

**Sea Duck Joint Venture
Annual Project Summary for Endorsed Projects
FY 06 – (October 1, 2005 to Sept 30, 2006)**

Project Title: Survival and recruitment of Common Eiders (*Somateria mollissima dresseri*) in the Gulf of Maine (SDJV Project #14)

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Project Description: Banding efforts for common eiders have not been constant over time. Survival and recovery rates are only available for adult females and there is a need for information on the other age-sex classes. During the 1970s to mid- 1980s there was an effort to band female eiders on a few islands in Maine. Numbers of adult females banded per year ranged from 120 to 609. Since then, 0-50 birds have been banded each year. Kremenz et al. (1996) analyzed banding data for the Atlantic coast population of eiders and only had sufficient data for the years 1976-1986 for Maine. He found recovery rates were low and survival was high. Because these estimates are more than 15 years old, harvest has been increasing, and recruitment rate is likely declining, there is a need to obtain better estimates of survival and recovery rates for eiders.

We will select islands and archipelagos and attempt to capture a majority of the nesting females on each. Birds will be captured by hand nets and in drive traps set up along the perimeter of a nesting colony. Birds will be banded with standard USGS bands. Each year we will return to the same islands and band unmarked birds and record bands of previously banded birds (returns). In addition, we will attempt to capture pre-fledged ducklings and molting adults of all age/sex classes using drive traps, rocket nets, and night lighting techniques, near islands where nesting gulls are controlled and on other nesting islands. This is a joint study with USGS, Maine DIFW, and USFWS

Objectives: We propose a long-term banding effort (5-10 years) to determine survival, recruitment, and recovery rates of common eiders in the Atlantic coast population, especially Maine. We will use traditional band analysis methodologies as well as mark-recapture methods. In addition, we will compare recruitment to the population between islands where populations of nesting gulls are controlled and islands with nesting gulls.

Preliminary Results: This was the 5th full year of the study. Nesting phenology was about normal in southern Maine on the Flag Island site, but nesting effort was greatly reduced on the islands. The total breeding population of common eiders on Flag Island was estimated to be only 200 breeding pairs in 2006, which is significantly lower than previous estimates of approximately 500-600 breeding pairs. This is attributed, in part, to a large die-off of blue mussels, the primary winter food for this species, off the Massachusetts coast during the winter of 2006. This reduced nesting effort extended up the coast to Penobscot Bay as well. Although females were present around the islands, we found few nests and no evidence of additional attempts. Eagles are still killing nesting females on Green Island including several

previously banded birds. We captured nesting females from colonies on 6 islands: Captures included 91 new birds banded and 63 returns. Most of the birds were from Flag Island (55 new birds).

The flock of molting birds around Metinic was smaller than we had seen previously and we did not attempt a drive there this year. A flock of 2-3,000 molting birds showed up around Petit Manan Island (our primary drive trap site) about mid-July. We had excellent weather in August and captured 2,547 new birds on 2 banding trips. Captures for the year totaled 2,625 new eiders and 294 returns and foreign retraps. New birds banded included 5 local birds, 1,181 AHY females, and 1,439 AHY males. Our total bandings for the past 5 seasons is 9,908 new birds banded, 905 returns of previously banded birds and 415 recoveries of dead birds.

Project Status: Project is ongoing. We will continue the banding effort over the next several years.