in Wisconsin

**Journal:** Journal of Field Ornithology

**Volume:** 67

**Issue:** 1

**Pages:** 100-104

**Short Title:** Nesting characteristics of hooded mergansers, wood ducks, European starlings and tree swallows in Wisconsin

**Accession Number:** BCI:BCI199698677126

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Techniques; Breeding Season;

**Abstract:** Nest initiation dates and typical characteristics were recorded and summarized from 300 nests of four species of cavity-nesting birds in central Wisconsin. Hooded Mergansers (Mergus cucullatus) were the earliest nesters, followed by Wood Ducks (Aix sponsa), European Starlings (Sturnus vulgaris) and Tree Swallows (Tachycineta bicolor). Egg laying began on 25 March, 13 April, 23 April and 12 May, respectively. Modal nest initiation dates were 10 April for Hooded Mergansers, 30 April for Wood Ducks, 1 May for Starlings and 24 May for Tree Swallows. Composition of nest material and egg-shell color and thickness can be used to distinguish nest sites of these species before and after hatch.

**URL:** <Go to ISI>://BCI199698677126

**Reference Type:**  Journal Article

**Record Number:** 1758

**Author:** B. K. Speake, P. F. Surai and G. R. Bortolotti

**Year:** 2002

**Title:** Fatty acid profiles of yolk lipids of five species of wild ducks (Anatidae) differing in dietary preference

**Journal:** Journal of Zoology (London)

**Volume:** 257

**Issue:** 4

**Pages:** 533-538

**Date:** August, 2002

**Short Title:** Fatty acid profiles of yolk lipids of five species of wild ducks (Anatidae) differing in dietary preference

**Accession Number:** BCI:BCI200200524185

**Keywords:** King Eider; Somateria spectabilis; Trophic Interactions; Energetics and Nutrition; Breeding Season;

**Abstract:** The fatty acid compositions of yolk lipids of eggs collected in the wild from five species of ducks (Anatidae) showing a range of dietary preferences, the king eider Somateria spectabilis, the lesser scaup Aythya affinis, the mallard Anas platyrhynchos, the green-winged teal Anas crecca and the gadwall Anas streperi, are reported. For all five species, the fatty acid profiles conformed to a similar pattern, characterized by relatively balanced proportions (w/w) of arachidonic (6.7-9.1%) and docosahexaenoic (5.9-7.0%) acids in yolk phospholipid. This contrasts markedly with the yolk phospholipid of current commercially-reared ducks where the proportion of arachidonic acid can be 10 times greater than that of docosahexaenoic acid. It was most notable that the similarities in yolk fatty acid profiles among the different species of wild ducks were achieved despite the considerable interspecies variation in dietary modes. It seems that, in this instance, genetic factors deriving from a common phylogeny may be more important than dietary differences in determining the fatty acid composition of yolk.

**URL:** <Go to ISI>://BCI200200524185

**Reference Type:**  Journal Article

**Record Number:** 943

**Author:** K. G. Spencer

**Year:** 1969

**Title:** Overland Migrations of Common Scoters

**Journal:** British Birds

**Volume:** 62

**Issue:** 8

**Pages:** 332-333

**Short Title:** Overland Migrations of Common Scoters

**Accession Number:** BCI:BCI197006035514

**Keywords:** Black Scoter; Melanitta nigra; Migration; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197006035514

**Reference Type:**  Journal Article

**Record Number:** 1447

**Author:** M. B. Sperduto, S. P. Powers and M. Donlan

**Year:** 2003

**Title:** Scaling restoration to achieve quantitative enhancement of loon, seaduck, and other seabird populations

**Journal:** Marine Ecology Progress Series

**Volume:** 264

**Pages:** 221-232

**Date:** December 15, 2003

**Short Title:** Scaling restoration to achieve quantitative enhancement of loon, seaduck, and other seabird populations

**Accession Number:** BCI:BCI200400188884

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Conservation; Breeding Season;

**Abstract:** The 1996 'North Cape' oil spill along the Rhode Island coast led to the deaths of at least 2292 birds, resulting in an estimated 6275 bird-years lost (adjusted by expected longevity and productivity). We synthesize information on bird population dynamics to develop an appropriate restoration strategy. Marine birds (seaducks, loons, grebes) with natural recovery periods estimated to exceed 1 yr accounted for 87% of the total bird-years lost. Marine birds (gulls, cormorants, alcids, gannets) with recovery estimated to be less than a year accounted for 10% of injuries. Common loons Gavia immer and common eiders Somateria mollissima were selected as targets for restoration because of regional concern over their population status and the magnitude of lost bird-years. Three restoration options were evaluated for loons: nest site protection; nest site enhancement; and public education/outreach. Nest site enhancement opportunities were limited and benefits from public education/outreach efforts were uncertain. Nest site protection was preferred for both loons and eiders because nest site availability and/or quality currently limit(s) productivity. This option assumes that preventing future productivity loss compensates for productivity loss that resulted from the 'North Cape' oil spill. This assumption is supported by regional productivity estimates for the 2 target species, is consistent with scientific literature, and represents the consensus of expert opinions. Based on a series of scaling calculations, protection of 25 nest sites for a 100 yr period is expected to balance the loss of 2920 loon-years. Protection of 315 eider nest sites over a 100 yr period would replace 2605 bird-years lost (remaining marine bird injury). Calculations adjust future production credit through economic discounting of 3% yr-1. Our analysis provides a means of quantifying the level of breeding habitat protection required to restore injured populations of marine birds.

**URL:** <Go to ISI>://BCI200400188884

**Reference Type:**  Journal Article

**Record Number:** 1688

**Author:** E. Spurr and H. Milne

**Year:** 1976

**Title:** Adaptive Significance of Autumn Pair Formation in the Common Eider Somateria-Mollissima

**Journal:** Ornis Scandinavica

**Volume:** 7

**Issue:** 1

**Pages:** 85-89

**Short Title:** Adaptive Significance of Autumn Pair Formation in the Common Eider Somateria-Mollissima

**Accession Number:** BCI:BCI197662065187

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** The relationship between date of pair formation and date of laying in the common eider S. mollissima (L.) at the Sands of Forvie, Scotland, was investigated. The birds were individually marked and many were of known age. Most pairs were formed before mid-winter (22 Dec.); it is thought that most of these were the result of reunification with a previous partner and that they remained intact throughout the winter. Females that paired after mid-winter were mostly 2 and 3 yr old birds and it is thought they formed new pair-bonds. These late-paired females either did not lay or laid late rather than early in the season. The laying dates of females paired before mid-winter were spread right through the season, so that a long association from early pairing did not necessarily lead to early laying. It is nevertheless an advantage for females to pair early and with the previous partner, so as to maintain the pair-bond and to reduce interference to their feeding in spring. Because of male excess (unequal sex ratio), males must be subject to selection pressure to become paired as early in the season as possible.

**URL:** <Go to ISI>://BCI197662065187

**Reference Type:**  Journal Article

**Record Number:** 1687

**Author:** E. B. Spurr and H. Milne

**Year:** 1976

**Title:** Factors Affecting Laying Date in the Common Eider

**Journal:** Wildfowl

**Volume:** 27

**Pages:** 107-110

**Short Title:** Factors Affecting Laying Date in the Common Eider

**Accession Number:** BCI:BCI197713042310

**Keywords:** Common Eider; Somateria mollissima; Breeding Season;

**URL:** <Go to ISI>://BCI197713042310

**Reference Type:**  Journal Article

**Record Number:** 271

**Author:** K. A. Squires, K. Martin and R. I. Goudie

**Year:** 2007

**Title:** Vigilance behavior in the Harlequin Duck (Histrionicus histrionicus) during the preincubation period in labrador: Are males vigilant for self or social partner?

**Journal:** Auk

**Volume:** 124

**Issue:** 1

**Pages:** 241-252

**Date:** Jan 2007

**Short Title:** Vigilance behavior in the Harlequin Duck (Histrionicus histrionicus) during the preincubation period in labrador: Are males vigilant for self or social partner?

**Accession Number:** BCI:BCI200700182277

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Breeding Season;

**Abstract:** Males of several avian species are more vigilant than their female partners, particularly during the preincubation period. Male vigilance may function as a deterrent of extrapair copulation attempts (EPCs) or to ensure male survival, because males of sexually dimorphic species may be more conspicuous to predators than females. However, vigilant males may act as antipredator sentinels to enhance female survivorship, which may also allow females to feed and rest more efficiently, thereby enhancing their ability to form clutches. We attempted to distinguish between the "male benefits" and "female benefits" hypotheses by studying the behavior of unpaired males and paired Harlequin Ducks (Histrionicus histrionicus) during the preincubation period. Paired males were, on average, four times more vigilant than unpaired males and their mates, which suggests that elevated levels of vigilance by paired males does not function primarily for self-protection against predators. Males were not more vigilant during the female's fertile period, contrary to the "paternity assurance" hypothesis. Male vigilance during feeding bouts was highest when pairs fed alone near shore-a condition in which feeding was likely more "risky." Male vigilance was positively correlated with female feeding when females fed near shore, but not at other times. During resting bouts, males were vigilant 14 +/- 0.01% of the time in all conditions. We suggest that male vigilance may be important to enhance female survival, especially when females feed under risky conditions.

**URL:** <Go to ISI>://BCI200700182277

**Reference Type:**  Journal Article

**Record Number:** 961

**Author:** A. Sruoga, S. Slavenaite, D. Butkauskas and G. Grazulevicius

**Year:** 2008

**Title:** CROSS-SPECIES APPLICABILITY OF MICROSATELLITE MARKERS FOR INVESTIGATION OF SEA DUCKS (Mergini) GENETIC DIFFERENTIATION

**Journal:** Proceedings of the Latvian Academy of Sciences Section B Natural Exact and Applied Sciences

**Volume:** 62

**Issue:** 6

**Pages:** 215-218

**Short Title:** CROSS-SPECIES APPLICABILITY OF MICROSATELLITE MARKERS FOR INVESTIGATION OF SEA DUCKS (Mergini) GENETIC DIFFERENTIATION

**Accession Number:** BCI:BCI200900510002

**Keywords:** Long-tailed Duck; Clangula hyemalis; Common merganser; Mergus merganser; White-winged Scoter; Melanitta fusca; Techniques;

**Abstract:** Genetic studies of waterfowl have provided insufficient information on the evolutionary history of the sea duck tribe (Mergini, Anseriformes), as highly variable molecular markers have not been identified. Cross-species applicability of microsatellites has been shown for several bird families. Therefore, the objective of our work was to examine whether specific primers used previously for Anatidae, Phasianidae and Laridae taxons could amplify microsatellite loci of sea duck species: Long-tailed duck (Clangula hyemalis), Goosander (Mergus merganser) and Velvet Scoter (Melanitta fusca). Tissue samples were collected and DNA was extracted by rapid salt extraction method. Amplification of DNA fragments was carried out using specific microsatellite primers of APH21, Aalmu1, Sfimu4, Sfimu5 (Anatidae), ADL209, ADL115 (Phasianidae) and K71, RGB28 (Laridae). Four primer pairs (APH21, Aalmu1, K71, and nSfimu4) were suitable for investigation of interspecies genetic variability among Long-tailed duck and Velvet Scoter. Intraspecies specificity has been detected for primer pair ADL 209 in all three duck species. The primer pair APH21 was selected as most promising for investigation of intraspecies variability of Long-tailed duck and Velvet Scoter.

**URL:** <Go to ISI>://BCI200900510002

**Reference Type:**  Journal Article

**Record Number:** 1357

**Author:** B. B. Steele, A. Lehikoinen, M. Ost and M. Kilpi

**Year:** 2007

**Title:** The cost of mate guarding in the Common Eider

**Journal:** Ornis Fennica

**Volume:** 84

**Issue:** 2

**Pages:** 49-56

**Short Title:** The cost of mate guarding in the Common Eider

**Accession Number:** BCI:BCI200700556485

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** A male biased sex ratio in Finnish Common Eiders (Somateria mollissima) results in unmated males interacting with eider pairs. We quantified the effects of mate guarding on other behaviors. Mated males spent less time feeding and performed fewer dives than unmated males in 2003, but not in 2004. A cold winter in 2003 implies that eiders arrived on the breeding grounds in poorer condition making feeding more critical. Mated males were dominant over unmated ones, winning two thirds of their aggressions. Mated males had fewer aggressive encounters but spent a greater proportion of their time in aggression. Mated males also seemed to spend extensive energy guarding their mate during infrequent but intensive "harassments", lasting up to 165 minutes, in which 6 to 23 males chased one female. Harassments became more frequent later in the season, when females started incubating and the male bias was most pronounced. These harassments, and the fact that unmated males often approached other ducks, suggest that unmated males are trying to access females. Given the current trend of increasing male bias, both the cost of being mated and the fitness benefits of an alternative mating strategy may increase.

**URL:** <Go to ISI>://BCI200700556485

**Reference Type:**  Journal Article

**Record Number:** 1154

**Author:** J. B. Steen and G. W. Gabrielsen

**Year:** 1986

**Title:** Thermogenesis in Newly Hatched Eider Somateria-Mollissima and Long-Tailed Duck Clangula-Hyemalis Ducklings and Barnacle Goose Branta-Leucopsis Goslings

**Journal:** Polar Research

**Volume:** 4

**Issue:** 2

**Pages:** 181-186

**Short Title:** Thermogenesis in Newly Hatched Eider Somateria-Mollissima and Long-Tailed Duck Clangula-Hyemalis Ducklings and Barnacle Goose Branta-Leucopsis Goslings

**Accession Number:** BCI:BCI198784030710

**Keywords:** Long-tailed Duck; Clangula hyemalis; Physiology; Breeding Season;

**Abstract:** Oxygen consumption and body temperature were recorded in Eider and Long-tailed ducklings and in Barnacle goslings less than 4 days old. In some ducklings organ temperatures during cold exposure and oxidative capacity of various organs were also measured. Both ducklings and goslings were perfectly homeothermic down to -10.degree. NC ambient temperature. Eider hatchlings had a lower critical temperature of 23.degree. C, Long-tailed of 29.degree. C, and Barnacle goslings of 21.degree. C. During cold stress the area below the spine was slightly warmer than the thigh and liver. The high oxidative capacities of these organs compared to yolk, kidney, and gut indicate that the homeothermy in newly hatched ducklings and goslings depends on a combination of good insulation and a high oxidative capacity of leg muscles and liver.

**URL:** <Go to ISI>://BCI198784030710

**Reference Type:**  Journal Article

**Record Number:** 2205

**Author:** R. J. Steenweg, H. L. Hennin, J. Bety, H. G. Gilchrist, T. D. Williams, G. T. Crossin and O. P. Love

**Year:** 2015

**Title:** Sources of diel variation in energetic physiology in an Arctic-breeding, diving seaduck

**Journal:** General and Comparative Endocrinology

**Volume:** 216

**Pages:** 39-45

**Date:** May

**Short Title:** Sources of diel variation in energetic physiology in an Arctic-breeding, diving seaduck

**ISSN:** 0016-6480

**DOI:** 10.1016/j.ygcen.2015.04.012

**Accession Number:** WOS:000356115200005

**Keywords:** Common Eider; Somateria mollissima; Physiology

**Abstract:** Diel variation in baseline glucocorticoid (GC) secretion influences energetics and foraging behaviors. In temperate breeding, diurnal vertebrates, studies have shown that daily patterns of baseline GC secretion are influenced by environmental photoperiod, with baseline GCs peaking prior to sunrise to stimulate waking and foraging behaviors. Measures of physiological energy acquisition are also expected to peak in response to foraging activity, but their relationship to GC levels have not been well studied. In contrast to temperate breeding species, virtually nothing is known about diel GC and energetic metabolite secretion in Arctic breeding species, which experience almost constant photoperiods in spring and summer. Using a ten-year dataset, we examined the daily, 24-h pattern of baseline corticosterone (CORT) and triglyceride (TRIG) secretion in approximately 800 female pre-breeding Arctic-nesting common eiders (Somateria mollissima). We related these traits to environmental photoperiod and to tidal cycle. In contrast to temperate breeding species, we found that that neither time of day nor tidal trend predicted diel variation in CORT or TRIG secretion in Arctic-breeding eiders. Given the narrow window of opportunity for breeding in polar regions, we suggest that eiders must decouple their daily foraging activity from light and tidal cycles if they are to accrue sufficient energy for successful breeding. As CORT is known to influence foraging behavior, the absence of a distinct diel pattern of CORT secretion may therefore be an adaptation to optimize reproductive investment and likelihood for success in some polar-breeding species. (C) 2015 Elsevier Inc. All rights reserved.

**Notes:** Steenweg, Rolanda J. Hennin, Holly L. Bety, Joel Gilchrist, H. Grant Williams, Tony D. Crossin, Glenn T. Love, Oliver P.

**URL:** <Go to ISI>://WOS:000356115200005

**Reference Type:**  Journal Article

**Record Number:** 1264

**Author:** R. A. Stehn, C. P. Dau, B. Conant and W. I. Butler, Jr.

**Year:** 1993

**Title:** Decline of spectacled eiders nesting in western Alaska

**Journal:** Arctic

**Volume:** 46

**Issue:** 3

**Pages:** 264-277

**Short Title:** Decline of spectacled eiders nesting in western Alaska

**Accession Number:** BCI:BCI199396134866

**Keywords:** Spectacled Eider; Somateria fischeri; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Spectacled eider (Somateria fischeri) populations in western Alaska are now less than 4% of the numbers estimated in the early 1970s. In 1992, an estimated 1721 nesting pairs remained on the Yukon-Kuskokwim Delta. Causes of this rapid and continuing decline of -14% per year are undocumented. Many aspects of spectacled eider biology remain unknown, including their marine foraging habitats, food items, migratory movements, and population ecology. A review of some biological characteristics and possible threats to the species suggests the importance of quantifying potential impacts from parasites and disease, subsistence harvest, predation during brood rearing, and alteration of Bering Sea food resources. Factors causing the population decline of spectacled eiders must be determined and appropriate actions taken to reverse the trend.

**URL:** <Go to ISI>://BCI199396134866

**Reference Type:**  Journal Article

**Record Number:** 611

**Author:** M. A. Stern, T. G. Wise and K. L. Theodore

**Year:** 1987

**Title:** Use of Natural Cavity by Bufflehead Nesting in Oregon USA

**Journal:** Murrelet

**Volume:** 68

**Issue:** 2

**Pages:** 50

**Short Title:** Use of Natural Cavity by Bufflehead Nesting in Oregon USA

**Accession Number:** BCI:BCI198835023253

**Keywords:** Bufflehead; Bucephala albeola; Breeding Season;

**URL:** <Go to ISI>://BCI198835023253

**Reference Type:**  Journal Article

**Record Number:** 1183

**Author:** P. A. Stewart

**Year:** 1967

**Title:** Diving schedules of a common loon Gavia immer and a group of oldsquaws Clangula hyemalis

**Journal:** Auk

**Volume:** 84

**Issue:** (1)

**Pages:** 122-123

**Short Title:** Diving schedules of a common loon Gavia immer and a group of oldsquaws Clangula hyemalis

**Accession Number:** BCI:BCI19674800089264

**Keywords:** Long-tailed Duck; Clangula hyemalis; Behavior;

**URL:** <Go to ISI>://BCI19674800089264

**Reference Type:**  Journal Article

**Record Number:** 2206

**Author:** J. Stien and R. A. Ims

**Year:** 2016

**Title:** Absence from the nest due to human disturbance induces higher nest predation risk than natural recesses in Common Eiders Somateria mollissima

**Journal:** Ibis

**Volume:** 158

**Issue:** 2

**Pages:** 249-260

**Date:** Apr

**Short Title:** Absence from the nest due to human disturbance induces higher nest predation risk than natural recesses in Common Eiders Somateria mollissima

**ISSN:** 0019-1019

**DOI:** 10.1111/ibi.12338

**Accession Number:** WOS:000373367900002

**Keywords:** Common Eider; Somateria mollissima; Breeding Season; Behavior; Productivity; Conservation

**Abstract:** Human disturbance of nesting birds may cause reduced breeding success. It is therefore necessary to assess the impact of disturbance to identify steps that minimize negative impacts. We carried out a study of nesting success at two adjacent colonies of Common Eider Somateria mollissima on the islands of GrindOya and HakOya in northern Norway between 2006 and 2011. Over the study period, nesting success was consistently higher on HakOya (69-82%) than on GrindOya (35-60%). Between 2009 and 2011 we used camera monitoring of individual nests to identify determinants of nest survival and predation, focusing in particular on the effect of departures from the nest due to human disturbance, which differed between the colonies due to a long-term research project on GrindOya. Overall, absence of Common Eiders from nests due to disturbance increased the predation risk by a factor of 6.42 for an increase of one additional daily disturbance. In contrast, absence due to natural recesses did not increase nest losses. Under high levels of human disturbance, camera monitoring indicated that the main cause of breeding failure was predation, primarily by Hooded Crows Corvus cornix, but also to some extent Great Black-backed Gulls Larus marinus. The presence of cameras did not increase the predation risk. Both the presence of researchers and the sight of Common Eider females conspicuously departing from nests are likely to have provided cues to these predators. We suggest management trials to reduce nesting disturbance through the guarding of unoccupied nests to mitigate the effects of human disturbance on reproductive success.

**Notes:** Stien, Jennifer Ims, Rolf A.

**URL:** <Go to ISI>://WOS:000373367900002

**Reference Type:**  Journal Article

**Record Number:** 1294

**Author:** J. Stien, N. G. Yoccoz and R. A. Ims

**Year:** 2010

**Title:** Nest predation in declining populations of common eiders Somateria mollissima: an experimental evaluation of the role of hooded crows Corvus cornix

**Journal:** Wildlife Biology

**Volume:** 16

**Issue:** 2

**Pages:** 123-134

**Date:** Jun 2010

**Short Title:** Nest predation in declining populations of common eiders Somateria mollissima: an experimental evaluation of the role of hooded crows Corvus cornix

**Accession Number:** BCI:BCI201000498995

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Productivity; Breeding Season;

**Abstract:** We evaluated the effect of the removal of hooded crows Corvus cornix on common eider Somateria mollissima nesting success using a partial Before and After Comparison of Impact (BACI) design over three years in two eider breeding colonies (Hakoya and Grindoya) in northern Norway. These breeding colonies had over the last decades been subject to severe declines in number of breeding birds and it was suspected that increasing nest predation by crows was contributing to the declines. Eider nesting success was monitored in both colonies during 2006-2008. Crows were removed by live-trapping from Hakoya in 2007 and from Grindoya in 2008. We monitored the number of nesting pairs of crows and general crow activity. Crow removal was generally successful in reducing the number of established territorial and visiting crows. Modelling of daily nesting success probabilities according to a logistic exposure model revealed that eider nests found at the start of the season had a much lower probability of success than nests found later on in the season. This is likely to be due in part to the increase in number of active nests during the first half of the season. The effect of crow removal appeared to differ between the two colonies. Eider nesting success on Hakoya increased from 61% in the pre-removal year 2006 to 80% during crow removal in 2007 and declined to 74% in the post-removal year 2008. In contrast, nesting success on Grindoya remained constantly low (38-40%) during the same period. This difference between the two colonies could be explained by a difference in predation pressure, or by a higher general disturbance level on Grindoya making unattended nests vulnerable to predation by a range of alternative predator species acting compensatory to the removal of crows. New investigations should be undertaken to clarify the interaction between crows and other nest predators in determining eider nesting success. Where compensation appears to occur, conditions for this process should be investigated. This will help to indicate when crow removal can be effective and which other actions can be employed to increase common eider nesting success.

**URL:** <Go to ISI>://BCI201000498995

**Reference Type:**  Journal Article

**Record Number:** 1293

**Author:** R. A. Stillman and J. D. Goss-Custard

**Year:** 2010

**Title:** Individual-based ecology of coastal birds

**Journal:** Biological Reviews (Cambridge)

**Volume:** 85

**Issue:** 3

**Pages:** 413-434

**Date:** Aug 2010

**Short Title:** Individual-based ecology of coastal birds

**Accession Number:** BCI:BCI201000437432

**Keywords:** Black Scoter; Melanitta nigra; Common Eider; Somateria mollissima; Population Dynamics; Population Model; Conservation; Habitat; Behavior; Nonbreeding Seasons;

**Abstract:** Conservation objectives for non-breeding coastal birds (shorebirds and wildfowl) are determined from their population size at coastal sites. To advise coastal managers, models must predict quantitatively the effects of environmental change on population size or the demographic rates (mortality and reproduction) that determine it. As habitat association models and depletion models are not able to do this, we developed an approach that has produced such predictions thereby enabling policy makers to make evidence-based decisions. Our conceptual framework is individual-based ecology, in which populations are viewed as having properties (e.g. size) that arise from the traits (e.g. behaviour, physiology) and interactions of their constituent individuals. The link between individuals and populations is made through individual-based models (IBMs) that follow the fitness-maximising decisions of individuals and predict population-level consequences (e.g. mortality rate) from the fates of these individuals. Our first IBM was for oystercatchers Haematopus ostralegus and accurately predicted their density-dependent mortality. Subsequently, IBMs were developed for several shorebird and wildfowl species at several European sites, and were shown to predict accurately overwinter mortality, and the foraging behaviour from which predictions are derived. They have been used to predict the effect on survival in coastal birds of sea level rise, habitat loss, wind farm development, shellfishing and human disturbance. This review emphasises the wider applicability of the approach, and identifies other systems to which it could be applied. We view the IBM approach as a very useful contribution to the general problem of how to advance ecology to the point where we can routinely make meaningful predictions of how populations respond to environmental change.

**URL:** <Go to ISI>://BCI201000437432

**Reference Type:**  Journal Article

**Record Number:** 210

**Author:** R. S. Stott and D. P. Olson

**Year:** 1972

**Title:** Differential Vulnerability Patterns among 3 Species of Sea Ducks

**Journal:** Journal of Wildlife Management

**Volume:** 36

**Issue:** 3

**Pages:** 775-783

**Short Title:** Differential Vulnerability Patterns among 3 Species of Sea Ducks

**Accession Number:** BCI:BCI197355024993

**Keywords:** Sea Ducks - General;

**URL:** <Go to ISI>://BCI197355024993

**Reference Type:**  Journal Article

**Record Number:** 211

**Author:** R. S. Stott and D. P. Olson

**Year:** 1972

**Title:** An Evaluation of Waterfowl Surveys on the New-Hampshire Coastline

**Journal:** Journal of Wildlife Management

**Volume:** 36

**Issue:** 2

**Pages:** 468-477

**Short Title:** An Evaluation of Waterfowl Surveys on the New-Hampshire Coastline

**Accession Number:** BCI:BCI197254053907

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Techniques; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197254053907

**Reference Type:**  Journal Article

**Record Number:** 206

**Author:** R. S. Stott and D. P. Olson

**Year:** 1973

**Title:** Food Habitat Relationship of Sea Ducks on the New-Hampshire Coastline

**Journal:** Ecology (Washington D C)

**Volume:** 54

**Issue:** 5

**Pages:** 996-1007

**Short Title:** Food Habitat Relationship of Sea Ducks on the New-Hampshire Coastline

**Accession Number:** BCI:BCI197457054061

**Keywords:** Sea Ducks - General; Habitat; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197457054061

**Reference Type:**  Journal Article

**Record Number:** 1241

**Author:** J. H. Stout, K. A. Trust, J. F. Cochrane, R. S. Suydam and L. T. Quakenbush

**Year:** 2002

**Title:** Environmental contaminants in four eider species from Alaska and arctic Russia

**Journal:** Environmental Pollution

**Volume:** 119

**Issue:** 2

**Pages:** 215-226

**Short Title:** Environmental contaminants in four eider species from Alaska and arctic Russia

**Accession Number:** BCI:BCI200200379524

**Keywords:** King Eider; Somateria spectabilis; Common Eider; Somateria mollissima; Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Contaminants;

**Abstract:** Population declines in four species of eider; common (Somateria mollissima), king (Somateria spectabilis), spectacled (Somateria fischeri) and Steller's (Polysticta stelleri), have raised concerns about exposure to contaminants. Livers and kidney tissues were collected from eiders in Alaska and Russia for organic and elemental analyses. Results showed that organochlorine and many elemental levels were below toxic thresholds; however, in many cases, cadmium, copper, lead and selenium appeared high relative to other waterfowl and may warrant concern. With the exception of lead, local anthropogenic sources for these elements are not known. Although adverse physiological responses have not been documented in eiders, these four elements cannot be ruled out as contaminants of potential concern for some eider species.

**URL:** <Go to ISI>://BCI200200379524

**Reference Type:**  Journal Article

**Record Number:** 66

**Author:** J. Strand and J. A. Jacobsen

**Year:** 2005

**Title:** Accumulation and trophic transfer of organotins in a marine food web from the Danish coastal waters

**Journal:** Science of the Total Environment

**Volume:** 350

**Issue:** 1-3

**Pages:** 72-85

**Date:** Nov 1 2005

**Short Title:** Accumulation and trophic transfer of organotins in a marine food web from the Danish coastal waters

**Accession Number:** BCI:BCI200510348084

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** The presence of organotin compounds, e.g., tributyltin (TBT) and triphenyltin (TPhT) including the di- and monosubstituted breakdown products, was studied in a representative marine food web in order to assess the accumulation potential at different trophic levels in Danish coastal waters. This included samples of two species of seaweed, four species of invertebrates, four species of fish, five species of birds and two species of mammals. All organisms were sampled away from harbour areas and the organotin concentrations found in this study can therefore be considered to reflect a general level in organisms living in Danish coastal waters. All the samples analysed contained organotin compounds. The highest hepatic concentrations of butyltins were found in flounder (60-259 ng g(-1) wet weight [ww], as Sn), eider duck (12-202 ng g(-1) ww) and harbour porpoise (134-2283 ng g(-1) ww). The lowest concentrations were found in seaweed and a plant-feeding bird. TPhT or its degradation products were also found in most of the samples with the highest concentrations in flounder (9.8-74 ng g(-1) ww), cod (23-28 ng g(-1) ww) and great black-backed gull (19-24 ng g(-1) ww). This indicates an input of TPhT in the region, probably from the use as antifouling agent. A high variance in accumulation potential was found between the species, even between species at the same trophic level, which probably reflects the species-specific differences in exposure routes and the capabilities to metabolise and eliminate the organotin compounds. This study gives evidence of the importance of biomagnification of butyltin in harbour porpoises and, to a lesser extent, in fish and birds. (c) 2005 Elsevier B.V. All rights reserved.

**URL:** <Go to ISI>://BCI200510348084

**Reference Type:**  Journal Article

**Record Number:** 134

**Author:** J. Strehlow

**Year:** 1997

**Title:** Ammersee area 1966-1996: Part 1: Tendencies in selected breeding birds

**Journal:** Ornithologischer Anzeiger

**Volume:** 36

**Issue:** 2-3

**Pages:** 125-142

**Date:** Sept., 1997

**Short Title:** Ammersee area 1966-1996: Part 1: Tendencies in selected breeding birds

**Accession Number:** BCI:BCI199800003825

**Keywords:** Sea Ducks - General; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** From the Ammersee area (about 250 km2, including a Ramsar site/IBA of 65,2 km2 with lake Ammersee 46,6 km2), 27 breeding species are selected that all show a trend in numbers. Of these 11 have recently settled in the last 30 years, three increased, six decreased (two of these are now extinct), and seven showed +- trends. - The Yellow Wagtail (Motacilla flava) has disappeared as a breeding bird in 1984, probably also the Corn Bunting (Miliaria calandra) since 1995. The Lapwing (Vanellus vanellus) is now nearly extinct, whereas the population of the Curlew (Numenius arquata) has decreased by ca. 80%. In contrast, new breeding birds have settled in the area for the first time such as Cormorant (Phalacrocorax carbo), Greylag Goose (Anser anser), Swan Goose (Anser cygnoides), Goosander (Mergus merganser), Black Kite (Milvus migrans), Mediterranean Gull (Larus melanocephalus), Yellow-legged Gull (Larus cachinnans), Stonechat (Saxicola torquata), River Warbler (Locustella fluviatilis), Bearded Tit (Panurus biarmicus), and Rook (Corvus frugilegus). Meanwhile, the Stock Dove (Columba oenas) has produced 97 clutches in 1996 in 50 nest boxes (mostly two broods per pair), an outstanding population for southern Bavaria. Thus, altogether a positive balance. Birds in our area have profitted from range extension tendencies in Middle Europe as well as from Ammersee-specific measures and natural events as there are: creation of three natural reserves, activities of the "Schutzgemeinschaft Ammersee-Sud", founded in 1977, attaching of many nest boxes (for Kestrel, Rock Dove, Jackdaw, and others), raising gravel islets by hand and natural formation of a larger system of islets at the mouth of the river Ammer (for Greylag Goose, Little Ringed Plover, Gulls).

**URL:** <Go to ISI>://BCI199800003825

**Reference Type:**  Journal Article

**Record Number:** 128

**Author:** J. Strehlow

**Year:** 1998

**Title:** Ammersee area 1966-1996: Trends in selected visiting birds

**Journal:** Ornithologischer Anzeiger

**Volume:** 37

**Issue:** 1

**Pages:** 19-45

**Date:** Jan., 1998

**Short Title:** Ammersee area 1966-1996: Trends in selected visiting birds

**Accession Number:** BCI:BCI199800208981

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** For part I comprising breeding birds, see Orn. Anz. 36, 1997: 125-142. - Unless stated otherwise, the maxima in the diagrams are the highest daily counts of a year or winter. 32 visiting birds in the Ammersee area are selected which show a trend in numbers since 1966, partly also in the frequency of their occurrence. Of these, essentially more species show an increase in numbers than a decrease (15:3 species), whereas 14 more species exhibit changing trends (table). Above all, the frequent species Tufted Duck (Aythya fuligula) and Coot (Fulica atra) have decreased (Figs. 3, 4). Probably the reason therefore is the transition of lake Ammersee from the eutrophic to the mesotrophic state. This is documented also by a decrease of all waterfowl (Fig. 1). In addition, after an increase for about 10 years also numbers of Mute Swan (Cygnus olor, Fig. 26), Teal (Anas crecca), and Mallard (Anas platyrhynchos, Figs. 28, 29) diminished strongly in the last 15 to 20 years. The fish-eating species Great Crested Grebe (Podiceps cristatus), Cormorant (Phalacrocorax carbo), and Goosander (Mergus merganser) run through a marked maximum at the end of the eighties/beginning of the nineties (Figs. 24, 34), which points to a similar development of available fish amounts. Taking into account all waterfowl, the ecological system Ammersee proves very complex. Thus, at present it is not possible to give simple relations applying to all species. - The increase of 15 species (table) is not specific for the Ammersee area in most cases, but a result of common trends in Middle Europe. Roosts were detected for Hen Harrier (Circus cyaneus) and Merlin (Falco columbarius) with a maximum of 31 and 5 individuals, respectively.

**URL:** <Go to ISI>://BCI199800208981

**Reference Type:**  Journal Article

**Record Number:** 868

**Author:** P. Strunk

**Year:** 1975

**Title:** The Black-Headed Gull Larus-Ridibundus as a Food Parasite

**Journal:** Beitraege zur Vogelkunde

**Volume:** 21

**Issue:** 5

**Pages:** 344

**Short Title:** The Black-Headed Gull Larus-Ridibundus as a Food Parasite

**Accession Number:** BCI:BCI197612074209

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions;

**URL:** <Go to ISI>://BCI197612074209

**Reference Type:**  Journal Article

**Record Number:** 809

**Author:** S. S. Stutz

**Year:** 1965

**Title:** Escape behavior of common merganser duck broods Michigan, USA

**Journal:** Murrelet

**Volume:** 46

**Issue:** (3)

**Pages:** 47

**Short Title:** Escape behavior of common merganser duck broods Michigan, USA

**Accession Number:** BCI:BCI19674800005690

**Keywords:** Common merganser; Mergus merganser; Behavior;

**URL:** <Go to ISI>://BCI19674800005690

**Reference Type:**  Journal Article

**Record Number:** 810

**Author:** S. S. Stutz

**Year:** 1965

**Title:** Size of common merganser broods

**Journal:** Murrelet

**Volume:** 46

**Issue:** (3)

**Pages:** 47-48

**Short Title:** Size of common merganser broods

**Accession Number:** BCI:BCI19674800005126

**Keywords:** Common merganser; Mergus merganser; Productivity; Breeding Season;

**URL:** <Go to ISI>://BCI19674800005126

**Reference Type:**  Journal Article

**Record Number:** 711

**Author:** T. H. Suchanek, C. A. Eagles-Smith, D. G. Slotton, E. J. Harner, A. E. Colwell, N. L. Anderson, L. H. Mullen, J. R. Flanders, D. P. Adam and K. J. McElroy

**Year:** 2008

**Title:** Spatiotemporal Trends in Fish Mercury from a Mine-Dominated Ecosystem: Clear Lake, California

**Journal:** Ecological Applications

**Volume:** 18

**Issue:** 8, Sp. Iss. SI

**Pages:** A177-A195

**Date:** Dec 2008

**Short Title:** Spatiotemporal Trends in Fish Mercury from a Mine-Dominated Ecosystem: Clear Lake, California

**Accession Number:** BCI:BCI200900127551

**Keywords:** Common merganser; Mergus merganser; Contaminants;

**Abstract:** Clear Lake, California, USA, receives acid mine drainage and mercury (Hg) from the Sulphur Bank Mercury Mine, a U. S. Environmental Protection Agency (U. S. EPA) Superfund Site that was active intermittently from 1873 to 1957 and partially remediated in 1992. Mercury concentrations were analyzed primarily in four species of Clear Lake fishes: inland silversides (Menidia beryllina, planktivore), common carp (Cyprinus carpio, benthic scavenger/omnivore), channel catfish (Ictalurus punctatus, benthic omnivorous predator), and largemouth bass (Micropterus salmoides, piscivorous top predator). These data represent one of the largest fish Hg data sets for a single site, especially in California.Spatially, total Hg (TotHg) in silversides and bass declined with distance from the mine, indicating that the mine site represents a point source for Hg loading to Clear Lake. Temporally,fish Hg has not declined significantly over 12 years since mine site remediation. Mercury concentrations were variable throughout the study period, with no monotonic trends of increase or decrease, except those correlated with boom and bust cycles of an introduced. fish, threadfin shad (Dorosoma petenense). However, stochastic events such as storms also influence juvenile largemouth bass Hg as evidenced during an acid mine drainage over flow event in 1995.Compared to other sites regionally and nationally, most fish in Clear Lake exhibit Hg concentrations similar to other Hg-contaminated sites, up to similar to 2.0 mg/kg wet mass (WM) TotHg in largemouth bass. However, even these elevated concentrations are less than would be anticipated from such high inorganic Hg loading to the lake. Mercury in some Clear Lake largemouth bass exceeded all human health fish consumption guidelines established over the past 25 years by the U. S. Food and Drug Administration (1.0 mg/kg WM), the National Academy of Sciences (0.5 mg/kg WM), and the U. S. EPA (0.3 mg/kg WM). Mercury in higher trophic level fishes exceeds ecotoxicological risk assessment estimates for concentrations that would be safe for wildlife, specifically the nonlisted Common Merganser and the recently delisted Bald Eagle.Fish populations of 11 out of 18 species surveyed exhibited a significant decrease in abundance with increasing proximity to the mine; this decrease is correlated with increasing water and sediment Hg. These trends may be related to Hg or other lake-wide gradients such as distribution of submerged aquatic vegetation.

**URL:** <Go to ISI>://BCI200900127551

**Reference Type:**  Journal Article

**Record Number:** 156

**Author:** J. Suess, J. Schaefer, H. Sinnecker and R. G. W. Webster

**Year:** 1994

**Title:** Influenza virus subtypes in aquatic birds of eastern Germany

**Journal:** Archives of Virology

**Volume:** 135

**Issue:** 1-2

**Pages:** 101-114

**Short Title:** Influenza virus subtypes in aquatic birds of eastern Germany

**Accession Number:** BCI:BCI199497278273

**Keywords:** Sea Ducks - General; Disease;

**Abstract:** We report the findings of a 12-year surveillance study (1977-89) of avian influenza A viruses in eastern Germany. Viruses were isolated directly from feral ducks (n = 236) and other wild birds (n = 89); from domestic ducks (n = 735) living on a single farm; and from white Pekin ducks (n = 193) used as sentinels for populations of wild aquatic birds; mainly sea birds. The efficiency of virus isolation was 9.9% overall, with considerable variability noted among species: 8.7% in wild ducks, 0.9% in other feral birds and 38% in Pekin ducks. Use of sentinel ducks in wild pelagic bird colonies improved virus detection rates fivefold, suggesting that this approach is advantageous in ecological studies. Among the 40 different combinations of hemagglutinin (HA) and neuraminidase (NA) subtypes we identified, H6N1 predominated (23.6% for all avian species), followed by H4N6 (11%). Among individual species, the frequency profiles favored H2N3 (20.8%) and H4N6 (20.3%) in feral ducks; H7N7 (22.3%), H4N6 (24.4%) and H2N3 (10.4%) in Pekin ducks used as sentinels; and H6N1 (34.8%) and H6N6 (15.1%) in domestic ducks maintained on a single farm. By relying on sentinel birds for serological assays, it was possible to trace an "influenza season" in feral swan populations, beginning in August and continuing through the winter months. Comparison of subtype distribution of influenza viruses for Europe and North America showed significant differences. This supports the fact of two geographically distinct gene pools of influenza viruses in birds connected with their distinct flyways of each hemisphere. The high frequency of isolation of H2 influenza viruses is of considerable interest to those interested in the recycling of this subtype in humans. Similarly the frequent isolation of H7N7 influenza viruses raises concern about reservoirs of potentially pathogenic influenza virus for domestic poultry. Our results confirm the existence of a vast reservoir of influenza A viruses in European aquatic birds, which possesses sufficient diversity to account for strains that infect lower animals and humans.

