

Sea Duck Joint Venture

Annual Project Summary for Endorsed Projects

FY 2009 – (October 1, 2008 to Sept 30, 2009)

Project Title: SDJV # 117 Population Delineation, Migratory Connectivity and Habitat Use of Atlantic Scoters: Black Scoters

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Project Description: Up to 2007, only 34 Black and 27 Surf Scoters have been marked with PTTs in eastern North. These birds provided the first insights into the migratory movements of eastern North American scoters. However, sample sizes must be increased to improve our understanding of the movements and affiliations for these populations. For example, of the females that have been tracked from wintering and spring staging sites along the Atlantic Coast, a large proportion have moved to breed in the central boreal forest (Perry et al. 2006), which is outside the known breeding range for Black Scoters (Bordage and Savard 1995), and thought just to support breeding Surf (Savard et al. 1998) and White-winged Scoters (Brown and Fredrickson 1997; Fig 1). This has implications for delineation of the eastern and western populations of Black Scoters, for interpreting the results of the May breeding pair surveys which the scoters are not be speciated during, and for the design of future breeding surveys for sea ducks.



Fig. 1. North American breeding ranges for Surf, White-winged and Black Scoters and coverage of large scale monitoring surveys (source R. Raftovich)

Our study area was located at a spring staging area on the Bay of Chaleur, NB (Fig. 1). This site is the major spring stop-over site for migrating Black Scoters in eastern North America. From 2-5 May 2009, we used standard night-lighting procedures (Perry 2005) and floating mist-nets (Bowman 2007) to capture Black Scoters. Females were aged by probing the bursa. Females with no bursa, or bursal length less than 10 mm, were classified as adults and sub-adults, respectively, and, were retained for instrumentation. Within 24 hours after capture, birds underwent an intra-abdominal surgery to implant PTT 100 satellite transmitters (39 g) manufactured by Microwave, Inc., Columbia, Maryland. Ducks were released near their capture site.



Fig. 1. Location of study area, Bay of Chaleur, NB.

Objectives: Our objective was to tag 20 adult female Black Scoters with satellite tags to assist in defining the distribution of Black Scoters on their breeding and molting areas.

Preliminary Results: Between 29 April and 5 May 2009 we captured 79 Black Scoters and 2 Surf Scoters (Table 1). All birds were tagged with SS USFWS bands, and 18 adult and 2 sub-adult females were instrumented with satellite tags. One female was observed loafing on a beach the day after its release and was collected after a gull wounded it.

Fifteen adult female black scoters marked in May 2009 on the Restigouche River were still transmitting as of late September. Eleven of birds staged on the Gulf of St. Lawrence for an average of 10 d (range 2-23 d). One female moved to the interior of the Ungava Peninsula. Twelve females moved northwest to James and Hudson's Bays where they staged an average of 15 d (range 8-24 d). Five of these females remained in James Bay and moulted there. Eight of these females moved northwest: one terminating its migration northwestern Ontario, another in northern Manitoba, and six in the Northwest Territories east of Great Slave Lake. Maps depicting movements of individual birds can be found at http://www.seaturtle.org/tracking/?project_id=395 (Fig. 2).

Six of the eight females that were tracked to potential breeding locations remained stationary (<3 km) for a period of 12-57 days (Table 2) suggesting a possible breeding attempt (Table 2). One potential breeding site was located in Quebec on the Ungava Peninsula, and five of the potential breeding sites were located in northwestern Ontario,

Northern Manitoba and the North West Territories that is well outside their known breeding range. Currently all birds remain near their molt sites that were located in Ungava Bay (1 female), western Hudson's Bay (2 females) and James Bay (12 birds)

Table 1. Numbers of scoters captured in Bay of Chaleur, New Brunswick, 2-5 May 2009.

