

8

Marine mapping and area protection



JNCC provides advice on the mapping of the marine environment and on identifying marine protected areas

Rapid growth in JNCC's marine work during the year prompted the creation of a Marine Protected Sites team and the recruitment of additional staff to deal with the growing workload.

JNCC continued to provide advice to Government on the identification of offshore Special Areas of Conservation (SACs), which will contribute towards the Natura 2000 network of protected areas within the European Union. The public consultation on the first seven offshore SACs closed in March 2008 and attracted comments from 38 stakeholders representing a wide range of interests, including energy, fishing and environmental groups. JNCC assessed the responses, reported the outcome, and considered the scientific issues raised in consultation with Government. Adjustments were made to the site recommendations, and five sites were formally submitted by Defra to the European Commission in September 2008. The five sites are:

Braemar Pockmarks and **Scanner Pockmarks** in the northern North Sea – both of these consist of undersea carbonate structures formed by leaking methane gas. The structures provide shelter for fish and other species within crater-like seabed 'pockmarks'.

Haig Fras, a granite outcrop 95km west of the Isles of Scilly. The only substantial area of rocky reef in the Celtic Sea supports a wealth of species, including pink and orange anemones, corals and sponges.

Stanton Banks, a range of granite 'hills' on the seafloor south of the Outer Hebrides. The tops of the outcrops are colonised by red algae and a variety of sponges, while the slopes shelter communities of red and orange featherstars and dead man's fingers.

The Darwin Mounds are a series of unique cold-water coral reefs off north-west Scotland that provide a habitat for a wide range of invertebrates, including sponges and starfish,

and fish. The mounds rise to five metres above the level of the surrounding seabed.

The remaining two sites consulted upon in 2008 are North Norfolk Sandbanks and Saturn Reef in the North Sea and Wyville Thomson Ridge off north-west Scotland. Both are expected to be submitted to the European Commission as soon as possible following resolution of issues raised during the consultation.



