

## Patuxent Wildlife Research Center

# Survival and Recruitment of Common Eiders in the Gulf of Maine



**The Challenge:** Research goals of this project focus on understanding the effects of hunting and predation on survival and recruitment rates of American common eiders (*Somateria mollissima*) in the Atlantic coast population, especially Maine. The project uses traditional band analysis methodologies as well as mark-recapture methods. Select islands and archipelagos in the Gulf of Maine constitute the study area. Eiders are captured by hand nets and in drive traps and banded with standard USGS bands. Over the last 10 years, we have returned to the same islands to band unmarked birds and record bands of previously banded birds. Analyses are ongoing to determine survival, recruitment, and recovery rates of Eiders in Maine. The ultimate goal is to provide information that can be included in specific management models for declining migratory bird populations.



**The Science:** The dresser race of common eiders breed from central Labrador to southern Maine and winter from Newfoundland to Massachusetts. The breeding population in the mid-1980s was estimated to be 71,000 pairs, of those 40% were in Maine. In Maine, nesting eiders increased from a few pairs in the early 1900s to approximately 28,000 pairs in 1989. Although the number of birds seems to be stable, the number of nesting pairs per island has been decreasing over the years. Banding analysis for female American eiders breeding in eastern North America determined that survival rate for the Atlantic coast sub-population was 0.8730 and recovery rate was 0.01. Adequate data for the birds breeding in Maine were only available for the period from 1976-1986. Since 1961 the proportion of young eiders in the sport harvest has declined, indicating a long-term decline in recruitment. There has been speculation that survival rates of adult eiders, especially females, have decreased below sustainable levels. Although adult eiders have high survival rates compared to other waterfowl, their low recruitment rate does not allow them to sustain high harvest rates. Harvest of eiders in Maine and the Atlantic Flyway has increased about 7.5% per year over the last 40 years. Harvest in the Atlantic Flyway has increased from 4,140 in the 1960s to 27,250 in the 1990s.



**The Future:** This research project is an ongoing collaboration between USGS and Maine Department of Inland Fisheries and Wildlife and the USFWS Maine Coastal Islands National Wildlife Refuge. The research to date has resulted in over 11,000 eiders banded and preliminary analyses indicate that survival and recovery rates may be different from previous estimates. Future research will include collaboration with the Provinces of Quebec, Nova Scotia, Duck Unlimited and academic partners. This study should enable state, provincial, and federal regulators to better manage and sustain this critical population of waterfowl.