**URL:** <Go to ISI>://BCI199497278273

**Reference Type:**  Journal Article

**Record Number:** 433

**Author:** L. G. Sugden

**Year:** 1960

**Title:** An observation of interspecific strife between Barrow's goldeneye and lesser scaup

**Journal:** Canadian Field Nat

**Volume:** 74

**Issue:** (3)

**Pages:** 163

**Short Title:** An observation of interspecific strife between Barrow's goldeneye and lesser scaup

**Accession Number:** BCI:BCI19603500072503

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Behavior; Breeding Season;

**Abstract:** Observation of a female Barrow's goldeneye Bucephala islandica attacking a female lesser scaup Aythya affinis and killing a downy scaup. ABSTRACT AUTHORS: L. G. Sugden

**URL:** <Go to ISI>://BCI19603500072503

**Reference Type:**  Journal Article

**Record Number:** 1969

**Author:** S. Suhonen, P. Nummi and H. Poysa

**Year:** 2011

**Title:** Long term stability of boreal lake habitats and use by breeding ducks

**Journal:** Boreal Environment Research

**Volume:** 16

**Pages:** 71-80

**Date:** Dec

**Short Title:** Long term stability of boreal lake habitats and use by breeding ducks

**ISSN:** 1239-6095

**Accession Number:** WOS:000297899800008

**Keywords:** Common Goldeneye; Bucephala clangula; habitat; Breeding Season

**Notes:** Times Cited: 1

Suhonen, Sari Nummi, Petri Poysa, Hannu

1

B

**URL:** <Go to ISI>://WOS:000297899800008

**Reference Type:**  Journal Article

**Record Number:** 23

**Author:** A. A. Sukhotin, Y. V. Krasnov and K. V. Galaktionov

**Year:** 2008

**Title:** Subtidal populations of the blue mussel Mytilus edulis as key determinants of waterfowl flocks in the southeastern Barents Sea

**Journal:** Polar Biology

**Volume:** 31

**Issue:** 11

**Pages:** 1357-1363

**Date:** Oct 2008

**Short Title:** Subtidal populations of the blue mussel Mytilus edulis as key determinants of waterfowl flocks in the southeastern Barents Sea

**Accession Number:** BCI:BCI200800702516

**Keywords:** Sea Ducks - General; Habitat; Nonbreeding Seasons;

**Abstract:** Ornithological surveys conducted over the Pechora Sea (the southeastern part of the Barents Sea) in the 1990 s revealed huge non-nesting flocks of marine ducks, the largest in the European North. Especially dense waterfowl aggregations are constantly observed at the shallows near Dolgij Island during molting period and migration to wintering places. All the marine ducks flocking there are specialized benthos feeders predominantly consuming mussels Mytilus edulis. At the same time, numerous previous benthic studies in the Pechora Sea did not reveal mussels near Dolgij Island where benthic biomass was somewhat lower than in the adjacent areas (Denisenko in Mar Ecol Prog Ser 258:109-123. 2003) which left the food source for these abundant bird flocks enigmatic. In the course of an expedition in summer 2007 we found subtidal populations of M. edulis in shallows to the southwest of Dolgij Island. These populations were confined to a coastal zone and were characterized by a highly disjunct distribution with the biomass reaching up to 4 kg m(-2). We describe these subtidal populations as well as an intertidal mussel population on the western shore of Dolgij Island.

**URL:** <Go to ISI>://BCI200800702516

**Reference Type:**  Journal Article

**Record Number:** 1780

**Author:** R. W. Summers, L. G. Underhill, E. E. Syroechkovski, Jr., H. G. Lappo, R. P. Prys-Jones and V. Karpov

**Year:** 1994

**Title:** The breeding biology of Dark-bellied Brent Geese Branta b. bernicla and King Eiders Somateria spectabilis on the northeastern Taimyr Peninsula, especially in relation to Snowy Owl Nyctea scandiaca nests

**Journal:** Wildfowl

**Volume:** 45

**Pages:** 110-118

**Short Title:** The breeding biology of Dark-bellied Brent Geese Branta b. bernicla and King Eiders Somateria spectabilis on the northeastern Taimyr Peninsula, especially in relation to Snowy Owl Nyctea scandiaca nests

**Accession Number:** BCI:BCI201000234400

**Keywords:** King Eider; Somateria spectabilis; Breeding Season;

**Abstract:** It was established that Brent Geese nesting in the northeastern Taimyr Peninsula belong to the nominate race Branta bernicla bernicla. Brent Geese and King Eiders were found nesting close to Snowy Owl nests during the lemming peak of 1991. All nested successfully. It is believed that the waterfowl benefited from the aggressive nature of the Snowy Owls which exclude predators such as Arctic Foxes from hunting close to their nests. This situation was first described for B. b. nigricans which breeds exclusively near Snowy Owl nests on Wrangel Island. As Snowy Owls breed primarily when lemmings are abundant, the Brent Geese on Wrangel Island and the mainland of the northeastern Taimyr Peninsula are indirectly dependent on the lemmings.

**URL:** <Go to ISI>://BCI201000234400

**Reference Type:**  Journal Article

**Record Number:** 1992

**Author:** J. P. Suraci and L. M. Dill

**Year:** 2013

**Title:** Short timescale rate maximization by gulls and implications for predation on size-structured prey

**Journal:** Behavioral Ecology

**Volume:** 24

**Issue:** 1

**Pages:** 280-292

**Date:** Jan-Feb

**Short Title:** Short timescale rate maximization by gulls and implications for predation on size-structured prey

**DOI:** 10.1093/beheco/ars165

**Notes:** Suraci, Justin P. Dill, Lawrence M.

**Reference Type:**  Journal Article

**Record Number:** 1767

**Author:** R. S. Suydam

**Year:** 2000

**Title:** King Eider: Somateria spectabilis

**Journal:** Birds of North America

**Issue:** 491

**Pages:** 1-27

**Short Title:** King Eider: Somateria spectabilis

**Accession Number:** BCI:BCI200000357803

**Keywords:** King Eider; Somateria spectabilis; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200000357803

**Reference Type:**  Journal Article

**Record Number:** 1768

**Author:** R. S. Suydam, D. L. Dickson, J. B. Fadely and L. T. Quakenbush

**Year:** 2000

**Title:** Population declines of King and Common Eiders of the Beaufort Sea

**Journal:** Condor

**Volume:** 102

**Issue:** 1

**Pages:** 219-222

**Date:** Feb., 2000

**Short Title:** Population declines of King and Common Eiders of the Beaufort Sea

**Accession Number:** BCI:BCI200000127529

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Abundance, Distribution, and Trends; Migration; Nonbreeding Seasons;

**Abstract:** King (Somateria spectabilis) and Common Eiders (S. mollissima v-nigra) wintering off western North America migrate past Point Barrow, Alaska and across the Beaufort Sea to nest in northern Alaska and northwestern Canada. Migration counts were conducted by various researchers at Point Barrow during 1953, 1970, 1976, 1987, 1994, and 1996. We examined population trends by standardizing the analysis of the migration counts in all years. Based on this standardized procedure, the King Eider population appeared to remain stable between 1953 and 1976 but declined by 56% (or 3.9% year-1) from approximately 802,556 birds in 1976 to about 350,835 in 1996. The Common Eider population declined by 53% (or 3.6% year-1) from approximately 156,081 birds in 1976 to about 72,606 in 1996. Reasons for the declines are unknown.

**URL:** <Go to ISI>://BCI200000127529

**Reference Type:**  Journal Article

**Record Number:** 1769

**Author:** R. S. Suydam, L. T. Quakenbush, D. L. Dickson and T. Obritschkewitsch

**Year:** 2000

**Title:** Migration of King, Somateria spectabilis, and Common, S. mollissima v-nigra, eiders past Point Barrow, Alaska, during spring and summer/fall 1996

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 3

**Pages:** 444-452

**Date:** July-September, 2000

**Short Title:** Migration of King, Somateria spectabilis, and Common, S. mollissima v-nigra, eiders past Point Barrow, Alaska, during spring and summer/fall 1996

**Accession Number:** BCI:BCI200100240987

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Abundance, Distribution, and Trends; Migration; Nonbreeding Seasons;

**Abstract:** We counted migrating King (Somateria spectabilis) and Common (S. mollissima v-nigra) eiders at Point Barrow, Alaska, during spring and summer/fall 1996. During spring (1 May to 2 June), we estimated that 371 451 (95% C.I.+- 109 093) King and 72 606 (95% C.I. +- 13 824) Common eiders passed Point Barrow eastbound. During summer/fall (10 July to 16 October), we estimated a passage of 507 667 (95% C.I.+- 84 680) King and 111 635 (95% C.I. +- 42 440) Common eiders westbound. Our estimates provide evidence that both populations may have declined since 1976. Many King Eiders were observed in September and October suggesting that 1996 was a productive year. Migration counts during late fall at Point Barrow may provide a means to monitor King Eider production. King Eiders appeared at Point Barrow in early May but the peak of Common Eider migration occurred later. During summer/fall migration, most male and many female King Eiders migrated out of the Beaufort Sea to molt, whereas approximately 75% of the Common Eiders molted before migrating past Point Barrow in September and October. King Eiders comprised 85% to 90% of the identified eider migration, Common Eiders comprised most of the rest, and very small numbers of Spectacled (Somateria fischeri) and Steller's eiders (Polysticta stelleri) were seen.

**URL:** <Go to ISI>://BCI200100240987

**Reference Type:**  Journal Article

**Record Number:** 701

**Author:** H. Suzuki

**Year:** 2010

**Title:** Natural elements and anthropogenic disturbance affecting the distribution of water birds on a river in winter

**Journal:** Japanese Journal of Ornithology

**Volume:** 59

**Issue:** 2

**Pages:** 174-180

**Date:** Oct 2010

**Short Title:** Natural elements and anthropogenic disturbance affecting the distribution of water birds on a river in winter

**Accession Number:** BCI:BCI201100070603

**Keywords:** Common merganser; Mergus merganser; Habitat; Abundance, Distribution, and Trends; Conservation; Nonbreeding Seasons;

**Abstract:** The relationships between natural elements, anthropogenic disturbances, and water bird species distribution were studied along a mid-stream section of the Abukuma River, northeastern Japan, in winter. Of the 17 bird species recorded in the study area, 14 were significantly affected by one or more items among the four explanatory variables in the multiple regression analysis. The distributions of Long-billed Plover Charadrius placidus and Little Egret Egretta garzetta were significantly correlated with the riffles. Conversely, Spot-billed Duck Anas poecilorhyncha distribution was significantly correlated with pools. Common Merganser Mergus merganser, Great Cormorant Phalacrocorax carbo and Mallard A. platyrhynchos were significantly correlated with river confluences. The distributions of Whooper Swan Cygnus cygnus, Tundra Swan C. columbianus, Northern Pintail A. acuta, Eurasian Wigeon A. penelope, Common Pochard Aythya ferina and Tufted Duck A. fuligula were significantly correlated with sites where people feeding birds. Grey Heron Ardea cinerea and Great Egret E. alba were significantly correlated with areas into which neither people nor vehicles intruded. Common Teal A. crecca showed no preference for any particular area. This study suggests that anthropogenic disturbances are critical factors affecting the distribution of water birds, and that preserving landscape elements composed of natural geographical features and vegetation are important for conserving biodiversity in river ecosystems from the standpoint of water bird communities in winter.

**URL:** <Go to ISI>://BCI201100070603

**Reference Type:**  Journal Article

**Record Number:** 143

**Author:** S. Svazas

**Year:** 1996

**Title:** Internationally important sites for wintering and migratory wildfowl (Anatidae) in Lithuanian marine and brackish waters

**Journal:** Gibier Faune Sauvage

**Volume:** 13

**Issue:** 2

**Pages:** 285-301

**Date:** June, 1996

**Short Title:** Internationally important sites for wintering and migratory wildfowl (Anatidae) in Lithuanian marine and brackish waters

**Accession Number:** BCI:BCI199800248924

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199800248924

**Reference Type:**  Journal Article

**Record Number:** 1111

**Author:** S. Svazas, A. Sruoga, A. Paulauskas and D. Butkauskas

**Year:** 2005

**Title:** Population structure among breeding and wintering long-tailed ducks Clangula hyemalis in the Western Palearctic

**Journal:** Ornis Svecica

**Volume:** 15

**Issue:** 4

**Pages:** 206-211

**Short Title:** Population structure among breeding and wintering long-tailed ducks Clangula hyemalis in the Western Palearctic

**Accession Number:** BCI:BCI200600234118

**Keywords:** Long-tailed Duck; Clangula hyemalis; Population Delineation; Breeding Season; Nonbreeding Seasons;

**Abstract:** We used gel electrophoresis of common proteins and alloenzymes to study genetic variability among Long-tailed Ducks breeding in the northeast European tundra and wintering in the Baltic Sea. The observed genetic variability in the studied breeding population was lower than in birds sampled on winter ground in the Baltic. We found a similar genetic structure among the breeding birds and certain samples from wintering grounds in the Baltic Sea. The wintering birds showed evidence of genetic structure between years, possibly resulting from winter movements of different subpopulations of Long-tailed Ducks in the Baltic Sea. These findings are consistent with results of field surveys of Long-tailed Ducks wintering in the Baltic Sea.

**URL:** <Go to ISI>://BCI200600234118

**Reference Type:**  Journal Article

**Record Number:** 720

**Author:** M. A. Svenning, S. E. Fagermo, R. T. Barrett, R. Borgstrom, W. Vader, T. Pedersen and S. Sandring

**Year:** 2005

**Title:** Goosander predation and its potential impact on Atlantic salmon smolts in the River Tana estuary, northern Norway

**Journal:** Journal of Fish Biology

**Volume:** 66

**Issue:** 4

**Pages:** 924-937

**Date:** Apr 05

**Short Title:** Goosander predation and its potential impact on Atlantic salmon smolts in the River Tana estuary, northern Norway

**Accession Number:** BCI:BCI200510058982

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation; Breeding Season;

**Abstract:** In the summers of 1981 and 2000, 288 goosanders Mergus merganser were sampled in the estuary of the River Tana in northern Norway, which has the largest wild Atlantic salmon Salmo salar stock in the world. Based on 2308 otoliths found in their stomach contents, sandeels Ammodytes sp. were found to be the dominant prey, and only one pair of Atlantic salmon otoliths was found. This suggested that goosanders were not significant predators on Atlantic salmon smolts in the estuary, probably because of the high abundance of sandeels and other marine prey fishes, at least in these particular years. (c) 2005 The Fisheries Society of the British Isles.

**URL:** <Go to ISI>://BCI200510058982

**Reference Type:**  Journal Article

**Record Number:** 728

**Author:** M.-A. Svenning, S. E. Fagermo, R. Barrett, R. Borgstrom, W. Vader, T. Pedersen and S. Sandring

**Year:** 2003

**Title:** Merganser predation and its impact on Atlantic salmon smolts in the river Tana estuary, north Norway

**Journal:** American Fisheries Society Annual Meeting

**Volume:** 133

**Pages:** 27

**Short Title:** Merganser predation and its impact on Atlantic salmon smolts in the river Tana estuary, north Norway

**Accession Number:** BCI:BCI200400056475

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation;

**URL:** <Go to ISI>://BCI200400056475

**Reference Type:**  Journal Article

**Record Number:** 947

**Author:** P. O. Swanberg

**Year:** 1948

**Title:** A note on the most common call of the black scoter, M. nigra

**Journal:** Dansk Ornithol Foren Tidsskr

**Volume:** 42

**Issue:** (2)

**Pages:** 48-49

**Short Title:** A note on the most common call of the black scoter, M. nigra

**Accession Number:** BCI:BCI19492300009492

**Keywords:** Black Scoter; Melanitta nigra; Behavior; Behavior; Nonbreeding Seasons;

**Abstract:** At close range M. nigra was heard to produce both single and double-syllable notes and the double note was accompanied by a whistling sound in flight. This note heard at night from migrating ducks indicates nigra, rather than fusca. || ABSTRACT AUTHORS: O. J. Murie

**URL:** <Go to ISI>://BCI19492300009492

**Reference Type:**  Journal Article

**Record Number:** 1613

**Author:** C. Swennen

**Year:** 1990

**Title:** Common Eiders Somateria-Mollissima with Aberrant Plumages

**Journal:** Limosa

**Volume:** 63

**Issue:** 3

**Pages:** 112-114

**Short Title:** Common Eiders Somateria-Mollissima with Aberrant Plumages

**Accession Number:** BCI:BCI199140064234

**Keywords:** Common Eider; Somateria mollissima; Molt;

**URL:** <Go to ISI>://BCI199140064234

**Reference Type:**  Journal Article

**Record Number:** 1675

**Author:** C. Swennen, P. Duiven and L. A. F. Reyrink

**Year:** 1979

**Title:** Notes on the Sex Ratio in the Common Eider Somateria-Molissima

**Journal:** Ardea

**Volume:** 67

**Issue:** 1-2

**Pages:** 54-61

**Short Title:** Notes on the Sex Ratio in the Common Eider Somateria-Molissima

**Accession Number:** BCI:BCI198070063305

**Keywords:** Common Eider; Somateria mollissima; Survival; Population Dynamics; Breeding Season; Nonbreeding Seasons;

**Abstract:** In the years 1975-1977 the sex was established in 3217 newly hatched eider ducklings in the breeding colony on the Island of Vlieland, The Netherlands. During these 3 yr the sex ratio did not deviate appreciably from 1. In 1978, on the nursery grounds off Vlieland, all 1174 ducklings present were captured and sexed at the time when they were ready to fledge. The males accounted for 54.2% of the total, a noticeable and statistically significant departure from the balanced sex ratio at birth. Factors responsible for the imbalanced sex ratio, such as increased female mortality due to disease and a higher male birth rate were discussed. Sex ratios at wintering and breeding grounds were evaluated.

**URL:** <Go to ISI>://BCI198070063305

**Reference Type:**  Journal Article

**Record Number:** 1621

**Author:** C. Swennen, P. Duiven and G. J. M. Wintermans

**Year:** 1989

**Title:** Abnormal Plumage in Possibly Senile Female Eiders Somateria-Mollissima

**Journal:** Wildfowl

**Issue:** 40

**Pages:** 127-130

**Short Title:** Abnormal Plumage in Possibly Senile Female Eiders Somateria-Mollissima

**Accession Number:** BCI:BCI199089065292

**Keywords:** Common Eider; Somateria mollissima; Molt; Nonbreeding Seasons;

**Abstract:** A collection of 460 Eiders that had fallen victim to an oil-pollution incident in the Wadden Sea in January 1987 was studied. Three individuals, initially classified as 2nd-calendar-year males on the basis of plumage characteristics, had divergent patterns on head and wing. Autopsies revealed that all were adult females: they had no testis and no bursa Fabricius, but an ovarium with a convoluted oviduct and female bulla ossea. It was concluded that the birds had a disturbed hormone balance, and probably were senile. Following these observations, two such birds were found among 43 dead Eiders that had been washed ashore on Texel in the winter of 1987-88 and another was discovered alive among a group of adult, non-breeding Eiders in the Vlieland colony (The Netherlands) in May 1987. None of the c.7500 breeding females handled for ringing during the past 25 years showed any sign of a male-like plumage. It may well be that such birds are more common in the non-breeding group, but that they have been misidentified as immature males during former field observations. The findings suggest that some females from the non-hunted Dutch Eider population may die of old age.

**URL:** <Go to ISI>://BCI199089065292

**Reference Type:**  Journal Article

**Record Number:** 1581

**Author:** C. Swennen, J. C. H. Ursem and P. Duiven

**Year:** 1993

**Title:** Determinate laying and egg attendance on common eiders

**Journal:** Ornis Scandinavica

**Volume:** 24

**Issue:** 1

**Pages:** 48-52

**Short Title:** Determinate laying and egg attendance on common eiders

**Accession Number:** BCI:BCI199396002113

**Keywords:** Common Eider; Somateria mollissima; Productivity; Behavior; Breeding Season;

**Abstract:** Egg laying, egg attendance by females, and egg loss were studied in the Common Eider Somateria mollissima. Clutch size fixation appeared to occur before the first egg was laid (determinate laying). Intervals between the laying of eggs were usually about 24 h. Permanent egg attendance started before clutch completion (4 to 6 eggs), usually from the second egg on, and was independent of the actual number of eggs in the nest and final clutch size. Egg loss during inattentive periods was 80 times higher than during attendance. Spontaneous breaks in incubation occurred at intervals of 1-3 days, but sometimes a female left 2 or 3 times a day. Breaks were used for drinking and lasted between a few min and 2.5 h. Females left most frequently in the first few hours after sunset. The ducklings hatched nearly synchronously except the last egg, which hatched on average 8 h later than the others. Early egg attendance, fasting during incubation, and leaves during night hours will have evolved for clutch protection.

**URL:** <Go to ISI>://BCI199396002113

**Reference Type:**  Journal Article

**Record Number:** 1592

**Author:** C. Swennen and J. Van Der Meer

**Year:** 1992

**Title:** Variation in egg size of common eiders

**Journal:** Ardea

**Volume:** 80

**Issue:** 3

**Pages:** 363-373

**Short Title:** Variation in egg size of common eiders

**Accession Number:** BCI:BCI199396002956

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** Egg size of Eiders Somateria mollissima was studied in the colony on Vlieland, The Netherlands, during six consecutive years. Mean length and breadth of 2476 eggs was 77.84 and 51.25 mm, respectively. Mean volume measured of 1882 of these eggs was 104.03 cm-3. A large variation in egg size was found, the volume of the smallest egg being only 53 of the largest one. Major factors influencing the size variation appeared to be differences between females and the position of the egg in the laying sequence of the clutch. Differences in egg size between females were not related to their body size. The first egg in a clutch was smaller than the second, but the last egg was the smallest. Also clutch size and age of the female contributed to the variation. Females produced smaller eggs as they grew older. Age affected the last eggs in the clutch more than the first ones. Mean egg size varied only slightly among years, though temperatures in winter and food conditions in spring varied considerably during the study.

**URL:** <Go to ISI>://BCI199396002956

**Reference Type:**  Journal Article

**Record Number:** 1559

**Author:** C. Swennen and J. Van Der Meer

**Year:** 1995

**Title:** Composition of eggs of common eiders

**Journal:** Canadian Journal of Zoology

**Volume:** 73

**Issue:** 3

**Pages:** 584-588

**Short Title:** Composition of eggs of common eiders

**Accession Number:** BCI:BCI199598404191

**Keywords:** Common Eider; Somateria mollissima; Energetics and Nutrition; Breeding Season;

**Abstract:** The content of common eider (Somateria mollissima) eggs as studied in the colony on the Dutch island of Vlieland for 3 years. Mean wet mass was 108 g: ca. 9% shell, ca. 45% albumen, and ca. 45% yolk. Mean dry density (g cntdot cm-3) was 0.086 for shell, 0.069 for albumen, 0.094 for lean yolk, and 0.169 for yolk lipids. The average energy value of the egg content was estimated at 10.45 kJ cntdot cm-3, and 1087 kJ for the content of an average egg with a volume of 104 cm-3. The average energy value of the shell membranes amounted to 15 kJ. The most common clutch size is 5 eggs, which means that, on average, 5510 kJ is directly invested in a clutch. Corrected for volume, total dry mass and dry mass of lean yolk, albumen, and fat differed among females. Corrected for volume, lean yolk mass decreased with clutch size; other components were not involved. This induced an increase in the ratio of lipid in the yolk to lean yolk with clutch size. Within a clutch, dry mass of the components varied isometrically with egg volume. Egg volume varies according to the laying sequence, those laid in the middle of the sequence being largest. Therefore, the amount of energy allocated to individual eggs in a clutch varies according to the same curvilinear relationship.

**URL:** <Go to ISI>://BCI199598404191

**Reference Type:**  Journal Article

**Record Number:** 532

**Author:** B. L. Swift, R. E. Foley and G. R. Batcheller

**Year:** 1993

**Title:** Organochlorines in common goldeneyes wintering in New York

**Journal:** Wildlife Society Bulletin

**Volume:** 21

**Issue:** 1

**Pages:** 52-56

**Short Title:** Organochlorines in common goldeneyes wintering in New York

**Accession Number:** BCI:BCI199345036122

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199345036122

**Reference Type:**  Journal Article

**Record Number:** 1200

**Author:** G. H. Systad and J. O. Bustnes

**Year:** 2001

**Title:** Coping with darkness and low temperatures: Foraging strategies in Steller's eiders, Polysticta stelleri, wintering at high latitudes

**Journal:** Canadian Journal of Zoology

**Volume:** 79

**Issue:** 3

**Pages:** 402-406

**Date:** March, 2001

**Short Title:** Coping with darkness and low temperatures: Foraging strategies in Steller's eiders, Polysticta stelleri, wintering at high latitudes

**Accession Number:** BCI:BCI200100211410

**Keywords:** Steller's eider; Polysticta stelleri; Behavior; Nonbreeding Seasons;

**Abstract:** To examine how Steller's eiders, Polysticta stelleri, wintering at 70degreeN cope with adverse winter conditions in terms of darkness and low temperatures, we studied their feeding behaviour during four periods between late autumn and early spring. Steller's eiders were most likely to feed during daylight and twilight, but they also fed during darkness. The incidence of feeding was highest at low tide, and there was a significant interaction between tidal cycle and winter period. Hence, the birds fed more intensively at low tide in midwinter (January) than during the other periods. Air temperatures were between 8 and 10degreeC lower in midwinter than during the other periods, and during this period the eiders also fed more by means of nondiving techniques (up-ending, surface feeding). The total estimated feeding time was highest in late autumn and midwinter (5.9 and 6.3 h were spent actively feeding, respectively) and lower in late winter and spring (5.1 and 4.6 h, respectively). Thus, as energy requirements increased as a result of low temperatures, Steller's eiders increased their feeding effort, but also reduced feeding costs by reducing diving depth. The results of this study suggest that the Steller's eider is behaviourally well adapted to survive winter at high latitudes at relatively low stress.

**URL:** <Go to ISI>://BCI200100211410

**Reference Type:**  Journal Article

**Record Number:** 1508

**Author:** G. H. Systad, J. O. Bustnes and K. E. Erikstad

**Year:** 2000

**Title:** Behavioral responses to decreasing day length in wintering sea ducks

**Journal:** Auk

**Volume:** 117

**Issue:** 1

**Pages:** 33-40

**Date:** Jan., 2000

**Short Title:** Behavioral responses to decreasing day length in wintering sea ducks

**Accession Number:** BCI:BCI200000114079

**Keywords:** King Eider; Somateria spectabilis; Long-tailed Duck; Clangula hyemalis; Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** Sea ducks generally are diurnal feeders, but large numbers winter above the Arctic Circle where day lengths decrease dramatically in winter. To determine how sea ducks cope with short day lengths, we studied different aspects of the behavior of three sympatric wintering species (Common Eider (Somateria mollissima), King Eider (S. spectabilis), and Old-squaw (Clangula hyemalis)) at 70degreeN where day length is reduced to less than 4.5 h of twilight in midwinter. Numbers of both eider species remained fairly constant throughout winter, whereas Oldsquaws moved out of the area in midwinter. As day length decreased, eiders extended their feeding period into lower light intensities. Common Eiders and Oldsquaws spent a higher proportion of the day diving (underwater) when days were short, whereas King Eiders did not. As the days lengthened, King Eiders and Oldsquaws increased their total time diving at similar rates, which were faster than those of Common Eiders. Feeding at lower light intensities and increased proportions of time spent diving did not offset reduced feeding time in midwinter, and estimated time spent underwater during daylight on the shortest days was only 35% of that on the longest days in King Eiders, 51% in Common Eiders, and 39% in Oldsquaws. The ability to survive when days are short might be explained by use of stored nutrient reserves, night feeding, or high prey availability.

**URL:** <Go to ISI>://BCI200000114079

**Reference Type:**  Journal Article

**Record Number:** 1674

**Author:** R. C. Szaro, N. C. Coon and E. Kolbe

**Year:** 1979

**Title:** Pesticide and Poly Chlorinated Bi Phenyl of Common Eider Herring Gull and Great Black-Backed Gull Eggs

**Journal:** Bulletin of Environmental Contamination and Toxicology

**Volume:** 22

**Issue:** 3

**Pages:** 394-399

**Short Title:** Pesticide and Poly Chlorinated Bi Phenyl of Common Eider Herring Gull and Great Black-Backed Gull Eggs

**Accession Number:** BCI:BCI198018009628

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**URL:** <Go to ISI>://BCI198018009628

**Reference Type:**  Journal Article

**Record Number:** 1172

**Author:** J. B. Szczepski

**Year:** 1976

**Title:** Account of Oil Pollution Damaging the Sea Birds in Gdansk Bay

**Journal:** Przeglad Zoologiczny

**Volume:** 20

**Issue:** 1

**Pages:** 75-81

**Short Title:** Account of Oil Pollution Damaging the Sea Birds in Gdansk Bay

**Accession Number:** BCI:BCI197764023828

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants;

**Abstract:** Observations and statistics dealt with seabirds dying in 1947-1970 (chiefly in 1957-1970); a total of 1141 dead birds, belonging to 23 spp. and 5 orders were examined. From among 1141 birds, 806 (70.6%) had remnants of oil damage. The most damaged specimens [spec.] belonged to the Anseriformes (855 spec. = 75%), followed by Charadriiformes (244 spec. = 21.4%) and Ralliformes (26 spec.), Podicipediformes (11 spec.), Gaviiformes (5 spec.) - together 42 spec. (3.6%). Among the Anseriiformes the most numerous oil damaged birds were long-tailed ducks, Clangula hyemalis, i.e., 540 spec. = 85.7%, mostly males (450 spec. = 62.5%). Numerous velvet scoters, Melanitta fusca, and common scoters, M. nigra, together with the long-tailed duck amounted to 614 spec. = 97.4% of the total number of Anseriformes. The gulls (Laridae) and auks (Alcidae) held the main position among the oil-damaged species of Charadriiformes. Oil damage averaged 69.7% of gull specimens and 56% of auks. The longtailed ducks were the most oil-damaged species, followed by the velvet scoter and the common scoter, and last, the gulls (Larus sp.) and auks (Alca, Uria, Cepphus.).

**URL:** <Go to ISI>://BCI197764023828

**Reference Type:**  Journal Article

**Record Number:** 1161

**Author:** P. Szefer and J. Falandysz

**Year:** 1983

**Title:** Uranium and Thorium Content in Long-Tailed Ducks Clangula-Hyemalis

**Journal:** Science of the Total Environment

**Volume:** 29

**Issue:** 3

**Pages:** 277-280

**Short Title:** Uranium and Thorium Content in Long-Tailed Ducks Clangula-Hyemalis

**Accession Number:** BCI:BCI198426041298

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants;

**URL:** <Go to ISI>://BCI198426041298

**Reference Type:**  Journal Article

**Record Number:** 1162

**Author:** P. Szefer and J. Falandysz

**Year:** 1983

**Title:** Investigations of Trace Metals in Long-Tailed Duck Clangula-Hyemalis from the Gdansk Bay Poland

**Journal:** Science of the Total Environment

**Volume:** 29

**Issue:** 3

**Pages:** 269-276

**Short Title:** Investigations of Trace Metals in Long-Tailed Duck Clangula-Hyemalis from the Gdansk Bay Poland

**Accession Number:** BCI:BCI198477055911

**Keywords:** Long-tailed Duck; Clangula hyemalis; Contaminants; Nonbreeding Seasons;

**Abstract:** The determination of Fe, Zn, Mn, Cu, Pb, Cd, Co and Ni was carried out on liver, breast muscle, heart, stomach and feathers of 50 male and 40 female long-tailed ducks (C. hyemalis) staying in their winter quarters in Gdansk Bay during 1980-1981. There were no significant differences in the concentration of metals between male and female long-tailed ducks. The correlation coefficients between the concentration of metals in the liver and breast muscle were determined.

**URL:** <Go to ISI>://BCI198477055911

**Reference Type:**  Book

**Record Number:** 2371

**Author:** S. L. Talbot, S. A. Sonsthagen, J. M. Pearce, and K. T. Scribner

**Year:** 2015

**Title:** Phylogenetics, Phylogeography, and Population Genetics of North American Sea Ducks (Tribe: Mergini)

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 29-61

**Short Title:** Phylogenetics, Phylogeography, and Population Genetics of North American Sea Ducks (Tribe: Mergini)

**Keywords:** Taxonomy; Population Delineation

**Abstract:** Many environments occupied by North American sea ducks are remote and difficult to access, and as a result, detailed information about life history characteristics that drive population dynamics within and across species is limited. Nevertheless, progress on this front during the past several decades has benefited by the application of genetic technologies, and for several species, these technologies have allowed for concomitant tracking of population trends and genetic diversity, delineation of populations, assessment of gene flow among metapopulations, and understanding of migratory connectivity between breeding and wintering grounds. This chapter provides an overview of phylogenetic, phylogeographic, and population genetics studies of North American sea duck species, many of which have sought to understand the major and minor genetic divisions within and among sea duck species, and most of which have been conducted with the understanding that the maintenance of genetic variation in wild sea duck populations is fundamental to the group’s long-term persistence.

**Reference Type:**  Journal Article

**Record Number:** 1261

**Author:** B. L. Taylor, P. R. Wade, R. A. Stehn and J. F. Cochrane

**Year:** 1996

**Title:** A Bayesian approach to classification criteria for spectacled eiders

**Journal:** Ecological Applications

**Volume:** 6

**Issue:** 4

**Pages:** 1077-1089

**Short Title:** A Bayesian approach to classification criteria for spectacled eiders

**Accession Number:** BCI:BCI199799316185

**Keywords:** Spectacled Eider; Somateria fischeri; Abundance, Distribution, and Trends; Conservation; Techniques; Breeding Season;

**Abstract:** To facilitate decisions to classify species according to risk of extinction, we used Bayesian methods to analyze trend data for the Spectacled Eider, an arctic sea duck. Trend data from three independent surveys of the Yukon-Kuskokwim Delta were analyzed individually and in combination to yield posterior distributions for population growth rates. We used classification criteria developed by the recovery team for Spectacled Eiders that seek to equalize errors of under- or overprotecting the species. We conducted both a Bayesian decision analysis. and a frequentist (classical statistical inference) decision analysis. Bayesian decision analyses are computationally easier, yield basically the same results, and yield results that are easier to explain to nonscientists. With the exception of the aerial survey analysis of the 10 most recent years, both Bayesian and frequentist methods indicated that an endangered classification is warranted. The discrepancy between surveys warrants further research. Although the trend data are abundance indices, we used a preliminary estimate of absolute abundance to demonstrate how to calculate extinction distributions using the joint probability distributions for population growth rate and variance in growth rate generated by the Bayesian analysis. Recent apparent increases in abundance highlight the need for models that apply to declining and then recovering species.

**URL:** <Go to ISI>://BCI199799316185

**Reference Type:**  Journal Article

**Record Number:** 1970

**Author:** C. B. Thaxter, B. Lascelles, K. Sugar, A. Cook, S. Roos, M. Bolton, R. H. W. Langston and N. H. K. Burton

**Year:** 2012

**Title:** Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas

**Journal:** Biological Conservation

**Volume:** 156

**Pages:** 53-61

**Date:** Nov-Dec

**Short Title:** Seabird foraging ranges as a preliminary tool for identifying candidate Marine Protected Areas

**ISSN:** 0006-3207

**DOI:** 10.1016/j.biocon.2011.12.009

**Accession Number:** WOS:000313599000007

**Keywords:** Sea Ducks; Conservation

**Notes:** Times Cited: 4

Thaxter, Chris B. Lascelles, Ben Sugar, Kate Cook, Aonghais S. C. P. Roos, Staffan Bolton, Mark Langston, Rowena H. W. Burton, Niall H. K.

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**URL:** <Go to ISI>://WOS:000313599000007

**Reference Type:**  Journal Article

**Record Number:** 1971

**Author:** S. Therrien, C. Carr and A. Wells-Berlin

**Year:** 2012

**Title:** Auditory Brainstem Response in Sea Ducks and Diving Ducks

**Journal:** Integrative and Comparative Biology

**Volume:** 52

**Pages:** E174-E174

**Date:** Apr

**Short Title:** Auditory Brainstem Response in Sea Ducks and Diving Ducks

**ISSN:** 1540-7063

**Accession Number:** WOS:000303165001164

**Keywords:** Sea Ducks; Physiology

**Notes:** Times Cited: 0

Therrien, Sara Carr, Catherine Wells-Berlin, Alicia

Annual Meeting of the Society-for-Integrative-and-Comparative-Biology (SICB)

JAN 03-07, 2012

Charleston, SC

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**URL:** <Go to ISI>://WOS:000303165001164

**Reference Type:**  Journal Article

**Record Number:** 334

**Author:** D. Thibault, S. Chalifoux and M. Laperle

**Year:** 1998

**Title:** Using satellite imagery as a planning tool for Harlequin duck inventory

**Journal:** International Journal of Remote Sensing

**Volume:** 19

**Issue:** 1

**Pages:** 5-9

**Date:** Jan. 10, 1998

**Short Title:** Using satellite imagery as a planning tool for Harlequin duck inventory

**Accession Number:** BCI:BCI199800115137

**Keywords:** Harlequin duck; Histrionicus histrionicus; Techniques; Habitat;

**URL:** <Go to ISI>://BCI199800115137

**Reference Type:**  Journal Article

**Record Number:** 1386

**Author:** D. W. Thieltges, B. Hussel and H. Baekgaard

**Year:** 2006

**Title:** Endoparasites in common eiders Somateria mollissima from birds killed by an oil spill in the northern Wadden Sea

**Journal:** Journal of Sea Research

**Volume:** 55

**Issue:** 4

**Pages:** 301-308

**Date:** May 2006

**Short Title:** Endoparasites in common eiders Somateria mollissima from birds killed by an oil spill in the northern Wadden Sea

**Accession Number:** BCI:BCI200600490253

**Keywords:** Common Eider; Somateria mollissima; Parasites; Nonbreeding Seasons;

**Abstract:** Mass mortalities of common ciders Somateria mollissima have been ascribed to high parasite loads. However, the actual role of parasites in mortalities is disputed as in the case of a mass mortality of ciders in the Wadden Sea in the winter of 1999/2000. A critical evaluation of the role of parasites in eider mass mortalities is hampered by (1) a lack of data on actual parasite loads of the birds involved. (2) missing regional data for comparison, and (3) a lack of unbiased samples: investigations are often based on dead beached individuals, which are presumably the more heavily infected birds of a population and thus more likely to die and be washed ashore. Although published data on parasite loads in birds of the winter 1999/2000 mortality are available, no data on background parasitism in ciders from the Wadden Sea exist, making an evaluation of the potential role of parasites in this mortality event difficult. By investigating endoparasites of 102 ciders affected by an oil spill in the northern Wadden Sea in winter 1998/1999, we provide a data set of background parasitism in wintering eiders from the Wadden Sea. We found 13 different parasite taxa with high prevalence values (% infected birds) in the acanthocephalan Profilicollis botulus, the nematode Amidostomum acutum, cestodes and trematodes. In some taxa we observed pronounced differences in prevalence values between juvenile eiders and adults. as well as between adult sexes. The parasite composition shows that bivalves, crabs (Carcinus maenas) and other crustaceans are important sources of infections by being intermediate hosts. This is partly mirrored in the food content of eider stomachs where bivalves and crabs were predominantly found. Intensities of the acanthocephalan P. botulus, suspected of causing eider mortalities, were especially high in juveniles (1112 +/- 416 ind per infected host), but lower in adult males (40 +/- 7) and adult females (81 +/- 18). However, no extraordinary mortality event was observed in the winter of 1998/1999, indicating no or a very weak effect of the parasites on host condition. A comparison with the parasite loads of ciders from the mass mortality in the winter of 1999/2000 shows that parasite numbers were by no means exceptional for birds from the area. Hence, parasites alone are unlikely to have caused this mortality. Regional background parasite loads are important to differentiate between primary and secondary roles of parasites in anomalous mortality events. (c) 2006 Elsevier B.V All rights reserved.

**URL:** <Go to ISI>://BCI200600490253

**Reference Type:**  Journal Article

**Record Number:** 1507

**Author:** P. G. Thingstad, S. Hokstad and O. Frengen

**Year:** 2000

**Title:** Some new notes considering the Common Eider's Somateria mollissima foraging biology

**Journal:** Fauna (Oslo)

**Volume:** 53

**Issue:** 2

**Pages:** 66-71

**Short Title:** Some new notes considering the Common Eider's Somateria mollissima foraging biology

**Accession Number:** BCI:BCI200100162343

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Ten Common Eiders were collected from the Krakvag shallow, outside the Trondheimsfjord, in April 1996. Even though they were collected from the same area, the Eiders showed a diverse and individually different food preference. Ensis spp. (up to 11 cm long!), Mytilus edulis, Acmaea spp., and Hinia spp. were the most abundant food items. Two of the Eiders had selectively taken only Ensis spp., one had taken only Hinia spp. and one Eider took only Carcinus maenas (one of the items eaten had a carapax-width of 7 cm). From other localities in the Trondheimsfjord area, also selective fish foraging was reported this winter, as great numbers of Eiders and other diving ducks have been picking up abundant numbers of semi-buried Sandeels Ammodytes spp. (only A. tobianus is verified) from sandy substrate on shallow sea bottom.

**URL:** <Go to ISI>://BCI200100162343

**Reference Type:**  Journal Article

**Record Number:** 240

**Author:** P. W. Thomas

**Year:** 2008

**Title:** Harlequin Ducks in Newfoundland

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 44-49

**Short Title:** Harlequin Ducks in Newfoundland

**Accession Number:** BCI:BCI200900160413

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season; Nonbreeding Seasons;

**Abstract:** Relatively low numbers of Harlequin Ducks (Histrionicus histrionicus) are present year-round in Newfoundland, with breeding, molting and wintering at specific areas. Breeding is largely restricted to the Great Northern Peninsula, but there is some evidence of breeding in remote areas of the eastern part of the island. A large molting concentration is present on the Grey Islands, cast of the Northern Peninsula. Harlequin Ducks winter on the south coast of Newfoundland, with the largest concentration at Cape St. Mary's. Counts from Cape St. Mary's indicated Harlequin Ducks decreased through the 1980s, but have been increasing rapidly since the early 1990s. Although anecdotal, information from earl), Sources suggests populations of Harlequin Ducks in Newfoundland are much reduced. Chronic oiling and misidentification of Harlequin Ducks by hunters remain as threats, while forestry and hydroelectric development may be potential sources of habitat reduction.

**URL:** <Go to ISI>://BCI200900160413

**Reference Type:**  Journal Article

**Record Number:** 242

**Author:** P. W. Thomas, G. H. Mittelhauser, T. E. Chubbs, P. G. Trimper, R. I. Goudie, G. J. Robertson, S. Brodeur, M. Robert, S. G. Gilliland and J.-P. L. Savard

**Year:** 2008

**Title:** Movements of Harlequin Ducks in Eastern North America

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 188-193

**Short Title:** Movements of Harlequin Ducks in Eastern North America

**Accession Number:** BCI:BCI200900160432

**Keywords:** Harlequin duck; Histrionicus histrionicus; Dispersal; Population Delineation; Nonbreeding Seasons; Breeding Season;

**Abstract:** The movements of a total of 948 Harlequin Ducks (Histrionicus histrionicus) banded in eastern North America and Greenland front 1996-2003 (313 breeding, 186 molting/staging, and 449 wintering) were examined. Regular resighting and recapture projects have been underway at the Gannet Islands, Labrador, as well as Jericho Bay, Maine. Less consistent observations have been conducted on the Gaspe Peninsula, Quebec, and incidental observations were obtained from the public. Affiliations between breeding, molting and wintering sites were assessed in an effort to determine movement patterns and the level of geographic separation. Population affiliations indicated by past satellite telemetry studies were verified by the capture-recapture data. Absolute geographic separation between the eastern North American wintering population and the Greenland wintering population could not be determined.

