Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 2006 – (October 1, 2005 to Sept 30, 2006)

Project Title: SDJV Project #79: Temporal and Geographic Distribution of the Aleutian Islands Pacific Common Eider.

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Partners:
U.S. Geological Survey, Alaska Science Center, Anchorage; Alaska Maritime National Wildlife Refuge (Refuge), Homer; US Air Force, Elmendorf Air Force Base, Anchorage, AK.

Project Description:
Information on the temporal and geographic distribution of the Pacific common eider *Somateria mollissima v-nigrum* is required to design monitoring programs and develop management plans. This is a *high* priority need by the SDJV. In our study, we will provide distribution information on the movements and non-breeding distribution of eiders nesting in the western Aleutian Islands. The study area is the Near Islands group which includes Attu, Agattu, Shemya, Alaid, and Nizki islands (Fig. 1). Marking activities were spread amongst colonies on each island, with daily support from the Refuge vessel M/V *Tiglax*. We implanted (Korschgen et al. 1996, Mulcahy & Esler 1999) coelomic transmitters with percutaneous antennas. We used PTT-100's (Microwave Telemetry, Columbia, Maryland) with double batteries that have a maximum expected life span (total hours transmitting) of 1400 hr and were programmed to last 2 years (2 winters, molting periods, and spring and autumn migrations, and 3 breeding seasons). Nesting common eiders were marked from 4 islands; the final number of birds marked per island varied and was dependent on the number and availability of nests, weather, and vessel schedule. Eiders were captured with dip-nets and by hand.

Objectives:
The primary objectives of this study are to locate and describe staging, molting, and wintering areas and describe key habitat features of areas used by the Aleutian Islands population of common eiders. This study is designed to gather data from individuals during a 2-year period. Using satellite telemetry, we will:

- Determine the distribution patterns of breeding eiders during the flightless period and in autumn, winter, and spring. Population definition and delineation is a *high* priority for Pacific common eiders that has been identified by the SDJV (2001).

- Determine the general timing and duration of migration. A *high* priority item listed for the Pacific common eider is to determine population numbers and monitor trends (SDJV 2001). Before effective surveys can be developed, it is necessary to determine when birds arrive to potential survey areas and what fraction of the population will be surveyed.

- Determine migration pathways and corridors. Identification of these important coastal habitats is not prioritized by the SDJV (2001), but is a high priority of the Refuge.

- Describe general habitat characteristics of molting, staging, and wintering areas. Habitat requirements for this sub-species are of *medium* priority (SDJV 2001). However, the increasing development in coastal bays and estuaries and the increasing numbers of cargo vessels in the area (thus potential fuel spills) is an on-going threat to this breeding population. Information on general habitat characteristics (see Petersen & Douglas 2004) from this study combined with information from previous studies of invertebrate communities is needed for developing scientifically sound management actions and mitigation requirements.

Preliminary Results:
We marked 22 nesting adult female eiders: Attu Island - 1; Agattu Island - 6; Nizki Island - 6; Alaid Island - 9. Shemya Island no longer has nesting common eiders. The birds remained near the island they were marked throughout the breeding and molting periods. To date (25 September 2006), we have not recorded movements greater than 10 km.

Project Status:
Our primary objective for field work funded by the SDJV during June 2006 was met with the marking of 22 common eiders. This nesting season was late compared to last year (2005), as was vegetation growth. An abundance of old and new vegetation enhances our ability to capture birds because their escape is slowed; thus, they are easier to catch using a dip-net. Because of the delayed incubation, all marking occurred in the last 6 of the 11 days we were in the Near Islands. Because we arrived before eiders began incubation and the delayed vegetation growth, we were unable to capture the full compliment of birds (5 to 6) at Attu Island. Although not a random sample of nesting birds, we believe we marked a representative sample of eiders from the Near Islands. We do not anticipate additional field work in the Near Islands. Plans for the next 2 years are to monitor movements of eiders and report data to the Refuge on a regular basis.

