



PROJECT EXPERIENCE

BROAD SCALE BIOTOPE MAPPING OF THE ISLE OF MAY

*The Isle of May lies at the entrance to the Firth of Forth on the east coast of Scotland. The Isle of May supports an internationally important breeding colony of the grey seal *Halichoerus grypus* and is also well-known for the bedrock reefs that fringe 90% of its coastline. For these reasons it has been proposed as a candidate Special Area of Conservation (cSAC) under the European Habitats Directive (92/43/EEC).*

ERT (Scotland) Ltd (ERT) was contracted by Scottish Natural Heritage (SNH) to undertake wide scale intertidal and subtidal biotope mapping of the Isle of May cSAC and a surrounding 1 km buffer zone.

THE CHALLENGE

The four objectives for this project as set by SNH were:

- to review existing information relating to the intertidal and subtidal regions of the Isle of May;
- to undertake broad scale intertidal and subtidal biotope mapping of the Isle of May;
- to prepare a report and maps to show the distribution of biotopes around the island; and
- to compile the data and outputs into a GIS project compatible with the SNH ArcView GIS.



ERT teamed up with Envision Mapping Ltd of Newcastle University. ERT undertook the project planning, much of the field work and report preparation whilst Envision Mapping contributed specialist equipment and expertise for completing the subtidal work, and GIS project preparation.

THE SURVEY

Site selection reflected information from previous surveys, as well as the range of coastal features present and safety of access. A full risk assessment for the fieldwork was undertaken.

Intertidal field work

A rigid-inflatable boat (RIB) provided access to the island and was the platform from which the steep cliffs and inaccessible sections of the May shoreline were surveyed. However, most of the shore was walked by the survey team. The observed distribution of habitats and communities was drawn onto prepared maps, and supported by species abundance data, position records and photographs.

Subtidal field work

The primary survey technique used in the subtidal study was a dual frequency RoxAnn Acoustic Ground Discrimination System (AGDS). Ground truth information on the nature of the seabed to interpret the AGDS output was obtained using a video system. The areas of rocky reefs close to the island were further investigated using a sidescan system.

RESULTS

A total of 44 biotopes were identified from the intertidal and subtidal survey work. The generally exposed rocky nature of the shoreline was highlighted in the results, in addition to which much of the upper shore was influenced by the island's seabird colonies. Subtidally, rocky reef habitats dominated close inshore. In the shallows, these were covered with kelp, progressing with depth to animal and algal crusts often heavily grazed by sea urchins. The sedimentary seabed over the rest of the cSAC was characterised by a mixture of brittlestars, squat lobsters and sea pens.



THE PRODUCTS

The results from 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.

A written report was also produced describing the survey and presenting the maps. Associated products included digital video and catalogued photographs, and an Access database.