**URL:** <Go to ISI>://BCI200900160432

**Reference Type:**  Journal Article

**Record Number:** 241

**Author:** P. W. Thomas and G. J. Robertson

**Year:** 2008

**Title:** Apparent Survival of Male Harlequin Ducks Molting at the Gannet Islands, Labrador

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 147-151

**Short Title:** Apparent Survival of Male Harlequin Ducks Molting at the Gannet Islands, Labrador

**Accession Number:** BCI:BCI200900160427

**Keywords:** Harlequin duck; Histrionicus histrionicus; Population Dynamics; Survival; Dispersal; Nonbreeding Seasons;

**Abstract:** Survival rates are an essential parameter for understanding the dynamics and Status of wild populations. Apparent survival (the combined probability of surviving and returning to a site) and capture rates were estimated for male Harlequin Ducks (Histrionicus histrionicus) (second-year, N = 30, adult, N = 83) that were captured and/or resighted on the Gannet Islands, Labrador, from 1999-2003. Most birds available for analysis were first captured locally (N 74), although a significant number were originally banded on wintering grounds in Maine (N = 36), and the remaining three were banded on breeding grounds. Second-year male apparent Survival rates were low (0.466 +/- 0.118; 95% PLI: 0.256 - 0.689), and different front adult rates (0.744 +/- 0.045; 0.647 - 0.822), likely due to increased dispersal of young birds. There was little evidence for annual variation in survival rates, but samples sizes were low. Apparent survival rates of male Harlequin Ducks were lower than found in most studies, suggesting that some males emigrate from the Gannet. Islands molting site, but do confirm that there is some fidelity to molting sites, similar to observations of the Pacific population.

**URL:** <Go to ISI>://BCI200900160427

**Reference Type:**  Journal Article

**Record Number:** 589

**Author:** J. E. Thompson and C. D. Ankney

**Year:** 2002

**Title:** Role of food in territoriality and egg production of Buffleheads (Bucephala albeola) and Barrow's Goldeneyes (Bucephala islandica)

**Journal:** Auk

**Volume:** 119

**Issue:** 4

**Pages:** 1075-1090

**Date:** October 2002

**Short Title:** Role of food in territoriality and egg production of Buffleheads (Bucephala albeola) and Barrow's Goldeneyes (Bucephala islandica)

**Accession Number:** BCI:BCI200300147223

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Bufflehead; Bucephala albeola; Trophic Interactions; Physiology; Breeding Season;

**Abstract:** Buffleheads (Bucephala albeola) and the North American population of Barrow's Goldeneyes (Bucephala islandica) typically breed in boreal and montane regions where food is less available relative to most habitat s used by temperate nesting ducks. We investigated diets and digestive organ morphology of sympatrically breeding female Buffleheads and Barrow's Goldeneyes in central British Columbia. Because those congeners exhibit interspecific aggression in defense of breeding territories, we predicted that competition for food could be a principal factor in evolution of that behavior. We also hypothesized that breeding Buffleheads would show greater variation in digestive organ morphology than Barrow's Goldeneyes because of their smaller body size and consequently greater reliance on their diet to meet nutritional requirements for egg production. Both species fed predominantly on aquatic insects during all reproductive periods, particularly larvae of damselflies (Zygoptera), midges (Chironomidae), and phantom midges (Chaoborinae). Plant foods, primarily seeds of submergent and emergent vegetation, generally represented <15% of diets in both species. Diets of breeding female Buffleheads and Barrow's Goldeneyes were similar throughout reproduction, hence competition for food has likely been a factor in evolution of territorial aggression between those species. The digestive tract morphology of Buffleheads was more variable than that of Barrow's Goldeneyes suggesting that the former relied more on dietary nutrients during reproduction than did their larger congener.

**URL:** <Go to ISI>://BCI200300147223

**Reference Type:**  Journal Article

**Record Number:** 877

**Author:** M. C. Thompson

**Year:** 1961

**Title:** The flight speed of a Red-breasted Merganser

**Journal:** Condor

**Volume:** 63

**Issue:** (3)

**Pages:** 265

**Short Title:** The flight speed of a Red-breasted Merganser

**Accession Number:** BCI:BCI19613600062354

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior;

**URL:** <Go to ISI>://BCI19613600062354

**Reference Type:**  Journal Article

**Record Number:** 2009

**Author:** S. E. Thrush

**Year:** 1999

**Title:** Complex role of predators in structuring soft-sediment macrobenthic communities: Implications of changes in spatial scale for experimental studies

**Journal:** Australian Journal of Ecology

**Volume:** 24

**Issue:** 4

**Pages:** 344-354

**Date:** Aug

**Short Title:** Complex role of predators in structuring soft-sediment macrobenthic communities: Implications of changes in spatial scale for experimental studies

**DOI:** 10.1046/j.1442-9993.1999.00981.x

**Notes:** Thrush, SE

**Reference Type:**  Journal Article

**Record Number:** 1972

**Author:** R. Tiedemann, K. B. Paulus, K. Havenstein, S. Thorstensen, A. Petersen, P. Lyngs and M. C. Milinkovitch

**Year:** 2011

**Title:** Alien eggs in duck nests: brood parasitism or a help from Grandma?

**Journal:** Molecular Ecology

**Volume:** 20

**Issue:** 15

**Pages:** 3237-3250

**Date:** Aug

**Short Title:** Alien eggs in duck nests: brood parasitism or a help from Grandma?

**ISSN:** 0962-1083

**DOI:** 10.1111/j.1365-294X.2011.05158.x

**Accession Number:** WOS:000292963100013

**Keywords:** Common Goldeneye; bucephala clangula; behavior; Breeding Season

**Notes:** Times Cited: 5

Tiedemann, Ralph Paulus, Kirsten B. Havenstein, Katja Thorstensen, Sverrir Petersen, Aevar Lyngs, Peter Milinkovitch, Michel C.

5

**URL:** <Go to ISI>://WOS:000292963100013

**Reference Type:**  Journal Article

**Record Number:** 1431

**Author:** R. Tiedemann, K. B. Paulus, M. Scheer, K. G. von Kistowski, K. Skirnisson, D. Bloch and M. Dam

**Year:** 2004

**Title:** Mitochondrial DNA and microsatellite variation in the eider duck (Somateria mollissima) indicate stepwise postglacial colonization of Europe and limited current long-distance dispersal

**Journal:** Molecular Ecology

**Volume:** 13

**Issue:** 6

**Pages:** 1481-1494

**Date:** Jun 2004

**Short Title:** Mitochondrial DNA and microsatellite variation in the eider duck (Somateria mollissima) indicate stepwise postglacial colonization of Europe and limited current long-distance dispersal

**Accession Number:** BCI:BCI200510190787

**Keywords:** Common Eider; Somateria mollissima; Phylogeography; Population Delineation; Dispersal; Breeding Season;

**Abstract:** To unravel the postglacial colonization history and the current intercolony dispersal in the common eider, Somateria mollissima, we analysed genetic variation at a part of the mitochondrial control region and five unlinked autosomal microsatellite loci in 175 eiders from 11 breeding colonies, covering the entire European distribution range of this species. As a result of extreme female philopatry, mitochondrial DNA differentiation is substantial both among local colonies and among distant geographical regions. Our study further corroborates the previous hypothesis of a single Pleistocene refugium for European eiders. A nested clade analysis on mitochondrial haplotypes suggests that (i) the Baltic Sea eider population is genetically closest to a presumably ancestral population and that (ii) the postglacial recolonization progressed in a stepwise fashion via the North Sea region and the Faroe Islands to Iceland. Current long-distance dispersal is limited. Differentiation among colonies is much less pronounced at microsatellite loci. The geographical pattern of this nuclear genetic variation is to a large extent explained by isolation by distance. As female dispersal is very limited, the geographical pattern of nuclear variation is probably explained by male-mediated gene flow among breeding colonies. Our study provides genetic evidence for the assumed prominent postglacial colonization route shaping the present terrestrial fauna of the North Atlantic islands Iceland and the Faroes. It suggests that this colonization had been a stepwise process originating in continental Europe. It is the first molecular study on eider duck populations covering their entire European distribution range.

**URL:** <Go to ISI>://BCI200510190787

**Reference Type:**  Journal Article

**Record Number:** 1527

**Author:** R. Tiedemann, K. G. Von Kistowski and H. Noer

**Year:** 1999

**Title:** On sex-specific dispersal and mating tactics in the common eider somateria mollissima as inferred from the genetic structure of breeding colonies

**Journal:** Behaviour

**Volume:** 136

**Issue:** 9

**Pages:** 1145-1155

**Date:** Oct., 1999

**Short Title:** On sex-specific dispersal and mating tactics in the common eider somateria mollissima as inferred from the genetic structure of breeding colonies

**Accession Number:** BCI:BCI200000087582

**Keywords:** Common Eider; Somateria mollissima; Population Delineation; Dispersal; Breeding Season;

**Abstract:** The common eider is a colony breeding seaduck with extreme female philopatry. Molecular genetic techniques (mtDNA sequencing and microsatellite analysis) were applied on Baltic eiders to infer sex-specific dispersal and mating tactics among breeding colonies with different seasonal migration behaviour, i.e. sedentary, short distance migratory, and long distance migratory. MtDNA patterns show pronounced differentiation among colonies in maternally inherited traits. The estimated number of exchanged females per generation was 1.0-1.4. Smaller colonies showed a lower level of genetic variation in mtDNA. Microsatellite patterns suggest male-mediated gene flow to be sufficient for preventing inbreeding even in smaller colonies. However, though eiders of different geographic origin mix on wintering grounds, where mating occurs, mate choice is not random: The bias towards mates of similar geographic origin might reflect a different time of arrival at the wintering ground for eiders of different origin, together with the adaptive significance of early pair formation.

**URL:** <Go to ISI>://BCI200000087582

**Reference Type:**  Journal Article

**Record Number:** 806

**Author:** R. L. Timken and B. W. Anderson

**Year:** 1969

**Title:** Food Habits of Common Mergansers in the Northcentral USA Mergus-Merganser Fish

**Journal:** Journal of Wildlife Management

**Volume:** 33

**Issue:** 1

**Pages:** 87-91

**Short Title:** Food Habits of Common Mergansers in the Northcentral USA Mergus-Merganser Fish

**Accession Number:** BCI:BCI196950084972

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**URL:** <Go to ISI>://BCI196950084972

**Reference Type:**  Journal Article

**Record Number:** 1526

**Author:** S. T. A. Timmermans, C. D. Ankney, K. E. Erikstad, T. Tveraa and J. O. Bustnes

**Year:** 1999

**Title:** Does laying order influence growth rates of Common Eider ducklings? A skeptical view and reply

**Journal:** Journal of Avian Biology

**Volume:** 30

**Issue:** 3

**Pages:** 323-325

**Date:** Sept., 1999

**Short Title:** Does laying order influence growth rates of Common Eider ducklings? A skeptical view and reply

**Accession Number:** BCI:BCI199900505036

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**URL:** <Go to ISI>://BCI199900505036

**Reference Type:**  Journal Article

**Record Number:** 6

**Author:** K. P. Timoney and R. A. Ronconi

**Year:** 2010

**Title:** Annual Bird Mortality in the Bitumen Tailings Ponds in Northeastern Alberta, Canada

**Journal:** Wilson Journal of Ornithology

**Volume:** 122

**Issue:** 3

**Pages:** 569-576

**Date:** Sep 2010

**Short Title:** Annual Bird Mortality in the Bitumen Tailings Ponds in Northeastern Alberta, Canada

**Accession Number:** BCI:BCI201000578994

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Survival;

**Abstract:** Open pit bitumen extraction is capable of causing mass mortality events of resident and migratory birds. We investigated annual avian mortality in the tailings ponds of the Athabasca tar sands region, in northeastern Alberta, Canada. We analyzed three types of data: government-industry reported mortalities; empirical studies of bird deaths at tailings ponds; and rates of landing, oiling, and mortality to quantify annual bird mortality due to exposure to tailings ponds. Ad hoc self-reported data from industry indicate an annual mortality due to tailings pond exposure in northeastern Alberta of 65 birds. The self-reported data were internally inconsistent and appeared to underestimate actual mortality. Scientific data indicate an annual mortality in the range of 458 to 5,029 birds, which represents an unknown fraction of true mortality. Government-overseen monitoring within a statistically valid design, standardized across all facilities, is needed. Systematic monitoring and accurate, timely reporting would provide data useful to all concerned with bird conservation and management in the tar sands region.

**URL:** <Go to ISI>://BCI201000578994

**Reference Type:**  Journal Article

**Record Number:** 1788

**Author:** R. D. Titman, M. C. Lagrenade and M. R. Miller

**Year:** 1990

**Title:** An Evaluation of Techniques to Measure Contour Feather Molt in Ducks

**Journal:** Journal of Wildlife Management

**Volume:** 54

**Issue:** 2

**Pages:** 219-222

**Short Title:** An Evaluation of Techniques to Measure Contour Feather Molt in Ducks

**Accession Number:** BCI:BCI199090026753

**Keywords:** King Eider; Somateria spectabilis; Techniques; Molt;

**Abstract:** We evaluated 3 techniques (air jet, flat skin, grab sample) to assess molt in dead waterfowl (green-winged teal [Anas crecca] and king eider [Somateria spectabilis]). The air jet technique was fast and required no specimen preparation. The flat skin technique required lengthy preparation time after which molt was assessed quickly. Both techniques underestimated the extent of molt (P < 0.01). The grab sample technique needed no preparations but involved time-consuming counting to obtain the molt assessment. The grab sample was preferred when study skins did not need to be preserved because it was easy to conduct, and it was repeatable and more accurate than the other techniques.

**URL:** <Go to ISI>://BCI199090026753

**Reference Type:**  Journal Article

**Record Number:** 566

**Author:** R. D. Titman and J. K. Lowther

**Year:** 1971

**Title:** Parasitism of Mallard Anas-Platyrhynchos Nests by Common Goldeneyes Bucephala-Clangula

**Journal:** Canadian Field-Naturalist

**Volume:** 85

**Issue:** 4

**Pages:** 323-324

**Short Title:** Parasitism of Mallard Anas-Platyrhynchos Nests by Common Goldeneyes Bucephala-Clangula

**Accession Number:** BCI:BCI197253059891

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI197253059891

**Reference Type:**  Journal Article

**Record Number:** 835

**Author:** R. T. Titman

**Year:** 1999

**Title:** Red-breasted merganser: Mergus serrator

**Journal:** Birds of North America

**Issue:** 443

**Pages:** 1-23

**Short Title:** Red-breasted merganser: Mergus serrator

**Accession Number:** BCI:BCI200000128673

**Keywords:** Red-breasted merganser; Mergus serrator; Breeding Season; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI200000128673

**Reference Type:**  Journal Article

**Record Number:** 2332

**Author:** I. M. Tiunov and O. A. Burkovsky

**Year:** 2016

**Title:** The winter abundance and distribution of birds in western peter the Great Bay in the Sea of Japan

**Journal:** Russian Journal of Marine Biology

**Volume:** 42

**Issue:** 3

**Pages:** 222-231

**Date:** May

**Short Title:** The winter abundance and distribution of birds in western peter the Great Bay in the Sea of Japan

**ISSN:** 1063-0740

**DOI:** 10.1134/s106307401603010x

**Accession Number:** WOS:000379236900003

**Keywords:** White-winged Scoter; Common Goldeneye; Long-tailed Duck; Harlequin Duck; Red-breasted Merganser; Melanitta fusca; Bucephala clangula; Clangula hyemalis; Histrionicus histrionicus; Mergus serrator; Nonbreeding season; Habitat; Abundance, Distribution, & Trends

**Abstract:** The data on the abundance and distribution of sea birds and waterfowl at the coast of southern Primorye and distribution diagrams of the sea ducks along the surveyed coast in winter season are given. The dependence of the presence of the birds in certain coastal areas on the winter ice condition was revealed.

**Notes:** Tiunov, I. M. Burkovsky, O. A.

**URL:** <Go to ISI>://WOS:000379236900003

**Reference Type:**  Journal Article

**Record Number:** 1973

**Author:** R. S. Tjornlov, J. Humaidan and M. Frederiksen

**Year:** 2013

**Title:** Impacts of avian cholera on survival of Common Eiders Somateria mollissima in a Danish colony

**Journal:** Bird Study

**Volume:** 60

**Issue:** 3

**Pages:** 321-326

**Date:** Aug

**Short Title:** Impacts of avian cholera on survival of Common Eiders Somateria mollissima in a Danish colony

**ISSN:** 0006-3657

**DOI:** 10.1080/00063657.2013.798261

**Accession Number:** WOS:000326713500004

**Keywords:** Common eider; Somateria mollissima; Disease; Survival; Breeding Season

**Notes:** Times Cited: 0

Tjornlov, Rune Skjold Humaidan, Jakob Frederiksen, Morten

Frederiksen, Morten/A-7542-2008

Frederiksen, Morten/0000-0001-5550-0537

0

**URL:** <Go to ISI>://WOS:000326713500004

**Reference Type:**  Journal Article

**Record Number:** 1974

**Author:** I. Tomankova, H. Boland, N. Reid and A. D. Fox

**Year:** 2013

**Title:** Assessing the extent to which temporal changes in waterbird community composition are driven by either local, regional or global factors

**Journal:** Aquatic Conservation-Marine and Freshwater Ecosystems

**Volume:** 23

**Issue:** 2

**Pages:** 343-355

**Date:** Apr

**Short Title:** Assessing the extent to which temporal changes in waterbird community composition are driven by either local, regional or global factors

**ISSN:** 1052-7613

**DOI:** 10.1002/aqc.2303

**Accession Number:** WOS:000317678300016

**Keywords:** Population Dynamics;

**Notes:** Times Cited: 0

Tomankova, Irena Boland, Helen Reid, Neil Fox, Anthony D.

Fox, Anthony/I-7465-2013

0

**URL:** <Go to ISI>://WOS:000317678300016

**Reference Type:**  Journal Article

**Record Number:** 299

**Author:** R. Torres, F. Cooke, G. J. Robertson and W. S. Boyd

**Year:** 2002

**Title:** Pairing decisions in the Harlequin Duck: Costs and benefits

**Journal:** Waterbirds

**Volume:** 25

**Issue:** 3

**Pages:** 340-347

**Date:** September, 2002

**Short Title:** Pairing decisions in the Harlequin Duck: Costs and benefits

**Accession Number:** BCI:BCI200200566833

**Keywords:** Harlequin duck; Histrionicus histrionicus; Behavior; Nonbreeding Seasons;

**Abstract:** In waterfowl, the male costs and female benefits hypothesis considers that the timing of pairing will depend on the balance between the costs and benefits for each sex. Females may benefit by increasing their access to food and social status, and by decreasing harassment from conspecifics, while maintaining a pair bond for a long period should be costly to males. To investigate costs and benefits of early pairing in the Harlequin Duck (Histrionicus histrionicus), we compared time budgets and frequency of interactions (agonistic, courtship, and mate guarding behavior) from paired and unpaired males and females. A total of 400 thirty-minute focal-animal sampling sessions were used for the analysis. Overall, feeding time did not differ between paired and unpaired birds of both sexes. However, regardless of their reproductive status, females spent about 15% more time feeding than males throughout the winter. While diving, paired males spent 4% less time underwater than unpaired males, but no difference was found between paired and unpaired females. Males spent more time on the surface between dives than females, yet the differences between paired and unpaired birds were not significant. Paired males were engaged in more interactions (mainly mate guarding) than unpaired males. Interactions received by paired and unpaired females did not differ overall, however, from late October to early May, interactions with paired females decreased, while interactions directed to unpaired females increased. Thus the pair bond, though being apparently costly to males, did not obviously benefit females by increasing feeding time. Early pairing in the Harlequin Duck may result from other factors, such as the advantages that pair reunion may confer.

**URL:** <Go to ISI>://BCI200200566833

**Reference Type:**  Journal Article

**Record Number:** 2207

**Author:** D. Torring, P. Andersen, P. Dolmer, J. Carl, C. Soegren and M. Pedersen

**Year:** 2015

**Title:** PREDATION FROM BOTH STARFISH (ASTERIAS RUBENS) AND EIDERS (SOMATERIA MOLLISSIMA) ON SUSPENDED MUSSELS (MYTILUS EDULIS) IN AN INTEGRATED MARICULTURE PRODUCTION IN INNER DANISH WATERS

**Journal:** Journal of Shellfish Research

**Volume:** 34

**Issue:** 2

**Pages:** 685-685

**Date:** Aug

**Short Title:** PREDATION FROM BOTH STARFISH (ASTERIAS RUBENS) AND EIDERS (SOMATERIA MOLLISSIMA) ON SUSPENDED MUSSELS (MYTILUS EDULIS) IN AN INTEGRATED MARICULTURE PRODUCTION IN INNER DANISH WATERS

**ISSN:** 0730-8000

**Accession Number:** WOS:000360410500285

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Behavior; Trophic Interactions

**Notes:** Torring, Ditte Andersen, Per Dolmer, Per Carl, Jonathan Soegren, Christina Pedersen, Mathilde

**URL:** <Go to ISI>://WOS:000360410500285

**Reference Type:**  Journal Article

**Record Number:** 976

**Author:** J. J. Traylor and R. T. Alisauskas

**Year:** 2006

**Title:** Effects of intrinsic and extrinsic factors on survival of white-winged scoter (Melanitta fusca deglandi) ducklings

**Journal:** Auk

**Volume:** 123

**Issue:** 1

**Pages:** 67-81

**Date:** Jan 2006

**Short Title:** Effects of intrinsic and extrinsic factors on survival of white-winged scoter (Melanitta fusca deglandi) ducklings

**Accession Number:** BCI:BCI200600255045

**Keywords:** White-winged Scoter; Melanitta fusca; Survival; Productivity; Breeding Season;

**Abstract:** In waterfowl, offspring survival and the effects of extrinsic (i.e. weather, hatching date) and intrinsic (i.e. physical and nutritional traits of individual females and ducklings, brood sizes) factors on it are poorly understood. In 2000 and 2001, we estimated duckling and brood survival of White-winged Scoters (Melanitta fusca deglandi) at Redberry Lake, Saskatchewan, Canada, to 30 days of age to examine relationships between duckling survival and (1) hatch date, (2) initial brood size at hatch, (3) duckling size and body condition at hatch, (4) offspring sex, (5) maternal female size and body condition at hatch, and (6) weather. We estimated Survival with Cormack-Jolly-Seber models, in program MARK, from observations of individually marked adult females (n = 94) and ducklings (n = 664). Most mortality (i.e. 0.80 and 0.95 for each year, respectively) occurred within six days of hatch in both years. Duckling Survival probability decreased with advancing hatch date; increased with larger initial brood sizes; was higher for larger, better-conditioned ducklings; and increased with favorable weather. Brood survival decreased with advancing hatch date, increased with larger initial brood sizes, and increased with favorable weather. For 2000 and 2001., Our models predict survival probabilities of ducklings (0.0061 and 0.0027, respectively) and broods (0.015 and 0.00048, respectively) that are lower than any previously reported. We suspect that intense gull (Larus spp.) predation shortly after hatch had the largest influence on duckling survival, though results also underscore the significance of intrinsic factors.

**URL:** <Go to ISI>://BCI200600255045

**Reference Type:**  Journal Article

**Record Number:** 980

**Author:** J. J. Traylor, R. T. Alisauskas and F. P. Kehoe

**Year:** 2004

**Title:** Multistate modeling of brood amalgamation in White-winged Scoters Melanitta fusca deglandi

**Journal:** Animal Biodiversity and Conservation

**Volume:** 27

**Issue:** 1

**Pages:** 369-370

**Short Title:** Multistate modeling of brood amalgamation in White-winged Scoters Melanitta fusca deglandi

**Accession Number:** BCI:BCI200510245579

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Techniques; Breeding Season;

**URL:** <Go to ISI>://BCI200510245579

**Reference Type:**  Journal Article

**Record Number:** 981

**Author:** J. J. Traylor, R. T. Alisauskas and F. P. Kehoe

**Year:** 2004

**Title:** Nesting ecology of White-winged Scoters (Melanitta fusca deglandi) at Redberry Lake, Saskatchewan

**Journal:** Auk

**Volume:** 121

**Issue:** 3

**Pages:** 950-962

**Date:** July 2004

**Short Title:** Nesting ecology of White-winged Scoters (Melanitta fusca deglandi) at Redberry Lake, Saskatchewan

**Accession Number:** BCI:BCI200400441903

**Keywords:** White-winged Scoter; Melanitta fusca; Habitat; Productivity; Breeding Season;

**Abstract:** Population surveys indicate a trend of declining abundance of scoters (Melanitta spp.) in North America. Little is known about changes in life-history traits that may be responsible for the recent population decline of White-winged Scoters (Melanitta fusca deglandi). Therefore, we studied nesting ecology of White-winged Scoters at Redberry Lake, Saskatchewan, during the summers of 2000-2001. We found 198 nests and examined nest-site selection by comparing habitat features of successful nests, depredated nests, and random sites. Discriminant function analysis differentiated habitat features-measured at hatch-of successful nests, deprecated nests, and random sites; lateral (r = 0.66) and overhead (r = 0.35) concealment were microhabitat variables most correlated with canonical discriminant functions. We also modeled daily survival rate of nests as a function of year, linear and quadratic trends with nest age, nest initiation date, and seven microhabitat variables. Nest survival from a time-constant model (i.e. Mayfield nest-success estimate) was 0.35 (95% CL: 0.27, 0.43). Estimates of nest success were lower than those measured at Redberry Lake in the 1970s and 1980s. Nest survival increased throughout the laying period and stabilized during incubation, and showed positive relationships with nest concealment and distance to water and a negative relationship with distance to edge. Considering those factors, a model-averaged estimate of nest survival was 0.24 (95% CL: 0.09, 0.42). We concluded that White-winged Scoters selected nesting habitat adaptively, because (1) successful sites were more concealed than depreciated sites; (2) nest sites (both successful and depredated) had higher concealment than random sites; and (3) nest sites were on islands, where success is greater than on the mainland.

**URL:** <Go to ISI>://BCI200400441903

**Reference Type:**  Journal Article

**Record Number:** 960

**Author:** J. J. Traylor, R. T. Alisauskas and F. P. Kehoe

**Year:** 2008

**Title:** Ecological correlates of duckling adoption among white-winged scoters Melanitta fusca: strategy, epiphenomenon, or combination?

**Journal:** Behavioral Ecology and Sociobiology

**Volume:** 62

**Issue:** 7

**Pages:** 1085-1097

**Date:** May 2008

**Short Title:** Ecological correlates of duckling adoption among white-winged scoters Melanitta fusca: strategy, epiphenomenon, or combination?

**Accession Number:** BCI:BCI200800356326

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Breeding Season;

**Abstract:** Young waterfowl can frequently join foster females shortly after hatch, resulting in post-hatch brood amalgamation. Much uncertainty remains about physiological or ecological factors that motivate adoption including potential costs and benefits to fostered offspring as well as to females that either lose or accept young. Several hypotheses have been put forth to explain adoption. In this paper, we examine the salvage strategy (SSH) and accidental-mixing (AMH) hypotheses. According to the SSH, females abandon or lose their young due to substantial energetic constraints from incubation and brood rearing. The AMH posits that adoption results from local ecological conditions on breeding areas (i.e., adverse weather conditions, high brood densities) which act to separate offspring and mothers. We used multistate modeling to estimate relationships between probabilities of adoption by white-winged scoter (Melanitta fusca) ducklings from natal to foster females and a set of hypothesized ecological covariates. Results showed that most adoption occurred within 6 days of hatch; additionally, likelihood of adoption was positively related to inclement weather and negatively related to hatch date, size, and condition of natal females, and duckling condition. We conclude that adoption in this population is consistent with both the salvage strategy and accidental-mixing hypotheses. Ultimately, we suggest that adoption in our study population was foremost an outcome of intense gull predation but also of local environmental conditions.

**URL:** <Go to ISI>://BCI200800356326

**Reference Type:**  Journal Article

**Record Number:** 239

**Author:** P. G. Trimper, P. W. Thomas and T. E. Chubbs

**Year:** 2008

**Title:** Harlequin Ducks in Labrador

**Journal:** Waterbirds

**Volume:** 31

**Issue:** Sp. Iss. 2

**Pages:** 32-43

**Short Title:** Harlequin Ducks in Labrador

**Accession Number:** BCI:BCI200900160412

**Keywords:** Harlequin duck; Histrionicus histrionicus; Breeding Season;

**Abstract:** Labrador represents a significant portion of the breeding range for the Northwest Atlantic population of the Harlequin Duck (Histrionicus histrionicus). The region comprises almost 300,000 kill of wilderness area with habitat for breeding, molting and staging activity. The wilderness quality of Labrador has also posed several challenges in terms Of understanding the status of this species. Expensive and logistically-challenging survey programs have only recently (i.e., last 20 years) targeted Harlequin Ducks but due to the co-ordination amongst agencies and proponents, all appreciation of the range, numbers,and timing of movements for this species in Labrador has been developed. Over 800 helicopter survey hours have been completed on at least 111 river systems/sections during late May-early June (July in northern-most areas) front 1987-2008. Presence of the species was widespread and confirmed oil approximately 67% of areas examined. It is estimated that 395 breeding pairs Occur Oil rivers where presence has been confirmed and the majority of potential habitat for this species has been examined ill Labrador. The actual number of breeding pairs, their success and other population limiting factors remain unclear. Regardless, Harlequin Ducks arc common in Labrador and the population appears to be stable or increasing.

**URL:** <Go to ISI>://BCI200900160412

**Reference Type:**  Journal Article

**Record Number:** 190

**Author:** R. E. Trost

**Year:** 1980

**Title:** Ingested Shot in Waterfowl Harvested on the Upper Mississippi USA National Wildlife Refuge

**Journal:** Wildlife Society Bulletin

**Volume:** 8

**Issue:** 1

**Pages:** 71-74

**Short Title:** Ingested Shot in Waterfowl Harvested on the Upper Mississippi USA National Wildlife Refuge

**Accession Number:** BCI:BCI198120031809

**Keywords:** Sea Ducks - General; Contaminants;

**URL:** <Go to ISI>://BCI198120031809

**Reference Type:**  Journal Article

**Record Number:** 394

**Author:** K. A. Trust, D. Esler, B. R. Woodin and J. J. Stegeman

**Year:** 2000

**Title:** Cytochrome P450 1A induction in sea ducks inhabiting nearshore areas of Prince William Sound, Alaska

**Journal:** Marine Pollution Bulletin

**Volume:** 40

**Issue:** 5

**Pages:** 397-403

**Date:** May, 2000

**Short Title:** Cytochrome P450 1A induction in sea ducks inhabiting nearshore areas of Prince William Sound, Alaska

**Accession Number:** BCI:BCI200000310981

**Keywords:** Harlequin duck; Histrionicus histrionicus; Barrow's Goldeneye; Bucephala islandica; Contaminants; Nonbreeding Seasons;

**Abstract:** Following the Exxon-Valdez oil spill, hepatic rates of EROD activity and thus, P450 1A expression, were significantly higher in harlequin ducks (Histrionicus histrionicus) and Barrow's goldeneyes (Bucephala islandica) from oiled areas of Prince William Sound, Alaska when compared to birds from unoiled sites. Polychlorinated biphenyl exposure did not account for areal differences in P450 1A induction in harlequin ducks. Background hydrocarbon levels in Prince William Sound were negligible prior to the 1989 oil spill, but remnant Exxon-Valdez oil was still present in nearshore habitats of the spill zone coincident with our study. We conclude that P450 1A induction in sea ducks from areas oiled during the Exxon-Valdez oil spill was likely due to exposure to residual oil. We speculate that biochemical and physiological changes in individuals chronically exposed to oil may be constraining population recovery of some sea duck species affected by the spill.

**URL:** <Go to ISI>://BCI200000310981

**Reference Type:**  Journal Article

**Record Number:** 1245

**Author:** K. A. Trust, K. T. Rummel, A. M. Scheuhammer, I. L. Brisbin, Jr. and M. J. Hooper

**Year:** 2000

**Title:** Contaminant exposure and biomarker responses in spectacled eiders (Somateria fischeri) from St. Lawrence Island, Alaska

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 38

**Issue:** 1

**Pages:** 107-113

**Date:** Jan., 2000

**Short Title:** Contaminant exposure and biomarker responses in spectacled eiders (Somateria fischeri) from St. Lawrence Island, Alaska

**Accession Number:** BCI:BCI200000059341

**Keywords:** Spectacled Eider; Somateria fischeri; Contaminants;

**Abstract:** Effects of chemical contaminant exposure may be contributing to the decline of spectacled eiders (Somateria fischeri) nesting in coastal areas of western Alaska. We evaluated chemical exposure and potential effects in 20 male eiders collected near St. Lawrence Island, Alaska. Analytes included metals, trace elements, chlorinated organics, and 137Cesium (137Cs). Effects of contaminant exposure were evaluated using histopathology and biochemical measures of porphyrin profiles, cytochrome P450 activities, and metallothionein (MT) concentrations. Copper, cadmium, and selenium concentrations were elevated in spectacled eiders when compared to literature values for other marine birds. Only a few samples had trace concentrations of chlorinated organic compounds. Muscle 137Cs levels were all below the average minimum quantifiable concentration of 0.079 Bq/g. No histopathological lesions were associated with elevated contaminant concentrations in liver, kidney, or testes. Protoporphyrin was found in highest concentration in both the liver and kidneys, followed by coproporphyrin and uroporphyrin, respectively. Hepatic uroporphyrin concentrations correlated significantly to hepatic arsenic concentrations. Mean activities of hepatic EROD, MROD, BROD, and PROD were consistent with other avian species. Comparisons of cadmium/MT ratios from this study to published literature ratios in seven marine avian species suggest that, although adult male spectacled eiders have elevated liver concentrations of certain MT-inducing metals, their MT concentrations are not as strongly induced as would be predicted based on literature values. Despite elevated metal concentrations, the apparent good health of the St. Lawrence Island birds suggests that should these contaminants be a factor in population declines, they likely act by decreasing fecundity or survival of young rather than via direct health impacts on adult male spectacled eiders.

**URL:** <Go to ISI>://BCI200000059341

**Reference Type:**  Journal Article

**Record Number:** 5

**Author:** E. O. Tseren-Ochir, B. Damdinjav, T. Sharkhuu, H. M. Kang, Y. Sakoda, B. Purevsuren, S. Ruuragchaa, Y. J. Lee, H. Kida, B. Khishgee and S. Sengee

**Year:** 2010

**Title:** Epidemiology of avian influenza viruses in wild birds in Mongolia

**Journal:** International Journal of Infectious Diseases

**Volume:** 14

**Issue:** Suppl. 1

**Pages:** E164-E165

**Date:** Mar 2010

**Short Title:** Epidemiology of avian influenza viruses in wild birds in Mongolia

**Accession Number:** BCI:BCI201000417268

**Keywords:** Sea Ducks - General; Disease;

**URL:** <Go to ISI>://BCI201000417268

**Reference Type:**  Journal Article

**Record Number:** 1029

**Author:** B. W. Tucker

**Year:** 1940

**Title:** Packing of broods and "injury-feigning" of velvet-scoters

**Journal:** British Birds

**Volume:** 33

**Issue:** (9)

**Pages:** 255

**Short Title:** Packing of broods and "injury-feigning" of velvet-scoters

**Accession Number:** BCI:BCI19411500007344

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior; Breeding Season;

**Abstract:** Observations on Melanitta f. jusca off a Baltic island. A pack of 90 young birds was seen under the charge of one or more adult 22- A 2 with a brood on the water performed a variant "injury-feigning," half flying, half pattering, round the boat. || ABSTRACT AUTHORS: D. S. Lehrman

**URL:** <Go to ISI>://BCI19411500007344

**Reference Type:**  Journal Article

**Record Number:** 551

**Author:** C. H. Tuite, P. R. Hanson and M. Owen

**Year:** 1984

**Title:** Some Ecological Factors Affecting Winter Wildfowl Distribution on Inland Waters in England and Wales Uk and the Influence of Water Based Recreation

**Journal:** Journal of Applied Ecology

**Volume:** 21

**Issue:** 1

**Pages:** 41-62

**Short Title:** Some Ecological Factors Affecting Winter Wildfowl Distribution on Inland Waters in England and Wales Uk and the Influence of Water Based Recreation

**Accession Number:** BCI:BCI198478050271

**Keywords:** Common Goldeneye; Bucephala clangula; Habitat; Conservation; Nonbreeding Seasons;

**Abstract:** Multiple regression analyses are used to examine the distribution of 9 common freshwater wildfowl in Britain. Six independent variables related to the ecology of inland waters are used in the regression models. The amount of variation accounted for by the regressions varied considerably between species and between months for the same species. The regression coefficients and r2 values are summarized. The significance of the coefficients is discussed in terms of the migration patterns and feeding ecology of the different species. Most relationships were in concordance with those expected, based on known habits and requirements of the birds. For example, large sites tended to hold more widlfowl than smaller ones and relationships with the crinkliness of the shore were probably due to the fact that many sites are primarily roosts and that large reservoirs have relatively simple perimeters. Chi-squared analyses were used to test the effects of the presence of different types of water-based recreation in terms of the observed number of birds compared to the number predicted by the regression models. Winter wildfowl distribution seems to be affected by water-based recreation but the impact on different species varies considerably. There is also substantial variation apparent between activities in terms of their disturbance effect. The most susceptible species to disturbance from reaction were teal, shoveler and goldeneye; the most tolerant were mute swan, tufted duck, pochard and mallard. The greatest deleterious impact on winter wildfowl numbers was associated with the presence of coarse fishing, sailing and rowing. The presence of birdwatching, which is frequently associated with active conservation management, was the commonest activity category associated with higher-than-expected numbers of most species. Shooting was not shown to have great impact, but this was due to the choice by hunters of good wildfowl sites rather than any positive effect. Conditions were favorable for inland wildfowl in recent years and the fact that most recreation on water is carried out largely in the summer has also meant that the impact of recreational activities was not as great as was feared. If the recent trend toward increased public participation in water sports continues, the impact on wildfowl may have to be reexamined.

**URL:** <Go to ISI>://BCI198478050271

**Reference Type:**  Journal Article

**Record Number:** 1292

**Author:** I. Tulp, J. Craeymeersch, M. Leopold, C. van Damme, F. Fey and H. Verdaat

**Year:** 2010

**Title:** The role of the invasive bivalve Ensis directus as food source for fish and birds in the Dutch coastal zone

**Journal:** Estuarine Coastal and Shelf Science

**Volume:** 90

**Issue:** 3

**Pages:** 116-128

**Date:** Dec 20 2010

**Short Title:** The role of the invasive bivalve Ensis directus as food source for fish and birds in the Dutch coastal zone

**Accession Number:** BCI:BCI201100041678

**Keywords:** Black Scoter; Melanitta nigra; Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The razor clam Ensis directus was introduced to Europe presumably as larvae in ballast water around 1978. Starting in the German Bight it spread northward and southward along the continental coastline. Currently it is the most common shellfish species in the Dutch coastal zone, where it mainly occurs in the Voordelta and off the Wadden Sea islands. The mean density of E. directus in the Dutch coastal zone increased from around 2-5 individuals m(-2) in the late '90's to around 12-19 individuals m(-2) from 2002 onwards. Diet studies show that E. directus makes up a significant proportion in the current diet of plaice, sole, dab, flounder and dragonet and in the diet of eider and common scoter. In recent years E. directus contributed 20-100% of the total wet weight in fish stomachs. The proportion E. directus in the diet increases with fish length. Based on stomach contents of oiled and beached birds and of faeces samples the recent frequency of occurrence is 85-90% in eider and 26% in common scoter. Also waders, gulls and corvids prey on E. directus but the contribution to the diet is still unquantified. Because of its great burying depth the species is not easily accessible. Fish either profit from massive die-offs that regularly occur, or they extract (probably only the smaller) individuals from the sediment. Sea ducks can extract E. directus from the sediment, while shorebirds and gulls feed on dying E. directus washing up on the shore. E. directus is possibly an important food item for fish and seabirds when they occur in high densities and in the right size classes. Since the availability depends greatly on massive die-offs, shell size, burying depth and water depth, it is probably not a very reliable food source. Judging from the role E. directus currently plays for the higher trophic levels, its introduction must have caused a major change in the food relations in its distribution area. (C) 2010 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI201100041678

**Reference Type:**  Journal Article

**Record Number:** 850

**Author:** J. M. Tuohy, K. P. McHugh and S. R. De Kloet

**Year:** 1992

**Title:** Systematic relationships among some anatini as derived from restriction-endonuclease analysis of a repeated DNA component

**Journal:** Auk

**Volume:** 109

**Issue:** 3

**Pages:** 465-473

**Short Title:** Systematic relationships among some anatini as derived from restriction-endonuclease analysis of a repeated DNA component

**Accession Number:** BCI:BCI199395013734

**Keywords:** Red-breasted merganser; Mergus serrator; Taxonomy;

**Abstract:** We recently isolated and cloned a highly repeated retropseudogenelike DNA sequence (RBMI) from the genome of the Red-breasted Merganser (Mergus serrator). This sequence was used to probe Southern blots of restriction-enzyme-digested DNA from members of the waterfowl tribe Anatini in order to infer phylogenetic relationships. The digested DNA of all the species studied contained major and minor RBMI-like components. Some RBMI-like components were common to all the species examined, others were only found in groups of species, and still others were specific to individual species. The Mallard (Anas platyrhynchos) and the American Black Duck (A. rubripes) could be differentiated on the basis of RBMI-probed Southern blots. Thus, the RBMI sequence can be used to distinguish very closely related species. We suggest that the Anatini consist of three major groups: the mallard pintail group; the gadwall-wigeon group; and the blue-winged ducks. The Versicolor Teal (A. versicolor) had major elements in common with both the blue-winged ducks and the mallard-pintail group. The Baikal Teal (A. formosa) and the Marbled Teal (Marmaronetta angustirostris) do not appear to be members of any of these three groups.

**URL:** <Go to ISI>://BCI199395013734

**Reference Type:**  Journal Article

**Record Number:** 2333

**Author:** B. D. Uher-Koch, D. Esler, R. D. Dickson, J. W. Hupp, J. R. Evenson, E. M. Anderson, J. Barrett and J. A. Schmutz

**Year:** 2014

**Title:** Survival of Surf Scoters and White-Winged Scoters during Remigial Molt

**Journal:** Journal of Wildlife Management

**Volume:** 78

**Issue:** 7

**Pages:** 1189-1196

**Date:** Sep

**Short Title:** Survival of Surf Scoters and White-Winged Scoters during Remigial Molt

**ISSN:** 0022-541X

**DOI:** 10.1002/jwmg.774

**Accession Number:** WOS:000342635100007

**Keywords:** Surf Scoter; White-winged Scoter; Melanitta perspicillata; Melanitta fusca; Nonbreeding season; Molt; Survival; SDJV funded

**Abstract:** Quantifying sources and timing of variation in demographic rates is necessary to determine where and when constraints may exist within the annual cycle of organisms. Surf scoters (Melanitta perspicillata) and white-winged scoters (M. fusca) undergo simultaneous remigial molt during which they are flightless for >1 month. Molt could result in reduced survival due to increased predation risk or increased energetic demands associated with regrowing flight feathers. Waterfowl survival during remigial molt varies across species, and has rarely been assessed for sea ducks. To quantify survival during remigial molt, we deployed very high frequency (VHF) transmitters on surf scoters (n=108) and white-winged scoters (n=57) in southeast Alaska and the Salish Sea (British Columbia and Washington) in 2008 and 2009. After censoring mortalities potentially related to capture and handling effects, we detected no mortalities during remigial molt; thus, estimates of daily and period survival for both scoter species during molt were 1.00. We performed sensitivity analyses in which mortalities were added to the dataset to simulate potential mortality rates for the population and then estimated the probability of obtaining a dataset with 0 mortalities. We found that only at high survival rates was there a high probability of observing 0 mortalities. We conclude that remigial molt is normally a period of low mortality in the annual cycle of scoters. The molt period does not appear to be a constraint on scoter populations; therefore, other annual cycle stages should be targeted by research and management efforts to change population trajectories. Published 2014. This article is a U.S. Government work and is in the public domain in the USA.

