Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 2009 – (October 1, 2008 to September 30, 2009)

Project Title: Annual Survey of Moulting Black Scoters in James Bay (SDJV Project # 82)

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Project Description: Black Scoters form major summer moulting concentrations offshore along the James and Hudson Bay coast, most notably along the western James Bay coast of Ontario where as much as two thirds of the adult male component of the Atlantic Black Scoter population may gather. Given the stability of these flocks during the flightless period, this situation provides an ideal opportunity for population monitoring.
Surveys of these flocks have been undertaken in 1977 and 1991, and during an SDJV-sponsored study of survey methodology development in 2006. Results to date have indicated the need for further methodology development as we work towards an operational survey.
The work was divided into 2 components. The first was a reconnaissance survey of eastern Hudson and James Bay to determine the extent of moulting concentration there in order to more accurately spatial limits of the operational survey. This involved a single offshore aerial survey with 2 observers from Umiujaq, Quebec to Moosonee, Ontario, including the Belcher Islands. The second part included further developmental work surveying the moulting flocks along the western James Bay coast. A similar methodology to previous years was used in which two observers surveyed the flocks from a light twin-engine aircraft (Cessna 337). All flocks were visually estimated from the air by one observer and digital photos taken of as many of these as was practical by the other to assess estimation error and develop a correction factor. An integrated GPS provided locations on the images of flocks digitally recorded so that distribution could also be monitored over the years. All areas along the western James Bay coast that held moulting scoters in 2006 were resurveyed in order to examine annual variability. As well, triplicate coverage was made of the southern James Bay flocks (Longridge Point area) to assess daily variability and look at potential causes of any variation in numbers.

Objective: To develop methodology including extent of coverage so as to undertake a yearly count of moulting Black Scoters in Hudson and James Bay suitable as an index to monitor trend of the Atlantic population of this species.

Preliminary Results: The reconnaissance survey took place from July 21 – 24 and covered all the Quebec coast south from Umiujaq plus much of the coast of the Belcher Islands in

Nunavut. The work was undertaken by CWS staff from the Quebec office (R. Cotter and L. Lesage). Very few scoter flocks were located and all these were small. Analysis of the few digital images gathered will take place shortly and a distribution map generated. It, however, appears safe to conclude that there is little moulting activity by Black Scoters along the eastern James and Hudson Bay coast and that this area can be excluded from any operational survey.

Surveys along the west coast took place between July 25 and 31 and were carried out by K. Ross (estimation) and R. Cotter (digital images) using the methods described in the 2006 report; due to a change in provincial policy, the Ontario Ministry of Natural Resources was not able to participate in the survey work this year.
Weather conditions were unsuitable for flying on 2 days and suboptimal on one. Adequate conditions were only encountered on July 26, 27, 28, and 31. Again it was noted that glare from bright sun on choppy sea states caused by windy conditions made effective surveying impossible even though flying conditions were adequate. Counts based on visual estimates yielded the following preliminary results.

Location	Date	Replicate	Count
Northwestern James Bay	July 31	-	36700
Eastern Akimiski Island	July 26	-	21200
Southern James Bay	July 26	1	38700
	July 27	2	37700
	July 28	3	34000

These values are quite different from those of the 2006 count in which 75000 were recorded in northwestern James Bay, 49100 of eastern Akimiski, and 16000 in southern James Bay. Conditions were however very different this year in that there was an exceptionally cold spring which allowed extensive ice to remain in the bay throughout July.
Replicate counts of the southern James Bay flocks show generally good agreement. The slightly lower count on July 28 may reflect the tidal state (falling half tide) which may cause more active feeding and thus a greater proportion of the birds being under water; the other surveys were closer to high tide.

Project Status: Results of this year's project point to the need for further methodology development work in western James Bay plus an extensive survey of all likely moulting areas along the western Hudson Bay shores from Cape Henrietta Maria to northern Manitoba. Plans for future operational monitoring surveys would be based on the results of this.

Project Funding Sources (US$). Complete only if funded by SDJV in FY08; this is used to document: 1) how SDJV-appropriated funds are matched, and 2) how much partner resources are going into sea duck work. Include approximate dollar value of in-kind contributions in costs. Add rows as needed for additional partners.

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)

$16160.00					USFWS
			$8000		CWS
				$1000	OMNR

Total Expenditures by Category (SDJV plus all partner contributions; US$). Complete only if project was funded by SDJV in FY08; total dollar amounts should match those in previous table.

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
Banding (include only if this was a major element of study)					
Surveys (include only if this was a major element of study)		**$25160**			
Research					