

THE HABITAT UTILISATION AND BEHAVIOURAL ECOLOGY OF MINKE WHALES WITHIN THE NORTH ATLANTIC: A COMPARATIVE MULTI-SITE APPROACH

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The minke whale (*Balaenoptera acutorostrata*) is a widely distributed, abundant and adaptable species of cetacean. Currently within the North Atlantic, the minke whale is a species of management importance. However, our knowledge of the potential variation in the species' ecological niche, its habitat use and behavioural adaptation is relatively poor considering this distribution. This study indicates the importance of this knowledge through a comparative investigation of the regional habitat utilisation in three distinct study sites within the contiguous North Atlantic. These include the Moray Firth in Scotland, Skjálfandi Bay in Iceland and the St. Lawrence Estuary, Canada. Sighting's data analysed were collected within the period 2002 to 2008 between the months of May and September inclusive. Sightings were compared to a suite of eco-geographic co-variates, including bathymetric (depth, slope) and oceanographic (SST, chlorophyll-a concentration, fronts) features within a GIS construction which were subsequently analysed using univariate (Kruskal-Wallis) and multivariate (PCA) approaches. Results of this study determined that although similarities were observed in *B. acutorostrata* associations with certain environmental parameters (e.g. bathymetry), significant variations were resolved in the habitat utilisation of sites when investigated across mean annual and monthly periods tested. In particular, this variation was evident for the distribution of *B. acutorostrata* across spatio-temporal dynamic oceanographic parameters between the three areas of study. It is hypothesised that such regional adaptations in habitat use are necessary for both the utilisation of varying prey species and for the functional behavioural foraging strategies (e.g. opportunistic foraging, inter-specific association, active entrapment manoeuvres etc.) used within each habitat for the most optimal acquisition and aggregation of respective targeted prey. These findings, which assess and quantify the variation within distinct minke whale populations, are considered important for providing new information for both managers and those participating in other macro scale analyses of this and other rorqual whale species in the contiguous North Atlantic.