**Notes:** Uher-Koch, Brian D. Esler, Daniel Dickson, Rian D. Hupp, Jerry W. Evenson, Joseph R. Anderson, Eric M. Barrett, Jennifer Schmutz, Joel A.

**URL:** <Go to ISI>://WOS:000342635100007

**Reference Type:**  Journal Article

**Record Number:** 2312

**Author:** B. D. Uher-Koch, D. Esler, S. A. Iverson, D. H. Ward, W. S. Boyd, M. Kirk, T. L. Lewis, C. S. VanStratt, K. M. Brodhead, J. W. Hupp and J. A. Schmutz

**Year:** 2016

**Title:** Interacting effects of latitude, mass, age, and sex on winter survival of Surf Scoters (Melanitta perspicillata): implications for differential migration

**Journal:** Canadian Journal of Zoology

**Volume:** 94

**Issue:** 3

**Pages:** 233-241

**Date:** Mar

**Short Title:** Interacting effects of latitude, mass, age, and sex on winter survival of Surf Scoters (Melanitta perspicillata): implications for differential migration

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2015-0107

**Accession Number:** WOS:000375952100010

**Keywords:** Surf Scoter; Melanitta perspicillata; Nonbreeding season; Survival; SDJV funded

**Abstract:** We quantified variation in winter survival of Surf Scoters (Melanitta perspicillata (L., 1758)) across nearly 30 degrees of latitude on the Pacific coast of North America to evaluate potential effects on winter distributions, including observed differential distributions of age and sex classes. We monitored fates of 297 radio-marked Surf Scoters at three study sites: (1) near the northern periphery of their wintering range in southeast Alaska, USA, (2) the range core in British Columbia, Canada, and (3) the southern periphery in Baja California, Mexico. We detected 34 mortalities and determined that survival averaged lower at the range peripheries than in the range core, was lower during mid-winter than during late winter at all sites, and was positively correlated with body mass within locations. Although neither age nor sex class had direct effects, mass effects led to differential survival patterns among classes. When simultaneously incorporating these interacting influences, adult males of mean mass for their location had highest survival at the northern range periphery in Alaska, whereas adult females and juveniles had higher survival at the range core and the southern periphery. Our observations help to explain patterns of differential migration and distribution reported for this species and highlight seasonal periods (mid-winter) and locations (range peripheries) of elevated levels of mortality for demographically important age-sex classes (adult females).

**Notes:** Uher-Koch, Brian D. Esler, Daniel Iverson, Samuel A. Ward, David H. Boyd, W. Sean Kirk, Molly Lewis, Tyler L. VanStratt, Corey S. Brodhead, Katherine M. Hupp, Jerry W. Schmutz, Joel A.

**URL:** <Go to ISI>://WOS:000375952100010

**Reference Type:**  Journal Article

**Record Number:** 764

**Author:** R. Uhlig

**Year:** 1993

**Title:** On the wintering population of the goosander and the smew (Mergus merganser and Mergus albellus) in the Oder estuary

**Journal:** Beitraege zur Vogelkunde

**Volume:** 39

**Issue:** 5

**Pages:** 318-319

**Short Title:** On the wintering population of the goosander and the smew (Mergus merganser and Mergus albellus) in the Oder estuary

**Accession Number:** BCI:BCI199497136493

**Keywords:** Common merganser; Mergus merganser; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI199497136493

**Reference Type:**  Journal Article

**Record Number:** 911

**Author:** M. C. Underhill, T. Gittings, D. A. Callaghan, B. Hughes, J. S. Kirby and S. Delany

**Year:** 1998

**Title:** Status and distribution of breeding common scoters Melanitta nigra nigra in Britain and Ireland in 1995

**Journal:** Bird Study

**Volume:** 45

**Issue:** 2

**Pages:** 146-156

**Date:** July, 1998

**Short Title:** Status and distribution of breeding common scoters Melanitta nigra nigra in Britain and Ireland in 1995

**Accession Number:** BCI:BCI199800402632

**Keywords:** Black Scoter; Melanitta nigra; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The status and distribution of Common Scoters Melanitta nigra nigra in Britain and Ireland were determined from a survey in April-June 1995. Three visits were made to all known, and a sample of potential, breeding sites. A total of 439 birds was located, from which the British and Irish population was estimated at 195 pairs (100 in Ireland, 95 in Britain). In Ireland, three sites held 100 pairs or 51% of the population. In Britain, birds were spread over 61 sites in 23 10-km squares, all in Scotland. Breeding Common Scoters are somewhat more abundant in Britain and Ireland than hitherto thought. However, this is due mainly to comprehensive survey coverage in 1995 and, over the past 30 years, Common Scoters have actually suffered both population decline and range contraction. The Irish population declined from 180 to 100 pairs between 1967 and 1981, but has since remained stable. In Britain, Common Scoters have ceased to breed on Shetland, in Central Scotland, and in Dumfries and Galloway. Historical data are lacking, but in the Flow Country numbers have declined from some 50 pairs in 1988 to 35 pairs in 1995. All birds in Ireland, but only half of those in Britain were on protected sites. Given the Common Scoter's threatened status in Britain and Ireland and since the population dynamics of the species are largely unknown, annual monitoring of numbers and productivity is required to determine population trends and establish natural limits of population fluctuation. As Common Scoters in Britain and Ireland are threatened both by factors operating over whole water catchments (deteriorating water quality resulting from eutrophication and afforestation) and at individual sites (competition with introduced Roach, predation by American Mink), integrated catchment management plans, including site safeguard measures, seem necessary for the effective conservation of the species.

**URL:** <Go to ISI>://BCI199800402632

**Reference Type:**  Journal Article

**Record Number:** 142

**Author:** H. Utschick

**Year:** 1996

**Title:** Population dynamics of waterfowl communities influenced by a new river impoundment (Perach, Lower Inn, southern Bavaria)

**Journal:** Ornithologischer Anzeiger

**Volume:** 35

**Issue:** 1

**Pages:** 25-47

**Short Title:** Population dynamics of waterfowl communities influenced by a new river impoundment (Perach, Lower Inn, southern Bavaria)

**Accession Number:** BCI:BCI199699198042

**Keywords:** Sea Ducks - General; Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends;

**Abstract:** In 1977 the Perach dam on the Inn river started operation. Changes within the local waterfowl community were analysed and compared with the dynamics at two adjacent reservoirs within a 13-year period (1975-88). At the Perach reservoir ducks first used feeding grounds near the barrage, later shifting to areas more upstream due to sedimentation dynamics. Over all, this was true for Pochard and Teal. Mute Swan and waders preferred the shallower parts of the reservoir, Goldeneye and Cormorant those where the river turns to reservoir conditions. Little Grebe, Coot and smaller dabbling ducks intensively used flat old-river-loops reflooded by increased groundwater levels. At two larger downstream reservoirs, where waterfowl is much more abundant, bird numbers decreased after starting the Perach dam for 1-2 years due to the temporarily unbalanced sedimentation and nutrient deposition regime, mainly mudfauna-feeders and herbivores. Later, this was compensated by increasing Mallard numbers. To date the waterfowl community of the new Perach reservoir is of low value for nature conservation due to its low bird numbers and species composition which is typical for poorly structured riverlike impoundments of common type, but on the formerly dry old-river-loops the proportion of endangered species is increasing. Those habitats should be managed by optimizing the flooding system during high water discharge periods.

**URL:** <Go to ISI>://BCI199699198042

**Reference Type:**  Journal Article

**Record Number:** 1975

**Author:** V. M. Vaananen, P. Nummi, H. Poysa, M. Rask and K. Nyberg

**Year:** 2012

**Title:** Fish-duck interactions in boreal lakes in Finland as reflected by abundance correlations

**Journal:** Hydrobiologia

**Volume:** 697

**Issue:** 1

**Pages:** 85-93

**Date:** Nov

**Short Title:** Fish-duck interactions in boreal lakes in Finland as reflected by abundance correlations

**ISSN:** 0018-8158

**DOI:** 10.1007/s10750-012-1172-3

**Accession Number:** WOS:000307886000009

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Breeding Season

**Notes:** Times Cited: 4

Vaananen, Veli-Matti Nummi, Petri Poysa, Hannu Rask, Martti Nyberg, Kari

4

**URL:** <Go to ISI>://WOS:000307886000009

**Reference Type:**  Journal Article

**Record Number:** 2232

**Author:** V. M. Vaananen, H. Poysa and P. Runko

**Year:** 2016

**Title:** Nest and brood stage association between ducks and small colonial gulls in boreal wetlands

**Journal:** Ornis Fennica

**Volume:** 93

**Issue:** 1

**Pages:** 47-54

**Short Title:** Nest and brood stage association between ducks and small colonial gulls in boreal wetlands

**ISSN:** 0030-5685

**Accession Number:** WOS:000375520400006

**Keywords:** Common Goldeneye; Bucephala clangula; Breeding Season; Behavior

**Abstract:** Heterospecific grouping is often associated with reduced predation. One example of this phenomenon is birds breeding in association with more aggressive species. Here we report a study of the association between breeding ducks and small colonial gulls during the nesting and brood-rearing periods in boreal wetlands in Finland. Dabbling duck nests were rarely found within gull colonies, while Tufted Duck (Aythya fuligula) and Pochard (Aythya ferina) nests were exclusively found within gull colonies. During the brood stage, the broods of most duck species were found more often than expected within the colony areas of small gulls, such as the Black-headed Gull (Chroicocephalus ridibundus) and Little Gull (Hydrocoleus minutus). Dabbling duck broods in particular were associated with gulls. In diving ducks, Tufted Duck broods preferred gull defence areas, whereas Common Goldeneye (Bucephala clangula) broods did not. We suggest that colonies of small gulls may be much more important for ducks than previously thought. In recent years, Black-headed Gull populations have decreased in Finland, and the populations of Tufted Duck and Pochard have concurrently decreased. We recommend that the nesting site requirements of small colonial gulls should be taken into account in wetland restoration and when building new wetlands.

**Notes:** Vaananen, Veli-Matti Poysa, Hannu Runko, Pentti

**URL:** <Go to ISI>://WOS:000375520400006

**Reference Type:**  Journal Article

**Record Number:** 393

**Author:** D. Van De Wetering and F. Cooke

**Year:** 2000

**Title:** Body weight and feather growth of male Barrow's Goldeneye during wing molt

**Journal:** Condor

**Volume:** 102

**Issue:** 1

**Pages:** 228-231

**Date:** Feb., 2000

**Short Title:** Body weight and feather growth of male Barrow's Goldeneye during wing molt

**Accession Number:** BCI:BCI200000123501

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Physiology; Molt; Nonbreeding Seasons;

**Abstract:** We studied the timing, duration, and rate of wing molt of male Barrow's Goldeneye (Bucephala islandica). The mean daily change in primary feather length was 2.6%, which is consistent with rates reported for other waterfowl species. The mean length of the flightless period was 31 days (range: 27-34 days), excluding the pre-shedding interval. Wing molt extended from early July to mid-September. Peak wing molt occurred between 20 July and 23 August. The mean body weight of adult males decreased significantly during wing molt. Heavier birds had greater remigial growth rates and experienced more substantial declines in body weight than lighter birds, suggesting that body reserves may be used to increase the rate of remigial growth.

**URL:** <Go to ISI>://BCI200000123501

**Reference Type:**  Journal Article

**Record Number:** 867

**Author:** W. Van Der Kloot and M. J. Morse

**Year:** 1975

**Title:** A Stochastic Analysis of the Display Behavior of the Red-Breasted Merganser Mergus-Serrator

**Journal:** Behaviour

**Volume:** 54

**Issue:** 3-4

**Pages:** 181-216

**Short Title:** A Stochastic Analysis of the Display Behavior of the Red-Breasted Merganser Mergus-Serrator

**Accession Number:** BCI:BCI197661035228

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior;

**URL:** <Go to ISI>://BCI197661035228

**Reference Type:**  Journal Article

**Record Number:** 1411

**Author:** M. van Roomen, C. van Turnhout, E. van Winden, B. Koks, P. Goedhart, M. Leopold and C. Smit

**Year:** 2005

**Title:** Trends in benthivorous waterbirds in the Dutch Wadden Sea 1975-2002: largedifferences between shellfish-eaters and worm-eaters

**Journal:** Limosa

**Volume:** 78

**Issue:** 1

**Pages:** 21-38

**Short Title:** Trends in benthivorous waterbirds in the Dutch Wadden Sea 1975-2002: largedifferences between shellfish-eaters and worm-eaters

**Accession Number:** BCI:BCI200510167181

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** In this paper trends in the numerical presence of 18 benthivorous waterbird species in the Dutch Wadden Sea (Figure 1) in the period 1975-2002 are analysed, using all available counts (Figure 2) and U-Index to impute missing counts. Three species have decreased in numbers, ten species have increased, and five species have fluctuated around a stable mean (Table 1, Figure 3). However, for ten species the trend in the period 1975/76-1990/91 differed significantly from that during 1991/92-2001/02. This concerns especially species that mainly feed on either worms or shellfish. Furthermore, worm-eating species and shellfish-eating species show opposite trends, a difference that is significant for the period 1991/92-2001/02. All four species which depend on bivalves have decreased (Common Eider, Eurasian Oystercatcher, Red Knot and European Herring Gull), whereas five out of six worm-eating species have increased, The larger the contribution of shellfish in the diet, the larger the population decrease in 1991/92-2001/02. Other studies have shown that the recent decrease in Common Eider and Eurasian Oystercatcher numbers are at least partly caused by deteriorating feeding opportunities. Intertidal mussel beds have largely disappeared in the early nineties (due to overfishing, poor spatfall and possibly winter storms) and cockles were heavily exploited by commercial mechanised fisheries. For Red Knot especially the disturbance of the sediment by mechanised cockle fisheries is important with a range of effects on the quality and quantity of their food. The recent, broad increase of numbers of worm-eating species may be linked to a shift in the ecosystem (reduced shellfish stocks, increased worm stocks) but the mechanisms underlying this change remain to be identified fully.

**URL:** <Go to ISI>://BCI200510167181

**Reference Type:**  Journal Article

**Record Number:** 194

**Author:** F. J. Vande Vusse

**Year:** 1979

**Title:** Host Parasite Relations of Dendritobilharzia-Pulverulenta Trematoda Schistosomatidae and Anatids

**Journal:** Journal of Parasitology

**Volume:** 65

**Issue:** 6

**Pages:** 894-897

**Short Title:** Host Parasite Relations of Dendritobilharzia-Pulverulenta Trematoda Schistosomatidae and Anatids

**Accession Number:** BCI:BCI198070032207

**Keywords:** Sea Ducks - General; Parasites;

**Abstract:** D. pulverulenta were recovered (average of 2.5 worms per host) from arteries of 12 spp. of anatids [whistling swan (Cygnus columbianus columbianus), wood duck (Aix sponsa), common teal, mallard (Anas platyrhynchos), blue-winged teal (A. discors), shoveler (A. clypeata), redhead, lesser scaup (Aythya affinis), bufflehead (Bucephala albeola), common goldeneye (B. clangula), red-breasted merganser (Mergus serrator) and common merganser (M. merganser)]. Rapid development of adults is indicated, and they maintain position and move within arteries without suckers or other obvious means of attachment. Males and females were found in close association, but never in copula. Anatid hosts can be divided into 2 groups which follow established taxonomic lines: normal hosts, in which worms inhabit the lower dorsal aorta and femoral arteries almost exclusively, and deposit viable eggs in the submucosa of the lower 3/4 of the large intestine (tribes Aythini, inland divers and Mergini, sea ducks); and abnormal hosts, in which worms are more widely distributed within the arterial system, and eggs that do not embryonate are deposited in a variety of tissues (tribes Anserini, geese and swans; Anatini, dabbling ducks; and Cairinini, perching ducks).

**URL:** <Go to ISI>://BCI198070032207

**Reference Type:**  Journal Article

**Record Number:** 1356

**Author:** S. Vandendriessche, E. W. M. Stienen, M. Vincx and S. Degraer

**Year:** 2007

**Title:** Seabirds foraging at floating seaweeds in the Northeast Atlantic

**Journal:** Ardea

**Volume:** 95

**Issue:** 2

**Pages:** 289-298

**Date:** Fal 2007

**Short Title:** Seabirds foraging at floating seaweeds in the Northeast Atlantic

**Accession Number:** BCI:BCI200800095304

**Keywords:** Black Scoter; Melanitta nigra; Red-breasted merganser; Mergus serrator; Common Eider; Somateria mollissima; Habitat; Behavior;

**Abstract:** The influence of floating seaweed patches on the distribution and behaviour of seabirds was investigated using the European Seabirds At Sea database (ESAS). The percentage of observations that seabirds were observed with floating seaweed differed among species, depending on the mode of foraging. The results indicate that surface feeding species that make shallow dives (terns and Red-breasted Mergansers Mergus serrator) benefit most from the presence of floating seaweeds and their associated macro- and ichthyofauna. Species hunting for pelagic and bottom-dwelling prey (divers, Guillemots Uria aalge, Razorbills Alca torda, Puffins Fratercula arctica, Gannets Sula bassana and Cormorants Phulacrocorax carbo), and especially benthos feeders (Common Scoters Melanitta nigra and Eiders Somuteria mollissima) were frequently seen in association with floating seaweeds, while opportunists and scavengers like gulls and skuas were recorded on few occasions. Petrels and shear-waters (surface-seizing, pursuit-plunging, pursuit-diving) were seldomly seen in association with floating seaweeds. The most common behavioural activities of the birds associated with floating seaweed were found to be surface pecking, actively searching, and pursuit plunging.

**URL:** <Go to ISI>://BCI200800095304

**Reference Type:**  Journal Article

**Record Number:** 2208

**Author:** E. Varennes and M. Guillemette

**Year:** 2015

**Title:** WHY SEADUCKS FORAGE IN MUSSEL FARMS? PREFERENCES AND EFFICIENCIES WHEN FORAGING ON CULTIVATED OR INTERTIDAL MUSSELS

**Journal:** Journal of Shellfish Research

**Volume:** 34

**Issue:** 2

**Pages:** 722-722

**Date:** Aug

**Short Title:** WHY SEADUCKS FORAGE IN MUSSEL FARMS? PREFERENCES AND EFFICIENCIES WHEN FORAGING ON CULTIVATED OR INTERTIDAL MUSSELS

**ISSN:** 0730-8000

**Accession Number:** WOS:000360410500374

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Behavior; Trophic Interactions

**Notes:** Varennes, Elisabeth Guillemette, Magella

**URL:** <Go to ISI>://WOS:000360410500374

**Reference Type:**  Journal Article

**Record Number:** 1976

**Author:** E. Varennes, S. A. Hanssen, J. Bonardelli and M. Guillemette

**Year:** 2013

**Title:** Sea duck predation in mussel farms: the best nets for excluding common eiders safely and efficiently

**Journal:** Aquaculture Environment Interactions

**Volume:** 3

**Issue:** 4

**Pages:** 31-39

**Short Title:** Sea duck predation in mussel farms: the best nets for excluding common eiders safely and efficiently

**ISSN:** 1869-215X

**DOI:** 10.3354/aei00072

**Accession Number:** WOS:000322524800003

**Keywords:** Common eider; somateria mollissima; Trophic Interactions; Nonbreeding Seasons; Conservation

**Notes:** Times Cited: 0

Varennes, Elisabeth Hanssen, Sveinn Are Bonardelli, John Guillemette, Magella

Hanssen, Sveinn Are/C-9989-2009

Hanssen, Sveinn Are/0000-0003-1792-435X

0

**URL:** <Go to ISI>://WOS:000322524800003

**Reference Type:**  Journal Article

**Record Number:** 2209

**Author:** E. Varennes, S. A. Hanssen, J. Bonardelli and M. Guillemette

**Year:** 2015

**Title:** SEA DUCK PREDATION IN MUSSEL FARMS: THE BEST NETS FOR EXCLUDING COMMON EIDERS SAFELY AND EFFICIENTLY

**Journal:** Journal of Shellfish Research

**Volume:** 34

**Issue:** 2

**Pages:** 722-723

**Date:** Aug

**Short Title:** SEA DUCK PREDATION IN MUSSEL FARMS: THE BEST NETS FOR EXCLUDING COMMON EIDERS SAFELY AND EFFICIENTLY

**ISSN:** 0730-8000

**Accession Number:** WOS:000360410500375

**Abstract:** Common Eider; Somateria mollissima; Nonbreeding season; Behavior; Trophic Interactions; Conservation

**Notes:** Varennes, Elisabeth Hanssen, Sveinn Are Bonardelli, John Guillemette, Magella

**URL:** <Go to ISI>://WOS:000360410500375

**Reference Type:**  Journal Article

**Record Number:** 2210

**Author:** E. Varennes, S. A. Hanssen, J. C. Bonardelli and M. Guillemette

**Year:** 2015

**Title:** Blue mussel (Mytilus edulis) quality of preferred prey improves digestion in a molluscivore bird (Common Eider, Somateria mollissima)

**Journal:** Canadian Journal of Zoology

**Volume:** 93

**Issue:** 10

**Pages:** 783-789

**Date:** Oct

**Short Title:** Blue mussel (Mytilus edulis) quality of preferred prey improves digestion in a molluscivore bird (Common Eider, Somateria mollissima)

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2015-0066

**Accession Number:** WOS:000362180300008

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Trophic Interactions; Energetics and Nutrition

**Abstract:** Benthivorous predators like sea ducks rely on abundant but low-quality food. Because they ingest whole blue mussels (Mytilus edulis L., 1758), including shells, they have to consume large quantities of food to maintain energy balance. Digestive processes may therefore limit energy assimilation in these predators, although selecting mussel types that minimize shell ingestion may improve foraging profitability. To test this prediction, we first quantified mussel quality from different sizes and habitats by measuring energy content and various features of mussel morphology. Then, we conducted digestive experiments on captive Common Eiders (Somateria mollissima (L., 1758)) fed with various mussel types to determine their impact on Eiders' digestion. Aquacultured and small mussels were of better quality, because of higher energy content and less resistant shells. These mussel characteristics allowed faster digestive processes for an equal digestibility compared with large intertidal mussels. Previous studies showed that aquacultured and small mussels were generally preferred by sea ducks. Hence, prey-selection behaviours and digestive processes seem closely connected in these highly digestive-constrained predators.

**Notes:** Varennes, Elisabeth Hanssen, Sveinn A. Bonardelli, John C. Guillemette, Magella

**URL:** <Go to ISI>://WOS:000362180300008

**Reference Type:**  Journal Article

**Record Number:** 2211

**Author:** E. Varennes, S. A. Hanssen, J. C. Bonardelli and M. Guillemette

**Year:** 2015

**Title:** A large molluscivore bird (Common Eider, Somateria mollissima) is able to discriminate quality of blue mussels (Mytilus edulis) based on size and provenance

**Journal:** Canadian Journal of Zoology

**Volume:** 93

**Issue:** 8

**Pages:** 655-663

**Date:** Aug

**Short Title:** A large molluscivore bird (Common Eider, Somateria mollissima) is able to discriminate quality of blue mussels (Mytilus edulis) based on size and provenance

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2015-0046

**Accession Number:** WOS:000359262800009

**Keywords:** Common Eider; Somateria mollissima; Behavior; Trophic Interactions; Energetics and Nutrition

**Abstract:** Molluscivore birds that forage on abundant but low-quality food have to ingest large quantities of food to achieve energy balance. Such a strategy is often associated with important digestive constraints limiting predator's ingestion. Thus, these predators may use prey selection to ingest better-quality individuals among a generally low-quality prey population. Using captive Common Eiders (Somateria mollissima (L., 1758)) diving in a constant environment, we were able to examine their preferences for blue mussels (Mytilus edulis L., 1758) of varying qualities (different sizes or provenances). In addition, we studied the consequences prey selection had on Eiders' energy intake rates and ingestion of flesh and shell material. Eiders selected 10-20 mm mussels and were able to discriminate and to select cultivated mussels from intertidal mussels. Prey selection allowed, in certain conditions of prey-size abundance, higher flesh and energy intake rates without increasing the ingestion of shell material. This study confirmed the energetic advantage that Eiders have when foraging in aquaculture sites, which explain the large depredation of preferred mussel sizes.

**Notes:** Varennes, Elisabeth Hanssen, Sveinn A. Bonardelli, John C. Guillemette, Magella

**URL:** <Go to ISI>://WOS:000359262800009

**Reference Type:**  Journal Article

**Record Number:** 2212

**Author:** E. Varennes, S. A. Hanssen, J. C. Bonardelli and M. Guillemette

**Year:** 2015

**Title:** Functional response curves of avian molluscivores: high intake rates maintained even at low prey density

**Journal:** Marine Ecology Progress Series

**Volume:** 526

**Pages:** 207-212

**Date:** Apr

**Short Title:** Functional response curves of avian molluscivores: high intake rates maintained even at low prey density

**ISSN:** 0171-8630

**DOI:** 10.3354/meps11258

**Accession Number:** WOS:000354394900016

**Keywords:** Common Eider; Somateria mollissima; Behavior; Trophic Interactions

**Abstract:** Despite its low energy density, the blue mussel Mytilus edulis is a regular prey of various seaduck species. As a result, seaducks must ingest large quantities of mussels to meet their energy requirements. In this study, we modeled the functional response curve for a large avian molluscivore, the common eider Somateria mollissima, by measuring intake rates of captive individuals foraging in diving tanks under different mussel densities and at different attachment strengths. We estimated the mean maximum intake rate to be 45 prey min(-1) (with a mean bottom time +/- SD of 5.034 +/- 3.793 s), which is relatively high compared to intake rates of other diving duck species and prey types. However, we found no significant effects of density and attachment strength on intake rates, indicating that eiders can maintain maximum intake rates even at low mussel densities. These results could explain the depletion of mussel beds sometimes observed in the wild, as well as the large negative impact that seaducks may have in aquaculture farms.

**Notes:** Varennes, Elisabeth Hanssen, Sveinn A. Bonardelli, John C. Guillemette, Magella

**URL:** <Go to ISI>://WOS:000354394900016

**Reference Type:**  Journal Article

**Record Number:** 1291

**Author:** O. Varpe

**Year:** 2010

**Title:** Stealing bivalves from common eiders: kleptoparasitism by glaucous gulls in spring

**Journal:** Polar Biology

**Volume:** 33

**Issue:** 3

**Pages:** 359-365

**Date:** Mar 2010

**Short Title:** Stealing bivalves from common eiders: kleptoparasitism by glaucous gulls in spring

**Accession Number:** BCI:BCI201000209688

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Here I report on glaucous gulls (Larus hyperboreus), an opportunistic, generalist predator, stealing bivalves from a diving duck, the common eider (Somateria mollissima). The study took place in spring, the pre-breeding period of the common eider, in an Arctic fjord (Adventfjorden) at western Spitsbergen, Svalbard. Eiders were abundant, their presence predictable, and they fed on large prey requiring surface handling-all factors facilitating food theft. Only adult glaucous gulls attended the eider flocks. The glaucous gulls brought stolen prey ashore. Amongst these the bivalve Mya neoovata (Myidae) was common. The probability that an eider flock was attended by glaucous gulls declined as the season progressed and increased with the foraging activity of the eiders. Eider flock size and the degree of aggregation within flocks were poor predictors of gull presence. However, eider flocks attended by a single gull were smaller than flocks attended by more than one gull. Common eiders are capital breeders which build up large energy reserves prior to breeding. Kleptoparasitism, therefore, may have a negative impact on eider energy acquisition in early spring. For the glaucous gull, kleptoparasitism may be important as few other food sources are available this time of the season.

**URL:** <Go to ISI>://BCI201000209688

**Reference Type:**  Journal Article

**Record Number:** 935

**Author:** G. Vauk

**Year:** 1980

**Title:** Deaths of Sea Birds Following the Creeping Oil Pollution on Helgoland West Germany in Spring 1979

**Journal:** Vogelwarte

**Volume:** 30

**Issue:** 3

**Pages:** 271-276

**Short Title:** Deaths of Sea Birds Following the Creeping Oil Pollution on Helgoland West Germany in Spring 1979

**Accession Number:** BCI:BCI198172056287

**Keywords:** Black Scoter; Melanitta nigra; Contaminants; Nonbreeding Seasons;

**Abstract:** During Jan.-April, 1979, 232 birds were found dead on Helgoland. Deaths were caused by the effects of oiling. In contrast to earlier findings the highest losses occurred in the ducks (common scoter); grebes (red-necked grebe) and guillemots also constituted a high proportion of the oil victims. The hard winter with freezing conditions led to a special concentration of marine and fresh water birds on the open sea around the island. Waders and a blackbird also fell victim to oil that was washed ashore. Oil was sampled from the plumage of 3 birds and analyzed to ascertain its origin. Very likely the oil did not originate from the North Sea oilfields but from drifting raw oil. Light oiling of a greater black-backed gull could be overcome.

**URL:** <Go to ISI>://BCI198172056287

**Reference Type:**  Journal Article

**Record Number:** 1091

**Author:** K. Vermeer and G. G. Anweiler

**Year:** 1975

**Title:** Oil Threat to Aquatic Birds Along the Yukon Coast Canada

**Journal:** Wilson Bulletin

**Volume:** 87

**Issue:** 4

**Pages:** 467-480

**Short Title:** Oil Threat to Aquatic Birds Along the Yukon Coast Canada

**Accession Number:** BCI:BCI197661059760

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants;

**URL:** <Go to ISI>://BCI197661059760

**Reference Type:**  Journal Article

**Record Number:** 200

**Author:** K. Vermeer and C. D. Levings

**Year:** 1977

**Title:** Populations, biomass and food habits of ducks on the Fraser Delta intertidal area, British Columbia

**Journal:** Wildfowl

**Volume:** 28

**Pages:** 49-60

**Short Title:** Populations, biomass and food habits of ducks on the Fraser Delta intertidal area, British Columbia

**Accession Number:** BCI:BCI201000234528

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Hundreds of thousands of ducks, mostly Mallard Anas platyrhynchos Pintail A. acuta, American Wigeon A. americana, Green-winged Teal A. crecca carolinensis and Greater Scaup Aythya marila visit the Fraser Delta intertidal area from October through January. Surf Scoters Melanitta perspicillata are most numerous in August and early September. Scaup and scoters appear to prefer Boundary Bay over Sturgeon and Roberts Bank. The total duck biomass on the tidal flats has a peak of 9 kilograms per hectare in November, Mallard and American Wigeon accounting for more than half.Most dabbling ducks fed on marsh and other plants. Of six diving duck species invstigated, Black M. nigra, Surf and White-winged Scoters M. fusca deglandi and Oldsquaws Clangula hyemalis fed primarily on bivalves, Common Goldeneyes Bucephala clangula on crustaceans and Greater Scaup on algae. The food habits differ with respect to feeding location as well as time of season. Oldsquaws used mostly subtidal waters, Surf Scoters between 0 and 3 fathoms below chart datum, White-winged Scoters the lower intertidal zone, Greater Scaup a muddy substrate closest to the shoreline and sheltered in Boundary Bay.

**URL:** <Go to ISI>://BCI201000234528

**Reference Type:**  Journal Article

**Record Number:** 1090

**Author:** K. Vermeer and D. B. Peakall

**Year:** 1979

**Title:** Trace Metals in Sea Ducks of the Fraser River Delta Inter Tidal Area British-Columbia Canada

**Journal:** Marine Pollution Bulletin

**Volume:** 10

**Issue:** 7

**Pages:** 189-193

**Short Title:** Trace Metals in Sea Ducks of the Fraser River Delta Inter Tidal Area British-Columbia Canada

**Accession Number:** BCI:BCI198069027041

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** Surf Scoters Melanitta perspicillata and Greater Scaup Aythya marila and samples of species which comprise the major part of their diets [Ulva sp., Enteromorpha sp., Triglochin maritima, Scirpus paludosus, S. validus], from Iona Island and Roberts Bank tidal flats, near Vancouver, British Columbia, were analyzed for metal residues. Significantly higher Ag, Cu, Pb and Zn levels were found in Greater Scaup than Surf Scoters. The latter species had higher Hg levels. Differences in residue levels between the species reflect interspecific variation in prey as well as feeding habitat. Significantly higher Ag, Hg, Pb and Zn in Surf Scoters and Ag and Pb in Greater Scaup observed at Iona Island than at Roberts Bank can be explained by higher levels of those metals occurring in a more metal-contaminated prey and sediment near the Iona Island sewer outfall. Ducks feeding on organisms in different intertidal zones show different accumulation of metal residues and constitute valuable indicators of pathways of toxic chemicals in specific estuarine regions.

**URL:** <Go to ISI>://BCI198069027041

**Reference Type:**  Journal Article

**Record Number:** 438

**Author:** J. L. Vest and M. R. Conover

**Year:** 2011

**Title:** Food Habits of Wintering Waterfowl on the Great Salt Lake, Utah

**Journal:** Waterbirds

**Volume:** 34

**Issue:** 1

**Pages:** 40-50

**Date:** Mar 2011

**Short Title:** Food Habits of Wintering Waterfowl on the Great Salt Lake, Utah

**Accession Number:** BCI:BCI201100239668

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Conservation; Nonbreeding Seasons;

**Abstract:** Two invertebrates, brine shrimp (Artemia franciscana) and brine flies (Ephydridae), occur in great densities in the Great Salt Lake (GSL) but it is unknown whether ducks forage extensively on them during winter or rely on freshwater food. Common Goldeneye (Bucephala clangula), Northern Shoveler (Anas clypeata) and Green-winged Teal (Anas crecca) were collected from the GSL during winters 2004-05 and 2005-06 to evaluate their food habits. Brine shrimp and brine flies comprised more than 70% of the winter diet of these ducks. Common Goldeneyes consumed mainly brine fly larvae (68% based on dry weight biomass), which live primarily along the substrate. Northern Shovelers fed on brine shrimp cysts (52%) and adult brine shrimp (20%) while Green-winged Teal consumed mainly brine shrimp cysts (80%). In some years, up to half of the brine shrimp cysts in the GSL are commercially harvested. Care should be taken so that this commercial harvest does not adversely impact ducks that depend on these brine shrimp cysts for winter food. Received 23 June 2010, accepted 4 November 2010.

**URL:** <Go to ISI>://BCI201100239668

**Reference Type:**  Journal Article

**Record Number:** 450

**Author:** J. L. Vest, M. R. Conover, C. Perschon, J. Luft and J. O. Hall

**Year:** 2009

**Title:** Trace Element Concentrations in Wintering Waterfowl from the Great Salt Lake, Utah

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 56

**Issue:** 2

**Pages:** 302-316

**Date:** Feb 2009

**Short Title:** Trace Element Concentrations in Wintering Waterfowl from the Great Salt Lake, Utah

**Accession Number:** BCI:BCI200900270007

**Keywords:** Common Goldeneye; Bucephala clangula; Contaminants; Nonbreeding Seasons;

**Abstract:** The Great Salt Lake (GSL) is an important region for millions of migratory waterbirds. However, high concentrations of some trace elements, including Hg and Se, have been detected within the GSL, and baseline ecotoxicological data are lacking for avian species in this system. We collected common goldeneye (Bucephala clangula), northern shoveler (Anas clypeata), and greenwinged teal (A. crecca) from the GSL during the winters of 2004-2005 and 2005-2006 to evaluate sources of variation in liver trace element concentrations. Hg concentrations were among or exceeded the highest values reported in the published literature for common goldeneye, northern shoveler, and green-winged teal. Average Hg (total) concentrations of common goldeneye peaked in midwinter, whereas average Se concentrations peaked during late winter. During late winter, 100% and 88% of female goldeneye contained elevated concentrations of Hg [>= 1.0 mu g/g wet weight (ww)] and Se (>= 3.0 mu g/g ww), respectively, and 5% and 14% contained potentially harmful amounts of Hg (>= 30.0 mu g/g ww) and Se (> 10.0 mu g/g ww), respectively. Similarly, 30% and 16% of male goldeneye contained potentially harmful concentrations of Hg and Se, respectively. Concentrations of Hg and Se were elevated in 100% and 79%, respectively, of northern shoveler samples (sexes combined) collected during February. We suggest that waterfowl contain biologically concerning amounts of Hg and Se during winter while on the GSL and further research is needed to evaluate the effect of these elements on GSL waterbirds.

**URL:** <Go to ISI>://BCI200900270007

**Reference Type:**  Journal Article

**Record Number:** 2213

**Author:** A. Viain and M. Guillemette

**Year:** 2016

**Title:** Does Water Temperature Affect the Timing and Duration of Remigial Moult in Sea Ducks? An Experimental Approach

**Journal:** Plos One

**Volume:** 11

**Issue:** 5

**Date:** May

**Short Title:** Does Water Temperature Affect the Timing and Duration of Remigial Moult in Sea Ducks? An Experimental Approach

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0155253

**Article Number:** e0155253

**Accession Number:** WOS:000376589400028

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Molt

**Abstract:** Aquatic birds have high cost of thermoregulation, especially during the moulting period, yet the effect of water temperature on the moulting strategy of aquatic birds has rarely been studied. Our general hypothesis is that energy savings associated with lower thermoregulation costs would be allocated to moulting processes. We predicted that aquatic birds moulting in warm water would have a higher level of body reserves, a faster growth rate of feathers, and an earlier remigial moult onset compared with birds moulting in cold water. We used the common eider (Somateria mollissima dresseri), a large sea duck, as the model species. Captive individuals were experimentally exposed to warm (18 degrees C) and cold (8 degrees C) water treatments during a three year period with individuals swapped between treatments. We found a similar feather growth rate for the two water temperature treatments and in contrast to our predictions, eiders exposed to warm water had a lower body mass and showed a delayed onset of remigial moult of approximately 7 days compared with those exposed to cold water. Our data indicate that body mass variations influence the timing of moult in unexpected ways and we suggest that it likely controls the occurrence of wing moult through a hormonal cascade. This study emphasizes the importance of improving our knowledge of the effects of water temperature on remigial moult of aquatic birds, to better assert the potential effects of global warming on their survival.

**Notes:** Viain, Anouck Guillemette, Magella

**URL:** <Go to ISI>://WOS:000376589400028

**Reference Type:**  Journal Article

**Record Number:** 2214

**Author:** A. Viain, M. Guillemette and J. P. L. Savard

**Year:** 2015

**Title:** Body and organ mass dynamics during remigial moult in a wing-foot-propelled diving sea duck: the Common Eider (Atlantic) (Somateria mollissima dresseri)

**Journal:** Canadian Journal of Zoology

**Volume:** 93

**Issue:** 10

**Pages:** 755-764

**Date:** Oct

**Short Title:** Body and organ mass dynamics during remigial moult in a wing-foot-propelled diving sea duck: the Common Eider (Atlantic) (Somateria mollissima dresseri)

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2015-0062

**Accession Number:** WOS:000362180300005

**Keywords:** Common Eider; Somateria mollissima; Nonbreeding season; Molt; Physiology

**Abstract:** Body and organ dynamics, during remigial moult, have been mainly explored on geese, dabbling ducks, and foot-propelled diving ducks, but weakly on sea ducks. This study investigated the internal changes in a wing-foot-propelled sea duck to determine the adaptive strategies implemented. Forty-five male Common Eiders (Atlantic) (Somateria mollissima dresseri Sharpe, 1871), collected in the Gulf of St. Lawrence, were dissected; their body mass, muscle mass, and organ sizes were measured. We tested three hypotheses: (1) S. m. dresseri use a strategic reduction of body mass to reduce the flightlessness duration; (2) organs will exhibit changes consistent with a trade-off between function and maintenance to save and reallocate energy and proteins to feather growth; (3) S. m. dresseri would show lower flight muscle reduction than foot-propelled diving ducks. Somateria mollissima dresseri did not lose body mass, which does not support the first hypothesis. Atrophy of the heart followed by hypertrophy and opposite changes in leg muscle mass and gizzard mass are consistent with the second hypothesis. Flight muscle mass showed lower variations than in other ducks, validating the third hypothesis. We also suggest that the lipid depletion observed early in the moult could be a strategy to reduce foraging effort and minimize the risk of damaging the growing feathers.

**Notes:** Viain, A. Guillemette, M. Savard, J. -P. L.

**URL:** <Go to ISI>://WOS:000362180300005

**Reference Type:**  Journal Article

**Record Number:** 2334

**Author:** A. Viain, J. P. L. Savard, S. Gilliland, M. C. Perry and M. Guillemette

**Year:** 2014

**Title:** Do Seaducks Minimise the Flightless Period?: Inter- and Intra-Specific Comparisons of Remigial Moult

**Journal:** Plos One

**Volume:** 9

**Issue:** 9

**Date:** Sep

**Short Title:** Do Seaducks Minimise the Flightless Period?: Inter- and Intra-Specific Comparisons of Remigial Moult

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0107929

**Article Number:** e107929

**Accession Number:** WOS:000342492700058

**Keywords:** Common Eider; White-winged Scoter; Surf Scoter; Long-tailed Duck; Harlequin Duck; Somateria mollissima; Melanitta fusca; Melanitta perspicillata; Clangula hyemalis; Histrionicus histrionicus; Nonbreeding season; Molt; Physiology

**Abstract:** Remigial moult is one of the crucial events in the annual life cycle of waterfowl as it is energetically costly, lasts several weeks, and is a period of high vulnerability due to flightlessness. In waterfowl, remigial moult can be considered as an energy-predation trade-off, meaning that heavier individuals would minimise the flightless period by increasing feather growth rate and energy expenditure. Alternatively, they could reduce body mass at the end of this period, thereby reducing wing-loading to increase flight capability. We studied timing of remigial moult, primary growth rates, flightlessness duration, and the pattern of body mass variation in 5 species of captive seaducks (Melanitta fusca, M. perspicillata, Clangula hyemalis, Histrionicus histrionicus, and Somateria mollissima) ranging in size from 0.5 to 2.0 kg. Their feather growth rates weakly increased with body mass (M-0.059) and no correlation was found at the intra-specific level. Consequently, heavier seaduck species and especially heavier individuals had a longer flightless period. Although birds had access to food ad libidum, body mass first increased then decreased, the latter coinciding with maximum feather growth rate. Level of body mass when birds regained flight ability was similar to level observed at the beginning of remigial moult, suggesting they were not using a strategic reduction of body mass to reduce the flightlessness duration. We suggest that the moulting strategy of seaducks may be the result of a compromise between using an intense moult strategy (simultaneous moult) and a low feather growth rate without prejudice to feather quality. Despite the controlled captive status of the studied seaducks, all five species as well as both sexes within each species showed timing of moult reflecting that of wild birds, suggesting there is a genetic component acting to shape moult timing within wild birds.

