

THE FUNCTION OF DISPERSAL AS A RESPONSE TO CLIMATE CHANGE IN A LONG-LIVED SEABIRD

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There is growing concern that climate change is causing marked changes in the number and distribution of many species. One of the clearest signs of climate change is a shift in species' distribution and this can occur either through extinction of local populations, or through the dispersal of individuals away from unfavourable conditions. Dispersal is therefore a potentially important mechanism whereby populations can adapt to climatic change. This study will be carried out on the European shag, *Phalacrocorax aristotelis*, a long-lived seabird that is declining in a region known to be experiencing rapid environmental change. The project aims to establish how dispersal within and between shag colonies along the north east coast of the British Isles varies in response to climatic variables. CEH possess a long-term, individual based study on the European shag on the Isle of May, Scotland. This contains data on breeding performance and provenance of more than 30,000 birds from over 30 years and as such is a valuable resource for assessing population change in this study. Through this, and the use of genetic techniques, the potential for individual dispersal to enable populations to adapt to environmental change will be ascertained, since dispersal away from unfavourable conditions during this time of climatic change may be crucial to species' persistence.