Literature Cited
Korschgen, C. E., K. P. Kenow, A. Gendron-Fitzpatrick, W. L. Green & F. J. Dein. 1996. Implanting intra-abdominal radiotransmitters with external whip antennas in ducks. J. Wildl. Manage. 60:132-137.

Mulcahy, D. M. & D. Esler. 1999. Surgical and immediate postrelease mortality of harlequin ducks (*Histrionicus histrionicus*) implanted with abdominal radio transmitters with percutaneous antenna. J. Zoo and Wildlife Medicine 30:397-401.

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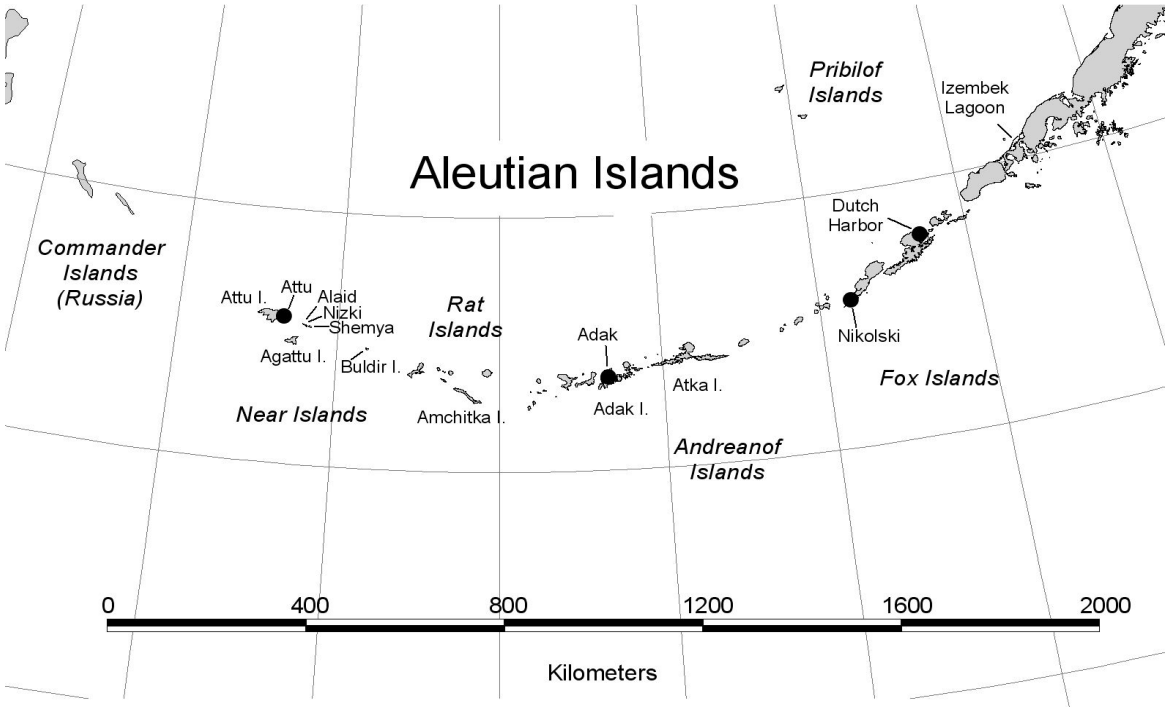
Sea Duck Joint Venture Management Board (SDJV). 2001. Sea Duck Joint Venture Strategic Plan: 2001 - 2006. SDJV Continental Technical Team. Unpub. Rept. [c/o USFWS, Anchorage, Alaska; CWS, Sackville, New Brunswick]. 14pp + appendices.

Figure 1. Locations mentioned in the text.



Island groups, islands, and towns mentioned in the text, plus other landmarks.

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 (agency or organization)
$47,400					
	$72,260				USGS, Alaska Science Center, Anchorage, AK
	$35,000				Alaska Maritime NWR, Homer, AK
	$ 3,000				US Air Force, Elmendorf AFB, Anchorage, AK

Total Expenditures by Category.

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	$146,485	$ 3,725	$ 3,725	$ 3,725	$157,660
Communication (ignore incidental communication expenses)					
Coordination (ignore incidental coordination expenses)					