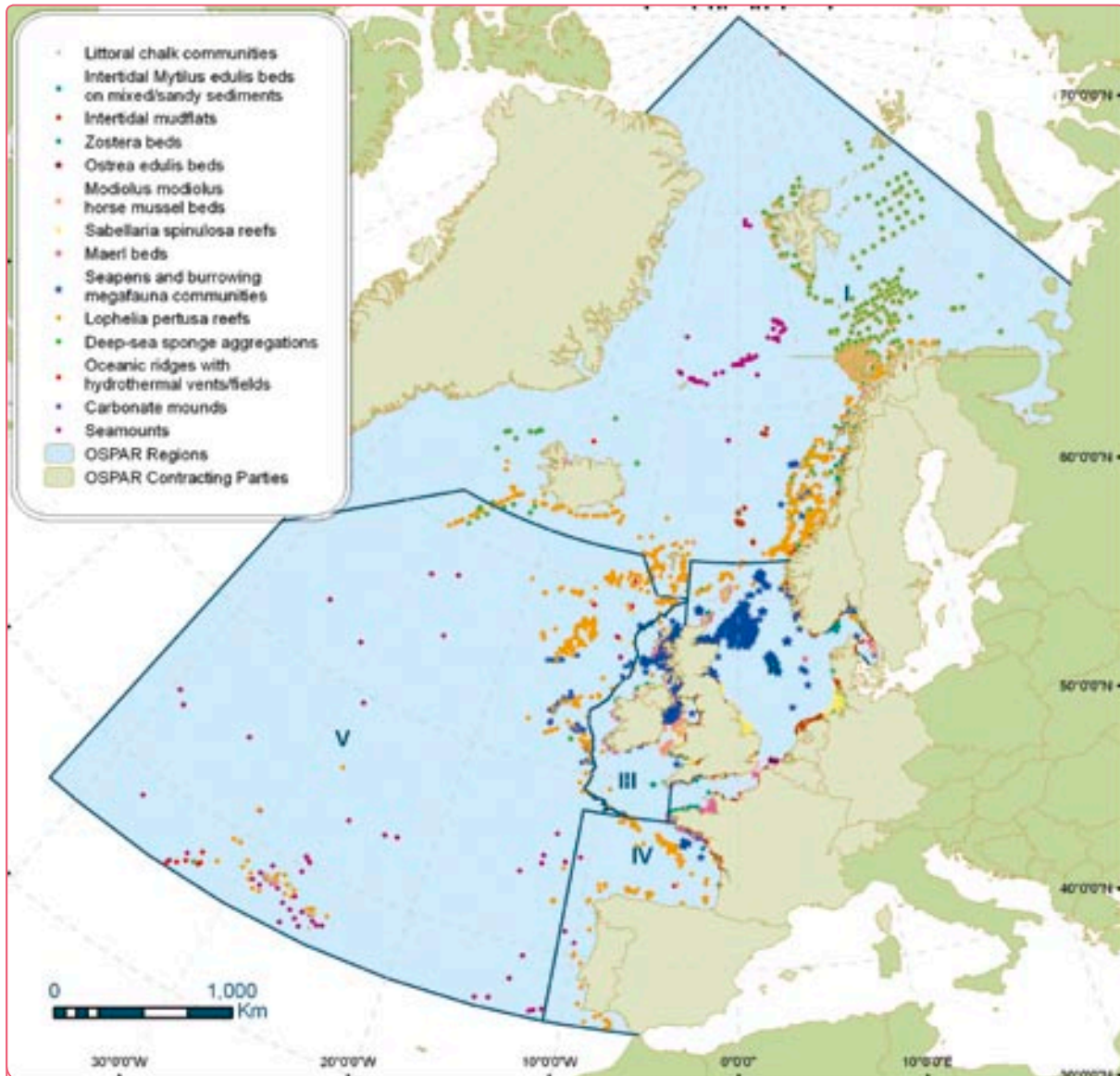
Crescent Harbour, Sitka, Alaska

Sitka hosted the GeoHAB 2008 conference

JNCC was able to share its expertise in seabed mapping through involvement in the GeoHAB 2008 conference in Alaska in April 2008. The conference brought together geologists, biologists, ecologists and fisheries scientists to exchange ideas. JNCC was represented at the meeting by Mark Tasker (vice-chair of the Advisory Committee) and Anton Wolfaardt (ACAP co-ordinator, UK south Atlantic Overseas Territories). Progress was achieved in a number

of areas, including the development of a co-ordinated approach to interacting with Regional Fisheries Management Organisations (RFMOs), the development of a prioritisation framework, and agreement amongst Parties to propose the listing of the three north Pacific albatross species on Annex 1 of the Agreement at the next session of the Meeting of Parties.

© Neil Golding/JNCC



OSPAR habitats map

Sabellaria spinulosa reefs can be found off the coast of Hunstanton, Norfolk

JNCC played an important role during the reporting year in the preparation of quality status reports for threatened marine habitats in the OSPAR area (north-east Atlantic). We led on the assessment of three habitats – cold-water coral reefs, horse mussel beds and littoral chalk communities. The latter is a very rare habitat type in the north-east Atlantic and includes the chalk cliffs and

shores of the English south coast and the coast of northern France. Rare algal communities are found on the rock faces and in the caves that the sea carves into the soft white rock.
 World Vector Shoreline © US Defense Mapping Agency. OSPAR Regional boundaries © OSPAR Commission 2009. Map © JNCC 2009. Photograph © M Murphy



Four more offshore areas were formally recommended to Defra as draft SACs in 2008/09. Dogger Bank and Bassurelle Sandbank have been proposed because they are examples of offshore sandbank habitats. Both sites extend into the waters of other Member States: Dogger Bank extends into Dutch and German waters and Bassurelle Sandbank extends into French waters. JNCC has been working closely with colleagues in those countries on aligning site recommendations across Member State boundaries and also on early discussion of future management measures that may be required.

The other two draft SACs, North-West Rockall Bank and Hatton Bank, are in the north-east Atlantic. Both sites have been proposed for their bedrock and the rich cold-water coral reef communities they support. The reefs provide shelter for a wide range

of species, including anemones, sea cucumbers and sea squirts.

JNCC has also been working with Natural England to prepare SAC recommendations for two sandbank and reef areas in the outer Wash and off the north Norfolk coast area of eastern England. Whilst both sites have inshore and offshore elements to which different regulations apply, we have prepared single site documentation to overcome any confusion amongst stakeholders.

These sites are likely to be subject to public consultation in 2009 and early 2010. JNCC and Natural England have held a number of pre-consultation meetings with key stakeholders to familiarise them with the proposals and answer questions. Meetings have been held with regulators



The white cliffs of Dover
Example of a littoral chalk community

Photo to landward of The Chalk, between Kingsdown and Dover, Kent. The area has a high conservation value as not only an OSPAR site [see opposite page], but also as a site important for its coastal geomorphology and the

geology of its cliffs. Although this is a rock cliff, the material is effectively a biological deposit, made almost entirely of the remains of ancient sea creatures, but now hosts a wealth of present-day biodiversity.

