Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 2011 – (October 1, 2010 to Sept 30, 2011)

Project Title: Central Arctic Waterfowl Breeding Population Surveys
Sea Duck Joint Venture Project 98
Arctic Goose Joint Venture Project 77

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Partners: Sea Duck Joint Venture (SDJV), Arctic Goose Joint Venture (AGJV), U.S. Fish and Wildlife Service (USFWS – Regions 2, 3, 6, 7, and 9), Canadian Wildlife Service (CWS), Central Flyway Council (CFC), and Mississippi Flyway Council (MFC).

Project Description: During summers of 2005-2011, the AGJV, SDJV, USFWS, CWS, CFC, MFC, and other partners conducted aerial surveys of migratory birds throughout a large expanse of important lowland habitats in Canada's Arctic. These efforts and those of previous helicopter surveys were drawn upon to begin development of an operational survey of migratory birds in these regions. In this report we provide a summary of SDJV Project 98/Arctic Goose Joint Venture Project 77 activities in 2011.

In 2011, we strove for a comprehensive survey effort, covering the most important high waterbird density areas surveyed since 2005, obtaining replicates of areas surveyed only once previously (Banks and Southampton islands), and expanding survey coverage to very important waterbird nesting areas on Baffin Island's Great Plain of the Koukdjuak. Completing these tasks, cooperators have completed baseline data collection and will move forward to evaluate recent trends in breeding populations of priority species and develop a survey design for continued monitoring of Arctic-nesting waterfowl and associated species.

Objectives: Obtain data on the abundance and distribution of several Arctic-nesting migratory bird species (e.g., Long-tailed Duck, King Eider, Canada Goose, Greater White-fronted Goose, Tundra Swan, Sandhill Crane) and develop methods to evaluate population trends over time.

Progress: In 2011, we conducted geographically extensive surveys using three Quest Kodiak turbine-powered aircraft. We surveyed areas on Banks Island, Tuktoyaktuk Peninsula, Victoria Island, Kent Peninsula, Southampton Island, and Baffin Island, NT and

NU, Canada (Figure 1). The 2011 migratory bird surveys on Baffin Island represent the first such systematic aerial surveys ever conducted there.

Transects were spaced systematically at 10- or 20-km intervals, resulting in a 2 or 4% sampling intensity. Survey procedures followed USFWS and CWS protocol for aerial waterfowl breeding population surveys (USFWS and CWS 1987). We flew each transect at a height of 30-45 m above ground level and at a speed of 145-170 km/hr. The pilot used the aircraft Global Positioning System (GPS) to navigate to transect "start" and "end" waypoints and to maintain the flight path along the transect centerline. Both pilot and observer recorded observations of all birds (excluding shorebirds and passerines) and large mammals within 200 m of the flight path. We recorded each observation to an electronic sound file, where it was linked with simultaneous GPS coordinates and stored via separate on-board computers for each observer.

Preliminary Results: Western Arctic surveys were conducted on Banks and western Victoria Islands (20-km spacing) and Tuktoyaktuk Peninsula, NT (10-km spacing) during 16 June to 1 July 2011 during 70 hours of flight time (including ferry time via Alaska). Central Arctic survey efforts were conducted on eastern Victoria Island and Kent Peninsula, NU (20-km spacing) from 17 June to 5 July, during 42 hours of flight time (including ferry time via South Carolina). Eastern Arctic surveys were conducted on Southampton (20-km spacing) and Baffin Island (10-km spacing), NU during 21 June to 2 July 2011, during 50 hours of flight time (including ferry time via Winnipeg, MB).

Persistent low pressure and high winds grounded aircraft and prevented several areas in the central Arctic (e.g., Queen Maud Gulf, Rasmussen Lowlands) from being surveyed within permit time limits in 2011. Flight crews reported nesting phenology and conditions to be near average, with generally strong waterbird nesting efforts in 2011. Additional information will be included in subsequent reports.

Analyses of eastern Arctic surveys and our 2011 efforts are currently incomplete. A poster presentation summarizing sea duck data collected during Arctic Migratory Bird Surveys in the central and western Arctic from 2005 to 2010 is also attached.

