Sea Duck Joint Venture – Annual Project Summary for Endorsed Projects
FY 2005 – (October 1 to September 30, 2005)



Project Title: SDJV#16, Ducks Unlimited Canada's Common Eider Initiative (year two of six year study)

FY06 – (October 1 to September 30)

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Partners: Ducks Unlimited Canada (DUC), Institute for Wetlands and Waterfowl Research (IWWR), Atlantic Canada Opportunities Agency (ACOA), Canadian Wildlife Service (CWS), Newfoundland and Labrador Department of Environment and Conservation – Inland Fish and Wildlife Division, Memorial University of Newfoundland, Newfoundland and Labrador Legacy Nature Trust, Eastern Habitat Joint Venture (EHJV), Eagle River Development Association, and White Bay Central Development Association.

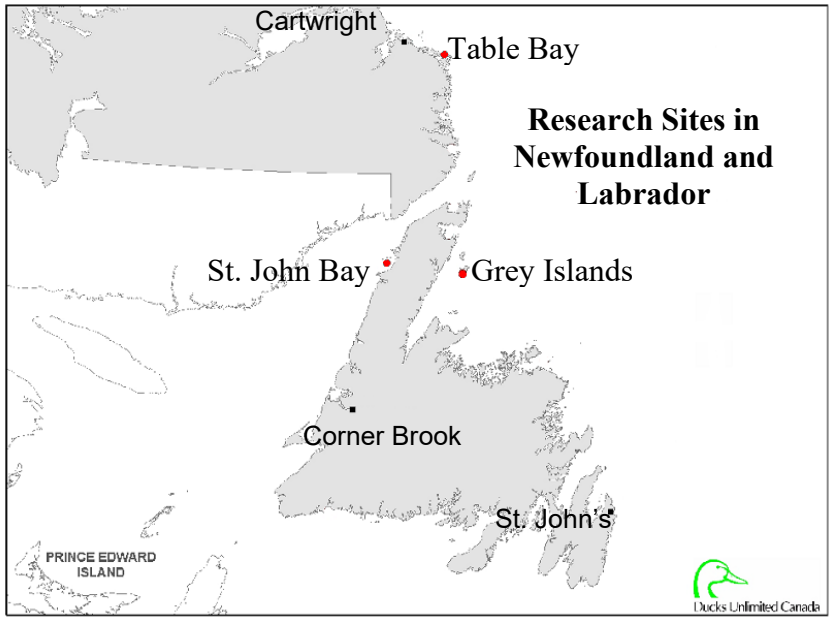
Project Description: The goal of the Eider Initiative is to develop a population model useful in guiding Common Eider *Somateria mollissima dresseri* harvest regulations and management decisions. Development of such models requires current, detailed information on life-history traits throughout the life-cycle of the species. We chose Newfoundland and Labrador as the focal point for this research because Common Eider populations in this region have experienced relatively little growth following their protection by the Migratory Bird Conservation Act, compared to that of other populations throughout other portions of their range. Specific reasons for depressed population growth of eiders nesting in this region are unknown. Factors that may contribute to low growth rates include anthropogenic affects such as harvest or increased disturbance through aquaculture, inter-tidal harvests, or shipping. To understand constraints to population growth requires a strong understanding of species-specific life history traits. This information is critical for developing and implementing management strategies that promote sustainable and harvestable populations.

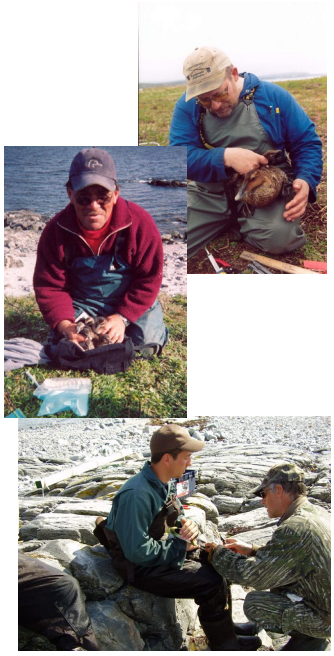
The Eider Initiative is a five-year (2004 – 2008) research initiative. Methods include capturing and banding adult female and duckling Common Eiders on the nest and by actively driving ≥ 30 day-old ducklings with accompanying females into submerged drive traps. Mark-recapture techniques will be used to obtain estimates of juvenile and adult survival, as well as estimates of breeding propensity, and age of first breeding.

