

ALASKA DEPARTMENT OF FISH AND GAME  
FEDERAL AID PROJECT  
ANNUAL PERFORMANCE REPORT

**Grant Number:** E-5-HP

**Grant Segment:** 2

**Grant Title:** HCP Alaska Coastal Species: Studies Related to Listed/Candidate Marine Birds

**Project Number:** 2.0

**Project Title:** Distribution and Abundance of Steller's Eiders

**Project Duration:** February 28, 2003 to December 31, 2006

**Project Reporting Period:** June 16, 2005 to June 30, 2006

**Project Final Report Due:** December 31, 2006

**Location:** Statewide

**Project Objectives:**

The objectives of this study are to improve knowledge of the status, distribution, and population trend for Steller's eiders breeding in Alaska by:

1. Identifying routes and timing of movements from wintering to spring staging areas to improve population estimates from spring surveys;
2. Identifying affiliations of wintering birds with breeding areas;
3. Improving knowledge of distribution on the Yukon-Kuskokwim Delta and North Slope;
4. Documenting age and sex structure of winter flocks; and
5. Collecting blood samples to contribute to studies of contaminants and genetic variation in wintering aggregations.

**Summary of Project Accomplishments:**

1. Identifying routes and timing of movements—Work is in progress. Movements of four birds (2 males and 2 females) captured in March 2004 and marked with satellite transmitters were monitored throughout the winter of 2004-2005. Since then, we have monitored the movements (using satellite telemetry) of 16 birds (11 females, 5 males) captured in Kodiak in March 2005 and in March 2006 we placed transmitters in an additional 5 females wintering in Kodiak. Four of the birds marked in 2005 (3 females, 1 male) were still transmitting location data as of 10 June 2006.

The median departure date from Kodiak in 2005 (n=16) was 12 April (range 20 March – 26 April). The median departure date in 2006 from Kodiak (n=9) was 7 April (range = 26 March – 19 April). The majority of birds went directly to the Alaska Peninsula. Port Heiden (including Seal Island Lagoon) was the preferred staging area (11 birds) and the most westerly. Two birds went to Kamishak Bay in lower Cook Inlet. Other sites used for staging on the Alaska Peninsula included Ugashik Bay (n=1) and Egegik Bay (n=1). One bird either bypassed the Alaska Peninsula or spent very little time there and was first located in Chagvan Bay after departing Kodiak. Alaska Peninsula arrival dates in 2005 were from 10–29 April and in 2006 from 26 March to 19 April. Peak arrival times were from 13–16 April in 2005

and 4–10 April in 2006. In 2006, location data were transmitted every 5 days, so mean departure dates from Kodiak and mean arrival dates on the Alaska Peninsula were the same (distance from Kodiak to Port Heiden is approximately 500km). We identified additional spring staging areas in western Alaska (Chagvan and Goodnews bays, Kuskokwim Shoals) and spring staging areas in the Gulf of Anadyr, Russia. Primary molting sites were located on the Alaska Peninsula (Nelson Lagoon, Port Heiden). Other areas used by molting birds included Kamishak Bay (lower Cook Inlet), St. Lawrence Island, and Hagemeister Island.

2. Identifying affiliations of wintering birds with breeding areas— In 2004, we identified 2 breeding areas in the Russian Arctic (Lena River Delta and New Siberian Islands) and a male spent time at a possible third breeding area in Chukotka (west of the primary breeding areas). Twelve birds marked in 2005 went to breeding areas in the Russian Arctic between the Indigirka River and Taimyr Peninsula. Half of these nested in the Indigirka-Yana lowlands. Birds marked in 2006 are currently in spring migration and have yet to arrive at breeding areas. No birds went to nesting areas in western or northern Alaska. We also identified spring and fall staging areas and the timing of migration.
3. Distribution on the Yukon-Kuskokwim Delta and North Slope—No Kodiak birds went to the Yukon-Kuskokwim Delta or North Slope during the breeding season in 2004 or 2005. One second-year female remained in nearshore waters of the Yukon-Kuskokwim Delta and Bristol Bay during the summer.
4. Age and sex structure of winter flocks—Two years completed. No additional data in 2006.
5. Collecting blood samples—We collected blood samples for genetics and disease screening, and collected viral swabs from birds captured in 2004 and 2005. Samples have been transferred to the Alaska SeaLife Center and USGS Molecular Ecology Lab and we are awaiting analysis. No additional blood or viral samples were collected in 2006.

**Problems or Deviations from Work Plan:**

We discovered a new Steller’s eider molting area in Kamishak Bay and surveyed the area in September 2005 and discovered 2,200 molting Steller’s eiders. Weather prevented us from testing the feasibility of capturing and banding molting birds in 2005 but we plan on attempting to capture and mark molting birds in 2006. Logistics did not allow us to deploy satellite transmitters in Cook Inlet in 2005 but we were able to deploy five satellite transmitters in Kodiak in March 2006. Two birds marked in 2006 and one bird marked in 2005 died during a winter storm in March of 2006.

**Anticipated Focus Next Reporting Period:**

Continue with all of the above. A final report will be produced.

**Interim Project Costs This Period (estimated):**

Federal share \$43,520  
State share \$14,507  
Total \$58,027

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