

Sea Duck Joint Venture Annual Project Summary for Endorsed Projects FY 02

Project Title: Population delineation, winter/spring habitat use and migration ecology of White-winged Scoters (*M. fusca*) and Surf Scoters (*M. perspicillata*)

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Partners: US Fish and Wildlife Service, US Geological Survey, NSERC Strategic Grant

Project Description: Understanding population structure, i.e., identifying population segments that are demographically distinct, is critical for addressing declines in scoter populations. Without documenting the geographic scale at which dynamics of population segments are independent, surveys cannot be interpreted at the scale of distinct subpopulations, which results in poor resolution for discerning causes of overall declines. Similarly, the inference from local research projects (e.g., documenting survival, production, contaminants, etc.) is unknown without some indication of the population segment to which the results apply. Thus, identification of “management units” is a logical and important first step for effective conservation efforts for scoters.

Both White-winged Scoters (*M. fusca*) and Surf Scoters (*M. perspicillata*) winter in large numbers in coastal B.C. Currently, these birds are under threat from an expanding shellfish aquaculture industry, proposed offshore oil/gas exploration and development of coastal wind-power turbines. Aquaculture operations and scoters use similar coastal habitat features and, as a result, their distributions overlap considerably. Turbines are being proposed for a number of shallow water (< 15m depth) areas used by wintering scoters and the potential threat from the oil/gas industry is well known. In combination with these and other potential threats, we know very little about how scoters use coastal habitats, in particular their habitat use and movement patterns and how these might be affected by coastal developments. Scoters forage intensively on herring spawn in spring and this food source may be important to individual body condition, migration success and perhaps even reproductive success. Finally, information is needed on the timing of movements and affiliations between wintering, breeding and molting areas to accurately interpret spring survey data.

Satellite telemetry is currently the best tool to monitor the movements of scoters over vast, remote regions. In conjunction with ongoing studies, we surgically implanted PTTs in after-second-year white-winged scoters (7 female and 6 male) in Baynes Sound, B.C. Movements of the PTT-tagged birds will be monitored for up to 12-13 months. PTT duty cycles are set to optimize location data for the spring and fall migration periods. In this way, the timing of movement and precise route taken between wintering and breeding sites can be determined as well as important locations used during spring migration,

breeding, molting and fall staging periods. In spring, we are especially interested in tracking these birds to herring spawn sites in coastal B.C. and Alaska.

Objectives:

For Surf and White-winged Scoters wintering in the Strait of Georgia we will describe their key migration routes, timing of movements, breeding and molting areas, and describe their habitat use patterns in winter and spring, with special emphasis on aquaculture and herring spawn sites.

Preliminary Results: We marked 13 white-winged scoters with surgically implanted PTTs from 10-18 December 2002. It is too early to have any results regarding post-surgery survival, movements, dispersal, or migration.

Project Status: We are very pleased with the success of the project to date. We were able to capture and mark the desired age/sex cohorts of white-winged scoters and look forward to tracking their movements over the next year.

Project Funding Sources (US\$):

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)
\$27000					SDJV/USFWS
	\$1000				USGS (in kind)
			\$25000		CWS
				\$10000	SFU NSERC grant

Total Expenditures by Category (US\$):

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding					
Surveys					
Research			\$31,500	\$31,500	
Communication					
Coordination					