Species	Females		Males		Total
	Adult	Sub-Adult	Adult	Sub-Adult	
Black Scoter	22	3	41	13	79
Surf Scoter	0	0	2	0	2
Total	22	3	43	13	81

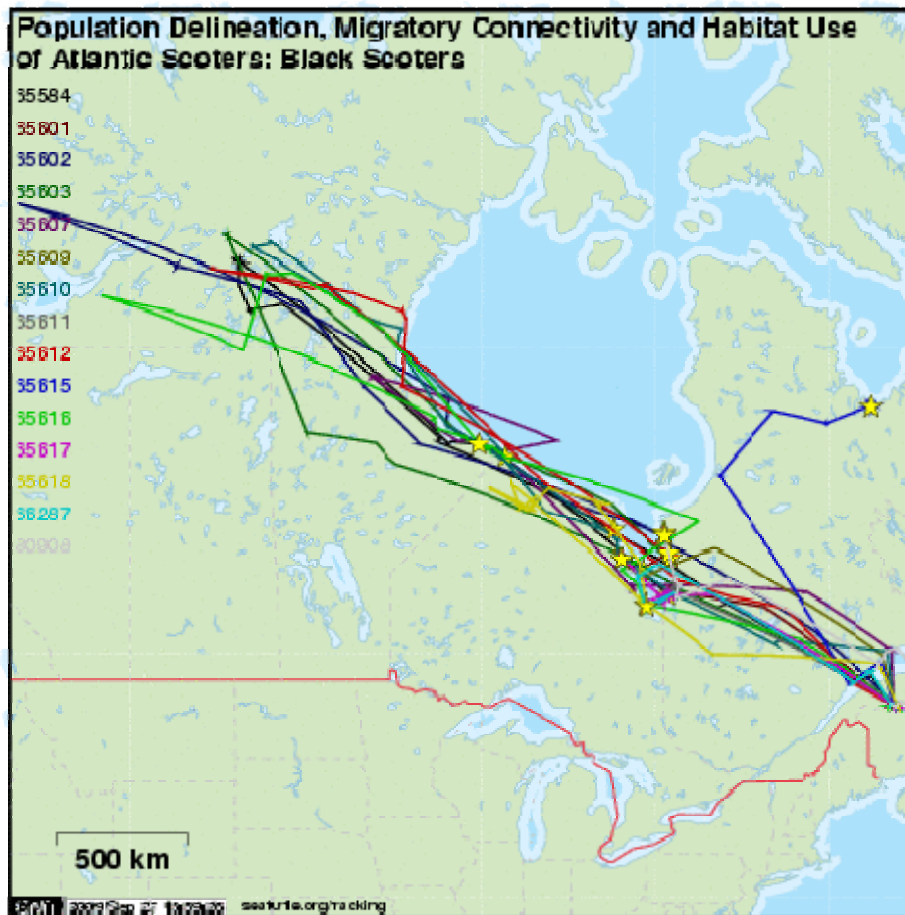


Figure 2. Migratory tracks for fifteen female Black Scoters tagged in Bay of Chaleur, NB in May 2009.

Table 2. Position, date of arrival and length of stay at potential breeding sites for six female Black Scoters tracked from Bay of Chaleur, NB, 2009.

Tab ID	Latitude	Longitude	Date-of-arrival	Length-of-stay
65584	61.05°	-103.22°	14-Jun	12
65602	58.87°	-96.68°	17-Jun	13
65503	63.06°	-104.55°	16-Jun	57
65503	59.14°	-96.14°	25-Jun	41
65612	62.17°	-105.35°	29-Jun	51
65615	58.13°	-73.26°	16-Jun	12

Project Status: We are currently tracking 15 of the tagged females and expect this number to decline over the next year as radios fail or females die. An unexpected number of females (8 of 9) migrated into central and western Canada that is outside the species known breeding range suggesting the delineation between the eastern and western American populations, and the range of the eastern North American population has been poorly defined.

Unfortunately, spring 2009 was unusually cold with late snowmelt across much of the Ungava Peninsula (Gilliland pers. obs, J. Rodrigue pers. comm.) with severely delayed ice-out in eastern (J. Rodrigue pers. comm.) and western (M. Perry) Hudson's Bay. These conditions were known to cause delayed migration and large scale breeding failures of North Atlantic Population Canada Geese (J. Rodrigue pers. comm.). We are uncertain if the unexpected migration patterns were normal, or affected by the unusual spring conditions or the affect of implantation of the radios.

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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 (name of agency or organization)
27.8					SDJV-USFWS
	11.0				USGS
			43.9		Environment Canada
				5.45	NB-DNR

Total Expenditures by Category (SDJV plus all partner contributions; US\$).

Complete only if project was funded by SDJV in FY09; 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)					
Research	68.0	10.0	5.0	5.15	88.15