Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY03 – (October 1, 2002 to Sept. 30, 2003)

Project Title: Survival of the St. Lawrence estuary common eiders (SDJV # 30)

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Project Description - Despite intensive management of nesting habitat in several colonies of the St. Lawrence River estuary (SLE), the population of Common eiders has not increased. Recurrent epizootics of avian cholera and suspected high harvest levels are the two most obvious limiting factors but their importance on population dynamics is currently unknown.

In 2003, we initiated a banding program by capturing females nesting on the SLE islands using deep nets (Fig. 1). We also attempted to capture pre-fledged juveniles and moulting females in August along the south shore of the river. Finally, we conducted bi-weekly surveys of broods to determine habitat use and survival. We want to compare the actual distribution of broods with the distribution observed in the seventies using the same methodology.

Figure 1. Capture of nesting eiders on île Blanche in the St. Lawrence estuary in late May 2003.

Objectives - We initiated a long-term banding program of the SLE common eiders to 1) assess survival rates of adult females and juveniles, and 2) to determine the relative contribution of hunting and natural mortality including disease. Ultimately, we want to

test the hypothesis that hunting mortality is additive to natural mortality. Under the hypothesis of additive mortality, survival should vary over years and be a function of annual hunting mortality.

We also initiated a study to update our knowledge about the distribution of broods along the St-Lawrence estuary. We want to identify factors that influence use of the shores including disturbance and bio-physical characteristics. This information will help to fulfill one objective of the recently prepared Quebec eiders management plan that calls for more protection of the best brood-rearing sites. Finally, we want to monitor seasonal changes in juvenile numbers to get a first appraisal of brood survival.

Preliminary results – In 2003, we captured 450 nesting females without much difficulty on 10 islands of the St-Lawrence estuary. We also tried to capture pre-fledged and moulting birds but quickly realised that we were understaffed and not equipped with proper nets and pens. A total of 15 surveys were conducted along a 200-km stretch of the south shore stopping at 75 stations to count broods and concentrations of moulting birds. We compared our preliminary data with those of a study conducted in the seventies and found that fewer broods were observed in an area that has since become a provincial park. Although these results seem a paradox at first, we realised that the park was promoting visits of the shores by kayaks and this may have resulted in a decreased use of this area by eiders. These results need to be confirmed.

Project status - The banding project will be expanded to a full-fledged study if additional funding is secured. We want to capture up to 1000 nesting females and as many pre-fledged birds. We failed in capturing pre-fledged birds and moulters in 2003 but we believe that the experience gained in 2003 will be useful to design a proper gear to accommodate the St. Lawrence rocky shores influenced by strong semi-diurnal tides. The brood surveys will be repeated and we will measure the bio-physical characteristics of the shores and the level of disturbance.

Project Funding Sources (US$)

SDJV	Oher US federal	US non-federal	Canadian federal	Canadian non-federal	Source
			15000		CWS
				3000	Duvetnor

Total Expenditures by Category (US$)

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding	10000				10000
Surveys	8000				8000
Research					
Communication					
Coordination					