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

Project Title: Survival and Productivity of Pacific Common Eiders Breeding at Kigigak Island, Yukon Delta National Wildlife Refuge, Alaska

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Project Description: Aerial surveys have documented a >90% population reduction over the past 40 years in the Yukon-Kuskokwim Delta population of Pacific common eiders (Stehn et al. 1993, Hodges et al. 1996) and the U.S. Fish and Wildlife Service (Region 7) has identified common eiders as a "*species at risk*". This study builds upon a previously established sample of marked adult females (n = 190) and ducklings (n = 250) at one site (Kigigak Island) in an effort to characterize annual variation in survival and productivity.

In 2006, we monitored a sample of common eider nests and adult females.

154 common eider nests were located in 2006 and 48 adult females were resighted. An additional 14 females were banded.

Objectives:

1. **Estimate nest initiation date, hatch date, clutch size, and nest success.**
2. **Document nest habitat type and record nest location.**
3. **Resight or trap incubating females to identify previously marked individuals for estimation of survival. Capture and mark additional females.**
4. **Estimate mean annual survival and temporal variation in annual survival.**
5. **Incorporate estimates of demographic parameters into a Pacific common eider population model.**

Preliminary Results:

Nesting Chronology

During 41 days of nest searching, 154 nests were located. Estimated mean nest initiation and hatch dates were 30 May (range 17 May – 19 June) and 30 June (range 19 June – 20 July), respectively.

Clutch and Egg Size

Clutch size ranged from 1 – 9 eggs with mean clutch size of 5.2. Mean egg length, width, and volume were 74.9mm (SE = 0.11), 47.9mm (SE = 0.09), and 187.2cc (SE = 0.66), respectively.

Nest success
Estimated daily survival rate for common eider nests was 0.978 (SE = 0.003) and was lower than the daily survival rate estimated for sympatrically nesting spectacled eiders (DSR = 0.989, SE = 0.002). Assuming a constant daily survival rate and an exposure period of 31 days, estimated common eider nest success was 0.50 (95% CI = 0.40 – 0.59).

Marked Adult Females
We identified 48 previously marked females, and an additional 14 unmarked females were captured and banded.

Marked Ducklings
No ducklings were banded in 2006.

Project Status:
Ongoing.