Future years of the research will incorporate the use of satellite telemetry to provide information on staging and moulting areas for adult female Common Eiders. Collection of this data will allow for a stronger understanding of possible constraints on population growth.

Objectives: The objectives of the Eider Initiative address Sea Duck Joint Venture (SDJV) priorities for conservation of sustainable sea duck populations. Specific priorities to be addressed are: 1) adult female survival, seniority (proportion of experienced breeders in the population), recruitment (proportion of first time breeders in the population), and realized population growth rates; 2) breeding propensity (proportion of females breeding during any one season); 3) sub adult survival; 5) age at first breeding; and 6) the links between breeding and wintering areas, migration chronology, migration pathways, and the location of key moulting areas. Obtaining these objectives is necessary to build a successful population model and to establish effective science-based management plans.

Study Areas: Primary research sites include 1) Grey Islands, located about 13 km SE of Conch, Newfoundland; 2) St. John Bay, near Barr'd Harbour, Newfoundland, and 3) Table Bay, located about 30 km SE of Cartwright, Labrador.





Preliminary Results: During the 2005 field season we captured 676 adult, 2,398 duckling (1 day old), and 242 prefledged juvenile (≥30 days of age) eiders on the nest and on the water. All prefledged juveniles were captured on the water at Table Bay only. We did not attempt to capture prefledged juveniles at other field sites. Tables 1 and 2 provide a summary of the number of one-day old duckling and adult eiders, respectively, banded each year. During 2005 our recapture rate of previously banded adult eiders was 23% (47/205), 12% (3/26), and 6% (23/396) for Grey Islands, St. John Bay, and Table Bay, respectively. In addition, 7% (18/242) of our prefledged juvenile captures were

recaptures of individual ducklings marked at hatch. No prefledged juvenile was captured ≥ 3 times, precluding estimates of duckling survival.

Table 1. Number of one-day-old Common Eider ducklings captured and banded under DUC's Eider Initiative and recovered in Newfoundland and Labrador during 2004-05 field seasons.

	Year		
Field Site	2004	2005	**Total**
Grey Islands	420	914	**1334**
St. John Bay	NA	66	**66**
Table Bay	1078	1418	**2496**
Total	**1498**	**2398**	**3896**

Table 2. Number of breeding adult Common Eiders captured in Newfoundland and Labrador under DUC's Eider Initiative during 2004-05 field seasons.

	Year		
Field Site	2004	2005	**Total**
Grey Islands	65	205	**270**
St. John Bay	NA	26	**26**
Table Bay	115	445	**560**
Total	**180**	**676**	**856**

Direct band recovery of first year birds during the 2004-05 hunting season was 4% (55/1498; n = 11 from Grey Islands and 44 from Table Bay). All band recoveries were from eiders banded as ducklings during the 2004 field season. To date we have received no adult band recoveries. Duckling bands were recovered from the following locations: Newfoundland and Labrador (n = 32), Nova Scotia (n = 11), Quebec (n = 5), St. Pierre Miquelon (n = 6), and Maine (n = 1).

Common Eider adults and ducklings banded during 2004 and 2005 form a solid base for future mark-recapture survival analyses. The upcoming 2006 field season will provide the third years of mark-recapture data, permitting our first estimates of adult survival. Banding of prefledged juveniles, in addition to that of day-old ducklings will aid in obtaining estimates of duckling survival, age of first breeding, and in understanding survival of prebreeding eiders.

Project Status: This research project is ongoing.

Project Funding Sources 2005 (US$; 0.75 CA$ to US$ Exchange Rate).

SDJV (USFWS) Contribution	Other U.S. federal contributions	U.S. non-federal contributions	Canadian federal contributions	Canadian non-federal contributions	Source of funding (agency or organization
$36,438					SDJV
			$1,688		*CWS (in kind)*
			$45,445		ACOA
				$66,701	DUC
				$2,453	*EHJV (in kind)*
$36,438			**$47,133**	**$69,154.00**	**Total $152,725**

Total Expenditures by Category (US$)

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding					
Surveys					
Research	$152,725				
Communication					
Coordination					

Total project cost was $152,725. The SDJV investment of $38,465 was leveraged 4 times.