**Notes:** Viain, Anouck Savard, Jean-Pierre L. Gilliland, Scott Perry, Matthew C. Guillemette, Magella

**URL:** <Go to ISI>://WOS:000342492700058

**Reference Type:**  Journal Article

**Record Number:** 351

**Author:** P. D. Vickery

**Year:** 1988

**Title:** Distribution and Population Status of Harlequin Ducks Histrionicus-Histrionicus Wintering in Eastern North America

**Journal:** Wilson Bulletin

**Volume:** 100

**Issue:** 1

**Pages:** 119-126

**Short Title:** Distribution and Population Status of Harlequin Ducks Histrionicus-Histrionicus Wintering in Eastern North America

**Accession Number:** BCI:BCI198834099818

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI198834099818

**Reference Type:**  Journal Article

**Record Number:** 1978

**Author:** S. T. Vilaca, R. A. F. Redondo, L. V. Lins and F. R. Santos

**Year:** 2012

**Title:** Remaining genetic diversity in Brazilian Merganser (Mergus octosetaceus)

**Journal:** Conservation Genetics

**Volume:** 13

**Issue:** 1

**Pages:** 293-298

**Date:** Feb

**Short Title:** Remaining genetic diversity in Brazilian Merganser (Mergus octosetaceus)

**ISSN:** 1566-0621

**DOI:** 10.1007/s10592-011-0262-5

**Accession Number:** WOS:000303475800024

**Keywords:** Brazilian Merganser; Mergus octosetaceus; Conservation

**Notes:** Times Cited: 1

Vilaca, Sibelle Torres Redondo, Rodrigo A. F. Lins, Livia Vanucci Santos, Fabricio R.

Santos, Fabricio/H-2370-2011

Santos, Fabricio/0000-0001-9088-1750

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**URL:** <Go to ISI>://WOS:000303475800024

**Reference Type:**  Journal Article

**Record Number:** 472

**Author:** P. Voskamp and J. Driessen

**Year:** 2003

**Title:** Common Goldeneye Bucephala clangula as a breeding bird in the Netherlands: Population development and habitat use

**Journal:** Limosa

**Volume:** 76

**Issue:** 2

**Pages:** 59-68

**Date:** September 2003

**Short Title:** Common Goldeneye Bucephala clangula as a breeding bird in the Netherlands: Population development and habitat use

**Accession Number:** BCI:BCI200400092207

**Keywords:** Common Goldeneye; Bucephala clangula; Abundance, Distribution, and Trends; Habitat; Breeding Season;

**Abstract:** The Common Goldeneye has established a small breeding population in the Netherlands from 1984 onwards. We consider this settlement as a natural one, since it is in line with the expansion of the species' breeding range in Western Europe. The first breeding attempts were recorded in the valley of the river IJssel, a branch of the river Rhine. Outside this area only a few breeding pairs were found. In the IJssel area the population grew to a maximum of 14 pairs in 1992. After 1992 the population stabilised around eight pairs, with an increase to 11 pairs in 1999, caused by an expansion to the north of the IJssel area. Breeding results were low during peak years, but stabilised at approximately 65% successful pairs. Ponds and small lakes close to the river, preferably bordered by old trees or deciduous forest, form the breeding habitat. Nest sites can be quite far from the water, in this study up to 2.5 km. Unlike other new settlements of this species this population did not strongly depend on nest boxes. Most breeding attempts were recorded in natural tree cavities and cavities in pollard trees, that are common in the traditional riverine landscape of the Netherlands. Goldeneyes were faithful to breeding sites, especially to those with good results in the previous breeding seasons: 17 out of 27 nests were used for more than one year. Eighteen out of 24 breeding sites were outside the area that is regularly flooded by the river, but most females raised their young in wetlands situated close to the river. This means that females had to guide their young across a dike, which is in most cases a busy motorway. Ducklings that were not led to the river floodplain had a significantly lower survival rate. This could be the reason why females undertake these potentially dangerous and long (up to 3.4 km) journeys with their young. Possibly the ponds and lakes outside the river area are good feeding habitat for adult Goldeneyes, with little underwater vegetation. Ducklings, however, suffer high predation risk in these waters and have difficulties seeking cover from the aggression of territorial Coots Fulica atra. It is unknown why the Goldeneye breeding population has not yet expanded into other areas of the Netherlands that seem suitable for the species. Competition with Mandarin duck Aix galericulata, which has similar nest site preferences, is discussed as a possible explanation.

**URL:** <Go to ISI>://BCI200400092207

**Reference Type:**  Journal Article

**Record Number:** 198

**Author:** G. T. Waehrens

**Year:** 1978

**Title:** The Occurrence of Sea Ducks in Danish Fresh Waters 1965-1976

**Journal:** Dansk Ornitologisk Forenings Tidsskrift

**Volume:** 72

**Issue:** 3

**Pages:** 109-118

**Short Title:** The Occurrence of Sea Ducks in Danish Fresh Waters 1965-1976

**Accession Number:** BCI:BCI197967039722

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** The occurrence of seaducks in fresh waters in Denmark is poorly known. The brent goose Branta bernicla is exceptional in fresh water. There were only 4 observations of resting birds. The scaup Aythya marlia is scarce, observed mainly in northern Jutland and Zealand most often more than 5 km inland. Longtailed duck Clangula hyemalis is very scarce in fresh water, being observed near the Limfjord. The velvet scoter Melanitta fusca is very rare in fresh water. The common scoter Melanitta nigra is more regular, particularly in Jutland and northeastern Zealand. Most Jutlandic birds are seen along the zone between the eastern coast of Himmerland and the Waddensea, on passage between two important winter quarters. The Eider Somateria mollissima is scarce and observed mainly in Zealand and Jutland. The red-breasted merganser Mergus serrator is the seaduck most regularly seen on fresh water. The species appears in small parties and is mostly seen in Jutland. Observations are from the whole year, although they peak in March-April and Oct.-Nov.

**URL:** <Go to ISI>://BCI197967039722

**Reference Type:**  Journal Article

**Record Number:** 800

**Author:** P. Wahlberg, E. Karppanen, K. Henriksson and D. Nyman

**Year:** 1971

**Title:** Human Exposure to Mercury from Goosander Eggs Containing Methyl Mercury

**Journal:** Acta Medica Scandinavica

**Volume:** 189

**Issue:** 3

**Pages:** 235-239

**Short Title:** Human Exposure to Mercury from Goosander Eggs Containing Methyl Mercury

**Accession Number:** BCI:BCI197152104764

**Keywords:** Common merganser; Mergus merganser; Contaminants;

**URL:** <Go to ISI>://BCI197152104764

**Reference Type:**  Journal Article

**Record Number:** 1686

**Author:** J. S. Wakeley and H. L. Mendall

**Year:** 1976

**Title:** Migrational Homing and Survival of Adult Female Eiders in Maine USA

**Journal:** Journal of Wildlife Management

**Volume:** 40

**Issue:** 1

**Pages:** 15-21

**Short Title:** Migrational Homing and Survival of Adult Female Eiders in Maine USA

**Accession Number:** BCI:BCI197662007444

**Keywords:** Common Eider; Somateria mollissima; Dispersal; Population Delineation; Survival; Breeding Season;

**Abstract:** Banding data for the American race of the common eider (Somateria mollissima dresseri) in Penobscot Bay, Maine [USA], were analyzed to estimate the rates of migrational homing and mortality of adult females from 1964-1973. Nearly all surviving females homed to the same breeding island year after year. Mortality rates, estimated from life tables based on live recaptures and on hunting season recoveries, were 27 and 19%, respectively, which are lower than published figures for most other waterfowl species. The combination of strong migrational homing and low mortality rate suggests that islands important to breeding eiders will continue to be productive in the foreseeable future, if they are preserved from exploitation and protected from human intrusion during the nesting season.

**URL:** <Go to ISI>://BCI197662007444

**Reference Type:**  Journal Article

**Record Number:** 1384

**Author:** P. Waldeck and M. Andersson

**Year:** 2006

**Title:** Brood parasitism and nest takeover in common eiders

**Journal:** Ethology

**Volume:** 112

**Issue:** 6

**Pages:** 616-624

**Date:** Jun 2006

**Short Title:** Brood parasitism and nest takeover in common eiders

**Accession Number:** BCI:BCI200600451213

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** Conspecific brood parasitism (CBP) is an alternative breeding tactic that occurs in many brood-tending animals and can have important fitness effects for both host and parasite. We use protein fingerprinting of egg albumen to distinguish the eggs from different females and to estimate the frequency, pattern and tactics of CBP and other forms of mixed maternity in a Hudson Bay population of common eiders (Somateria mollissima sedentaria). Mixed clutches, containing eggs from more than one female, occurred in 31% of the 86 nests studied that progressed to clutch completion. Other females than the host laid 8% of the eggs. In 11 (41%) of the mixed clutches another female laid before the host started laying, corroborating the hypothesis that takeover of nests started by other females accounts for many of the mixed clutches in this population. Our results also indicate that traditional non-molecular methods of identifying foreign eggs may considerably underestimate the frequency of mixed clutches.

**URL:** <Go to ISI>://BCI200600451213

**Reference Type:**  Journal Article

**Record Number:** 1340

**Author:** P. Waldeck, M. Andersson, M. Kilpi and M. Ost

**Year:** 2008

**Title:** Spatial relatedness and brood parasitism in a female-philopatric bird population

**Journal:** Behavioral Ecology

**Volume:** 19

**Issue:** 1

**Pages:** 67-73

**Date:** Jan-Feb 2008

**Short Title:** Spatial relatedness and brood parasitism in a female-philopatric bird population

**Accession Number:** BCI:BCI200800239632

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The spatial structure of relatedness between individuals in a population can be crucial for social selection and evolution. Here we analyze a female alternative reproductive tactic, conspecific brood parasitism, in relation to spatial relatedness among females in a Baltic Sea population of the common eider Somateria mollissima. The role of relatedness in brood parasitism is debated: some models predict parasite avoidance of related hosts, others predict host-parasite relatedness. We estimate pairwise relatedness from protein fingerprinting of egg albumen in 156 nests, with pairwise nest distances ranging from 1 to 6 km. Relatedness increases significantly from the longest distances to an average of r approximate to 0.09 below 20 m. Brood parasitism is common, and average pairwise relatedness between host and parasite is estimated at 0.18-0.21. Parasites thus do not avoid relatives, and combined with the findings of a similar study in another eider population, the results show that mean host-parasite relatedness is higher than that among close neighbors. High host-parasite relatedness is therefore not an effect of natal philopatry alone; some other form of kin bias is also involved. Recognition and association between birth nest mates is a candidate mechanism for further study.

**URL:** <Go to ISI>://BCI200800239632

**Reference Type:**  Journal Article

**Record Number:** 1385

**Author:** P. Waldeck and M. Anderssson

**Year:** 2006

**Title:** Host-parasite relatedness in a brood-parasitic colonial bird

**Journal:** Journal of Ornithology

**Volume:** 147

**Issue:** 5, Suppl. 1

**Pages:** 269

**Date:** Aug 2006

**Short Title:** Host-parasite relatedness in a brood-parasitic colonial bird

**Accession Number:** BCI:BCI200700133099

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI200700133099

**Reference Type:**  Journal Article

**Record Number:** 1979

**Author:** P. Waldeck, J. I. Hagen, S. A. Hanssen and M. Andersson

**Year:** 2011

**Title:** Brood parasitism, female condition and clutch reduction in the common eider Somateria mollisima

**Journal:** Journal of Avian Biology

**Volume:** 42

**Issue:** 3

**Pages:** 231-238

**Date:** May

**Short Title:** Brood parasitism, female condition and clutch reduction in the common eider Somateria mollisima

**ISSN:** 0908-8857

**DOI:** 10.1111/j.1600-048X.2010.05288.x

**Accession Number:** WOS:000292477800005

**Keywords:** Common eider; somateria mollissima; Behavior; Productivity; Breeding Season

**Notes:** Times Cited: 1

Waldeck, Peter Hagen, Jeanette Iren Hanssen, Sveinn Are Andersson, Malte

Hanssen, Sveinn Are/C-9989-2009

Hanssen, Sveinn Are/0000-0003-1792-435X

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**URL:** <Go to ISI>://WOS:000292477800005

**Reference Type:**  Journal Article

**Record Number:** 1277

**Author:** P. Waldeck, S. A. Hanssen and M. Andersson

**Year:** 2011

**Title:** Indeterminate laying and flexible clutch size in a capital breeder, the common eider

**Journal:** Oecologia (Berlin)

**Volume:** 165

**Issue:** 3

**Pages:** 707-712

**Date:** Mar 2011

**Short Title:** Indeterminate laying and flexible clutch size in a capital breeder, the common eider

**Accession Number:** BCI:BCI201100168973

**Keywords:** Common Eider; Somateria mollissima; Behavior; Physiology; Energetics and Nutrition; Breeding Season; Productivity;

**Abstract:** Clutch size control in capital breeders such as large waterfowl has been much debated. Some studies have concluded that clutch size in ducks is determined before the start of laying and does not change in response to egg additions or removals. The response, however, may depend on the timing of tests, and experiments may have been too late for females to alter the number of eggs. We here study clutch size responses to predation of first and second eggs in the common eider, using protein fingerprinting of egg albumen to verify that the same female continues laying in the nest after predation. Sixty of 79 females with early egg predation (one or both of the two first eggs) deserted the nest. Among the 19 females that stayed and continued laying, the mean number of eggs produced was 4.4, significantly higher than the 3.7 in non-predated nests. The staying females had similar egg size and clutch initiation date as females that deserted, and their body mass and clutch initiation date was similar to that of females whose clutches were not predated. Even capital-breeding common eiders may therefore be indeterminate layers, as many females in which early eggs are removed lay more eggs than others. A previous study has shown that they can reduce their laying if eggs are added. Our results add to increasing evidence that ducks have more flexible egg production than previously thought.

**URL:** <Go to ISI>://BCI201100168973

**Reference Type:**  Journal Article

**Record Number:** 1430

**Author:** P. Waldeck, M. Kilpi, M. Ost and M. Andersson

**Year:** 2004

**Title:** Brood parasitism in a population of common eider (Somateria mollissima)

**Journal:** Behaviour

**Volume:** 141

**Issue:** Part 6

**Pages:** 725-739

**Date:** June 2004

**Short Title:** Brood parasitism in a population of common eider (Somateria mollissima)

**Accession Number:** BCI:BCI200400424944

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**Abstract:** The common eider differs from many other ducks in being a colonial 'capital' breeder, producing eggs from stored resources. These traits are expected to influence the occurrence of conspecific brood parasitism (CBP), which is particularly common in waterfowl. We analysed CBP in an eider population in the central Baltic Sea 2001-2002, using non-destructive egg albumen sampling combined with protein fingerprinting. This technique greatly increases the detection of parasitic eggs compared to more traditional methods. Parasitic eggs occurred in 20-22% of 164 nests studied, 6% of 754 eggs being laid by other than the host female. Parasitism increased with nest density, was rather evenly distributed over the laying season, and occurred both early and late in the laying sequence of the host. Protein fingerprinting showed that host females laid up to seven eggs, more than previously reported. Among 33 parasitised nests 22 had one parasitic egg, nine had two and two had three. In all but one case all parasitic eggs within a nest were laid by the same female. Although colonial breeding facilitates CBP, it is less frequent in this eider population than in several other diving ducks. Possible contributing reasons are the relatively small clutch size and start of incubation after egg 2 or 3, limiting the time window for successful parasitism.

**URL:** <Go to ISI>://BCI200400424944

**Reference Type:**  Journal Article

**Record Number:** 1981

**Author:** P. Waldeck and K. Larsson

**Year:** 2013

**Title:** Effects of winter water temperature on mass loss in Baltic blue mussels: Implications for foraging sea ducks

**Journal:** Journal of Experimental Marine Biology and Ecology

**Volume:** 444

**Pages:** 24-30

**Date:** Jun

**Short Title:** Effects of winter water temperature on mass loss in Baltic blue mussels: Implications for foraging sea ducks

**ISSN:** 0022-0981

**DOI:** 10.1016/j.jembe.2013.03.007

**Accession Number:** WOS:000320490300004

**Keywords:** Common eider; somateria mollissima; Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons

**Notes:** Times Cited: 1

Waldeck, P. Larsson, K.

1

**URL:** <Go to ISI>://WOS:000320490300004

**Reference Type:**  Journal Article

**Record Number:** 1184

**Author:** H. W. Walden

**Year:** 1961

**Title:** Eucotyle clangulae n. sp., a new digenetic trematode, from the kidney of Clangula hyemalis (L.)

**Journal:** Arkiv Zool

**Volume:** 12

**Issue:** (5/6)

**Pages:** 571-575

**Short Title:** Eucotyle clangulae n. sp., a new digenetic trematode, from the kidney of Clangula hyemalis (L.)

**Accession Number:** BCI:BCI19613600050552

**Keywords:** Long-tailed Duck; Clangula hyemalis; Parasites;

**Abstract:** The material was not in very good condition, as it originated from a long-tailed duck (C. hyemalis) which had been killed on the Baltic coast of Sweden after being severely exposed to oil pollution on a ship, and the author did not see the body until 5 days later. The description is therefore based on only 1 good specimen, but the characters were checked with the other more or less autolyzed specimens found with it. No sp. of Eucotyle has ever been found previously in Sweden. Data are given on the hosts in which spp. of this genus have been recorded.

**URL:** <Go to ISI>://BCI19613600050552

**Reference Type:**  Journal Article

**Record Number:** 1317

**Author:** C. M. Waltho

**Year:** 2009

**Title:** Herring Gulls Larus argentatus in Common Eider Somateria mollissima feeding flocks - a discerning kleptoparasite

**Journal:** Wildfowl

**Volume:** 59

**Pages:** 41-52

**Short Title:** Herring Gulls Larus argentatus in Common Eider Somateria mollissima feeding flocks - a discerning kleptoparasite

**Accession Number:** BCI:BCI201000087053

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** In Scotland, feeding flocks of Common Eider Somateria mollissima are regularly attended by Herring Gulls Larus argentatus which attack and steal food from the eiders. This study describes the prey brought to the surface by the eiders, their prey handling behaviour, subsequent attacks by gulls, and the outcome of such attacks. The majority of the prey was Blue Mussel Mytilus edulis (80%) but Green Urchin Psammechinus miliaris, Shore Crab Carcinus maenas and Common Starfish Asterias rubens were also taken. Attack frequency was not related to the occurrence of each type of prey in the eiders' diet, except that gulls were only observed attacking eiders for non-mussel prey. Attacks were most frequent (79%), and most successful (i.e. losses to gulls were highest), against eiders with starfish (73% of prey lost) and crabs (50% of prey lost). In contrast, losses of urchins (4%) and mussels (0%) were low. Despite starfish accounting for < 4% of Common Eider prey, gulls won sufficient (73%) to make kleptoparasitism a common feature of feeding flocks of eiders in this study area. These results indicate that Herring Gulls are highly selective in their attacks on Common Eider, and in the prey that are targeted.

**URL:** <Go to ISI>://BCI201000087053

**Reference Type:**  Journal Article

**Record Number:** 1235

**Author:** D. Wang, K. Huelck, S. Atkinson and Q. X. Li

**Year:** 2005

**Title:** Polychlorinated biphenyls in eggs of spectacled eiders (Somateria fischeri) from the Yukon-Kuskokwim Delta, Alaska

**Journal:** Bulletin of Environmental Contamination and Toxicology

**Volume:** 75

**Issue:** 4

**Pages:** 760-767

**Date:** Oct 2005

**Short Title:** Polychlorinated biphenyls in eggs of spectacled eiders (Somateria fischeri) from the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200600069580

**Keywords:** Spectacled Eider; Somateria fischeri; Contaminants; Breeding Season;

**URL:** <Go to ISI>://BCI200600069580

**Reference Type:**  Journal Article

**Record Number:** 1226

**Author:** S. W. Wang, T. E. Hollmen and S. J. Iverson

**Year:** 2010

**Title:** Validating quantitative fatty acid signature analysis to estimate diets of spectacled and Steller's eiders (Somateria fischeri and Polysticta stelleri)

**Journal:** Journal of Comparative Physiology B Biochemical Systemic and Environmental Physiology

**Volume:** 180

**Issue:** 1

**Pages:** 125-139

**Date:** Jan 2010

**Short Title:** Validating quantitative fatty acid signature analysis to estimate diets of spectacled and Steller's eiders (Somateria fischeri and Polysticta stelleri)

**Accession Number:** BCI:BCI201000082842

**Keywords:** Steller's eider; Polysticta stelleri; Spectacled Eider; Somateria fischeri; Trophic Interactions; Techniques;

**Abstract:** Fatty acid (FA) signature analysis has been used to study foraging ecology and food webs in marine ecosystems. This powerful method provides information about diets over an extended time period (e.g., 2-4 weeks), rather than just the most recent meal as with most traditional approaches. Using consumer FA signatures, along with a comprehensive database of diet FA signatures, and accounting for consumer FA metabolism, it is possible to estimate the proportions of diet items in the consumer's diet using quantitative FA signature analysis (QFASA). However, before applying QFASA to free-ranging populations, ideally, controlled feeding studies are performed to determine FA deposition and turnover characteristics. We conducted feeding experiments to validate QFASA in captive spectacled eiders (Somateria fischeri) and Steller's eiders (Polysticta stelleri) as a minimally invasive method for studying the diets of these threatened species. We determined FA deposition in eider adipose tissue relative to long-term diet, and developed calibration coefficients (CCs) to account for eider lipid metabolism. Using these CCs with subsequent diet trials, QFASA accurately indicated diet and diet switches. QFASA estimates also indicated that turnover of dietary FAs was not complete by 21 or 29 days, and confirmed that diets could be estimated over an extended period of > 29 days. Thus, our understanding of diet can be backtracked to more than a month in captive feeding eiders. We conclude that applying QFASA techniques to eiders and other birds in the wild has the potential to provide valuable information about their diets at various life history stages.

**URL:** <Go to ISI>://BCI201000082842

**Reference Type:**  Journal Article

**Record Number:** 2295

**Author:** S. W. Wang, T. E. Hollmen and S. J. Iverson

**Year:** 2014

**Title:** Egg yolk fatty acids as a proxy to quantify diets of female Spectacled Eiders (Somateria fischeri)

**Journal:** Canadian Journal of Zoology

**Volume:** 92

**Issue:** 5

**Pages:** 453-461

**Date:** May

**Short Title:** Egg yolk fatty acids as a proxy to quantify diets of female Spectacled Eiders (Somateria fischeri)

**ISSN:** 0008-4301

**DOI:** 10.1139/cjz-2013-0293

**Accession Number:** WOS:000344953800012

**Keywords:** Spectacled Eider; Somateria fischeri; Energetics and Nutrition; Techniques

**Abstract:** Determining the diets of threatened Spectacled Eiders (Somateria fischeri (Brandt, 1847)) in relation to life-history stages will provide information to help identify and characterize their critical habitats. Quantitative fatty acid signature analysis (QFASA) is a novel tool that estimates the proportion of diet items in consumers from their fat depots. We conducted feeding experiments to validate the use of QFASA to estimate the mixed diets of captive female Spectacled Eiders using egg yolk fatty acids (FA) collected in 2008 and 2009. Calibration coefficients (CCs) for individual FA were developed to account for FA modification (due to eider lipid metabolism) from diets of eiders into egg yolk. We also compared the FA profiles between fertile and infertile eggs. Egg yolk FA profiles did not differ significantly between infertile and fertile eggs collected in either year. Using the CCs developed from eggs collected in 2008, QFASA closely estimated the 2009 diet composition of eiders. We conclude that using infertile eggs has the potential to provide a noninvasive method to elucidate diets of breeding female Spectacled Eiders and possibly other avian species, and to provide insight into understanding the sources (i.e., marine wintering or freshwater breeding habitat) and timing (i.e., prebreeding or breeding) of nutrient acquisition during reproduction.

**Notes:** Wang, Shiway W. Hollmen, Tuula E. Iverson, Sara J.

**URL:** <Go to ISI>://WOS:000344953800012

**Reference Type:**  Journal Article

**Record Number:** 2335

**Author:** E. J. Ward, K. N. Marshall, T. Ross, A. Sedgley, T. Hass, S. F. Pearson, G. Joyce, N. J. Hamel, P. J. Hodum and R. Faucett

**Year:** 2015

**Title:** Using citizen-science data to identify local hotspots of seabird occurrence

**Journal:** Peerj

**Volume:** 3

**Date:** Jan

**Short Title:** Using citizen-science data to identify local hotspots of seabird occurrence

**ISSN:** 2167-8359

**DOI:** 10.7717/peerj.704

**Article Number:** e704

**Accession Number:** WOS:000348650500001

**Keywords:** White-winged Scoter; Surf Scoter; Common Goldeneye; Bufflehead; Harlequin Duck; Melanitta fusca; Melanitta perspicillata; Bucephala clangula; Bucephala albeola; Histrionicus histrionicus; Nonbreeding season; Abundance, Distribution, & Trends

**Abstract:** Seabirds have been identified and used as indicators of ecosystem processes such as climate change and human activity in nearshore ecosystems around the globe. Temporal and spatial trends have been documented at large spatial scales, but few studies have examined more localized patterns of spatiotemporal variation, by species or functional group. In this paper, we apply spatial occupancy models to assess the spatial patchiness and interannual trends of 18 seabird species in the Puget Sound region (Washington State, USA). Our dataset, the Puget Sound Seabird Survey of the Seattle Audubon Society, is unique in that it represents a seven-year study, collected with a focus on winter months (October-April). Despite historic declines of seabirds in the region over the last 50 years, results from our study are optimistic, suggesting increases in probabilities of occurrence for 14 of the 18 species included. We found support for declines in occurrence for white-winged scoters, brants, and 2 species of grebes. The decline of Western grebes in particular is troubling, but in agreement with other recent studies that have shown support for a range shift south in recent years, to the southern end of California Current.

**Notes:** Ward, Eric J. Marshall, Kristin N. Ross, Toby Sedgley, Adam Hass, Todd Pearson, Scott F. Joyce, Gerald Hamel, Nathalie J. Hodum, Peter J. Faucett, Rob

**URL:** <Go to ISI>://WOS:000348650500001

**Reference Type:**  Journal Article

**Record Number:** 739

**Author:** A. Watson, M. Marquiss and P. J. Cosgrove

**Year:** 1998

**Title:** North east Scottish counts of Goldeneye, Goosander, Redbreasted Merganser and Cormorant in 1944-50 compared with 1988-97

**Journal:** Scottish Birds

**Volume:** 19

**Issue:** 5

**Pages:** 249-258

**Date:** Winter, 1998

**Short Title:** North east Scottish counts of Goldeneye, Goosander, Redbreasted Merganser and Cormorant in 1944-50 compared with 1988-97

**Accession Number:** BCI:BCI199900182700

**Keywords:** Red-breasted merganser; Mergus serrator; Common Goldeneye; Bucephala clangula; Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Unpublished counts of Goldeneyes, sawbill ducks and Cormorants are presented from part of the River Deveron and other sites in north east Scotland in 1944-50 and 1997, and compared with published data from 1988-90 and 1996. The Deveron held many Goldeneyes in the 1940s, and also many other waterfowl, especially when lochs were frozen. The proportion of adult drake Goldeneyes on estuaries, at sea, and on the coastal Loch of Strathbeg exceeded that on inland waters. The numbers of Goldeneyes and Goosanders on the Deveron were higher during periods of hard frost. Adult drake Goosanders formed a minority on the Deveron and on Haddo House lakes, but a majority on Loch of Strathbeg and on Lochs Davan and Kinord. Adult drake Mergansers were in a minority on all sites. Counts from the Don estuary in 1989-90 showed no material change in Goldeneye numbers or the proportion of adult drakes since 1944-50. Counts in 1996 and 1997 show more Goldeneyes and Goosanders than on the same parts of the River Deveron in 1944-50, fewer Mergansers, and few Cormorants in both periods. Many sawbills and Cormorants were culled on the Deveron in both periods.

**URL:** <Go to ISI>://BCI199900182700

**Reference Type:**  Journal Article

**Record Number:** 1579

**Author:** J. J. Watson and A. W. Pike

**Year:** 1993

**Title:** Variation in the morphology of adult Apatemon gracilis Rudolphi, 1819 (Digenea: Strigeidae) reared in different avian hosts

**Journal:** Systematic Parasitology

**Volume:** 26

**Issue:** 1

**Pages:** 33-38

**Short Title:** Variation in the morphology of adult Apatemon gracilis Rudolphi, 1819 (Digenea: Strigeidae) reared in different avian hosts

**Accession Number:** BCI:BCI199396124789

**Keywords:** Common Eider; Somateria mollissima; Parasites; Breeding Season;

**Abstract:** Adult Apatemon gracilis (Rudolphi, 1819) were reared experimentally in three different avian hosts: herring gulls Larus argentatus Gmelin, domestic chicks Gallus gallus (L.) and eider ducklings Somateria mollissima (L.) Comparison of size, body proportions and fecundity were made between these and specimens obtained from a naturally infected goosander Mergus merganser L. The eider duck proved to be a suitable experimental host, rearing adults of comparable size and fecundity to those from the natural host. The growth and development of the parasite in domestic chicks and herring gulls were significantly reduced. Similar conditions are likely to exist in the natural environment and this should be taken into consideration when choosing experimental hosts for use in the laboratory or when identifying species.

**URL:** <Go to ISI>://BCI199396124789

**Reference Type:**  Journal Article

**Record Number:** 1580

**Author:** M. D. Watson, G. J. Robertson and F. Cooke

**Year:** 1993

**Title:** Egg-laying time and laying interval in the common eider

**Journal:** Condor

**Volume:** 95

**Issue:** 4

**Pages:** 869-878

**Short Title:** Egg-laying time and laying interval in the common eider

**Accession Number:** BCI:BCI199497087132

**Keywords:** Common Eider; Somateria mollissima; Physiology; Breeding Season;

**Abstract:** We determined the time of day at which eggs were laid and the laying interval (time between laying of successive eggs in a clutch) in the Hudson Bay race of the Common Eider (Somateria mollissima sedentaria), at La Perouse Bay, Churchill, Manitoba (58 degree 24'N, 94 degree 24'W). Nests were found at the one-egg stage and were subsequently visited three times daily. Analysis of the nest contents at each visit allowed us to estimate mean egg-laying times as well as the mean time at which eggs were lost to predators. The estimated mean egg-laying hour was 13:49 (CST, 95% CL 12:30-15:06). We detected no selective advantage to laying at this time based on the timing of egg predation. The average egg-laying interval was 27.7 +- 3.4 hr. Laying intervals decreased with increasing clutch sizes. For clutches of four and five eggs, the estimated interval between the last two eggs was significantly longer than that for intervals between all other eggs, all other comparisons between intervals were not significantly different. If last-laid eggs were excluded the mean laying interval for all eggs was 26.1 +- 4.3 hr, confirming that the last egg in a clutch takes longer to produce. We suggest that longer laying intervals of last-laid eggs may be related to hormonal changes associated with the onset of incubation.

**URL:** <Go to ISI>://BCI199497087132

**Reference Type:**  Journal Article

**Record Number:** 1737

**Author:** M. Wayland, R. T. Alisauskas, D. Kellett, J. Traylor, C. Swoboda, E. Neugebauer and K. Mehl

**Year:** 2007

**Title:** Year-to-year correlations in blood metal levels among individuals of two species of North American sea ducks

**Journal:** Environmental Pollution

**Volume:** 150

**Issue:** 3

**Pages:** 329-337

**Date:** Dec 2007

**Short Title:** Year-to-year correlations in blood metal levels among individuals of two species of North American sea ducks

**Accession Number:** BCI:BCI200800114144

**Keywords:** White-winged Scoter; Melanitta fusca; King Eider; Somateria spectabilis; Contaminants; Breeding Season;

**Abstract:** Sea duck populations have declined in North America. Contaminants, especially metals, have been listed as possible contributing factors. Sea ducks are long-lived. Thus, individuals chronically exposed to elevated metal levels may be at greatest risk. Information about long-term exposure (>= 1 year) of individuals to metals is absent. To address this information gap, we examined year-to-year correlations among individual White-Winged Scoters and King Eiders in levels of blood cadmium, lead, mercury and selenium. Positive correlations (r >= 0.43), were found in six, five, five and two of seven correlations for cadmium, selenium, lead and mercury. Thus, certain individuals of these species may be exposed over two or more years to higher levels of cadmium, selenium and lead (but apparently not mercury) than other individuals. Single blood samples are appropriate metrics of exposure for studies that examine long-term effects of certain metals on these birds.

**URL:** <Go to ISI>://BCI200800114144

**Reference Type:**  Journal Article

**Record Number:** 1732

**Author:** M. Wayland, K. L. Drake, R. T. Alisauskas, D. K. Kellett, J. Traylor, C. Swoboda and K. Mehl

**Year:** 2008

**Title:** Survival rates and blood metal concentrations in two species of free-ranging North American sea ducks

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 27

**Issue:** 3

**Pages:** 698-704

**Date:** Mar 2008

**Short Title:** Survival rates and blood metal concentrations in two species of free-ranging North American sea ducks

**Accession Number:** BCI:BCI200800201818

**Keywords:** White-winged Scoter; Melanitta fusca; King Eider; Somateria spectabilis; Contaminants; Survival; Breeding Season;

**Abstract:** Populations of several species of North American sea ducks have declined in the past few decades. Exposure to environmental contaminants, particularly metals, has been proposed as one of many possible factors contributing to these declines. Population dynamics are influenced by survival rates and breeding effort. In the present study, we examined the relationships between blood metal concentrations (Cd, Pb, Se, and Hg) and apparent annual survival and recapture probabilities (the latter as a surroaate for breeding effort) in adult females of two sea duck species, the king eider (Somateria spectabilis) and the white-winged scoter (Melanitta fusca), both of which have experienced declines in continental population during in recent years. No support was found for the hypothesis that exposure of white-winged scoters to these metals or of king eiders to Cd, Se, and Pb adversely affected probabilities of apparent annual survival. We detected a weak negative relationship (<(<(beta)over bar>)over cap> = -0.833) between Hg and annual survival of king ciders, but the 90% confidence interval of the slope estimate overlapped zero (-2.439 to +0.672). Recapture probabilities were unrelated to concentrations of Cd, Se, and Pb in either species. Evidence indicated that Hg concentrations affected recapture probability in white-winged scoters ((beta) over cap = -194.77; 90% confidence interval, -203.770 to -185.778). Mercury levels were low in both species, and blood samples may not adequately represent long-term exposure to Hg. Therefore, conclusions regarding Hg effects on these birds should be considered with caution.

**URL:** <Go to ISI>://BCI200800201818

**Reference Type:**  Journal Article

**Record Number:** 1491

**Author:** M. Wayland, A. J. Garcia-Fernandez, E. Neugebauer and H. G. Gilchrist

**Year:** 2001

**Title:** Concentrations of cadmium, mercury and selenium in blood, liver and kidney of common eider ducks from the Canadian arctic

**Journal:** Environmental Monitoring and Assessment

**Volume:** 71

**Issue:** 3

**Pages:** 255-267

**Date:** October, 2001

**Short Title:** Concentrations of cadmium, mercury and selenium in blood, liver and kidney of common eider ducks from the Canadian arctic

**Accession Number:** BCI:BCI200100550705

**Keywords:** Common Eider; Somateria mollissima; Contaminants;

**Abstract:** We determined concentrations of selected trace elements in livers, kidneys and blood samples from common eiders (Somateria mollissima borealis) from the eastern Canadian arctic during 1997 and 1998. Concentrations of total mercury and organic mercury were generally low in the livers of these birds (less than 6 and 4 mug g-1 dry wt, respectively). Selenium ranged between 11-47 mug g-1 in livers. Renal cadmium concentrations were among the highest ever published for this species (range: 47-281 mug g-1). The regressions of log-transformed concentrations of these trace elements in blood samples on those in liver or kidney were significant (all P-values <0.05) and positive. However, except for organic mercury (R2=0.83), the co-efficients of determination were low to moderate (range of R2: 0.26-0.52), suggesting poor to moderate predictive capability. Furthermore, the relationships between total mercury in blood and liver changed between 1997 and 1998, suggesting that it would not be possible to predict consistently, concentrations of mercury in blood from those in liver based on samples taken in one year. Blood samples can be used to determine concentrations of these trace elements in common eiders (and probably other sea duck species as well). The use of blood samples is especially warranted when it is undesirable to kill the animal such as when working with rare or endangered sea duck species or when the objective is to relate trace element exposure to annual survival rates. However, the predictive equations developed here should not be used to predict expected concentrations in one type of tissue from those in the other.

**URL:** <Go to ISI>://BCI200100550705

**Reference Type:**  Journal Article

**Record Number:** 1761

**Author:** M. Wayland, H. G. Gilchrist, D. L. Dickson, T. Bollinger, C. James, R. A. Carreno and J. Keating

**Year:** 2001

**Title:** Trace elements in king eiders and common eiders in the Canadian arctic

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 41

**Issue:** 4

**Pages:** 491-500

**Date:** November, 2001

**Short Title:** Trace elements in king eiders and common eiders in the Canadian arctic

**Accession Number:** BCI:BCI200100552272

**Keywords:** Common Eider; Somateria mollissima; King Eider; Somateria spectabilis; Contaminants; Breeding Season;

**Abstract:** We determined concentrations of selected trace elements in tissues of king and common eiders at three locations in the Canadian arctic. Renal and hepatic cadmium concentrations in king eiders at a location in the eastern arctic were among the highest ever recorded in eider ducks: there, they were higher in king eiders than in common eiders. Cadmium concentrations were lower in king eiders from the western arctic than in those from the east. In the western arctic, cadmium concentrations did not differ between species. Hepatic mercury and zinc were higher in king eiders than in common eiders. Zinc and selenium were higher in eiders from the western arctic than in those from the eastern arctic. Trace element concentrations in these two duck species were below published toxicity thresholds. Positive correlations in trace element concentrations in both species were found between total and organic hepatic mercury, renal and hepatic cadmium as well as hepatic zinc, copper, mercury, and cadmium. Body mass of common but not king eiders and spleen mass of both species were negatively correlated with mercury concentrations. In common eiders, the number of nematode parasites was positively correlated with total and organic mercury. Histopathological evidence of kidney or liver lesions that are typical of trace metal poisoning was not found. We did not find evidence to support the hypothesis that trace metal exposure may be contributing to adverse effects on the health of individuals of these species.

**URL:** <Go to ISI>://BCI200100552272

**Reference Type:**  Journal Article

**Record Number:** 1467

**Author:** M. Wayland, H. G. Gilchrist, T. Marchant, J. Keating and J. E. Smits

**Year:** 2002

**Title:** Immune function, stress response, and body condition in arctic-breeding common eiders in relation to cadmium, mercury, and selenium concentrations

**Journal:** Environmental Research

**Volume:** 90

**Issue:** 1

**Pages:** 47-60

**Date:** September, 2002

**Short Title:** Immune function, stress response, and body condition in arctic-breeding common eiders in relation to cadmium, mercury, and selenium concentrations

**Accession Number:** BCI:BCI200200574671

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Physiology; Energetics and Nutrition; Nonbreeding Seasons; Breeding Season;

**Abstract:** We examined relationships between trace metal concentrations in tissues of common eider ducks (cadmium, mercury, and selenium) and selected biomarkers of health (stress response, immune function, and body condition). This study was conducted at an eider nesting colony in the Canadian arctic in 1998 and 1999. Capture-induced stress, measured as the rise in corticosterone concentrations following capture, was positively related (P = 0.03) to renal cadmium concentration in 1998 when incubating eiders were sampled, but not in 1999 when prenesting eiders were sampled. Stress response was inversely related (P = 0.02) to selenium concentrations in 1999. Following capture and blood sampling in 1999, eiders were placed in a flight pen on-site for eight days in order to examine immune function. Cell-mediated immunity, measured as the skin-swelling response to an intradermal injection of phytohemagglutinin-P, (PHA-P), was positively related (P = 0.003) to hepatic selenium. The heterophil:lymphocyte ratio was inversely related (P = 0.08) to hepatic selenium. In 1998, selenium was positively related to body mass (P = 0.01), abdominal fat mass (P = 0.07), kidney mass (P = 0.03), and liver mass (P = 0.07). In 1999, hepatic mercury was negatively related to abdominal fat mass (P = 0.01), spleen mass (P = 0.07) and body mass at capture (P = 0.09) in prenesting eiders.

**URL:** <Go to ISI>://BCI200200574671

**Reference Type:**  Journal Article

**Record Number:** 1410

**Author:** M. Wayland, H. G. Gilchrist and E. Neugebauer

**Year:** 2005

**Title:** Concentrations of cadmium, mercury and selenium in common eider ducks in the eastern Canadian arctic: Influence of reproductive stage

**Journal:** Science of the Total Environment

**Volume:** 351

**Issue:** Sp. Iss. SI

**Pages:** 323-332

**Date:** Dec 1 2005

**Short Title:** Concentrations of cadmium, mercury and selenium in common eider ducks in the eastern Canadian arctic: Influence of reproductive stage

**Accession Number:** BCI:BCI200600192610

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Nonbreeding Seasons; Breeding Season;

**Abstract:** Concentrations and total organ content of mercury, selenium and cadmium, as well as liver, kidney and body mass were determined in female common ciders from 1997 to 2000 at the East Bay Migratory Bird Sanctuary in the eastern Canadian arctic. In 1997 and 1999, female ciders were collected during the pre-nesting period when they eat copious amounts of food and gain substantial weight in preparation for the rigours of nesting. In 1998 and 1999, female ciders were collected during the mid to late stages of the nesting period when they eat very little, if at all, and, as a consequence undergo dramatic weight loss. Total body mass, liver mass and kidney mass were highest in pre-nesting birds, especially in 1997. They were significantly lower in nesting birds collected in 1998 and 2000. In contrast, mercury and cadmium concentrations were lowest in pre-nesting birds collected in 1997 and 1999 and increased to significantly higher concentrations in nesting birds collected in 1998 and 2000. In contrast to these results, the total contents of mercury in liver and cadmium in kidney did not change significantly over the 4-year period. Hepatic selenium concentrations were relatively stable over the 4-year study period while changes in the total content of selenium in the liver paralleled changes in liver mass and body mass. The results suggest that mercury and cadmium concentrations in female common eiders change in response to normal changes in body and organ mass that occur during the reproductive period. Thus, it may be important to consider body condition or reproductive stage when using common ciders (and perhaps other species of sea ducks) in biomonitoring studies or when interpreting concentrations of metals in tissues in terms of the risk they pose to these ducks. Crown Copyright (c) 2005 Published by Elsevier B.V All rights reserved.

