Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 05 – (October 1, 2004 to Sept 30, 2005)

Project Title: No. 3: Demographic studies of sea ducks wintering the Strait of Georgia, British Columbia.

Principal Investigator(s) ***(name, affiliation, mailing and email address):***
Sam Iverson, Centre for Wildlife Ecology, Simon Fraser University, 5421 Robertson Rd., Delta, BC V4K 3N2; sai@sfu.ca
Sean Boyd, Canadian Wildlife Service, Pacific and Yukon Region, 5421 Robertson Rd., Delta, BC V4K 3N2; sean.boyd@ec.gc.ca
Dan Esler, Centre for Wildlife Ecology, Simon Fraser University, 5421 Robertson Rd., Delta, BC V4K 3N2; desler@sfu.ca

Partner(s) (*anyone else providing some kind of support)*:
Barry Smith, Canadian Wildlife Service, Pacific and Yukon Region
Michael Rodway, Contractor
Heidi Regehr, Contractor

Project Description (*issue being addressed, location, general methodology)*:

Several Pacific sea duck populations appear to be declining. Without basic information on the age/sex structure of populations and knowledge of survival, recruitment, and dispersal rates it is impossible to identify demographic causes of population changes. We are developing new methods to collect and analyze demographic data for several species, including Black Scoters, Surf Scoter, Barrow's Goldeneye, Common Goldeneye, and Harlequin Ducks in the Strait of Georgia, British Columbia. These data will be useful in demographic models and for monitoring purposes.

Objectives *(should identify how the project addresses SDJV priorities*):

(1) Establish a protocol for conducting mid-winter surveys for selected sea duck species and evaluate/publish relevant information on sea duck densities, the sex/age structure of populations, and habitat association patterns for populations wintering in the Strait of Georgia.

Results:
A manuscript, which evaluated the utility of age ratios as an index of recruitment by Surf Scoters, was published (Condor 106:252-262). The findings of that manuscript were used to develop a survey protocol, which evaluates the sex/age structure and recruitment rates of several sea duck species concurrently, including: Black Scoters, Surf Scoters, Barrow's Goldeneye, Common Goldeneye, and Harlequin Ducks.

This survey methodology has been applied, and has resulted in a CWS Technical Report:

Iverson, S. A., W. S. Boyd, H. M. Regehr, and M. S. Rodway. 2005. Sex and age-specific distributions of sea ducks wintering in the Strait of Georgia, British Columbia: Implications for the use of age ratios as an index of recruitment. Technical Report Series No. xxx, Canadian Wildlife Service, Pacific and Yukon Region.

Project Status ***(e.g., did you accomplish objectives, encounter any obstacles, do you have plans for the future?)***

No additional funding is available for this work, and we consider this project to be finished. We think that there is continued opportunity to apply these methods in the Strait of Georgia and other areas, as we think they offer a cost-effective way to monitor not only numbers but important demographic attributes (e.g., productivity) that can lead to understanding of mechanisms underlying any observed population change. We also believe that a plumage identification key would be of use to many researchers.