Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 02 – (October 1, 2001 to Sept 30, 2002)

Project Title: No. 12 (also used SDJV18 as a project number), Location of molting sites of scoters and eiders in the St. Lawrence estuary

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Partners: Canadian Wildlife Service, U.S. Fish and Wildlife Service

Project Description: Some of the most effective conservation actions are pro-active ones as they usually avoid conflicts. The location of important coastal areas for molting sea ducks will enable wildlife managers to adopt pro-active protective measures before any conflict arises. Potential threats include aquaculture, gill net fisheries, recreational boating, shipping lanes, shellfish harvesting. The species, sex and age composition of molting flocks has been poorly documented to date as has the molting chronology of birds themselves.

Objectives: The project had three major goals. First, to compile and summarize unpublished data on the distribution, abundance and species composition of sea ducks molting in the St. Lawrence estuary and gulf. Second, to confirm known molting locations and to locate new ones, and third, to estimate the number of molting birds. Another objective was to determine the seasonal use of important molting sites.

Preliminary Results: Some molting sites are used in spring and fall as well as during the molt but others are used mostly in summer and fall. In the spring, Black Scoters, Surf Scoters and White-winged Scoters are abundant in the St. Lawrence estuary. In the summer (molting period) Surf Scoters clearly dominate followed by White-winged Scoters. In the fall, Surf Scoters are clearly the dominant scoter with only a few Black Scoters. White-winged scoters are also present in the fall. The Black Scoters observed in the fall are mostly female plumage birds with very few males. This suggests that some black Scoter females and possibly young birds stage in the St. Lawrence estuary in the fall but that males do not in any large numbers. This contrasts with the Surf Scoter which occurs in large numbers (close to 100,000 birds) in September and October within the St. Lawrence estuary. Males dominate the large flocks but females are also present. There are also some indication that some Surf Scoter females may still be flightless in September.
However summer distribution of scoters is clearly more clumped than either spring and fall distribution. Molting sites are used each year. Preliminary results indicate that scoters are found mostly in the subtidal zone up to a depth of 30 feet. Most molting sites are good shellfish areas as denoted by the shells washed on the tide line. In late July, molting flocks are composed mostly of males (>90%), which are joined in early August by females. By the time females initiate their molt, most males have regained their flight capabilities. Although Surf Scoters are less widely distributed during molt than in either

the Spring or Fall, some molting sites cover areas of several kilometers. At one site in early August (1-4), species composition was 94% Surf Scoter, 5% White-winged Scoter and 1% Black Scoter (n = 2180 scoters distributed in 19 flocks). Sex ratio for Surf Scoters was 91.5% males and 5.6% females (n = 2054 Surf Scoters). Age ratios for males was 90.9% adult and 9.1% sub adults (n = 757 males in 8 different flocks). Preliminary observations indicated that molting flocks were quite dynamic, splitting and aggregating throughout the day. Feeding was the most frequent activity and diving synchrony varied among flocks. Most feeding was in the subtidal zone. Flocks were distributed along at least 7 km of shoreline in flocks ranging from 10 to 500 scoters, totaling more than 5,000 birds. Moult chronology varied within males flocks and females moulted later than males. Better understanding of the requirements (habitat, food) of molting Surf Scoters will greatly help reduce potential conflicts with shellfish fisheries, aquaculture and recreational activities, and gill net fisheries.

Project Status: The summer and Fall 2002 data is being analyzed and a report is progressing. Now that important sites in the St. Lawrence estuary have been located and that their seasonal use by scoters documented, it would be important to characterize the food resources at these sites and their use by scoters. This information would permit to better assess the quality of these sites for scoters and to better evaluate the impacts of potential aquaculture or fisheries activities.

Project Funding Sources (US$): Note that these figures are for 2002 only.

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)
5.5 k					
			27.5 k		CWS
	4 k				USFWS R5

Total Expenditures by Category (US):

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding					
Surveys		**6 k**	**6 k**		**12 k**
Research		**6 k**			**6 k**
Communication		**2 k**			**2 k**
Coordination		**2 k**			**2 k**