

1.2 *Aims and Objectives*

The overall aim of this project is to utilise a range of GIS and statistical tools to assess the relationships between the distribution of twite across Britain and a selection of geographical and biological variables including land cover, land use, topography and climate. These relationships will be used to derive a model that can be used to predict the presence of twite in Britain.

The specific objectives of the project are:

- **To map twite distribution across England, Scotland & Wales** at different dates, e.g. 1968-72 and 1988-91 based on data extracted from the first two Atlases of Breeding Birds in Britain & Ireland and the 1999 national survey and assess trends in the distribution over a 30-year period.
- **To map land cover, land use, elevation and climatic factors nationally** and assess what relationships exist between these parameters and twite distribution, with particular emphasis on establishing if different relationships apply in different areas.
- **To record floristic value of crofting land on South Uist** and consider the merits of such a measure in predicting twite presence.
- **To analyse the spatial relationships between the distribution of twite and these bio-geographic factors** in more detail to develop a range of models that can predict the likely distribution of twite.
- **To test the performance of the predictive models** against independent data on twite distribution and assess their relative merits and possible ways improving them.