

ABSTRACTS FOR *CONDOR* 103(2) MAY 2001

FEATURE ARTICLES

FOOD SUPPLY AND THE CONSEQUENCES OF EGG SIZE IN THE THICK-BILLED MURRE¹

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Abstract. We examined the effect of egg size on post-hatching development in the Thick-billed Murre (*Uria lomvia*), an Arctic seabird that lays a one-egg clutch, at a colony where food availability during chick-rearing was low (Digges Island, Nunavut, Canada). We compared our results to those of a previous study conducted at a colony where food availability was higher (Coats Island, Nunavut). To control for underlying phenotypic correlations between egg size and parental quality, we switched eggs at random among pairs. Egg size positively affected the rate of early wing-feather growth, but contrary to prediction, the advantage enjoyed by chicks from large eggs over those from small eggs at Digges Island (1.6 days' feather growth on average) was no greater than at Coats Island (2.0 days). Egg size had no effect on the rate at which chicks gained mass at Digges Island, but young from large eggs tended to remain heavier than those from small eggs. At Coats Island, this occurred only in a year in which chicks grew relatively slowly, offering some support for the hypothesis that a large egg confers greater advantage when feeding conditions are unfavorable. Adults at Digges Island invested heavily in provisioning their chicks, but there was no evidence of a trade-off between egg size and provisioning. As costs associated with large eggs have not been detected in Thick-billed Murres, the existence of considerable variation in egg size, beyond that associated with female age or experience, remains unexplained.

[Back to *CONDOR* 103\(2\) MAY 2001 Table of Contents](#)