**URL:** <Go to ISI>://BCI200600192610

**Reference Type:**  Journal Article

**Record Number:** 518

**Author:** M. Wayland and D. K. McNicol

**Year:** 1994

**Title:** Movements and survival of common goldeneye broods near Sudbury, Ontario, Canada

**Journal:** Canadian Journal of Zoology

**Volume:** 72

**Issue:** 7

**Pages:** 1252-1259

**Short Title:** Movements and survival of common goldeneye broods near Sudbury, Ontario, Canada

**Accession Number:** BCI:BCI199598075716

**Keywords:** Common Goldeneye; Bucephala clangula; Dispersal; Survival; Breeding Season; Habitat;

**Abstract:** We examined movements and survival of Common Goldeneye (Bucephala clangula) broods in a highly acidified area on the Canadian Precambrian Shield near Sudbury, Ontario, during 1989 and 1990. When data from the 2 years were combined, a total of 16 females had led their broods from nesting to rearing lakes, while only 4 had raised their broods on the nesting lake. Initial brood-rearing lakes contained a greater biomass of invertebrate prey and were closer to neighbouring lakes than corresponding nesting lakes. Eight broods undertook 17 secondary movements between rearing lakes. These movements were not related to differences between lakes in prey biomass or distance to neighbouring lakes. Daily survival rates of age-class I and age-class II ducklings did not differ between years. When data from the 2 years were combined, it was found that duckling survival was not related to brood movements or prey biomass. Duckling survival was higher on clustered lakes than on isolated lakes. The availability of alternate brood-rearing lakes with sufficient invertebrate prey, in addition to the primary brood-rearing lake, may be an important factor influencing Common Goldeneye brood movements and survival in our study area.

**URL:** <Go to ISI>://BCI199598075716

**Reference Type:**  Journal Article

**Record Number:** 1446

**Author:** M. Wayland, J. E. G. Smits, H. G. Gilchrist, T. Marchant and J. Keating

**Year:** 2003

**Title:** Biomarker responses in nesting, common eiders in the Canadian arctic in relation to tissue cadmium, mercury and selenium concentrations

**Journal:** Ecotoxicology

**Volume:** 12

**Issue:** 1-4

**Pages:** 225-237

**Date:** February-August 2003

**Short Title:** Biomarker responses in nesting, common eiders in the Canadian arctic in relation to tissue cadmium, mercury and selenium concentrations

**Accession Number:** BCI:BCI200300226293

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Breeding Season;

**Abstract:** Populations of many North American sea ducks are declining. Biomarkers may offer valuable insights regarding the health and fitness of sea ducks in relation to contaminant burdens. In this study we examined body condition, immune function, corticosterone stress response, liver glycogen levels and vitamin A status in relation to tissue concentrations of mercury, selenium and cadmium in female common eiders during the nesting period. The study was conducted in the eastern Canadian arctic during July, 2000. Hepatic mercury, selenium and renal cadmium concentrations ranged 1.5-9.8, 6.5-47.5 and 74-389 mug/g, dry wt, respectively. Mercury concentrations were negatively related to dissection body mass, heart mass and fat mass. Cadmium concentrations were negatively related to mass at capture and dissection mass after controlling for the mercury concentration-dissection mass relationship. Cell-mediated immunity was assessed by the skin swelling reaction to an injection of phytohemagglutinin-P, and was unrelated to metal concentrations. After adjusting the corticosterone concentration to account for the time between capture and sampling, there was a negative relationship between the residual corticosterone concentration and selenium. Liver glycogen concentrations were not significantly related to metal concentrations. Mercury concentrations were positively related to those of hepatic retinol and retinyl palmitate and the ratio of the retinol to retinyl palmitate in liver. They were negatively related to the ratio of plasma to liver retinol. Our findings do not indicate that exposure to metals may have adversely affected the health of these birds. They do, however, suggest that more research is required to elucidate mechanisms by which exposure to these metals could impact body condition.

**URL:** <Go to ISI>://BCI200300226293

**Reference Type:**  Journal Article

**Record Number:** 1673

**Author:** P. J. Weatherhead

**Year:** 1979

**Title:** Behavioral Implications of the Defense of a Shoveler Anas-Clypeata Brood by Common Eiders Somateria-Mollissima

**Journal:** Condor

**Volume:** 81

**Issue:** 4

**Pages:** 427

**Short Title:** Behavioral Implications of the Defense of a Shoveler Anas-Clypeata Brood by Common Eiders Somateria-Mollissima

**Accession Number:** BCI:BCI198018041938

**Keywords:** Common Eider; Somateria mollissima; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI198018041938

**Reference Type:**  Journal Article

**Record Number:** 496

**Author:** P. J. Weatherhead

**Year:** 1998

**Title:** Natal philopatry and local resource competititon in the common goldeneye (and reply)

**Journal:** Journal of Avian Biology

**Volume:** 29

**Issue:** 3

**Pages:** 321-322

**Date:** Sept., 1998

**Short Title:** Natal philopatry and local resource competititon in the common goldeneye (and reply)

**Accession Number:** BCI:BCI199800475446

**Keywords:** Common Goldeneye; Bucephala clangula; Dispersal; Habitat; Breeding Season;

**URL:** <Go to ISI>://BCI199800475446

**Reference Type:**  Journal Article

**Record Number:** 109

**Author:** M. Weggler and M. Widmer

**Year:** 2001

**Title:** Breeding birds in the Canton of Zurich: Status and population trends between 1986/88 and 1999/00.

**Journal:** Vierteljahrsschrift der Naturforschenden Gesellschaft in Zuerich

**Volume:** 146

**Issue:** 1

**Pages:** 15-28

**Date:** Marz, 2001

**Short Title:** Breeding birds in the Canton of Zurich: Status and population trends between 1986/88 and 1999/00.

**Accession Number:** BCI:BCI200100576851

**Keywords:** Sea Ducks - General; Common merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** We evaluate the status of all breeding birds in the Canton of Zurich and document changes in distribution and population sizes between 1986/88 and 1999/00. Our evaluation is based on a recensus of all breeding birds in 154 representative study plots (40-60 ha) in 1999 after a first census conducted in the years 1986/88. For rare species and wetland birds we used data from a continuous bird monitoring project carried out since 1993. Since the last extensive survey in the years 1986/88 a total of 142 breeding bird species were detected in the Canton of Zurich. Seven species (Black-necked Grebe, Ruddy Shelduck, Goosander; Peregrine Falcon, Common Tern, Meadow Pipit and Stonechat) have recently colonised or recolonised our study area while five species (Eagle Owl, Water Pipit, Northern Wheatear, Lesser Grey Shrike, Woodchat Shrike) disappeared. A total of 117 species bred regularly and another 18 do so irregularly. Between 1986/88 and 1999 20 out of 57 widespread and common species showed a positive population trend in at least one out of three main habitats (arable land, human settlements, forest). Another 19 species decreased in number, 17 species remained stable and one species showed different trends in different habitats.

**URL:** <Go to ISI>://BCI200100576851

**Reference Type:**  Journal Article

**Record Number:** 65

**Author:** M. Weijerman, H. Lindeboom and A. F. Zuur

**Year:** 2005

**Title:** Regime shifts in marine ecosystems of the North Sea and Wadden Sea

**Journal:** Marine Ecology Progress Series

**Volume:** 298

**Pages:** 21-39

**Short Title:** Regime shifts in marine ecosystems of the North Sea and Wadden Sea

**Accession Number:** BCI:BCI200600039520

**Keywords:** Sea Ducks - General;

**Abstract:** Wide-scale and sudden shifts in several biological and environmental systems of NW Europe have been reported in recent years, and attributed to a range of factors, both climatic and anthropogenic. To examine whether there is any evidence of coinciding region-wide environmental shifts, we gathered existing long-term data series on a wide range of physical and biological parameters from the 1960s to the present and, following the methods of a similar recent study on North Pacific regime shifts, we analysed the data using principal component analysis and regime shift analysis to identify the extent and timing of regime shifts in NW Europe. The end-point of a regime (i.e. the year) was determined using a sliding window in regime shift analysis. Additionally we applied chronological clustering to the (1) combined data, (2) biological data and (3) environmental data. In all 3 cases, the same regimes were identified. Our results indicate that substantial regime shifts occurred in the marine ecosystem in 1979 and 1988 and perhaps also in 1998, although results were less clear-cut in the latter case. These regime shifts were most evident among the biological data series, but they appeared to have been triggered by earlier shifts in a number of environmental factors. Salinity and weather conditions played an important role in the 1979 shift, while in the 1988 shift, temperature and weather conditions were the predominant factors. Our results confirm those of the North Pacific study, with concomitant changes in physical and biological indices. This indicates a shift in climate-ocean interactions throughout the entire temperate zone of the Northern Hemisphere.

**URL:** <Go to ISI>://BCI200600039520

**Reference Type:**  Journal Article

**Record Number:** 641

**Author:** O. Wellman-Labadie, J. Picman and M. T. Hincke

**Year:** 2008

**Title:** Antimicrobial activity of the Anseriform outer eggshell and cuticle

**Journal:** Comparative Biochemistry and Physiology Part B Biochemistry & Molecular Biology

**Volume:** 149

**Issue:** 4

**Pages:** 640-649

**Date:** Apr 2008

**Short Title:** Antimicrobial activity of the Anseriform outer eggshell and cuticle

**Accession Number:** BCI:BCI200800331989

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Physiology; Breeding Season;

**Abstract:** The avian eggshell is a complex, multifunctional biomineral composed of a calcium carbonate mineral phase and an organic phase of lipids and proteins. The outermost layer of the eggshell, the eggshell cuticle, is an organic layer of variable thickness composed of polysaccharides, hydroxyapatite crystals, lipids and glycoprotein. In addition to regulating gas exchanges, the eggshell cuticle may contain antimicrobial elements. In this study, we investigated the antimicrobial activity of eggshell cuticle and outer eggshell protein extracts from four Anseriform species: wood duck (Aix sponsa), hooded merganser (Lophodytes cucullatus), Canada goose (Branta canadensis) and mute swan (Cygnus olor). Cuticle and outer eggshell protein was extracted by urea or HCl treatment of eggs. C-type lysozyme, ovotransferrin and an ovocalyxin-32-like protein were detected in all extracts. Cuticle and outer eggshell protein extracts inhibited the growth of Staphylococcus aureus, Escherichia coli D31, Pseudomonas aeruginosa and Bacillus subtilis. The presence of active antimicrobial proteins within the avian cuticle and outer eggshell suggests a role in antimicrobial defense. Protein extracts from the cavity nesting hooded merganser were especially potent. The unique environmental pressures exerted on cavity-nesting species may have led to the evolution of potent antimicrobial defenses. (c) 2008 Elsevier Inc. All rights reserved.

**URL:** <Go to ISI>://BCI200800331989

**Reference Type:**  Journal Article

**Record Number:** 2315

**Author:** A. M. Wells-Berlin, M. C. Perry, R. A. Kohn, K. T. Paynter and M. A. Ottinger

**Year:** 2015

**Title:** Composition, Shell Strength, and Metabolizable Energy of Mulinia lateralis and Ischadium recurvum as Food for Wintering Surf Scoters (Melanitta perspicillata)

**Journal:** Plos One

**Volume:** 10

**Issue:** 5

**Date:** May

**Short Title:** Composition, Shell Strength, and Metabolizable Energy of Mulinia lateralis and Ischadium recurvum as Food for Wintering Surf Scoters (Melanitta perspicillata)

**ISSN:** 1932-6203

**DOI:** 10.1371/journal.pone.0119839

**Article Number:** e0119839

**Accession Number:** WOS:000354916100002

**Keywords:** Surf Scoter; Melanitta perspicillata; Nonbreeding season; Energetics and Nutrition

**Abstract:** Decline in surf scoter (Melanitta perspicillata) waterfowl populations wintering in the Chesapeake Bay has been associated with changes in the availability of benthic bivalves. The Bay has become more eutrophic, causing changes in the benthos available to surf scoters. The subsequent decline in oyster beds (Crassostrea virginica) has reduced the hard substrate needed by the hooked mussel (Ischadium recurvum), one of the primary prey items for surf scoters, causing the surf scoter to switch to a more opportune species, the dwarf surfclam (Mulinia lateralis). The composition (macronutrients, minerals, and amino acids), shell strength (N), and metabolizable energy (kJ) of these prey items were quantified to determine the relative foraging values for wintering scoters. Pooled samples of each prey item were analyzed to determine composition. Shell strength (N) was measured using a shell crack compression test. Total collection digestibility trials were conducted on eight captive surf scoters. For the prey size range commonly consumed by surf scoters (6-12 mm for M. lateralis and 18-24 mm for I. recurvum), I. recurvum contained higher ash, protein, lipid, and energy per individual organism than M. lateralis. I. recurvum required significantly greater force to crack the shell relative to M. lateralis. No difference in metabolized energy was observed for these prey items in wintering surf scoters, despite I. recurvum's higher ash content and harder shell than M. lateralis. Therefore, wintering surf scoters were able to obtain the same amount of energy from each prey item, implying that they can sustain themselves if forced to switch prey.

**Notes:** Wells-Berlin, Alicia M. Perry, Matthew C. Kohn, Richard A. Paynter, Kennedy T., Jr. Ottinger, Mary Ann

**URL:** <Go to ISI>://WOS:000354916100002

**Reference Type:**  Journal Article

**Record Number:** 2002

**Author:** S. Werner, M. Mortl, H. G. Bauer and K. O. Rothhaupt

**Year:** 2005

**Title:** Strong impact of wintering waterbirds on zebra mussel (Dreissena polymorpha) populations at Lake Constance, Germany

**Journal:** Freshwater Biology

**Volume:** 50

**Issue:** 8

**Pages:** 1412-1426

**Date:** Aug

**Short Title:** Strong impact of wintering waterbirds on zebra mussel (Dreissena polymorpha) populations at Lake Constance, Germany

**DOI:** 10.1111/j.1365-2427.2005.01411.x

**Notes:** Werner, S Mortl, M Bauer, HG Rothhaupt, KO

**Reference Type:**  Journal Article

**Record Number:** 1383

**Author:** J. M. Weslawski, S. Kwasniewski, L. Stempniewicz and K. Blachowiak-Samolyk

**Year:** 2006

**Title:** Biodiversity and energy transfer to top trophic levels in two contrasting Arctic fjords

**Journal:** Polish Polar Research

**Volume:** 27

**Issue:** 3

**Pages:** 259-278

**Short Title:** Biodiversity and energy transfer to top trophic levels in two contrasting Arctic fjords

**Accession Number:** BCI:BCI200600683541

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions;

**Abstract:** The food and foraging strategy of fifteen species of seabirds and sea mammals from two high Arctic fjords were analysed. One of the fjords, Kongsfjord, is strongly influenced by warm waters from the Atlantic, while Hornsund is of a more Arctic character. Prey species in the Atlantic waters were more diverse (82 species and 16 functional groups) compared to those of Arctic waters (67 prey species and 14 functional groups). The consumption of top predators from Hornsund in the peak season of July was estimated at 2.86\*10(6) MJ, while that in Kongsljord was 1.35\*10(6) MJ. For the analysed function of the ecosystem (the transfer of energy to the top trophic levels) the specific character of prey species is of key importance and not the diversity, abundance or biomass per se. Lower species diversity and biomass in Arctic waters is compensated for by the occurrence of larger individuals of these species, which permits top predators to prey directly on lower trophic levels.

**URL:** <Go to ISI>://BCI200600683541

**Reference Type:**  Journal Article

**Record Number:** 1573

**Author:** J. M. Weslawski, L. Stempniewicz and K. Galaktionov

**Year:** 1994

**Title:** Summer diet of seabirds from the Frans Josef Land archipelago, Russian Arctic

**Journal:** Polar Research

**Volume:** 13

**Issue:** 2

**Pages:** 173-181

**Short Title:** Summer diet of seabirds from the Frans Josef Land archipelago, Russian Arctic

**Accession Number:** BCI:BCI199598183843

**Keywords:** Common Eider; Somateria mollissima; Trophic Interactions; Breeding Season;

**Abstract:** Food samples from 102 seabirds from eight species (fulmar Fulmarus glacialis, common eider Somateria mollissima, glaucus gull Larus hyperboreus, kittiwake Rissa tridactyla, arctic tern Sterna paradisaea, Brunnich's guillemot Uria lomvia, black guillemot Cepphus grylle, little auk Alle alle) were collected during the period August 1991-1993 in the southern part of the Frans Josef Land archipelago, 80 degree N, 53 degree E. The pelagic amphipod Parathemisto libellula and polar cod Boreogadus saida were the two most commonly taken food items (frequency of occurrence over 50% and weight contribution more than 70%). Ice-associated crustaceans contributed to some 10% of the weight in the samples. In general, the food composition was very similar to that reported from Svalbard. However, birds from Frans Josef Land fed on a lower diversity of prey compared to Svalbard populations.

**URL:** <Go to ISI>://BCI199598183843

**Reference Type:**  Journal Article

**Record Number:** 1982

**Author:** O. Westman, M. Norden, M. Larsson, J. Johansson, N. Venizelos, H. Hollert and M. Engwall

**Year:** 2013

**Title:** Polycyclic aromatic hydrocarbons (PAHs) reduce hepatic beta-oxidation of fatty acids in chick embryos

**Journal:** Environmental Science and Pollution Research

**Volume:** 20

**Issue:** 3

**Pages:** 1881-1888

**Date:** Mar

**Short Title:** Polycyclic aromatic hydrocarbons (PAHs) reduce hepatic beta-oxidation of fatty acids in chick embryos

**ISSN:** 0944-1344

**DOI:** 10.1007/s11356-012-1418-7

**Accession Number:** WOS:000315442500065

**Keywords:** Contaminants

**Notes:** Times Cited: 0

Westman, Ola Norden, Marcus Larsson, Maria Johansson, Jessica Venizelos, Nikolaos Hollert, Henner Engwall, Magnus

0

**URL:** <Go to ISI>://WOS:000315442500065

**Reference Type:**  Journal Article

**Record Number:** 1069

**Author:** D. A. Whisson and J. Y. Takekawa

**Year:** 2000

**Title:** Testing the effectiveness of an aquatic hazing device on waterbirds in the San Francisco Bay estuary of California

**Journal:** Waterbirds

**Volume:** 23

**Issue:** 1

**Pages:** 56-63

**Short Title:** Testing the effectiveness of an aquatic hazing device on waterbirds in the San Francisco Bay estuary of California

**Accession Number:** BCI:BCI200000281358

**Keywords:** Surf Scoter; Melanitta perspicillata; Techniques; Nonbreeding Seasons;

**Abstract:** Aquatic hazing devices recently have been developed as a possible means of deterring waterbirds from oil spills, thereby reducing casualties. However, the effectiveness of these devices has not been examined with rigorous statistical tests. We conducted a study in the San Francisco Bay estuary to develop a design for testing the effectiveness of an aquatic hazing device on waterbirds in open water. Transects marked with poles at 100-m intervals up to 800 m from the hazing device were established at two sites separated by three km in the north bay. Alternating two-day test and control periods were conducted at each site. Observers in over-water blinds counted the number, species and behavior (swimming, diving, or preening) of birds on transects each day. Aerial surveys of birds within four km of the device were conducted at the beginning of each test. For both aerial and ground surveys, a three-way mixed model analysis of variance test was used to examine trial, distance from the device, and treatment (device on or off) fixed effects, and site as a random effect on numbers of Greater and Lesser scaup (Aythya affinis and A. marila), Surf Scoter (Melanitta perspicillata), and all other waterbirds. We could not detect a significant deterrent effect of the hazing device in either aerial surveys of all ducks of scaup (all ducks, F28.33 = 1.1; Scaup, F28.230 = 0.9, all n.s.; 3-factor ANOVA), or ground surveys for all ducks or scaup (all ducks, F28.23 = 1.0; scaup, F28.230 = 0.9, all n.s.; 3-factor ANOVA). There was a significant trial-by-treatment interaction for Surf Scoters (F4.9 = 5.4, P = 0.02; 3-factor ANOVA), but Surf Scoter numbers fluctuated greatly among trials so the effect of the device on this species was not clear. Birds did not alter their behavior when the device was active. In general, although aquatic hazing devices have potential to reduce waterbird mortality in oil spills, the tested device was not effective as a deterrent for waterfowl in experimental trials on the estuary.

**URL:** <Go to ISI>://BCI200000281358

**Reference Type:**  Journal Article

**Record Number:** 684

**Author:** D. H. White

**Year:** 1975

**Title:** Hooded Merganser Kills a Meadow Vole

**Journal:** Wilson Bulletin

**Volume:** 87

**Issue:** 2

**Pages:** 282

**Short Title:** Hooded Merganser Kills a Meadow Vole

**Accession Number:** BCI:BCI197511092472

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Trophic Interactions;

**URL:** <Go to ISI>://BCI197511092472

**Reference Type:**  Journal Article

**Record Number:** 790

**Author:** D. H. White and E. Cromartie

**Year:** 1977

**Title:** Residues of Environmental Pollutants and Shell Thinning in Merganser Eggs

**Journal:** Wilson Bulletin

**Volume:** 89

**Issue:** 4

**Pages:** 532-542

**Short Title:** Residues of Environmental Pollutants and Shell Thinning in Merganser Eggs

**Accession Number:** BCI:BCI197865061872

**Keywords:** Red-breasted merganser; Mergus serrator; Hooded Merganser; Lophodytes cucullatus; Common merganser; Mergus merganser; Contaminants; Breeding Season;

**Abstract:** Clutches of merganser eggs were collected in 1973 and 1975 to determine whether levels of organochlorines and Hg might be responsible for possible population declines and to compare eggshell measurements with those of early museum collections. One egg/clutch was selected randomly for chemical analysis. Overall, residues of DDE, PCB [polychlorinated biphenyl] and Hg were low in hooded merganser [Lophodytes cucullatus] eggs; locality means for DDE ranged from 0.07-13.2 ppm, PCB means ranged from 0.44-4.91 ppm, and Hg means ranged from 0.16-1.49 ppm on a wet-weight basis. Residues of DDE and PCB appeared to be high in red-breasted [Mergus serrator] and common merganser [M. merganser] eggs. DDE averaged 15.7 ppm in red-breasted merganser eggs and PCB averaged 44.6 ppm; common merganser eggs contained an overall mean of 19.5 ppm DDE and 61.0 ppm PCB. Hooded merganser eggs from the Midwest [USA] had thinned 8.3%, but the change was not significant. Highly significant shell thinning was detected in red-breasted and common merganser eggs; red-breasted merganser eggs were 17.7% thinner and those of common mergansers were 23.5% thinner than museum collections.

**URL:** <Go to ISI>://BCI197865061872

**Reference Type:**  Journal Article

**Record Number:** 880

**Author:** H. C. White

**Year:** 1937

**Title:** Local feeding of kingfishers and mergansers

**Journal:** Jour Biol Bd Canada

**Volume:** 3

**Issue:** (4)

**Pages:** 323-338

**Short Title:** Local feeding of kingfishers and mergansers

**Accession Number:** BCI:BCI19381200010898

**Keywords:** Red-breasted merganser; Mergus serrator; Trophic Interactions;

**Abstract:** On the Margaree and Apple rivers, Nova Scotia, the belted kingfisher [Megaceryle alcyon] feeds upon the fishes that are most available within its feeding range. In the estuaries many spp. are taken; ascending a river the number becomes less until only salmon and trout (Sal-velinus), or trout alone, constitute the food. By rearing a young bird it was determined that the American merganser [Mergus americanus] pursues its prey by sight under water, being able to see a distance of from 10 feet (3m.) to 2 feet (0.6 m.) or less, depending upon the clearness of the water. The bird consumes daily on the average more than 1/3 of its weight. In nature the broods are reared up stream where young salmon are the dominant fish and constitute the major food item, with trout next. When the supply becomes scarce they shift down stream and in the estuary take the various fishes occurring there. The young red-breasted mergansers [M. senator] were found feeding over areas not frequented by young salmon, and the adults were confined largely to the estuary. They fed on the species available, which sometimes consisted largely of young salmon. || ABSTRACT AUTHORS: Auth. abst

**URL:** <Go to ISI>://BCI19381200010898

**Reference Type:**  Journal Article

**Record Number:** 812

**Author:** H. C. White

**Year:** 1957

**Title:** Food and natural history of mergansers on salmon waters in the Maritime Provinces of Canada

**Journal:** Bull Fish Res Bd Canada

**Volume:** 116

**Pages:** 1-63

**Short Title:** Food and natural history of mergansers on salmon waters in the Maritime Provinces of Canada

**Accession Number:** BCI:BCI19583200036229

**Keywords:** Red-breasted merganser; Mergus serrator; Hooded Merganser; Lophodytes cucullatus; Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** This study of the life history and feeding habits of mergansers is the 2d of a series on the relation of fish-eating birds to the production of Atlantic salmon and trout. The principal species considered is the American merganser (Mergus merganser americanus). A relatively small amount of work has been done on the red-breasted merganser (Mergus serrator). Only once was the hooded merganser (Lophodytes cucullatus) within the area of the salmon studies. Work on the American merganser is based on observations in the field and on captive and tame birds. Specimens for food analyses have been collected over a period of many years from Maritime Provinces of Nova Scotia and New Brunswick.

**URL:** <Go to ISI>://BCI19583200036229

**Reference Type:**  Journal Article

**Record Number:** 1099

**Author:** T. P. White, R. R. Veit and M. C. Perry

**Year:** 2009

**Title:** Feeding Ecology of Long-tailed Ducks Clangula hyemalis Wintering on the Nantucket Shoals

**Journal:** Waterbirds

**Volume:** 32

**Issue:** 2

**Pages:** 293-299

**Date:** Jun 2009

**Short Title:** Feeding Ecology of Long-tailed Ducks Clangula hyemalis Wintering on the Nantucket Shoals

**Accession Number:** BCI:BCI200900481098

**Keywords:** Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** A substantial proportion, perhaps 30%, of the North American breeding population of Long-tailed Ducks (Clangula hyemalis) winter in the vicinity of Nantucket Island, Massachusetts. These birds spend the night on Nantucket Sound and commute during daylight hours to the Nantucket Shoals, which extend about 65 km offshore from the southeastern corner of Nantucket. Strip transects done from a single-engine plane in 1997 and 1998 indicated that Long-tailed Ducks foraged over the shallower (<= 20 m depth) portions of the Nantucket Shoals, up to 70 km offshore. Diet analyses of ten birds collected in February 1999 and five in December 2006 showed that they fed principally (106.6 +/- 42.0 individuals per crop) on Gammarus annulatus, a pelagic amphipod that often forms large aggregations, and is consumed by several species of fish and marine mammals. Our findings emphasize the importance of conservation of the Nantucket Shoals and the prevention of oil spills or other potentially harmful accidents.

**URL:** <Go to ISI>://BCI200900481098

**Reference Type:**  Journal Article

**Record Number:** 639

**Author:** R. M. Whiting, Jr. and J. P. Cornes

**Year:** 2009

**Title:** Estimating Waterfowl Densities in a Flooded Forest: A Comparison of Methods

**Journal:** Southeastern Naturalist

**Volume:** 8

**Issue:** Sp. Iss. 2

**Pages:** 47-62

**Short Title:** Estimating Waterfowl Densities in a Flooded Forest: A Comparison of Methods

**Accession Number:** BCI:BCI201000286069

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Habitat; Techniques; Nonbreeding Seasons;

**Abstract:** During winter, aerial surveys are used to estimate densities of ducks that occupy open-water habitats However, such surveys are ineffective for sampling forest-dwelling species, especially Aix sponsa (Wood Ducks), Aims platyrhynchos (Mallards), and Lophodytes cucullatus (Hooded Mergansers) We evaluated fixed-radius plot (FRP) and Reynolds and Goodrum variable-radius plot (VRP) methods for estimating waterfowl densities in a flooded hardwood bottomland We constructed 15 elevated blinds on the Angelina River flood plain in eastern Texas and established a 1-ha FRP around each blind, color-coded markers were placed at fixed intervals from each blind Observers surveyed waterfowl from blinds for 21 mornings during January March, 1990 For FRPs, species, sex, and time a bird entered and exited the plot were recorded For VRPs, similar data and estimated observer-to-bird distance were recorded. Data were arranged in a randomized block design and tested using 1-way analyses of variances Wood Ducks, Mallards, and Hooded Mergansers comprised 68, 18, and 10% of the birds recorded, respectively Wood Duck density estimates (per ha) for FRP, Reynolds VRP, and Goodrum VRP methods were 0.65, 0 49, and 1.00 (P < 0 001), respectively, for Mallards, estimates were 0 27, 0 20, and 0 33 (P < 0 001), respectively; and estimates were 0 09, 0.13, and 0 15 (P = 0.003) for Hooded Mergansers, respectively. Based on ease of implementation, complexity of data analyses, and precision of density estimates, the FRP and Goodrum VRP methods are recommended for sampling waterfowl in flooded forests

**URL:** <Go to ISI>://BCI201000286069

**Reference Type:**  Journal Article

**Record Number:** 631

**Author:** W. Q. Wick and R. G. Jeffrey

**Year:** 1966

**Title:** Population estimates and hunter harvest of diving ducks in Northeastern Puget Sound, Wash

**Journal:** Murrelet

**Volume:** 47

**Issue:** (2)

**Pages:** 23-32

**Short Title:** Population estimates and hunter harvest of diving ducks in Northeastern Puget Sound, Wash

**Accession Number:** BCI:BCI19674800021636

**Keywords:** Bufflehead; Bucephala albeola; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Diving ducks comprise about one-third of the total January population of waterfowl in Northeastern Puget Sound. They furnish, however, less than 4% of the annual waterfowl harvest. Scoters, scaups, buffleheads, and goldeneyes totalled 97% of the 1958-64 January diving duck aerial sampling counts which we tallied at an average of nearly 66,000 birds. Scaups, goldeneyes, and buffleheads constituted about 80% of the average annual bag of 5800 diving ducks during the 1951-59 period. || ABSTRACT AUTHORS: Authors

**URL:** <Go to ISI>://BCI19674800021636

**Reference Type:**  Journal Article

**Record Number:** 270

**Author:** J. A. Wiens

**Year:** 2007

**Title:** Applying ecological risk assessment to environmental accidents: Harlequin ducks and the Exxon Valdez oil spill

**Journal:** Bioscience

**Volume:** 57

**Issue:** 9

**Pages:** 769-777

**Date:** Oct 2007

**Short Title:** Applying ecological risk assessment to environmental accidents: Harlequin ducks and the Exxon Valdez oil spill

**Accession Number:** BCI:BCI200800053417

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**Abstract:** Ecological risk assessment is a systematic way to evaluate the likelihood that an environmental accident has caused significant ecological consequences. I apply this framework retrospectively to evaluate a scenario linking the Exxon Valdez oil spill to population effects on harlequin ducks (Histrionicus histrionicus) through hydrocarbon contamination of mussels in spill-affected shorelines of Prince William Sound, Alaska. By evaluating the plausibility of each step of this scenario in turn, it becomes apparent that it is highly unlikely the oil spill is having continuing effects on harlequins through this pathway. This case study shows how ecological risk assessment can help clarify potential cause-effect relationships in an emotionally and socially charged situation.

**URL:** <Go to ISI>://BCI200800053417

**Reference Type:**  Book Section

**Record Number:** 230

**Author:** J. A. Wiens, R. H. Day, S. M. Murphy and M. A. Fraker

**Year:** 2010

**Title:** Assessing Cause-Effect Relationships in Environmental Accidents: Harlequin Ducks and the Exxon Valdez Oil Spill

**Book Title:** Current Ornithology, Vol 17

**Volume:** 17

**Pages:** 131-189

**Series Title:** Current Ornithology

**Short Title:** Assessing Cause-Effect Relationships in Environmental Accidents: Harlequin Ducks and the Exxon Valdez Oil Spill

**Accession Number:** BCI:BCI201000630954

**Keywords:** Harlequin duck; Histrionicus histrionicus; Contaminants; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI201000630954

**Reference Type:**  Journal Article

**Record Number:** 710

**Author:** F. K. Wiese, J. K. Parrish, C. W. Thompson and C. Maranto

**Year:** 2008

**Title:** Ecosystem-based management of predator-prey relationships: Piscivorous birds and salmonids

**Journal:** Ecological Applications

**Volume:** 18

**Issue:** 3

**Pages:** 681-700

**Date:** Apr 2008

**Short Title:** Ecosystem-based management of predator-prey relationships: Piscivorous birds and salmonids

**Accession Number:** BCI:BCI200800343175

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation; Breeding Season;

**Abstract:** Predator-prey relationships are often altered as a result of human activities. Where prey are legally protected, conservation action may include lethal predator control. In the Columbia River basin (Pacific Northwest, USA and Canada), piscivorous predators have been implicated in contributing to a lack of recovery of several endangered anadromous salmonids ( Oncorhynchus spp.), and lethal and nonlethal control programs have been instituted against both piscine and avian species. To determine the consequences of avian predation, we used a bioenergetics approach to estimate the consumption of salmonid smolts by waterbirds ( Common Merganser, California and Ring-billed Gull, Caspian Tern, Double-crested Cormorant) found in the mid-Columbia River from April through August, 2002-2004. We used our model to explore several predator-prey scenarios, including the impact of historical bird abundance, and the effect of preserving vs. removing birds, on smolt abundance. Each year, < 1% of the estimated available salmonid smolts (interannual range: 44 830-109 209; 95% CI = 38 000-137 000) were consumed, 85-98% away from dams. Current diet data combined with historical gull abundance at dams suggests that past smolt consumption may have been 1.5-3 times current numbers, depending on the assumed distribution of gulls along the reaches. After the majority (80%) of salmonid smolts have left the study area, birds switch their diet to predominantly juvenile northern pikeminnow (Ptychocheilus oregonensis), which as adults are significant native salmonid predators in the Columbia River. Our models suggest that one consequence of removing birds from the system may be increased pikeminnow abundance, which - even assuming 80% compensatory mortality in juvenile pikeminnow survival - would theoretically result in an annual average savings of just over 180 000 smolts, calculated over a decade. Practically, this suggests that smolt survival could be maximized by deterring birds from the river when smolts are present, allowing bird presence after the diet switch to act as a tool for salmonid-predator control, and conducting adult-pikeminnow control throughout. Our analysis demonstrates that identifying the strength of ecosystem interactions represents a top priority when attempting to manage the abundance of a particular ecosystem constituent, and that the consequences of a single-species view may be counterintuitive, and potentially counterproductive.

**URL:** <Go to ISI>://BCI200800343175

**Reference Type:**  Journal Article

**Record Number:** 89

**Author:** F. K. Wiese and P. C. Ryan

**Year:** 2003

**Title:** The extent of chronic marine oil pollution in southeastern Newfoundland waters assessed through beached bird surveys 1984-1999

**Journal:** Marine Pollution Bulletin

**Volume:** 46

**Issue:** 9

**Pages:** 1090-1101

**Date:** September 2003

**Short Title:** The extent of chronic marine oil pollution in southeastern Newfoundland waters assessed through beached bird surveys 1984-1999

**Accession Number:** BCI:BCI200300492402

**Keywords:** Sea Ducks - General; Contaminants;

**Abstract:** The Grand Banks south of Newfoundland provide year-round feeding habitat for tens of millions of seabirds of numerous species, an abundance and diversity unparalleled in the North Atlantic. Dense ship traffic routes traverse this productive environment as vessels travel the Great Circle Route between Europe and North America. Oiled seabirds have washed up on beaches in Newfoundland for many decades. Most oil on their feathers is heavy fuel oil mixed with lubricants, the mixture found in bilges of large vessels. Beached bird surveys conducted between 1984 and 1999 indicate that chronic oil pollution along the southeast coast of Newfoundland is among the highest in world. Sixty two percent of all dead birds found over the 16-year period had oil on their feathers; 74% during the last five years. Auks, especially Thick-billed Murres (Uria lomvia), are the most affected. The mean number of oiled birds per kilometer was 0.77 and thus higher than in other regions of the world during a comparable time period (0.02-0.33). Oiling rates correlated with weather patterns and degree of the regional murre hunt, indicate that illegal dumping of oil may occur year round, and point out that it is critical to assess all possible environmental and anthropogenic factors influencing the number of clean and oiled dead birds found on beaches before inferring trends in oiling rates over time.

**URL:** <Go to ISI>://BCI200300492402

**Reference Type:**  Journal Article

**Record Number:** 1798

**Author:** I. L. Wiggins

**Year:** 1953

**Title:** Foraging activities of the snowy owl (Nyctea scandiaca) during a period of low Lemming population

**Journal:** Auk

**Volume:** 70

**Issue:** (3)

**Pages:** 366-367

**Short Title:** Foraging activities of the snowy owl (Nyctea scandiaca) during a period of low Lemming population

**Accession Number:** BCI:BCI19542800012469

**Keywords:** King Eider; Somateria spectabilis; Trophic Interactions;

**Abstract:** Owls observed feeding on injured Somateria spectabills (King Eider) and red phalaropes, Phalaropus fulicarius. || ABSTRACT AUTHORS: L. M. Bartlett

**URL:** <Go to ISI>://BCI19542800012469

**Reference Type:**  Journal Article

**Record Number:** 113

**Author:** E. J. Williams

**Year:** 2000

**Title:** Wintering seafowl in Scapa Flow, Orkney, October 1998 to March 1999

**Journal:** Scottish Birds

**Volume:** 21

**Issue:** 1

**Pages:** 15-26

**Date:** June, 2000

**Short Title:** Wintering seafowl in Scapa Flow, Orkney, October 1998 to March 1999

**Accession Number:** BCI:BCI200000427233

**Keywords:** Sea Ducks - General; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Monthly counts of all seafowl were carried out in Scapa Flow for the 6 months from October 1998 to March 1999, utilising both shore and boat based observations. Thirty species were recorded and the maximum number of individuals of all species recorded in any month was 14,886. Two species, Great Northern Diver and Slavonian Grebe, were present at levels of international importance, and a further 11 species were present at levels of national importance. The maximum of 781 Great Northern Divers recorded was an unprecedented figure for this species in any single locality in the UK and represents 26% of the GB and 15.6% of the European winter population respectively. Slavonian Grebes peaked at 124, representing 31% of the GB and 2.5% of the European winter population. The other species of national importance were Red-throated Diver, 1.2% of GB winter population, Black-throated Diver (8.1%), Red-necked Grebe (14%), Shag (9%), Wigeon (1.4%), Teal (1%), Eider (3%), Long-tailed Duck (6.7%), Goldeneye (1.7%), Red-breasted Merganser (6.2%), and Black Guillemot (2.6%). Surface feeding duck numbered c6,300 and diving duck c4,200. Wigeon was the most abundant species with a maximum of 3,895. Overall numbers of most species exceeded those recorded during previous surveys in 1974-78 and in 1988-89.

**URL:** <Go to ISI>://BCI200000427233

**Reference Type:**  Journal Article

**Record Number:** 844

**Author:** L. L. Williams, J. P. Giesy, D. A. Verbrugge, S. Jurzysta, G. Heinz and K. Stromborg

**Year:** 1995

**Title:** Polychlorinated Biphenyls and 2,3,7,8-Tetrachlorodibenzo-p-dioxin Equivalents in Eggs of Red-Breasted Mergansers Near Green Bay, Wisconsin, USA, in 1977-78 and 1990

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 29

**Issue:** 1

**Pages:** 52-60

**Short Title:** Polychlorinated Biphenyls and 2,3,7,8-Tetrachlorodibenzo-p-dioxin Equivalents in Eggs of Red-Breasted Mergansers Near Green Bay, Wisconsin, USA, in 1977-78 and 1990

**Accession Number:** BCI:BCI199598321660

**Keywords:** Red-breasted merganser; Mergus serrator; Contaminants; Breeding Season;

**Abstract:** The hypothesis that the concentrations of 2,3,7,8-tetrachlorodibenzo-p-dioxin equivalents (TEqs) contributed by non-ortho- and mono-ortho-substituted (coplanar) PCB congeners have changed relative to total concentrations of PCBs over time was tested by analyzing eggs of red-breasted mergansers collected from the same locality in 1977-78 and in 1990. Twelve eggs from each time period were analyzed for coplanar PCBs, using a porous graphitic carbon HPLC column and GC-ECD. TEqs were calculated from coplanar PCB concentrations and bioassay-derived toxic equivalency factors. Median total PCB concentrations decreased from 25 to 13 mu-g/g, fresh weight (fw), and TEqs decreased from 320 pg/g to 160 pg/g, fw. The relative potency of the PCB mixtures, expressed as the ratio of TEqs contributed by the coplanar PCB congeners to total PCBs, did not change, nor did the ratio of concentrations of coplanar congeners to total PCBs. Thus, the relative potency of the mixture of PCBs in the eggs has not changed even as the concentrations declined significantly. The greater relative potency of TEqs relative to that which would be expected from the Aroclor mixtures released into the environment is due to selective bioaccumulation, biomagnification, and metabolism, rather than as a result of differential weathering as a function of time.

**URL:** <Go to ISI>://BCI199598321660

**Reference Type:**  Journal Article

**Record Number:** 1354

**Author:** H. M. Wilson, P. L. Flint, C. L. Moran and A. N. Powell

**Year:** 2007

**Title:** Survival of breeding pacific common eiders on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Journal of Wildlife Management

**Volume:** 71

**Issue:** 2

**Pages:** 403-410

**Date:** Apr 2007

**Short Title:** Survival of breeding pacific common eiders on the Yukon-Kuskokwim Delta, Alaska

**Accession Number:** BCI:BCI200700362286

**Keywords:** Common Eider; Somateria mollissima; Survival; Breeding Season; SDJV funded

**Abstract:** Populations of Pacific common ciders (Somateria mollissima v-nigrum) breeding in Alaska, USA, have declined markedly over the past 40 years. We studied survival of adult female Pacific common eiders using capture-recapture of nesting hens at 3 sites on the Yukon-Kuskokwim Delta (YKD), Alaska from 1994 to 2004. We used data consisting of 268 recapture events from 361 uniquely marked individuals to investigate temporal, geographic, and environmental variation in adult female survival. Our results suggest apparent annual survival of adult ciders from the YKD was high (0.892, SE = 0.022) and spatially and temporally invariant (sigma(2) = 0.005), a pattern consistent with other long-lived marine birds. Moreover, our results suggest adult survival may be functionally fixed for Pacific common eiders, and at the present, adult survival may be relatively unresponsive to environmental or management perturbations. Our data did not support hypothesized variation in survival relative to mortality factors such as predation on breeding grounds, physiologic costs of reproduction, and wintering conditions. Although changes in adult survival likely have a large potential effect on prospective population growth, our results suggest viable management actions aimed at increasing survival may be extremely limited.

