

FEATURE ARTICLES

**CORRELATED GROWTH AND SURVIVAL OF JUVENILE SPECTACLED EIDERS:
EVIDENCE OF HABITAT LIMITATION?**

PAUL L. FLINT^{1,3}, JULIE A. MORSE¹, J. BARRY GRAND¹, AND CHRISTINE L. MORAN²

¹*Alaska Science Center, U.S. Geological Survey, 1011 E Tudor Road, Anchorage, AK 99503*

²*Yukon Delta National Wildlife Refuge, U.S. Fish and Wildlife Service, P.O. Box 346, Bethel, AK 99559*

Manuscript received 6 January 2006; accepted 22 June 2006.

³ E-mail: paul_flint@usgs.gov

Abstract. We studied the growth and survival of Spectacled Eider (*Somateria fischeri*) ducklings to 30 days of age along the lower Kashunuk River on the Yukon-Kuskokwim Delta from 1995 to 2000. We replicated this study at a second site, Kigigak Island, in 1999 and 2000. Age-adjusted estimates of duckling mass and survival at 30 days posthatching were highly variable. Duckling survival was consistently higher on Kigigak Island in 1999 and 2000, averaging 67%, while survival on the Kashunuk River averaged 45% during the same time period. Duckling survival was negatively related to hatching date. At the Kashunuk River site our data supported models that indicated age-adjusted mass varied with habitat type and declined with hatching date. Ducklings from Kashunuk River were heavier in 1999, while ducklings from Kigigak Island were heavier in 2000. However, we found a positive correlation between 30-day duckling survival and age-adjusted mass, suggesting a localized environmental effect on both parameters. We conclude that predation may be the proximate mechanism of mortality, but habitat conditions are likely the ultimate factors influencing duckling survival. Geographic variation in rates of duckling survival and apparent growth suggest that spatial heterogeneity in population vital rates is occurring at multiple levels.

Key words: duckling growth, duckling survival, habitat limitation, hatching date, salinity, *Somateria fischeri*, Spectacled Eider.