Project Status: The information being gained through these cooperative surveys has fostered substantial support for continuing these efforts using turbine-powered fixed-wing aircraft, and for developing these surveys into an operational monitoring method for several migratory bird species and populations. During 2011-2012, we intend to analyze survey estimates from fixed-wing surveys 2005-2011, and report results in administrative and scientific outlets. Once reported, we intend to develop a final survey design to efficiently monitor priority species in these important portions of the Arctic.

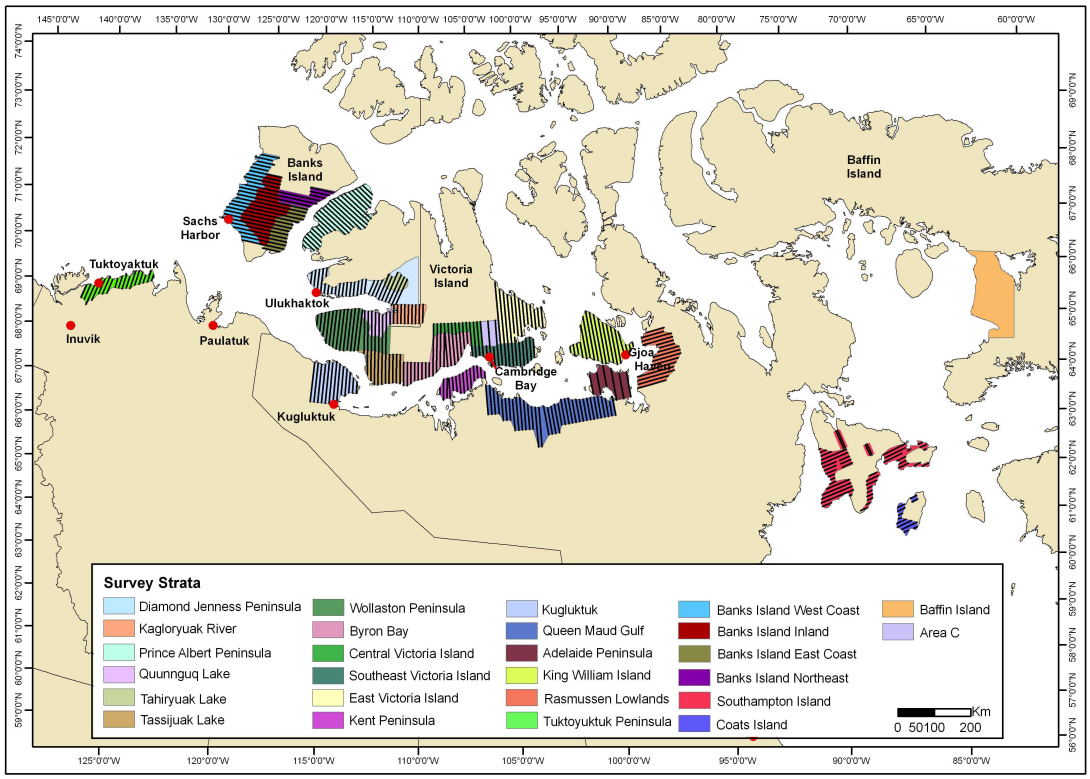

Figure 1. Arctic Migratory Bird Survey strata during operations in 2005-2010.

Table 1. Project Funding Sources (US$) for Project 98/77 in 2011.

Source of funding (name of agency or organization)	SDJV (USFWS) Contribution	Other U.S. federal contributions	U.S. non-federal contributions	Canadian federal contributions	Canadian non-federal contributions	Total
Sea Duck JV	25,000					
Arctic Goose JV		35,000				
FWS Region 9 and 6		15,000				
Central Flyway Council			15,000			
Mississippi Flyway Council			10,000			
CWS				5,000		
Total						105,000

Table 2. Total Expenditures by Category for Project 98/77 in 2011 (US$).

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)	105,000				105,000
Research					

Literature Cited:

U.S. Fish and Wildlife Service and Canadian Wildlife Service. 1987. Standard operating procedures for aerial waterfowl breeding ground population and habitat surveys in North America; revised. Unpublished report.