**URL:** <Go to ISI>://BCI200700362286

**Reference Type:**  Journal Article

**Record Number:** 1355

**Author:** H. M. Wilson, P. L. Flint and A. N. Powell

**Year:** 2007

**Title:** Coupling contaminants with demography: Effects of lead and selenium in Pacific common eiders

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 26

**Issue:** 7

**Pages:** 1410-1417

**Date:** Jul 2007

**Short Title:** Coupling contaminants with demography: Effects of lead and selenium in Pacific common eiders

**Accession Number:** BCI:BCI200700460981

**Keywords:** Common Eider; Somateria mollissima; Contaminants; Productivity; Survival; Breeding Season;

**Abstract:** We coupled intensive population monitoring with collection of blood samples from 383 nesting Pacific common eiders (Somateria mollisima v-nigrum) at two locations in Alaska (USA) from 2002 to 2004. We investigated annual, geographic, and within-season variation in blood concentrations of lead and selenium; compared exposure patterns with sympatrically nesting spectacled eiders (Sornateria fischeri); and examined relationships with clutch size, egg viability, probability of hatching, and apparent survival of adult females. Lead concentrations were elevated in 3.6% of females, and all individuals exhibited elevated selenium, most (81%) at concentrations associated with death in captive waterfowl. Blood lead and selenium concentrations varied both within and among site-years and were lower than those of spectacled ciders. During incubation, blood lead concentrations in females increased significantly (possibly via re-release of stored lead from bone), whereas selenium concentrations decreased (likely because of natural excretion). Probability of a nest containing at least one nonviable egg was positively related to blood selenium in hens, but adverse effects in other life-history variables were not supported. Although reproduction appeared to be sensitive to selenium toxicity, our data suggest that high rates of nonviability are unlikely in this population and that selenium-related reductions to clutch size would be inconsequential at the scale of overall population dynamics. We conclude that Pacific common eiders and other wild marine birds likely have higher selenium tolerances than freshwater species and that interspecific differences in exposure levels may reflect differences in reproductive strategies.

**URL:** <Go to ISI>://BCI200700460981

**Reference Type:**  Journal Article

**Record Number:** 1983

**Author:** H. M. Wilson, P. L. Flint, A. N. Powell, J. B. Grand and C. L. Moran

**Year:** 2012

**Title:** Population Ecology of Breeding Pacific Common Eiders on the Yukon-Kuskokwim Delta, Alaska

**Journal:** Wildlife Monographs

**Issue:** 182

**Pages:** 1-28

**Date:** Nov

**Short Title:** Population Ecology of Breeding Pacific Common Eiders on the Yukon-Kuskokwim Delta, Alaska

**ISSN:** 0084-0173

**DOI:** 10.1002/wmon.8

**Accession Number:** WOS:000310914300001

**Keywords:** Common eider; Somateria mollissima; Population Dynamics; Productivity; Survival; Breeding Season; SDJV funded

**Notes:** Times Cited: 0

Wilson, Heather M. Flint, Paul L. Powell, Abby N. Grand, J. Barry Moran, Christine L.

0

**URL:** <Go to ISI>://WOS:000310914300001

**Reference Type:**  Journal Article

**Record Number:** 1750

**Author:** H. M. Wilson, M. R. Petersen and D. Troy

**Year:** 2004

**Title:** Concentrations of metals and trace elements in blood of spectacled and king eiders in northern Alaska, USA

**Journal:** Environmental Toxicology and Chemistry

**Volume:** 23

**Issue:** 2

**Pages:** 408-414

**Date:** February 2004

**Short Title:** Concentrations of metals and trace elements in blood of spectacled and king eiders in northern Alaska, USA

**Accession Number:** BCI:BCI200400115557

**Keywords:** Spectacled Eider; Somateria fischeri; King Eider; Somateria spectabilis; Contaminants; Breeding Season;

**Abstract:** In 1996, we measured concentrations of arsenic, barium, cadmium, lead, mercury, and selenium in blood of adult king (Somateria spectabilis) and spectacled (Somateria fischeri) eiders and duckling spectacled eiders from northern Alaska, USA. Concentrations of selenium exceeded background levels in all adults sampled and 9 of 12 ducklings. Mercury was detected in all adult spectacled eiders and 5 of 12 ducklings. Lead concentrations were above the clinical toxicity threshold in one duckling (0.64 ppm) and two adult female spectacled eiders (0.54 and 4.30 ppm). Concentrations of cadmium and mercury varied between species; barium, cadmium, mercury, and selenium varied between sexes. In female spectacled eiders, mercury concentrations increased during the breeding season and barium and selenium levels decreased through the breeding season. Selenium declined at 2.3 +- 0.9% per day and levels were lower in spectacled eiders arriving to the breeding grounds in northern Alaska than in western Alaska. The variation in selenium levels between breeding areas may be explained by differences in timing and routes of spring migration. Most trace elements for which we tested were not at levels currently considered toxic to marine birds. However, the presence of mercury and elevated lead in ducklings and adult female spectacled eiders suggests these metals are available on the breeding grounds.

**URL:** <Go to ISI>://BCI200400115557

**Reference Type:**  Journal Article

**Record Number:** 1984

**Author:** J. G. Wilson, K. V. Galaktionov, A. A. Sukhotin, K. Skirnisson, K. E. Nikolaev, M. I. Ivanov, J. O. Bustnes, D. H. Saville and K. V. Regel

**Year:** 2013

**Title:** Factors influencing trematode parasite burdens in mussels (Mytilus spp) from the north Atlantic ocean across to the north Pacific

**Journal:** Estuarine Coastal and Shelf Science

**Volume:** 132

**Pages:** 87-93

**Date:** Nov

**Short Title:** Factors influencing trematode parasite burdens in mussels (Mytilus spp) from the north Atlantic ocean across to the north Pacific

**ISSN:** 0272-7714

**DOI:** 10.1016/j.ecss.2011.10.005

**Accession Number:** WOS:000326419500009

**Keywords:** Parasites

**Notes:** Times Cited: 1

Wilson, J. G. Galaktionov, K. V. Sukhotin, A. A. Skirnisson, K. Nikolaev, K. E. Ivanov, M. I. Bustnes, J. O. Saville, D. H. Regel, K. V.

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**URL:** <Go to ISI>://WOS:000326419500009

**Reference Type:**  Journal Article

**Record Number:** 1035

**Author:** L. K. Wilson, M. L. Harris, S. Trudeau, M. G. Ikonomou and J. E. Elliott

**Year:** 2010

**Title:** Properties of Blood, Porphyrins, and Exposure to Legacy and Emerging Persistent Organic Pollutants in Surf Scoters (Melanitta perspicillata) Overwintering on the South Coast of British Columbia, Canada

**Journal:** Archives of Environmental Contamination and Toxicology

**Volume:** 59

**Issue:** 2

**Pages:** 322-333

**Date:** Aug 2010

**Short Title:** Properties of Blood, Porphyrins, and Exposure to Legacy and Emerging Persistent Organic Pollutants in Surf Scoters (Melanitta perspicillata) Overwintering on the South Coast of British Columbia, Canada

**Accession Number:** BCI:BCI201000460321

**Keywords:** Surf Scoter; Melanitta perspicillata; Contaminants; Nonbreeding Seasons;

**Abstract:** The surf scoter (Melanitta perspicillata) is a little-studied species of North American sea duck. Estimates suggest it has experienced a precipitous decline in breeding numbers over the latter half of the past century. To investigate the potential role of contaminant uptake and toxicity in the population decline, this study undertook to measure blood chemistry, porphyrin concentrations, EROD, and organic contaminants in mature surf scoters wintering in the Strait of Georgia, BC, Canada. Hepatic organochlorine pesticide, polychlorinated dibenzo-p-dioxin, polychlorinated dibenzofuran, polychlorinated biphenyl (PCB), polybrominated diphenyl ether, and nonylphenol concentrations were relatively low; for example, I TEQs pound (toxic equivalents) for PCBs, dioxins, and furans combined ranged from 4.7 ng/kg wet weight in reference-site (Baynes Sound) birds to 11.4 ng/kg wet weight in birds from Vancouver Harbour. Nonetheless, elevated EROD activity indicated that birds in Howe Sound were responding to an Ah-receptor-mediated stressor, which was also affecting hematocrit values and possibly vitamin A status. In addition, a low proportion of lymphocytes in individuals across locations in early spring samples was associated with poor body condition. The apparent loss of fitness just prior to the onset of northerly migrations to breeding grounds is of particular concern. Compromised health of mature birds at this point in the season might impact negatively on the productivity and survival of some individuals, particularly those overwintering in Howe Sound.

**URL:** <Go to ISI>://BCI201000460321

**Reference Type:**  Journal Article

**Record Number:** 1985

**Author:** R. E. Wilson, S. A. Sonsthagen and J. C. Franson

**Year:** 2013

**Title:** Sex determination of duck embryos: observations on syrinx development

**Journal:** Avian Biology Research

**Volume:** 6

**Issue:** 3

**Pages:** 243-246

**Short Title:** Sex determination of duck embryos: observations on syrinx development

**ISSN:** 1758-1559

**DOI:** 10.3184/175815513x13739900273488

**Accession Number:** WOS:000323538200009

**Keywords:** Techniques; Sea Ducks

**Notes:** Times Cited: 0

Wilson, Robert E. Sonsthagen, Sarah A. Franson, J. Christian

0

**URL:** <Go to ISI>://WOS:000323538200009

**Reference Type:**  Journal Article

**Record Number:** 531

**Author:** S. F. Wilson

**Year:** 1993

**Title:** Use of wood duck decoys in a study of brood parasitism

**Journal:** Journal of Field Ornithology

**Volume:** 64

**Issue:** 3

**Pages:** 337-340

**Short Title:** Use of wood duck decoys in a study of brood parasitism

**Accession Number:** BCI:BCI199396097442

**Keywords:** Common Goldeneye; Bucephala clangula; Techniques; Behavior; Breeding Season;

**Abstract:** Plastic Wood Duck (Aix sponsa) hunting decoys were used to test the effect of conspecifics near simulated nests on nest site selection by brood parasitic females. Wood Duck and Common Goldeneye (Bucephala clangula) eggs were laid in simulated nests only when Wood Duck decoys were floating nearby (P lt 0.05). Two of the parasitized nests were later incubated. Decoys may be effective in simulating the presence of ducks in other behavioral studies involving waterfowl.

**URL:** <Go to ISI>://BCI199396097442

**Reference Type:**  Journal Article

**Record Number:** 1017

**Author:** W. J. Wilson

**Year:** 1980

**Title:** Inverted Flight of White-Winged Scoters Melanitta-Deglandi During Courtship Flight

**Journal:** American Birds

**Volume:** 34

**Issue:** 5

**Pages:** 746-747

**Short Title:** Inverted Flight of White-Winged Scoters Melanitta-Deglandi During Courtship Flight

**Accession Number:** BCI:BCI198121054556

**Keywords:** White-winged Scoter; Melanitta fusca; Behavior;

**URL:** <Go to ISI>://BCI198121054556

**Reference Type:**  Journal Article

**Record Number:** 1043

**Author:** W. J. Wilson

**Year:** 2008

**Title:** Use of legs and feet for control by scoters during aerial courtship

**Journal:** Wilson Journal of Ornithology

**Volume:** 120

**Issue:** 3

**Pages:** 594-599

**Date:** Sep 2008

**Short Title:** Use of legs and feet for control by scoters during aerial courtship

**Accession Number:** BCI:BCI200800586674

**Keywords:** White-winged Scoter; Melanitta fusca; Black Scoter; Melanitta nigra; Surf Scoter; Melanitta perspicillata; Behavior;

**Abstract:** Scoters (Melanitta spp.) exhibit extraordinary maneuvers during courtship flight. attitudes which are not commonly seen in flight. Scoters drop their legs and spread webbed feet these maneuvers There appears to be a correlation between how the feet of scoters meet the airflow and the maneuver in progress.

**URL:** <Go to ISI>://BCI200800586674

**Reference Type:**  Journal Article

**Record Number:** 517

**Author:** I. J. Winfield and D. K. Winfield

**Year:** 1994

**Title:** Feeding ecology of the diving ducks pochard (Aythya fernia), tufted dick (A. fuligula), scaup (A. marila) and goldeneye (Bucephala clangula) overwintering on Lough Neagh, Northern Ireland

**Journal:** Freshwater Biology

**Volume:** 32

**Issue:** 3

**Pages:** 467-477

**Short Title:** Feeding ecology of the diving ducks pochard (Aythya fernia), tufted dick (A. fuligula), scaup (A. marila) and goldeneye (Bucephala clangula) overwintering on Lough Neagh, Northern Ireland

**Accession Number:** BCI:BCI199598119579

**Keywords:** Common Goldeneye; Bucephala clangula; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** 1. The diets of pochard (Aythya ferina), scaup (A. marila) and goldeneye (Bucephala clangula) overwintering on Lough Neagh are dominated by chironomid larvae, while molluscs are more important in that of tufted duck (A. fuligula). 2. Inshore areas of Lough Neagh offer poor feeding conditions for these diving ducks because chironomid larvae and molluscs are of small individual body size or low abundance. These factors lead to all four ducks foraging at least in part at depths greater than those usually exploited. 3. Due to their common consumption of molluscs, the diet of tufted duck shows a higher overlap with that of an introduced roach (Rutilus rutilus) population than with any other duck or fish species. 4. The feeding ecology of tufted duck and roach in Lough Neagh may form an example of distant competition and be at least partly responsible for recent fluctuations in the numbers of tufted duck.

**URL:** <Go to ISI>://BCI199598119579

**Reference Type:**  Journal Article

**Record Number:** 95

**Author:** K. Winker, D. D. Gibson, A. L. Sowls, B. E. Lawhead, P. D. Martin, E. P. Hoberg and D. Causey

**Year:** 2002

**Title:** The birds of St. Matthew Island, Bering Sea

**Journal:** Wilson Bulletin

**Volume:** 114

**Issue:** 4

**Pages:** 491-509

**Date:** December 2002

**Short Title:** The birds of St. Matthew Island, Bering Sea

**Accession Number:** BCI:BCI200300345990

**Keywords:** Sea Ducks - General; Common Eider; King Eider; Abundance, Distribution, and Trends;

**Abstract:** St. Matthew Island (60degree 24' N, 172degree 42' W) and its small nearby satellites, Hall Island and Pinnacle Rock, are isolated in the northcentral Bering Sea. This infrequently visited location occupies a geographic position with a deep Bering Land Bridge history and is in an area of interdigitation of the Old World, New World, and Beringian avifaunas. It is known for its three Beringian endemics, a bird (McKay's Bunting, Plectrophenax hyperboreus), a small mammal, and a plant. This level of endemism is striking for a high-latitude island. The only previous summary of the avifauna of St. Matthew island (Hanna 1917) included 37 species. Our report considers more than 125 species and synthesizes data on presence and absence, abundance, and phenology. Because visits have been infrequent and concentrated during summer, our understanding of migration in this region remains poor, but the area is clearly affected by both the Old and New world migration systems. There is sufficient evidence to show that some profound changes among the island's breeding birds have occurred during the past century. In particular, the breeding range of Glaucous-winged Gulls (Larus glaucescens) has been extended north to include St. Matthew, a change that is correlated with a northward shift in the extent of sea ice (Maslanik et al. 1996). King and Common eiders (Somateria spectabilis and S. mollissima) also have shown substantial changes in summer abundance. Other changes in the summer avifauna (e.g., among shorebirds) may reflect the dynamics of edge-of-range phenomena. Because of its central position in a region undergoing profound climate change and its demonstrated track record in showing avifaunal shifts, St. Matthew Island may represent an important bellwether for monitoring the biological effects of further climate change in the northern Bering Sea.

**URL:** <Go to ISI>://BCI200300345990

**Reference Type:**  Journal Article

**Record Number:** 1705

**Author:** J. G. Wit

**Year:** 1968

**Title:** Conjugations with Glutathione Distribution of Enz Glutathione S Aryl Transferase in Wild Birds Pheasant Coot Great Crested Grebe Goosander Eider Tufted Duck Common Gull

**Journal:** European Journal of Pharmacology

**Volume:** 5

**Issue:** 1

**Pages:** 100-102

**Short Title:** Conjugations with Glutathione Distribution of Enz Glutathione S Aryl Transferase in Wild Birds Pheasant Coot Great Crested Grebe Goosander Eider Tufted Duck Common Gull

**Accession Number:** BCI:BCI196905050198

**Keywords:** Common merganser; Mergus merganser; Common Eider; Somateria mollissima; Physiology;

**URL:** <Go to ISI>://BCI196905050198

**Reference Type:**  Journal Article

**Record Number:** 2003

**Author:** J. D. Witman, S. J. Genovese, J. F. Bruno, J. W. McLaughlin and B. I. Pavlin

**Year:** 2003

**Title:** Massive prey recruitment and the control of rocky subtidal communities on large spatial scales

**Journal:** Ecological Monographs

**Volume:** 73

**Issue:** 3

**Pages:** 441-462

**Date:** Aug

**Short Title:** Massive prey recruitment and the control of rocky subtidal communities on large spatial scales

**DOI:** 10.1890/01-4073

**Notes:** Witman, JD Genovese, SJ Bruno, JF McLaughlin, JW Pavlin, BI

**Reference Type:**  Journal Article

**Record Number:** 1986

**Author:** A. Wold, I. Jaeger, H. Hop, G. W. Gabrielsen and S. Falk-Petersen

**Year:** 2011

**Title:** Arctic seabird food chains explored by fatty acid composition and stable isotopes in Kongsfjorden, Svalbard

**Journal:** Polar Biology

**Volume:** 34

**Issue:** 8

**Pages:** 1147-1155

**Date:** Aug

**Short Title:** Arctic seabird food chains explored by fatty acid composition and stable isotopes in Kongsfjorden, Svalbard

**ISSN:** 0722-4060

**DOI:** 10.1007/s00300-011-0975-4

**Accession Number:** WOS:000292887600005

**Keywords:** Sea Ducks; Trophic Interactions; Techniques; Breeding Season

**Notes:** Times Cited: 3

Wold, Anette Jaeger, Iris Hop, Haakon Gabrielsen, Geir Wing Falk-Petersen, Stig

3

**URL:** <Go to ISI>://WOS:000292887600005

**Reference Type:**  Journal Article

**Record Number:** 780

**Author:** C. C. Wood

**Year:** 1985

**Title:** Aggregative Response of Common Mergansers Mergus-Merganser Predicting Flock Size and Abundance on Vancouver Island Canada Salmon Streams

**Journal:** Canadian Journal of Fisheries and Aquatic Sciences

**Volume:** 42

**Issue:** 7

**Pages:** 1259-1271

**Short Title:** Aggregative Response of Common Mergansers Mergus-Merganser Predicting Flock Size and Abundance on Vancouver Island Canada Salmon Streams

**Accession Number:** BCI:BCI198580094164

**Keywords:** Common merganser; Mergus merganser; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** The abundance of common mergansers (M. merganser) was monitored on 4 salmon-producing streams on the east coast of Vancouver Island, British Columbia, during the spring and summer of 1980-1983. Merganser abundance declined steadily from March-June but increased following recruitment of juvenile birds. Mergansers congregated on streams where juvenile salmonid migrations were enhanced by hatcheries or spawning channels. Movement between streams was evident from inverse trends in abundance on 3 adjacent streams differing in juvenile salmonid production. At least 8 of 12 mergansers resighted after being marked and released on the Big Qualicum River visited other nearby streams. Flock-size distributions predicted by an equilibrium arrival-departure model were consistent with those observed during May-mid-June, but not those during late June. Social interactions and reduced flight activity appeared to influence dispersion to a greater extent during late June-Aug. so that assumptions of the model were violated. A similar model was used to predict aggregation patterns on hatchery streams from observed relationships between fish availability and frequencies of arrival and departure. The aggregation model provides a parsimonious explanation of merganser aggregation patterns during March-June and is a potentially useful tool for designing fish release schedules to minimize predation by mergansers.

**URL:** <Go to ISI>://BCI198580094164

**Reference Type:**  Journal Article

**Record Number:** 781

**Author:** C. C. Wood

**Year:** 1985

**Title:** Food-Searching Behavior of the Common Merganser Mergus-Merganser Ii. Choice of Foraging Location

**Journal:** Canadian Journal of Zoology

**Volume:** 63

**Issue:** 6

**Pages:** 1271-1279

**Short Title:** Food-Searching Behavior of the Common Merganser Mergus-Merganser Ii. Choice of Foraging Location

**Accession Number:** BCI:BCI198681012176

**Keywords:** Common merganser; Mergus merganser; Behavior; Trophic Interactions;

**Abstract:** Factors influencing the choice of foraging location by the common merganser (Mergus merganser) were investigated by baiting three adjacent, enclosed sections of a natural stream with various densities of juvenile coho salmon (Oncorhynchus kisutch). Merganser abundance within 1 km of the enclosure site increased from < 3 to > 10 birds within 1 week of stocking the enclosures with 43-g coho smolt. Although abundance declined gradually thereafter (as expected from seasonal trends on other nearby streams), the frequency of visits to the enclosure site continued to increase for 22 d until the enclosures were stocked predominately with smaller (2-g) coho fry. Visits were more frequent when other mergansers were already present at the site. Also, the proportion of mergansers flying overhead that landed near a decoy "flock" increased with decoy flock size. In general, the duration of visits to the site was not affected by the number of birds present. Visit duration increased exponentially with increasing fish density and decreased with searching time required until first capture. Mergansers spent more time searching in the most profitable enclosure. Allocation of searching time among the enclosures was not consistent with a "giving up time" decision rule; however, mergansers appeared to follow an area-restricted search pattern both within and among the enclosures.

**URL:** <Go to ISI>://BCI198681012176

**Reference Type:**  Journal Article

**Record Number:** 778

**Author:** C. C. Wood

**Year:** 1986

**Title:** Dispersion of Common Merganser Mergus-Merganser Breeding Pairs in Relation to the Availability of Juvenile Pacific Salmon Oncorhynchus-Sp in Vancouver Island Streams Canada

**Journal:** Canadian Journal of Zoology

**Volume:** 64

**Issue:** 3

**Pages:** 756-765

**Short Title:** Dispersion of Common Merganser Mergus-Merganser Breeding Pairs in Relation to the Availability of Juvenile Pacific Salmon Oncorhynchus-Sp in Vancouver Island Streams Canada

**Accession Number:** BCI:BCI198682021848

**Keywords:** Common merganser; Mergus merganser; Habitat; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Common merganser (Mergus merganser) breeding pairs and broods were censused on eight coastal streams on Vancouver Island to evaluate the relative importance of the number of potential breeding pairs, stream size, and the availability of juvenile Pacific salmon in limiting merganser breeding density. The number of potential breeding pairs did not limit nesting density on at least one stream where juvenile salmon populations were enhanced by a hatchery and spawning channel. At distances > 1 km above tidal influence, breeding pairs were evenly dispersed along the streams during the peak egg-laying and incubation period at maximum densities of 0.4-1.4 pairs/km. Maximum breeding pair counts were higher and more variable among streams on the lower kilometer of freshwater (1-9 pairs) and on tidal waters near the stream outlets (4-9 pairs). Stream size accounted for only a part of the variation in breeding pair counts. The estimated number of broods produced on each stream was highly correlated (r = 0.95) with both drainage area and juvenile salmon production, including production from hatcheries. Possible mechanism relating the dispersion of breeding pairs to the availability of juvenile salmon are discussed. A "food assessment" hypothesis, whereby breeding pairs chose a nesting stream on the basis of prey availability during the nesting season, could not be rejected on the basis of predictions about hatching dates and duckling survival. This hypothesis has serious implications for mortality of wild salmonids in hatchery-enhanced streams.

**URL:** <Go to ISI>://BCI198682021848

**Reference Type:**  Journal Article

**Record Number:** 775

**Author:** C. C. Wood

**Year:** 1987

**Title:** Predation of Juvenile Pacific Salmon by the Common Merganser Mergus-Merganser on Eastern Vancouver Island Canada I. Predation During the Seaward Migration

**Journal:** Canadian Journal of Fisheries and Aquatic Sciences

**Volume:** 44

**Issue:** 5

**Pages:** 941-949

**Short Title:** Predation of Juvenile Pacific Salmon by the Common Merganser Mergus-Merganser on Eastern Vancouver Island Canada I. Predation During the Seaward Migration

**Accession Number:** BCI:BCI198784065252

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions;

**Abstract:** Predation of juvenile salmonids by the common merganser (Mergus merganser) was investigated during the period of seaward migration in two streams where fish populations are enhanced by spawning channels and hatcheries. Observations of foraging behaviour and crop-gullet content indicated that, during this period, mergansers foraging on freshwater reaches of the streams ate juvenile salmonids almost exclusively whereas those foraging on tidal waters rarely ate salmonids. Maximum rates of salmonid mortality were estimated by assessing merganser abundance and the pattern of foraging activity on fresh versus tidal waters. Maximum mortality rate declined as fish abundance increased (i.e. mortality was depensatory) in all cases where the effects of prey size-selection could be ignored owing to an overwhelming abundance of one prey species. Bounds on maximum mortality rate by species for the entire migration period were computed under different hypotheses about the prey size-selection habits of mergansers; maximum mortality rate did not exceed 10% for any salmonid species over the entire seaward migration.

**URL:** <Go to ISI>://BCI198784065252

**Reference Type:**  Journal Article

**Record Number:** 776

**Author:** C. C. Wood

**Year:** 1987

**Title:** Predation of Juvenile Pacific Salmon by the Common Merganser Mergus-Merganser on Eastern Vancouver Island Canada Ii. Predation of Stream-Resident Juvenile Salmon by Merganser Broods

**Journal:** Canadian Journal of Fisheries and Aquatic Sciences

**Volume:** 44

**Issue:** 5

**Pages:** 950-959

**Short Title:** Predation of Juvenile Pacific Salmon by the Common Merganser Mergus-Merganser on Eastern Vancouver Island Canada Ii. Predation of Stream-Resident Juvenile Salmon by Merganser Broods

**Accession Number:** BCI:BCI198784065256

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Breeding Season;

**Abstract:** Predation of stream-resident juvenile salmonids by broods of the common merganser (Mergus merganser) was investigated in three streams of eastern Vancouver Island from 1980 to 1982. Daily fish consumption by merganser ducklings was estimated to range from 80% of body weight for ducklings at 10 d of age to 40% of body weight for those at 40 d of age. Merganser ducklings were never observed to eat juvenile salmonids on tidal waters, but did eat them on the freshwater reaches of streams studied. Typically, broods inhabited only the freshwater reaches of their natal stream while young, but spent progressively more time foraging on tidal waters as they grew older. The biomass of broods (and hence potential consumption) on fresh water was estimated by reconstructing the history of individual broods from census data. These results suggest that merganser broods consumed on the order of 82,000-131,000 coho salmon (Oncorhynchus kisutch) fry in the Big Qualicum River between June 10 and August 25. This is equivalent to 24-65% of the observed wild smolt production from this system, assuming that these fry would otherwise have survived as well as uneaten fry.

**URL:** <Go to ISI>://BCI198784065256

**Reference Type:**  Journal Article

**Record Number:** 779

**Author:** C. C. Wood and C. M. Hand

**Year:** 1985

**Title:** Food-Searching Behavior of the Common Merganser Mergus-Merganser I. Functional Responses to Prey and Predator Density

**Journal:** Canadian Journal of Zoology

**Volume:** 63

**Issue:** 6

**Pages:** 1260-1270

**Short Title:** Food-Searching Behavior of the Common Merganser Mergus-Merganser I. Functional Responses to Prey and Predator Density

**Accession Number:** BCI:BCI198681012177

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Behavior;

**Abstract:** The hunting performance of the common merganser (Mergus merganser) was evaluated in relation to prey density and merganser flock size by stocking three enclosed sections of a natural stream with known densities of juvenile coho salmon (Oncorhynchus kisutch). Two size classes of coho were stocked: smolt averaging 43 g at densities of 0.02-0.65/m2, fry averaging 2 g at 0.08-1.6/m2 and various mixtures of smolt and fry at a combined density of 0.65/m2. The stream enclosures differed in the amount of cover available to fish. Mergansers were less successful at capturing coho smolt or fry in the enclosures with cover from undercut banks. Smolt exposed to mergansers earlier that day were less vulnerable than smolt with no previous exposure. The feeding success of individual mergansers was not significantly affected by flock size for flocks of 25 birds or less. A smoothly asymptotic functional response (type II) was observed under all experimental conditions. Coho smolt were selected over coho fry. It is concluded that a merganser's average daily food requirement (ca. 400 g) can be satisfied at smolt densities of 0.02-0.30/m2 depending on the availability of cover for smolt and their previous exposure to mergansers.

**URL:** <Go to ISI>://BCI198681012177

**Reference Type:**  Journal Article

**Record Number:** 2020

**Author:** J. T. Wootton

**Year:** 1992

**Title:** INDIRECT EFFECTS, PREY SUSCEPTIBILITY, AND HABITAT SELECTION - IMPACTS OF BIRDS ON LIMPETS AND ALGAE

**Journal:** Ecology

**Volume:** 73

**Issue:** 3

**Pages:** 981-991

**Date:** Jun

**Short Title:** INDIRECT EFFECTS, PREY SUSCEPTIBILITY, AND HABITAT SELECTION - IMPACTS OF BIRDS ON LIMPETS AND ALGAE

**DOI:** 10.2307/1940174

**Notes:** WOOTTON, JT

**Reference Type:**  Journal Article

**Record Number:** 2016

**Author:** J. T. Wootton

**Year:** 1995

**Title:** Effects of birds on sea urchins and algae: A lower-intertidal trophic cascade

**Journal:** Ecoscience

**Volume:** 2

**Issue:** 4

**Pages:** 321-328

**Short Title:** Effects of birds on sea urchins and algae: A lower-intertidal trophic cascade

**Notes:** Wootton, JT

**Reference Type:**  Journal Article

**Record Number:** 2014

**Author:** J. T. Wootton

**Year:** 1997

**Title:** Estimates and tests of per capita interaction strength: Diet, abundance, and impact of intertidally foraging birds

**Journal:** Ecological Monographs

**Volume:** 67

**Issue:** 1

**Pages:** 45-64

**Date:** Feb

**Short Title:** Estimates and tests of per capita interaction strength: Diet, abundance, and impact of intertidally foraging birds

**DOI:** 10.1890/0012-9615(1997)067[0045:eatopc]2.0.co;2

**Notes:** Wootton, JT

**Reference Type:**  Journal Article

**Record Number:** 1656

**Author:** E. Wranes

**Year:** 1982

**Title:** Seasonal Fluctuations and Movements of the Common Eider Somateria-Mollissima at the Norwegian Skagerrak Coast

**Journal:** Fauna Norvegica Series C Cinclus

**Volume:** 5

**Issue:** 2

**Pages:** 49-52

**Short Title:** Seasonal Fluctuations and Movements of the Common Eider Somateria-Mollissima at the Norwegian Skagerrak Coast

**Accession Number:** BCI:BCI198376024878

**Keywords:** Common Eider; Somateria mollissima; Abundance, Distribution, and Trends; Dispersal; Molt; Nonbreeding Seasons;

**Abstract:** Population censuses within an area .apprx. 10 km east of Kristiansand, south Norway, from 1970 to 1973, and ringing recoveries, show that the eiders migrate from their breeding areas to molt and winter in Danish waters. Aerial counts show that the same seasonal population fluctuations seem to occur on the entire Skagerak coast. After molting in the Kattegat area, most of the eiders remain in Danish waters until Feb.-March before returning. The majority of the autumn and winter population of the Skagerak coast probably consists of the local breeders.

**URL:** <Go to ISI>://BCI198376024878

**Reference Type:**  Journal Article

**Record Number:** 333

**Author:** K. G. Wright, G. J. Robertson and R. I. Goudie

**Year:** 1998

**Title:** Evidence of spring staging and migration route of individual breeding harlequin ducks, Histrionicus histrionicus, in Southern British Columbia

**Journal:** Canadian Field-Naturalist

**Volume:** 112

**Issue:** 3

**Pages:** 518-519

**Date:** July-Sept., 1998

**Short Title:** Evidence of spring staging and migration route of individual breeding harlequin ducks, Histrionicus histrionicus, in Southern British Columbia

**Accession Number:** BCI:BCI199900070373

**Keywords:** Harlequin duck; Histrionicus histrionicus; Migration; Nonbreeding Seasons;

**Abstract:** An individually marked pair of Harlequin Ducks (Histrionicus histrionicus) were observed on moulting and spring staging and the male also on breeding grounds in southern British Columbia.

**URL:** <Go to ISI>://BCI199900070373

**Reference Type:**  Journal Article

**Record Number:** 315

**Author:** K. K. Wright, H. Bruner, J. L. Li, R. Jarvis and S. Dowlan

**Year:** 2000

**Title:** The distribution, phenology, and prey of Harlequin Ducks, Histrionicus histrionicus, in a Cascade Mountain stream, Oregon

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 2

**Pages:** 187-195

**Date:** April-June, 2000

**Short Title:** The distribution, phenology, and prey of Harlequin Ducks, Histrionicus histrionicus, in a Cascade Mountain stream, Oregon

**Accession Number:** BCI:BCI200100021843

**Keywords:** Harlequin duck; Histrionicus histrionicus; Abundance, Distribution, and Trends; Trophic Interactions; Breeding Season;

**Abstract:** We examined the phenology, abundance, and in-stream habitat use of Harlequin Ducks (Histrionicus histrionicus) and their primary prey, the caddisfly larvae Dicosmoecus gilvipes, in a Cascade Mountain stream from 1994-1997. Harlequins and D. gilvipes inhabited the stream from late April through late July, and both frequented areas with high proportions of bedrock. When broods were present in late June and July, D. gilvipes made up over 80% of harlequin diets. Although harlequins foraged intensively on D. gilvipes, we found no direct relationship between harlequin distribution and caddisfly abundance at nine 50 m study sites. After a severe flood in early 1996, we observed reductions in overall harlequin numbers, a seasonal delay in brood development, and a decrease in abundance of D. gilvipes.

**URL:** <Go to ISI>://BCI200100021843

**Reference Type:**  Journal Article

**Record Number:** 1987

**Author:** W. A. Wurtsbaugh, J. Gardberg and C. Izdepski

**Year:** 2011

**Title:** Biostrome communities and mercury and selenium bioaccumulation in the Great Salt Lake (Utah, USA)

**Journal:** Science of the Total Environment

**Volume:** 409

**Issue:** 20

**Pages:** 4425-4434

**Date:** Sep

**Short Title:** Biostrome communities and mercury and selenium bioaccumulation in the Great Salt Lake (Utah, USA)

**ISSN:** 0048-9697

**DOI:** 10.1016/j.scitotenv.2011.07.027

**Accession Number:** WOS:000295306500030

**Keywords:** Sea Ducks; contaminants; Nonbreeding Seasons

**Notes:** Times Cited: 0

Wurtsbaugh, Wayne A. Gardberg, Jodi Izdepski, Caleb

Wurtsbaugh, Wayne/G-6856-2011; Schneider, Larissa/C-9863-2012

0

**URL:** <Go to ISI>://WOS:000295306500030

**Reference Type:**  Journal Article

**Record Number:** 2012

**Author:** M. Yamamuro, N. Oka and J. Hiratsuka

**Year:** 1998

**Title:** Predation by diving ducks on the biofouling mussel Musculista senhousia in a eutrophic estuarine lagoon

**Journal:** Marine Ecology Progress Series

**Volume:** 174

**Pages:** 101-106

**Short Title:** Predation by diving ducks on the biofouling mussel Musculista senhousia in a eutrophic estuarine lagoon

**DOI:** 10.3354/meps174101

**Notes:** Yamamuro, M Oka, N Hiratsuka, J

**Reference Type:**  Journal Article

**Record Number:** 995

**Author:** O. Yamato, I. Goto and Y. Maede

**Year:** 1996

**Title:** Hemolytic anemia in wild seaducks caused by marine oil pollution

**Journal:** Journal of Wildlife Diseases

**Volume:** 32

**Issue:** 2

**Pages:** 381-384

**Short Title:** Hemolytic anemia in wild seaducks caused by marine oil pollution

**Accession Number:** BCI:BCI199699238165

**Keywords:** White-winged Scoter; Melanitta fusca; Contaminants; Nonbreeding Seasons;

**Abstract:** Clinico-pathological examinations were conducted on wild white-winged scoters (Melanitta fusca) contaminated with fuel oil (Bunker C oil) from a capsized cargo ship in February 1993 in Japan. The erythrocyte count, hemoglobin concentration and hematocrit value in the oiled seaducks all were decreased and numerous immature erythrocytes were observed in blood smears. In addition, hemosiderosis was observed in the liver, kidney, and lung of some birds. We propose that the seaducks suffered from hemolytic anemia induced by ingestion of oil, which occurs when the birds preen their oiled plumage.

**URL:** <Go to ISI>://BCI199699238165

**Reference Type:**  Journal Article

**Record Number:** 1599

**Author:** R. Ydenberg and M. Guillemette

**Year:** 1991

**Title:** Diving and Foraging in the Common Eider

**Journal:** Ornis Scandinavica

**Volume:** 22

**Issue:** 4

**Pages:** 349-352

**Short Title:** Diving and Foraging in the Common Eider

**Accession Number:** BCI:BCI199293063025

**Keywords:** Common Eider; Somateria mollissima; Behavior; Nonbreeding Seasons;

**Abstract:** We recorded the duration of successive dives and pauses during sequences of foraging by wintering Common Eiders Somateria mollissima in the Gulf of St. Lawrence (Quebec, Canada). The length of each pause on the surface between dives increases at an increasing rate with the length of the preceding dive. Based on this relationship, the deviation from the estimated surface time (DEVEST, for short) was computed for each dive. DEVEST is positively correlated over short series of dive-cycles. The significance of these results is discussed and compared with an earlier study on Western Grebes Aechmophorus occidentalis.

**URL:** <Go to ISI>://BCI199293063025

**Reference Type:**  Journal Article

**Record Number:** 1215

**Author:** P. Yesou and H. G. Lappo

**Year:** 1992

**Title:** Steller's eider Polysticta stelleri nesting between the Taimyr and the Yamal Peninsulas, Siberia

**Journal:** Alauda

**Volume:** 60

**Issue:** 4

**Pages:** 193-198

**Short Title:** Steller's eider Polysticta stelleri nesting between the Taimyr and the Yamal Peninsulas, Siberia

**Accession Number:** BCI:BCI199396026271

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Breeding Season;

**Abstract:** Steller's Eider Polysticta stelleri have been found breeding, at a very low density and probably on a regular basis, on the Taimyr, Gydan and Yamal peninsulas, regions which were long thought to be outside this species' breeding range. Whether these discoveries are indicative of a true westward range extension in uncertain, they may simple be due to a recent improvement in the knowledge of the avifauna of these areas. We include information on the breeding habitat, clutch size and egg size, and give an improved description of the recently hatched duckling.

**URL:** <Go to ISI>://BCI199396026271

**Reference Type:**  Journal Article

**Record Number:** 216

**Author:** C. F. Yocom

**Year:** 1970

**Title:** Weights of 10 Species of Ducks Captured at Ohtig Lake Alaska August 1962

**Journal:** Murrelet

**Volume:** 51

**Issue:** 2

**Pages:** 21

**Short Title:** Weights of 10 Species of Ducks Captured at Ohtig Lake Alaska August 1962

**Accession Number:** BCI:BCI197107026036

**Keywords:** Sea Ducks - General; Energetics and Nutrition; Molt; Nonbreeding Seasons;

**URL:** <Go to ISI>://BCI197107026036

**Reference Type:**  Journal Article

**Record Number:** 860

**Author:** A. D. Young and R. D. Titman

**Year:** 1986

**Title:** Costs and Benefits to Red-Breasted Mergansers Nesting in Tern and Gull Colonies

**Journal:** Canadian Journal of Zoology

**Volume:** 64

**Issue:** 10

**Pages:** 2339-2343

**Short Title:** Costs and Benefits to Red-Breasted Mergansers Nesting in Tern and Gull Colonies

**Accession Number:** BCI:BCI198783073879

**Keywords:** Red-breasted merganser; Mergus serrator; Productivity; Habitat; Breeding Season;

**Abstract:** The costs and benefits to Red-breasted Mergansers (Mergus serrator) nesting in a Common Tern (Sterna hirundo) colony and a Herring Gull (Larus argentatus) and Great Black-backed Gull (L. marinus) colony were studied from 5 June to 17 August 1984 on islands off the east coast of New Brunswick [Canada] Merganser nests outside larid colonies were preyed upon significantly more than nests in the tern colony while no difference was found with nests in the gull colony. Nests in the tern colony were more densely concentrated and more likely to be abandoned. Clumped nests in the tern colony were not initiated in greater synchrony than dispersed nests. The merganser-gull nesting association is discussed. We postulate that the protective benefit for merganser nests in tern colonies accounts for the evolution of the nesting association.

**URL:** <Go to ISI>://BCI198783073879

**Reference Type:**  Journal Article

**Record Number:** 855

**Author:** A. D. Young and R. D. Titman

**Year:** 1988

**Title:** Intraspecific Nest Parasitism in Red-Breasted Mergansers

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 11

**Pages:** 2454-2458

**Short Title:** Intraspecific Nest Parasitism in Red-Breasted Mergansers

**Accession Number:** BCI:BCI198987068988

**Keywords:** Red-breasted merganser; Mergus serrator; Behavior; Breeding Season;

**Abstract:** We studied intraspecific nest parasitism in an island nesting population of Red-breasted Mergansers (Mergus serrator) in New Brunswick [Canada]. Of the nests examined, 64% contained eggs from more than one female. This estimate is probably low because the criteria to detect parasitism were conservative. Parasitized nests were initiated, on average, 3 days earlier than normal nests. Parasitic laying occurred throughout the nesting season. A larger proportion of egg hatched from normal (89%) than from parasitized (75%) nests because 14% of the eggs in parasitized nests were laid during the host's incubation period and failed to hatch in time. A greater percentage of eggs hatched from parasitized nests during the peak nesting period. Parasitized and normal nests produced the same number of ducklings. There was no difference in the percentage of dead, infertile, and lost eggs from normal compared to parasitized nests. The number of nests containing at least one dead egg increased with clutch size. Most host females accepted parasitic eggs during incubation without deserting. Incubation was prolonged on parasitized nests and on nests with low synchronization of embryo development. Nest parasitism is a common reproductive tactic in at least some female Red-breasted Mergansers.

