



BIOTOPE MAPPING AND SURVEY OF THE TRESHNISH ISLES

The Treshnish Isles are a candidate Special Area of Conservation under the European Habitats Directive (92/43/EEC). The main marine features of interest for which it has been designated are the internationally important breeding colony of grey seals *Halichoerus grypus*, and the rocky reefs that fringe 90% of its coastline. ERT (Scotland) Ltd was contracted by Scottish Natural Heritage (SNH) to undertake broad scale intertidal and subtidal mapping of the Treshnish Isles cSAC.

THE ISLANDS

The Treshnish Isles are a remote chain of uninhabited islands and skerries, located in the Inner Hebrides between the islands of Coll and Mull, in southwest Scotland. The cSAC comprises six main islands and several smaller islets, skerries and reefs, and has a coastline characterised by low cliffs and steep rocky shores. The islands are of national importance for their breeding seabird colonies, especially for the storm petrel *Hydrobates pelagicus*. The Treshnish Isles are also of international importance as a traditional wintering locality for the Greenland barnacle goose *Branta leucopsis*. In addition, the islands support an internationally important breeding colony of grey seals *Halichoerus grypus*, contributing approximately 3% of the annual UK grey seal pup production.



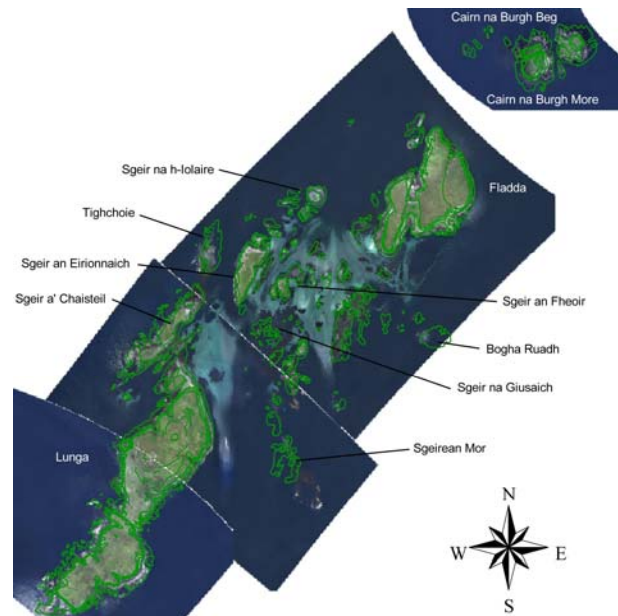
View of Lunga, Treshnish Isles

BROADSCALE MAPPING

Aerial photography of the Treshnish Isles, undertaken by Flight Images LLP, took place at low water spring tides. The photographs were scanned and a mosaic image made up for geo-rectification and display within a GIS environment.

The primary survey technique used in the subtidal study was a RoxAnn Acoustic Ground Discriminating System (AGDS). Ground truth information on the nature of the sea bed was obtained to interpret the AGDS data, using a drop down video system.

The majority of the shoreline was walked and directly observed by the survey teams, although some sections were mapped from the top of cliffs. The observed biotope distribution was drawn directly onto the aerial photographs, with OS Landline data superimposed. Digital photography was used to illustrate the site in general, the biotopes present and close up of many of the marine organisms present.



Geo-rectified aerial photography of the Treshnish Isles overlain with Ordnance Survey Landline data

RESULTS

Intertidal and subtidal broad scale mapping of the Treshnish Isles identified a total of 52 biotopes. In exposed subtidal areas, encrusting species occurred on almost all rock surfaces. The shelter afforded amongst the islets has allowed well developed forests of mixed kelp species to occur, along with an extensive network of maerl beds and a bed of the eel grass *Zostera marina*. The shores were predominately open, rocky and steep, and on the larger islands tended to be exposed on the south and west coasts. Such shores were generally characterised by barnacles and limpets, though fucoids were typically present, with *Fucus vesiculosus f. linearis* on the most exposed shores.

GEOGRAPHICAL INFORMATION SYSTEM (GIS)

The results of the survey work were taken into a GIS for presentation as a series of thematic maps, for use by SNH in its management of the cSAC. The remote sensing data was geo-rectified and presented with the results of the survey to delineate features of interest within the cSAC. This information with the ground truth locations and the raw data were provided as part of the output of the project. The aerial and ADGS data were presented as a broadscale habitat map of the intertidal and subtidal areas of the cSAC.