

Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 2003 – (October 1, 2002 to Sept 30, 2003)

Project Title: No. 5: Apparent survival and local movements of harlequin ducks wintering in Maine

Principal Investigator: Glen H. Mittelhauser, Coastal Maine Biological Research Station, 28 Hackmatack Road, Gouldsboro, Maine 04607. glenm@acadia.net

Partners: Canadian Wildlife Service (CWS), Maine Department of Inland Fisheries and Wildlife (MDIFW), Acadia National Park (ANP).

Project Description: The small population size and limited distribution of Harlequin Ducks in eastern North America has led to concern about the status of this species in the western Atlantic. Given this species longevity and low reproductive output, survival of adults may have a greater influence on population recovery than annual fecundity. We are monitoring patterns in annual survival, philopatry, and local movements for Harlequin Ducks wintering in the vicinity of Isle au Haut, Maine using mark/resight efforts.

Objectives: Our objectives for year 2003 were to: 1) monitor survival of adult and juvenile birds in Maine using capture-recapture methods; 2) contribute to our current understanding of the delineation of the western Atlantic populations by search wintering sites in Maine and moult sites in Labrador for birds originally banded elsewhere; and 3) monitor population levels and sex and age ratios of harlequin ducks at wintering sites in Maine.

Preliminary Results: We read band codes on 127 harlequin Ducks during 22 days of field effort in the Isle au Haut region, Maine. In addition, we used capture-recapture data from a 5-year field study of individually marked Harlequin Ducks wintering at Isle au Haut, Maine 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 appeared 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. We detected greater dispersal of adult and first winter males to adjacent wintering sites in subsequent winters than for adult females.

Project Status: Sufficient funding was not secured for the remainder of this project.

Project Funding Sources (US\$) (complete only if funded by a SDJV partner e.g., USFWS, CWS, DU, USGS, or Flyway Council; this is used to document: 1) how SDJV-appropriated funds are matched, and 2) how much partner resources are going into sea duck work):

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)
			\$3,900		Canadian Wildlife Service
		\$700			Maine Dept of Inland Fish & Wildlife

Total Expenditures by Category (US\$) (complete only if project is funded by a SDJV partner e.g., USFWS, CWS, DU, USGS, or Flyway Council; dollar amounts should include all partner contributions):

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding					
Surveys				\$700	\$700
Research				\$3,900	\$3,900
Communication					
Coordination					