**URL:** <Go to ISI>://BCI198987068988

**Reference Type:**  Journal Article

**Record Number:** 757

**Author:** J. M. Zdziarski, M. Mattix, R. M. Bush and R. J. Montali

**Year:** 1994

**Title:** Zinc toxicosis in diving ducks

**Journal:** Journal of Zoo and Wildlife Medicine

**Volume:** 25

**Issue:** 3

**Pages:** 438-445

**Short Title:** Zinc toxicosis in diving ducks

**Accession Number:** BCI:BCI199497521110

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Common merganser; Mergus merganser; Contaminants;

**Abstract:** Zinc toxicosis was diagnosed in four species of diving ducks associated with the ingestion of pennies and fence clips containing zinc. Clinical signs included weight loss, depression, anorexia, and posterior paresis. A presumptive diagnosis of zinc toxicosis was made in one Bahama pintail (Anas bahamensis bahamensis) and two redhead ducks (Aythya americana) that had ingested metal fence clips. Diagnosis was based on complete recovery of the ducks after endoscopic removal of the clips, which contained 96% zinc. Assays for zinc and other minerals were performed on four Barrow's goldeneyes (Bucephala islandica) that died and one American merganser (Mergus merganser americanus) survivor. All of the animals had ingested one or two pennies. Two of four goldeneyes, from which serum was available, had elevated zinc concentrations of 12.6 and 13.1 mu-g/ml (normal range, 1.84-4.65 mu-g/ml, n = 8); all four goldeneyes had liver zinc concentrations ranging from 242 to 548 mu-g/g (normal, 35.9 mu-g/g, wet weight basis, n = 1). The American merganser from which a penny was removed endoscopically from the gizzard had an elevated serum zinc concentration of 16.6 mu-g/ml. Pertinent pathologic findings in the four goldeneyes included necrotizing ventriculitis. Pennies in various stages of dissolution were present in the ventriculus. The pancreas had degenerative lesions that resulted in acinar atrophy and ductular proliferation.

**URL:** <Go to ISI>://BCI199497521110

**Reference Type:**  Journal Article

**Record Number:** 539

**Author:** M. C. Zicus

**Year:** 1990

**Title:** Renesting by a Common Goldeneye

**Journal:** Journal of Field Ornithology

**Volume:** 61

**Issue:** 2

**Pages:** 245-248

**Short Title:** Renesting by a Common Goldeneye

**Accession Number:** BCI:BCI199090037659

**Keywords:** Common Goldeneye; Bucephala clangula; Productivity; Breeding Season;

**Abstract:** Although renesting occurs in most North American waterfowl tribes, reports for the Mergini are mostly speculative and renesting by Common Goldeneyes (Bucephala clangula) has not been confirmed previously. A female goldeneye that abandoned a clutch of seven eggs while laying began laying a second clutch within a maximum of 19 d and successfully hatched it. Renesting is probably infrequent in Common Goldeneyes. Successful renesting requires a minimum of 6-7 additional weeks from renest initiation to hatch, but the nesting season is comparatively short across the breeding range. Lowered survival of late hatched young combined with a relatively low risk of nest predation may offer little advantage to renesting.

**URL:** <Go to ISI>://BCI199090037659

**Reference Type:**  Journal Article

**Record Number:** 672

**Author:** M. C. Zicus

**Year:** 1990

**Title:** Nesting Biology of Hooded Mergansers Using Nest Boxes

**Journal:** Journal of Wildlife Management

**Volume:** 54

**Issue:** 4

**Pages:** 637-643

**Short Title:** Nesting Biology of Hooded Mergansers Using Nest Boxes

**Accession Number:** BCI:BCI199191025853

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Productivity; Breeding Season;

**Abstract:** I studied nesting by hooded mergansers (Lophodytes cucullatus) using nest boxes in an area of northcentral Minnesota having no previous nest box management. Boxes were scattered with a median density of about 0.8 boxes per km2, and from 39 to 87 nest boxes were examined yearly. Nearly half of the boxes contained merganser eggs each year; nest density was approximately 0.4 nests per km2. The proportion of nests that was incubated by mergansers did not vary among years and averaged 77.5 .+-. 2.8 (SE)%. In contrast, the proportion of merganser eggs laid that was incubated varied yearly (P < 0.001), ranging from 74.0 to 96.2%. Wood duck (Aix sponsa) and common goldeneye (Bucephala clangula) eggs also were found in some nests incubated by mergansers. Annual clutch size did not vary significantly and averaged 13.2 .+-. 0.5 (all eggs) and 13.0 .+-. 0.5 (merganser eggs). Nests left unincubated or incubated by goldeneyes or wood ducks contained fewer merganser eggs, on average, than those incubated by mergansers. From 63.7 to 100% of nests incubated by mergansers hatched depending on the year (P = 0.008) with predation being the controlling factor. Egg success did not vary annually, and a median of 94.7% of the merganser eggs in successful nests hatched each year. Proportions of all merganser eggs laid that hatched varied early (P < 0.001), ranging from 44.3 to 91.4%. Forty-five percent of incubated clutches contained > 13 eggs, and the average clutch size (13) exceeded that observed in other studies where nest box densities were greater. Most females changed nest sites in subsequent years; 9 of 13 movements were > 1.0 km. Intraspecific laying in a single nest was common and appeared to be related more to hooded merganser abundance than to nest box density and distribution.

**URL:** <Go to ISI>://BCI199191025853

**Reference Type:**  Journal Article

**Record Number:** 659

**Author:** M. C. Zicus

**Year:** 1997

**Title:** Female hooded mergaser body mass during nesting

**Journal:** Condor

**Volume:** 99

**Issue:** 1

**Pages:** 220-224

**Short Title:** Female hooded mergaser body mass during nesting

**Accession Number:** BCI:BCI199799469807

**Keywords:** Hooded Merganser; Lophodytes cucullatus; Energetics and Nutrition; Breeding Season;

**Abstract:** Body mass of female Hooded Mergansets (Lophodytes cucullatus) nesting in widely dispersed and newly erected wooden nest boxes in northcentral Minnesota was measured in 1982-1985. Median body mass during egg-laying was 635 g. Female mass during incubation varied significantly among years, but decreased monotonically at the same rate (1.0 g day-1) each year. Mass at the end of incubation (519-494 g) was 5.7 to 6.0% less than when incubation began. There was no indication that females having the greatest body mass began nesting earliest. However, females with the greatest body mass incubated the largest clutches and hatched the most young. Comparison of the observed body mass-clutch size relationship with one assumed to exist in the absence of intraspecific brood parasitism indicated that more parasitic eggs were laid in nests incubated by heavier females.

**URL:** <Go to ISI>://BCI199799469807

**Reference Type:**  Journal Article

**Record Number:** 650

**Author:** M. C. Zicus

**Year:** 2000

**Title:** Undetected eggs: A waterfowl nest box survey problem?

**Journal:** Canadian Field-Naturalist

**Volume:** 114

**Issue:** 2

**Pages:** 292-295

**Date:** April-June, 2000

**Short Title:** Undetected eggs: A waterfowl nest box survey problem?

**Accession Number:** BCI:BCI200100025444

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Techniques; Breeding Season;

**Abstract:** I assessed rates at which unhatched Wood Duck (Aix sponsa), Hooded Merganser (Lophodytes cucullatus), and Common Goldeneye (Bucephala clangula) eggs broke in and/or disappeared from nest boxes over winter. Eggs of different species remained intact at significantly different rates (P < 0.001). Evidence from unhatched Hooded Merganser eggs appeared to be most detectable (92-97%), followed by those of Wood Ducks (77-89%), and Common Goldeneyes (53-92%). These species are sometimes sympatric, and differential detection of unhatched eggs in winter nest box surveys could cause species differences in the proportion of nesting attempts detected as well as a differential positive bias in estimates of production from known nests.

**URL:** <Go to ISI>://BCI200100025444

**Reference Type:**  Journal Article

**Record Number:** 674

**Author:** M. C. Zicus, M. A. Briggs and R. M. Pace, III

**Year:** 1988

**Title:** Dde Pcb and Mercury Residues in Minnesota Common Goldeneye and Hooded Merganser Eggs 1981

**Journal:** Canadian Journal of Zoology

**Volume:** 66

**Issue:** 8

**Pages:** 1871-1876

**Short Title:** Dde Pcb and Mercury Residues in Minnesota Common Goldeneye and Hooded Merganser Eggs 1981

**Accession Number:** BCI:BCI198987032594

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Contaminants; Breeding Season;

**Abstract:** DDT and its metabolites, polychlorinated biphenyls (PCBs), and mercury (Hg) were measured in Hooded Merganser (Lophodyts cucullatus) and Common Goldeneye (Bucephala clangula) eggs after dead hens were found in clutches. DDE, PCBs, and Hg were detected in all eggs analyzed. Geometric mean concentrations of DDE were low in merganser and goldeneye eggs (0.62 and 0.52 ppm wet weight, respectively). Geometric mean PCB levels were also low, but were significantly higher (P < 0.01) in goldeneye eggs (1.52 vs. 0.66 ppm wet weight). Geometric mean Hg in merganser eggs approached a level for concern and was significantly greater (P < 0.01) than in goldeneye eggs (0.45 vs. 0.11 ppm wet weight, respectively). Merganser and goldeneye eggshells were 9.6 and 15.4% thinner, respectively, and their Ratcliffe indices were 6.0 and 9.2% lower, respectively, than measurements from eggs collected before DDT was in use. Residues and shell thicknesses had among- and within-nest variance structures that differed by species. DDE accounted for 21% of the variation in shell weight controlled for egg size in goldeneyes, but no relationship was evident for mergansers. No dead females were found in about 240 nest boxes monitored in 1982 and 1983 and it is unlikely that contaminant levels measured contributed to hen mortality. Egg breakage in successful nests was greater for goldeneyes than for mergansers or Wood Ducks (Aix sponsa).

**URL:** <Go to ISI>://BCI198987032594

**Reference Type:**  Journal Article

**Record Number:** 608

**Author:** M. C. Zicus and S. K. Hennes

**Year:** 1988

**Title:** Cavity nesting waterfowl in Minnesota

**Journal:** Wildfowl

**Volume:** 39

**Pages:** 115-123

**Short Title:** Cavity nesting waterfowl in Minnesota

**Accession Number:** BCI:BCI201000321377

**Keywords:** Common Goldeneye; Bucephala clangula; Bufflehead; Bucephala albeola; Breeding Season;

**URL:** <Go to ISI>://BCI201000321377

**Reference Type:**  Journal Article

**Record Number:** 540

**Author:** M. C. Zicus and S. K. Hennes

**Year:** 1989

**Title:** Nest Prospecting by Common Goldeneyes

**Journal:** Condor

**Volume:** 91

**Issue:** 4

**Pages:** 807-812

**Short Title:** Nest Prospecting by Common Goldeneyes

**Accession Number:** BCI:BCI199089046749

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** We studied nest prospecting by Common Goldeneye (Bucephala clangula) females in north-central Minnesota. Adults unsuccessful in nesting, those with broods, and nonnesting yearlings were captured in nests while prospecting. Prospecting began in late May and continued into early July. Active nets received up to 25 prospecting visits per day with most visits occurring between 06:00 and 09:00 CDT. Adults appeared to prospect more (P < 0.05) in nest boxes that had contained successful nests during the current season than in those where nests abandoned or destroyed or those that were unused. Nestbox status had no apparent effect on prospecting by yearlings. Body mass of prospecting adults that were unsuccessful nesters and yearling nonnesters was similar and was significantly less (P < 0.05) than that of females still incubating nests or those with broods. Our observations support the claim that prospecting females are preparing for next breeding season, and we suggest that prospecting is a means of confirming information already gained during the current season. Prior knowledge of successful nest sites could explain the preferential use of previously successful nest boxes observed in a Swedish study.

**URL:** <Go to ISI>://BCI199089046749

**Reference Type:**  Journal Article

**Record Number:** 530

**Author:** M. C. Zicus and S. K. Hennes

**Year:** 1993

**Title:** Diurnal time budgets of breeding Common Goldeneyes

**Journal:** Wilson Bulletin

**Volume:** 105

**Issue:** 4

**Pages:** 680-685

**Short Title:** Diurnal time budgets of breeding Common Goldeneyes

**Accession Number:** BCI:BCI199497120310

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199497120310

**Reference Type:**  Journal Article

**Record Number:** 516

**Author:** M. C. Zicus and S. K. Hennes

**Year:** 1994

**Title:** Diurnal time budgets of Common Goldeneye brood hens

**Journal:** Wilson Bulletin

**Volume:** 106

**Issue:** 3

**Pages:** 549-554

**Short Title:** Diurnal time budgets of Common Goldeneye brood hens

**Accession Number:** BCI:BCI199497542820

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**URL:** <Go to ISI>://BCI199497542820

**Reference Type:**  Journal Article

**Record Number:** 509

**Author:** M. C. Zicus, S. K. Hennes and M. R. Riggs

**Year:** 1995

**Title:** Common goldeneye nest attendance patterns

**Journal:** Condor

**Volume:** 97

**Issue:** 2

**Pages:** 461-472

**Short Title:** Common goldeneye nest attendance patterns

**Accession Number:** BCI:BCI199598326067

**Keywords:** Common Goldeneye; Bucephala clangula; Behavior; Breeding Season;

**Abstract:** Common Goldeneye (Bucephala clangula) nest attendance was recorded on three Minnesota lakes, 1982-1985. Data were from 22 nests monitored 545 days. Hens increased time at nests and frequency of overnight sessions as incubation approached. Incubation recesses were diurnal; most occurred between 9:00 and 19:00 CST. Recesses were fewest and longest in early incubation, but total recess time was greatest in late incubation. Daily incubation constancy was highly variable, ranging from 36.7 to 96.3%. Lake and year effects influenced the number of daily recesses and total daily recess time. Mean recess length did not differ among lakes and years. Three females monitored in both 1984 and 1985 recessed more daily ( hivin x = 55 min) in 1984, and their yearly ranks were the same for all parameters suggesting strong hen effects. Incubation ranged from 28 to 30 days and was correlated (r = 0.72) with mean daily recess time. Nests incubated 29 and 30 days had mean total incubation times that differed by 13 min. While brooding young, incubation-like patterns were maintained but absences were fewer and shorter. Our results differed slightly from those reported for a recent Ontario study, but the differences may be due to analytical approaches.

**URL:** <Go to ISI>://BCI199598326067

**Reference Type:**  Journal Article

**Record Number:** 645

**Author:** M. C. Zicus, D. P. Rave and M. R. Riggs

**Year:** 2004

**Title:** Factors influencing incubation egg-mass loss for three species of waterfowl

**Journal:** Condor

**Volume:** 106

**Issue:** 3

**Pages:** 506-516

**Date:** August 2004

**Short Title:** Factors influencing incubation egg-mass loss for three species of waterfowl

**Accession Number:** BCI:BCI200400400254

**Keywords:** Common Goldeneye; Bucephala clangula; Hooded Merganser; Lophodytes cucullatus; Physiology; Breeding Season;

**Abstract:** Many bird eggs lose apprx15% of their fresh mass before pipping, but individual species have been reported to lose 10-23%. Most published estimates have been imprecise due to small sample sizes. Moreover, published estimates of within- or among-species variance components of mass loss are virtually unknown. We modeled the influence of nest type, clutch size, and egg size on daily mass loss of Mallard (Anas platyrhynchos), Common Goldeneye (Bucephala clangula), and Hooded Merganser (Lophodytes cucullatus) eggs and compared fractional mass loss among species. Mallard eggs in artificial nest cylinders lost more mass than those in ground nests, but were unaffected by nest initiation date. Average sized eggs in Mallard ground nests, Mallard cylinder nests, and Common Goldeneye and Hooded Merganser nest boxes lost 7.9 g (15.2%) 10.8 g (20.3%), 10.3 g (15.5%), and 9.2 g (15.8%) of fresh mass, respectively. For all species, daily mass loss increased as incubation progressed and was affected by an interaction between egg size and incubation time, but was not influenced by clutch size. Depending on species, smallest eggs lost 1.0-4.0% more of their fresh mass than did the largest. Egg-mass variability was partitioned into years, nests within years, and eggs within nests and years. Variability was evenly distributed among the variance components in Mallard ground nests; however, among-eggs within-nest variance predominated in nest cylinders. In contrast, among-nests variation was the dominant source for goldeneyes and mergansers. Nest-site selection and egg size likely involve trade-offs among optimum egg-mass loss and nest and hatchling survival.

**URL:** <Go to ISI>://BCI200400400254

**Reference Type:**  Journal Article

**Record Number:** 505

**Author:** M. C. Zicus and M. R. Riggs

**Year:** 1996

**Title:** Change in body mass of female common Goldeneyes during nesting and brood rearing

**Journal:** Wilson Bulletin

**Volume:** 108

**Issue:** 1

**Pages:** 61-71

**Short Title:** Change in body mass of female common Goldeneyes during nesting and brood rearing

**Accession Number:** BCI:BCI199698741373

**Keywords:** Common Goldeneye; Bucephala clangula; Energetics and Nutrition; Breeding Season;

**Abstract:** We measured body mass of female Common Goldeneyes (Bucephala clangula) during nesting on fish bearing takes in northcentral Minnesota, in 1982-1985. Median body mass during egg laying was 775 g. Female mass during incubation varied among lakes and possibly years. Mass at the start of incubation (698-715 g) was 10.7-11.0% greater than that at hatching. Females regained most of the mass lost during incubation by the time they abandoned their class IIC or class III ducklings. Goldeneyes in Minnesota weighed less at the start of nesting than those studied on predominately fishless Ontario lakes; proportional mass loss during incubation was also substantially less than that reported in Ontario (approximately 20%). Differences in body mass dynamics may be related to the relative ease of food acquisition during nesting; foods might be acquired more easily in more productive wetlands despite the presence of fish.

**URL:** <Go to ISI>://BCI199698741373

**Reference Type:**  Journal Article

**Record Number:** 805

**Author:** H. Zintl

**Year:** 1970

**Title:** Goosander Mergus-Merganser Breeds in the Nestbox

**Journal:** Anzeiger der Ornithologischen Gesellschaft in Bayern

**Volume:** 9

**Issue:** 3

**Pages:** 237-240

**Short Title:** Goosander Mergus-Merganser Breeds in the Nestbox

**Accession Number:** BCI:BCI197107029249

**Keywords:** Common merganser; Mergus merganser; Breeding Season;

**URL:** <Go to ISI>://BCI197107029249

**Reference Type:**  Journal Article

**Record Number:** 952

**Author:** E. F. Zipkin, B. Gardner, A. T. Gilbert, A. F. O'Connell, Jr., J. A. Royle and E. D. Silverman

**Year:** 2010

**Title:** Distribution patterns of wintering sea ducks in relation to the North Atlantic Oscillation and local environmental characteristics

**Journal:** Oecologia (Berlin)

**Volume:** 163

**Issue:** 4

**Pages:** 893-902

**Date:** Aug 2010

**Short Title:** Distribution patterns of wintering sea ducks in relation to the North Atlantic Oscillation and local environmental characteristics

**Accession Number:** BCI:BCI201000471550

**Keywords:** Common Eider; Somateria mollissima; Long-tailed Duck; Clangula hyemalis; Surf Scoter; Melanitta perspicillata; Black Scoter; Melanitta nigra; White-winged Scoter; Melanitta fusca; Habitat; Nonbreeding Seasons; SDJV funded

**Abstract:** Twelve species of North American sea ducks (Tribe Mergini) winter off the eastern coast of the United States and Canada. Yet, despite their seasonal proximity to urbanized areas in this region, there is limited information on patterns of wintering sea duck habitat use. It is difficult to gather information on sea ducks because of the relative inaccessibility of their offshore locations, their high degree of mobility, and their aggregated distributions. To characterize environmental conditions that affect wintering distributions, as well as their geographic ranges, we analyzed count data on five species of sea ducks (black scoters Melanitta nigra americana, surf scoters M. perspicillata, white-winged scoters M. fusca, common eiders Somateria mollissima, and long-tailed ducks Clangula hyemalis) that were collected during the Atlantic Flyway Sea Duck Survey for ten years starting in the early 1990s. We modeled count data for each species within ten-nautical-mile linear survey segments using a zero-inflated negative binomial model that included four local-scale habitat covariates (sea surface temperature, mean bottom depth, maximum bottom slope, and a variable to indicate if the segment was in a bay or not), one broad-scale covariate (the North Atlantic Oscillation), and a temporal correlation component. Our results indicate that species distributions have strong latitudinal gradients and consistency in local habitat use. The North Atlantic Oscillation was the only environmental covariate that had a significant (but variable) effect on the expected count for all five species, suggesting that broad-scale climatic conditions may be directly or indirectly important to the distributions of wintering sea ducks. Our results provide critical information on species-habitat associations, elucidate the complicated relationship between the North Atlantic Oscillation, sea surface temperature, and local sea duck abundances, and should be useful in assessing the impacts of climate change on seabirds.

**URL:** <Go to ISI>://BCI201000471550

**Reference Type:**  Journal Article

**Record Number:** 2336

**Author:** E. F. Zipkin, J. B. Leirness, B. P. Kinlan, A. F. O'Connell and E. D. Silverman

**Year:** 2014

**Title:** Fitting statistical distributions to sea duck count data: Implications for survey design and abundance estimation

**Journal:** Statistical Methodology

**Volume:** 17

**Pages:** 67-81

**Date:** Mar

**Short Title:** Fitting statistical distributions to sea duck count data: Implications for survey design and abundance estimation

**ISSN:** 1572-3127

**DOI:** 10.1016/j.stamet.2012.10.002

**Accession Number:** WOS:000329416300006

**Keywords:** Common Eider; Black Scoter; White-winged Scoter; Surf Scoter; Long-tailed Duck; Somateria mollissima; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Clangula hyemalis; Nonbreeding season; Techniques; SDJV funded

**Abstract:** Determining appropriate statistical distributions for modeling animal count data is important for accurate estimation of abundance, distribution, and trends. In the case of sea ducks along the U.S. Atlantic coast, managers want to estimate local and regional abundance to detect and track population declines, to define areas of high and low use, and to predict the impact of future habitat change on populations. In this paper, we used a modified marked point process to model survey data that recorded flock sizes of Common eiders, Long-tailed ducks, and Black, Surf, and White-winged scoters. The data come from an experimental aerial survey, conducted by the United States Fish & Wildlife Service (USFWS) Division of Migratory Bird Management, during which east-west transects were flown along the Atlantic Coast from Maine to Florida during the winters of 2009-2011. To model the number of flocks per transect (the points), we compared the fit of four statistical distributions (zero-inflated Poisson, zero-inflated geometric, zero-inflated negative binomial and negative binomial) to data on the number of species-specific sea duck flocks that were recorded for each transect flown. To model the flock sizes (the marks), we compared the fit of flock size data for each species to seven statistical distributions: positive Poisson, positive negative binomial, positive geometric, logarithmic, discretized lognormal, zeta and Yule-Simon. Akaike's Information Criterion and Vuong's closeness tests indicated that the negative binomial and discretized lognormal were the best distributions for all species for the points and marks, respectively. These findings have important implications for estimating sea duck-abundances as the discretized lognormal is a more skewed distribution than the Poisson and negative binomial, which are frequently used to model avian counts; the lognormal is also less heavy-tailed than the power law distributions (e.g., zeta and Yule-Simon), which are becoming increasingly popular for group size modeling. Choosing appropriate statistical distributions for modeling flock size data is fundamental to accurately estimating population summaries, determining required survey effort, and assessing and propagating uncertainty through decision-making processes. Published by Elsevier B.V.

**Notes:** Zipkin, Elise F. Leirness, Jeffery B. Kinlan, Brian P. O'Connell, Allan F. Silverman, Emily D.

Si

**URL:** <Go to ISI>://WOS:000329416300006

**Reference Type:**  Journal Article

**Record Number:** 1205

**Author:** R. Zydelis

**Year:** 2000

**Title:** Habitat choice of Steller's Eider Polysticta stelleri wintering at Lithuanian coast of the Baltic Sea

**Journal:** Acta Ornithologica (Warsaw)

**Volume:** 35

**Issue:** 1

**Pages:** 129-131

**Date:** Summer, 2000

**Short Title:** Habitat choice of Steller's Eider Polysticta stelleri wintering at Lithuanian coast of the Baltic Sea

**Accession Number:** BCI:BCI200000454660

**Keywords:** Steller's eider; Polysticta stelleri; Habitat; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** The distribution of the globally threatened Steller's Eider was described in relation to marine benthic biotopes along Lithuanian coastline in the winters 1997/98 and 1998/99. Steller's Eiders demonstrated their preference towards diversity of benthic biotopes and tended to avoid entirely sandy bottom biotopes. The highest fractions in the winter diet of the Steller's Eider were made up by fish eggs (48.7%) and molluscs (42.6%).

**URL:** <Go to ISI>://BCI200000454660

**Reference Type:**  Journal Article

**Record Number:** 17

**Author:** R. Zydelis, J. Bellebaum, H. Osterblom, M. Vetemaa, B. Schirmeister, A. Stipniece, M. Dagys, M. van Eerden and S. Garthe

**Year:** 2009

**Title:** Bycatch in gillnet fisheries - An overlooked threat to waterbird populations

**Journal:** Biological Conservation

**Volume:** 142

**Issue:** 7

**Pages:** 1269-1281

**Date:** Jul 2009

**Short Title:** Bycatch in gillnet fisheries - An overlooked threat to waterbird populations

**Accession Number:** BCI:BCI200900430319

**Keywords:** Sea Ducks - General; Conservation;

**Abstract:** Bird mortality in fishing gear is a global conservation issue and it is recognised that bycatch in industrial longline and trawl fisheries threatens several seabird species. Little is known however about the effects of bycatch in small-scale gillnet fisheries on bird populations. Here we review 30 studies reporting bird bycatch in coastal gillnet fisheries in the Baltic Sea and the North Sea region in order to assess the magnitude of this problem and potential effects on bird populations. All species of diving birds that occur in the study region, including divers (loons), grebes, sea ducks, diving ducks, auks and cormorants, have been reported as dying in fishing nets. The cumulative bycatch estimate extracted from several localized studies providing such information, suggests that about 90,000 birds die in fishing nets annually, a number that is almost certainly a substantial underestimate. We conclude that it is likely that between 100,000 and 200,000 waterbirds are killed per year. Geographic and temporal patterns of bycatch generally matched species distribution and periods of presence. Also, bycatch rates varied depending on species' foraging technique and were influenced by net parameters and fishing depth. To evaluate effects of additive mortality on bird populations, we applied the Potential Biological Removal (PBR) concept to three species with the most extensive bycatch information. Agreeing with PBR assumptions we conclude that bycatch is a matter of concern for at least two of the three assessed species. We suggest that bycatch research in Europe and beyond should aim at unification of principles for bycatch assessment, setting new standards for the monitoring of waterbird populations so that vital rates and mortality data are recorded, and implementing quantifiable criteria for evaluating effects of fisheries bycatch. (C) 2009 Elsevier Ltd. All rights reserved.

**URL:** <Go to ISI>://BCI200900430319

**Reference Type:**  Report

**Record Number:** 2377

**Author:** R. Žydelis, W. S. Boyd, A. Breault and T. M. Sullivan

**Year:** 2005

**Title:** Abundance and distribution of waterbirds on the west coast of Vancouver Island during spring 1999 and winter 2000

**Series Title:** Technical Report Series

**Institution:** Canadian Wildlife Service

**Document Number:** 437

**Publisher:** E. C. Canadian Wildlife Service

**Short Title:** Abundance and distribution of waterbirds on the west coast of Vancouver Island during spring 1999 and winter 2000

**Keywords:** Black Scoter; White-winged Scoter; Surf Scoter; Barrow’s Goldeneye; Common Goldeneye; Bufflehead; Long-tailed Duck; Harlequin Duck; Common Merganser; Red-breasted Merganser; Melanitta americana; Melanitta fusca; Melanitta perspicillata; Bucephala islandica; Bucephala clangula; Bucephala albeola; Clangula hyemalis; Histrionicus histrionicus; Mergus merganser; Mergus serrator; Nonbreeding season; Abundance, Distribution, & Trends

**Abstract:** This report presents the results of six aerial surveys of waterbirds conducted on the west

coast of Vancouver Island during the spring of 1999 and the winter of 2000. The surveys

covered approximately 50% of the 3900 km shoreline between Cape Scott and Port San Juan.

During each survey, waterbird abundance was estimated in 274 pre-determined shorelinebased

transects, each associated with a unique marine ecological unit (eco-unit). The replicated

surveys of individual shoreline transects were processed to determine: 1) distribution and

abundance of waterbirds on the near-shore portion of the west coast of Vancouver Island, 2)

waterbird densities across marine ecological units and 3) seasonal variability in waterbird

distribution and abundance. This report also identifies waterbird distribution and abundance at

active spawning sites of Pacific Herring (Clupea pallasi) on the west coast. The purpose of the

report is to provide spatial, habitat-based and species-specific information to wildlife managers

or others interested in or involved with bird or near-shore management on the west coast of

Vancouver Island.

The number of waterbirds observed along the nearshore during the surveys ranged from

22,000 to 34,000 in winter, climbed to nearly 48,000 in early spring during herring spawn, and

then dropped to 11,000 during the last spring survey. Gulls were the most abundant group of

waterbirds found on the west coast (comprising 26% of all birds in winter and 41% in spring),

followed by scoters (18% in winter and 32% in spring) and loons (7% in winter and 9% in

spring). Waterbirds were present in all of the eco-units surveyed during winter. The marine ecounit

LCLLM, which covered 36% of the surveyed area, supported 35% of all waterbirds sighted.

In spring the two areas supporting the most birds were Barkley Sound and Hesquiat Harbour.

The largest bird aggregations in spring were observed in eco-units MBLLS and MCHLM, which

respectively comprise only 2.4% and 1.4% of the study area. The overall mean density of birds

in winter was 14.2 individuals per linear kilometer of shoreline. Marine eco-unit LBHLM

supported the highest bird density (24 individuals per kilometer of shoreline) during the winter

while the highest spring bird abundances were observed in eco-units MBLLS and MCHLM. In

the spring, the largest bird concentrations were found in the sections of Barkley Sound and

Hesquiat Harbour where there were extensive Pacific herring spawns. The key groups of birds

aggregating at herring spawn were loons, scoters and gulls.

**Reference Type:**  Journal Article

**Record Number:** 1194

**Author:** R. Zydelis and D. Esler

**Year:** 2005

**Title:** Response of wintering Steller's Eiders to herring spawn

**Journal:** Waterbirds

**Volume:** 28

**Issue:** 3

**Pages:** 344-350

**Date:** Sep 2005

**Short Title:** Response of wintering Steller's Eiders to herring spawn

**Accession Number:** BCI:BCI200510258296

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** Distributional and dietary responses of wintering Steller's Eiders (Polysticta stelleri) to spring spawning of Baltic Herring (Clupea harengus) were studied along the Lithuanian coast of the Baltic Sea. Herring spawn is patchy, but is abundant and energy-rich when present. The objective of this study was to determine whether Steller's Eiders modified their foraging sites and food habits to take advantage of spawn, or whether they were inflexible foragers as suggested by earlier studies. Steller's Eiders altered their habitat use during herring spawn, moving to habitats where fish spawning occurred. Also, diet analysis demonstrated that herring eggs became an important food when available. Although the importance of herring spawn for Steller's Eiders remains speculative, this study indicates that spawning sites could be important as a source of nutrients and energy for subsequent migration or reproduction, and should receive conservation consideration.

**URL:** <Go to ISI>://BCI200510258296

**Reference Type:**  Journal Article

**Record Number:** 1058

**Author:** R. Zydelis, D. Esler, W. S. Boyd, D. L. LaCroix and M. Kirk

**Year:** 2006

**Title:** Habitat use by wintering surf and white-winged scoters: Effects of environmental attributes and shellfish aquaculture

**Journal:** Journal of Wildlife Management

**Volume:** 70

**Issue:** 6

**Pages:** 1754-1762

**Date:** Dec 2006

**Short Title:** Habitat use by wintering surf and white-winged scoters: Effects of environmental attributes and shellfish aquaculture

**Accession Number:** BCI:BCI200700217749

**Keywords:** White-winged Scoter; Melanitta fusca; Surf Scoter; Melanitta perspicillata; Habitat; Conservation; Nonbreeding Seasons; SDJV funded

**Abstract:** Shellfish aquaculture is an expanding industry in coastal British Columbia, Canada, and occurs in important wintering areas for surf scoters (Melanitta perspicillata) and white-winged scoters (M. fusca). We quantified habitat use by scoters in relation to natural environmental attributes and habitat modifications associated with shellfish aquaculture. We found that, despite the extensive clam and oyster farming in our study area, densities of wintering surf scoters and white-winged scoters were related primarily to natural environmental attributes, particularly intertidal area, clam density, and sediment type; shellfish aquaculture variables were generally poor predictors of bird densities. We conclude that current levels and forms of shellfish aquaculture in our study site were not an important determinant of scoter distribution and abundance, suggesting that winter scoter populations and the shellfish aquaculture industry may be mutually sustainable. We caution that intensification or further industrialization of shellfish aquaculture in British Columbia could eventually lead to detrimental effects if some threshold level of habitat modification is exceeded.

**URL:** <Go to ISI>://BCI200700217749

**Reference Type:**  Journal Article

**Record Number:** 1037

**Author:** R. Zydelis, D. Esler, M. Kirk and W. S. Boyd

**Year:** 2009

**Title:** Effects of off-bottom shellfish aquaculture on winter habitat use by molluscivorous sea ducks

**Journal:** Aquatic Conservation

**Volume:** 19

**Issue:** 1

**Pages:** 34-42

**Date:** Jan-Feb 2009

**Short Title:** Effects of off-bottom shellfish aquaculture on winter habitat use by molluscivorous sea ducks

**Accession Number:** BCI:BCI200900144223

**Keywords:** Barrow's Goldeneye; Bucephala islandica; Surf Scoter; Melanitta perspicillata; Habitat; Conservation; Trophic Interactions; Nonbreeding Seasons;

**Abstract:** 1. Shellfish farming is an expanding segment of marine aquaculture, but environmental effects of this industry are only beginning to be considered.2. The interaction between off-bottom, suspended oyster farming and wintering sea Clucks in coastal British Columbia was studied. Specifically. the habitat use of surf scoters (Melanitta perspicillata) and Barrow's goldeneyes (Bucephala islandica), the most abundant sea duck species ill the Study area. was evaluated ill relation to natural environmental attributes and shellfish aquaculture.3. The extent of shellfish farming was the best-supported habitat variable explaining variation in surf scoter densities, and the only habitat attribute from the considered set that was a strong, predictor of Barrow's goldeneye densities. In both cases. the findings indicated strong positive relationships between densities of sea ducks and shellfish aquaculture operations. These relationships are presumably the result of large numbers of wild mussels (Mytilus trossulus) that settle and grow oil aquaculture structures and Lire preferred prey of these sea ducks.4. Previous work has shown that aquaculture Structures provide good conditions for recruiting and growing Mussels. including refuge from invertebrate predators. which in turn provides higher densities of higher quality prey for sea ducks than available in intertidal areas. This offers a rare example in which introduction of an industry leads to positive effects on wildlife populations, which is particularly important given persistent decline in numbers of many sea ducks. Copyright (C) 2008 John Wiley & Sons, Ltd.

**URL:** <Go to ISI>://BCI200900144223

**Reference Type:**  Journal Article

**Record Number:** 709

**Author:** R. Zydelis and A. Kontautas

**Year:** 2008

**Title:** Piscivorous birds as top predators and fishery competitors in the lagoon ecosystem

**Journal:** Hydrobiologia

**Volume:** 611

**Pages:** 45-54

**Date:** Oct 2008

**Short Title:** Piscivorous birds as top predators and fishery competitors in the lagoon ecosystem

**Accession Number:** BCI:BCI200800689346

**Keywords:** Common merganser; Mergus merganser; Trophic Interactions; Conservation;

**Abstract:** Piscivorous birds have received much attention with respect to competition with fisheries for resources. The majority of studies have been focused on cormorants Phalacrocoracidae, while predation by other piscivorous bird species has often been overlooked. This study was designed to supplement sociological research (Bell, 2004), which revealed that the fishermen community at the Lithuanian section of the Curonian Lagoon considers great cormorants Phalacrocorax carbo, but not other fish-eating birds, to be significant competitors of fish resources. In this paper, we estimate fish consumption by cormorants and other abundant piscivorous birds, and attempt to interpret this level of predation in relation to fish resources and commercial fishery landings. We estimate that four piscivorous bird species consumed nearly 700 tonnes of fish during the breeding season of 2001 and winter 2001/2002, which corresponds to similar to 9% of the total fish resources in our study area. Bird consumption equalled two-thirds of the amount of fish landed by commercial fishermen. However, we argue that direct competition between birds and humans for fish resources is low, because there is a size segregation of exploited fish stock segments and abundant fish species that dominate the diet of birds. Fish monitoring and commercial fish landings indicated no apparent changes in fish stock size and composition, which could be attributed to a recent increase in piscivorous birds. Great cormorants consumed the largest biomass of fish compared to other piscivorous bird species. However, total fish intake by grey herons Ardea cinerea, great-crested grebes Podiceps cristatus, and goosanders Mergus merganser combined, equalled that of cormorants. Our results do not support the common public perception that cormorant predation greatly exceeds that of other piscivorous birds, and is detrimental to commercial fisheries.

**URL:** <Go to ISI>://BCI200800689346

**Reference Type:**  Journal Article

**Record Number:** 1191

**Author:** R. Zydelis, S.-H. Lorentsen, A. D. Fox, A. Kuresoo, Y. Krasnov, Y. Goryaev, J. O. Bustnes, M. Hario, L. Nilsson and A. Stipniece

**Year:** 2006

**Title:** Recent changes in the status of Steller's Eider Polysticta stelleri wintering in Europe: a decline or redistribution?

**Journal:** Bird Conservation International

**Volume:** 16

**Issue:** 3

**Pages:** 217-236

**Date:** Sep 2006

**Short Title:** Recent changes in the status of Steller's Eider Polysticta stelleri wintering in Europe: a decline or redistribution?

**Accession Number:** BCI:BCI200600625694

**Keywords:** Steller's eider; Polysticta stelleri; Abundance, Distribution, and Trends; Nonbreeding Seasons;

**Abstract:** Steller's Eider Polysticta stelleri has a restricted arctic breeding range. The world population declined to c. 220,000 individuals in the late 1990s from an estimated 400,000-500,000 in the 1960s. The species has a limited global wintering distribution, occurring in marine habitats in north-east Europe, islands close to Kamchatka in Russia, and the eastern Aleutian Islands and south-west Alaska. European wintering numbers were estimated at 30,000-50,000 in the early 1990s, when the population was considered of favourable conservation status. Recent census data from the most important European wintering sites show annual declines of 8% in Norway since 1984, 9% in Estonia since 1994 and 22% in Lithuania since 1995, suggesting an overall 65% reduction in Europe. Counts in 1994 suggested that 30-50% of the European population wintered in Russia at that time. Current census data from Russia show similar declines along monitored sections of the Kola Peninsula wintering grounds since 1994. Accounting for trends in Russia, the current European wintering population could possibly stand at 10,000-15,000 individuals (a more than a 50% decline in 10 years), qualifying this population as Endangered under IUCN criteria. The changes in Baltic/Norwegian wintering numbers did not correlate with changes in the extent of ice-free marine waters in the Kola Peninsula/White Sea areas, but changes in annual numbers in Norway were correlated with winter North Atlantic Oscillation indices. Variation in annual numbers in the Baltic Sea correlated with projected number of juveniles among wintering birds. However, none of the possible causes discussed in this paper could fully explain the decline in Steller's Eider, confirming the need for comprehensive monitoring of the population throughout its winter range and for cohesive demographic monitoring to target effective conservation action.

**URL:** <Go to ISI>://BCI200600625694

**Reference Type:**  Journal Article

**Record Number:** 1110

**Author:** R. Zydelis and D. Ruskyte

**Year:** 2005

**Title:** Winter foraging of Long-tailed Ducks (Clangula hyemalis) exploiting different benthic communities in the Baltic Sea

**Journal:** Wilson Bulletin

**Volume:** 117

**Issue:** 2

**Pages:** 133-141

**Date:** Jun 2005

**Short Title:** Winter foraging of Long-tailed Ducks (Clangula hyemalis) exploiting different benthic communities in the Baltic Sea

**Accession Number:** BCI:BCI200510172313

**Keywords:** Long-tailed Duck; Clangula hyemalis; Trophic Interactions; Energetics and Nutrition; Nonbreeding Seasons;

**Abstract:** We studied the feeding ecology of Long-tailed Ducks (Clangula hyemalis) in two different marine benthic habitats in the Baltic Sea to determine whether there were differences in diet choice, foraging selectivity, body condition, and bird abundance. Our results corroborate earlier suggestions that Long-tailed Ducks exhibit ecological plasticity in selecting winter habitat and food. The majority of Long-tailed Ducks occurred in hard-bottom habitats where they relied on the bivalve Mytilus edulis; however, some of the population wintered in less productive, soft-bottom habitats where they employed a prey-selective foraging strategy, in which they fed on less abundant, but energy rich, crustaceans. Both strategies were apparently viable, as dissected birds in both habitats were in good body condition and had substantial fat reserves.

**URL:** <Go to ISI>://BCI200510172313

**Reference Type:**  Journal Article

**Record Number:** 1988

**Author:** R. Zydelis, C. Small and G. French

**Year:** 2013

**Title:** The incidental catch of seabirds in gillnet fisheries: A global review

**Journal:** Biological Conservation

**Volume:** 162

**Pages:** 76-88

**Date:** Jun

**Short Title:** The incidental catch of seabirds in gillnet fisheries: A global review

**ISSN:** 0006-3207

**DOI:** 10.1016/j.biocon.2013.04.002

**Accession Number:** WOS:000321166000010

**Keywords:** Sea Ducks; Conservation

**Notes:** Times Cited: 1

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**URL:** <Go to ISI>://WOS:000321166000010

**Reference Type:**  Book

**Record Number:** 2372

**Author:** R. a. S. E. R. Žydelis

**Year:** 2015

**Title:** Foraging behavior, ecology, and energetics of sea ducks

**Series Editor:** D. V. D. J.-P. L. Savard, D. Esler, and J. M. Eadie

**Series Title:** Studies in Avian Biology

**Place Published:** Boca Raton, FL

**Publisher:** CRC Press

**Volume:** 46

**Pages:** 241-265

**Short Title:** Foraging behavior, ecology, and energetics of sea ducks

**Keywords:** Energetics and Nutrition; Behavior; Trophic Interactions

**Abstract:** Sea ducks spend the majority of their life in a cold, marine environment where they must dive, often to great depths, consuming enough food to maintain energy balance. The food consumed is hard shelled, cold, and of low energetic value; yet sea ducks excel when faced with many energetic and thermoregulatory challenges, especially for a relatively small-bodied marine endotherm. The energy cost of thermoregulation and intensive work required to collect daily rations are especially high for sea ducks at high latitudes where they must cope with limited daylight for foraging under harsh winter conditions. To offset these high energetic demands, sea ducks must optimize their decisions about habitat choice, foraging behavior, and prey selection. Foraging behavior strives to maximize gross energy gain and minimize costs to reach energy balance, sometimes under the most extreme of conditions such as the polynyas of the Belcher Islands and St. Lawrence Island. Studying sea ducks under these conditions is equally challenging but through the combined research effort of agencies, organizations, academics, and individuals, we have made great strides in gaining information on the foraging ecology of sea ducks. In this chapter, we review the general aspects of sea duck foraging ecology and diving behavior, foraging energetics, and modeling of energy balance. Each of these topics is discussed in detail, but it is not our intention to review all of the literature available, but rather to highlight the particular discoveries and developments that have greatly increased our understanding of the foraging ecology of sea ducks.