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

Project Title: SDJV Project no. 23. Characterization of Beaufort Sea Flyway: Long-tailed ducks (*Clangula hyemalis*) and common eiders (*Somateria mollissima v-nigrum*)

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Partners (FY03): SDJV; USGS, USGS Science Support (SS) Funds; and BP Exploration (AK) Inc. on behalf of Prudhoe Bay Unit owners.

Project Description: Long-term declines of common eiders and long-tailed ducks have been reported in Alaska, including populations on the North Slope. How the birds in these declining populations use the western Beaufort Sea is unclear, and this information is needed to model the potential effects of off-shore oil and gas development on these two species. I used satellite telemetry to characterize migration and to identify wintering and staging areas of common eiders that nest on barrier islands and long-tailed ducks that molt in lagoons along the western Beaufort Sea coast. The study is designed to evaluate differences among years in timing of migration, migration paths, and staging areas birds used in relation to variation in ice distribution and other weather factors and timing of nest initiation and molt.

Objectives: The primary objective of this study is to locate and describe migration corridors, staging habitats, and habitats used by common eiders that nest on barrier islands and long-tailed ducks that molt in coastal lagoons when migrating in fall and spring through the western Beaufort Sea. A secondary objective is to identify and describe areas used by common eiders throughout the year, and identify breeding and wintering areas of long-tailed ducks. These data will provide information key to effectively managing these populations of sea ducks.

Preliminary Results (FY05):
Long-tailed Ducks – Thirty adult female long-tailed ducks were marked in August 2004 at Point Thomson, western Beaufort Sea coast. Eighteen PTTs were programmed to provide data weekly from August 2004 to June 2005 when they were to begin to transmit daily until mid-August 2005; 12 PTTs were to transmit daily from August through December 2004. The general timing of autumn and spring migration and winter locations appear similar to that of birds marked in 2002 and 2003. Results of all years are available in or submitted to the USGS, Alaska Science Center web site. In winter 2004-2005, ducks wintered in coastal waters of: (a) eastern Russia at the Chukotka Peninsula (3 birds), east (7) and southwest (2) Kamchatka Peninsula, the Sea of Okhotsk near Magadan (2), and Sakhalin Island (2); (b) in Japan at Hokkaido Island (1); (c) Alaska including St. Lawrence Island (2), Bristol Bay (1), Alaska Peninsula (2), Cook Inlet (1), and southeast Alaska (2); and (d) Canada at Vancouver (1) and Queen Charlotte

(1) Islands. Spring migration began in March, and hens arrived to nesting areas in June. As with autumn, spring migration was both coastal and overland, and protracted. By early August 2005, birds were in molting areas either at the marking site at Point Thompson (2), 25 km inland and 40 km south of Wainwright (1), or 170 km west and 20 km inland of Point Thompson (1). Of the 30 birds marked with PTTs, 13 birds provided data until their batteries failed, 2 transmitters failed, 1 bird was censored (died within 14 days of surgery), the fate of 3 birds is unknown, and 13 birds died. Of the birds that died, 6 were probably shot as they were ultimately moved in or adjacent to villages, 1 bird was dead on a cliff 2 km inland, 1 bird apparently landed on a ship in the Bering Sea and died two days later, and 5 were dead on beaches.

Common eiders – All transmitters were off the air by August 2004. There are no new data in FY05.

Project Status:

Marking and data collection is complete for both species. Proofing of the 39,693 locations of common eiders and 32,997 locations of long-tailed ducks is ongoing. The first publication, on spring migration of common eiders, is in draft format. Manuscripts will be sent to the SDJV as they are published.

Project Funding Sources (US$). As in FY04, no funds from the SDJV were spent in FY05. Costs to the project in FY05 were limited to Argos data and ice and weather data.

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