



Patuxent Wildlife Research Center
Science Brief for Resource Managers

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Date: March 2003	Contact: Daniel McAuley	Phone: 207-581-3357	Email: dan_mcauley@usgs.gov	Address: USGS Patuxent Wildlife Research Center 5768 South Annex A Orono, ME 04469-5768
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Survival and Recruitment of Common Eiders (*Somateria mollissima dresseri*) in the Gulf of Maine

Description:

The dresseri race of common eiders (*Somateria mollissima*) breed from central Labrador to southern Maine and winters from Newfoundland to Massachusetts. The breeding population in the mid-1980s was estimated to be 71,000 pairs, of those 34% were in Quebec and 40% in Maine. In Maine, nesting eiders increased from a few pairs in the early 1900s to approximately 28,000 pairs in 1989 (Krohn et al. 1992). Krementz et al. (1996) analyzing banding and recovery data for female American eiders determined that survival rate for the Atlantic coast sub-population was 0.8730 and recovery rate was 0.01. Survival rates of birds from Maine were high (0.9003) and recovery rates were low (0.0115). Predation, especially by great black-backed gulls (*Larus marinus*), is the major cause of mortality among eider ducklings (Ahlund and Gotmark 1989, Mawhinney 1997). Since 1961 the proportion of young eiders in the sport harvest has declined, indicating a long-term decline in recruitment (Caithamer et al. 2000). A major limiting factor for adults is sport hunting. Populations may decline when hunting mortality exceeds 3-5% of the adult population per year (Goudie et al. 1994). Harvest of eiders in Maine and the Atlantic Flyway has increased about 7.5% per year over the last 40 years (Caithamer et al. 2000). Because 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 propose a long-term banding effort (5-10 years) to determine survival, recruitment, and recovery rates of American common eiders in the Atlantic coast population, especially Maine. Also, we will compare recruitment to the population between islands where populations of nesting gulls are controlled and islands with nesting gulls.

Progress to Date:

During 2001, the first phase of this long-term study, the principal investigators and cooperators spent the majority of their days in the field working out the logistics of study. We banded 53 adult female eiders in the course of our island visits. On Green Island, which has had a previous banding effort we captured 31 females, 8 of which were returns from previous years. In 2002, nesting gulls were successfully removed from Green Island. We captured and banded 360 new birds and 47 returns from colonies on 7 islands. During drive trapping operations for broods and molting birds we captured and banded more than 1,800 eiders. For the season we caught 2,218 eiders: 2,197 new birds, 61 returns, 18 foreign retraps, and 41 recaptures. We caught 802 adult males, 1,277 adult females, 52 local males, and 66 local females.

Management Implications:

These data will be used to determine current survival and recovery rates of eiders. This study also will determine if management actions can increase recruitment.

Contacts:

Dan McAuley
USGS Patuxent Wildlife Research Center
5768 South Annex A
Orono, ME 04469-5768
Phone: 207-581-3357
Email: Dan_McAuley@usgs.gov

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