© Vincent May

and industry groups in the UK representing the main industry sectors (including oil and gas, fisheries, aggregate extraction and renewable energy). JNCC has also had meetings with fishermen at a European level through the European Commission's Regional Advisory Councils for the North Sea, North Western Waters, and Pelagic Waters. As well as the pre-consultation meetings, JNCC has assessed the likely socioeconomic impact of site designations.



**Drop-down underwater camera system
Survey work off Solan Bank**

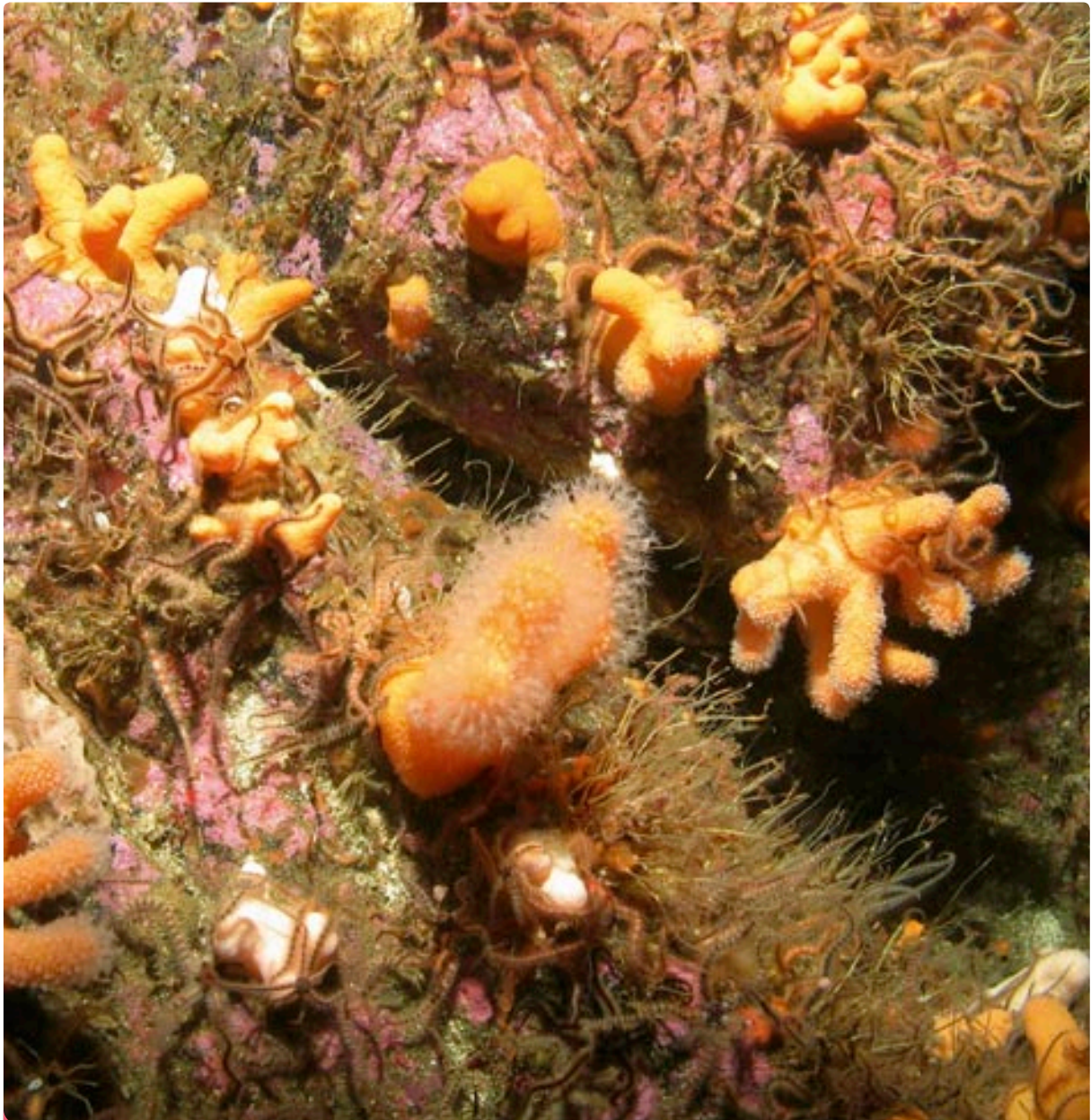
During 2008 the JNCC surveyed and mapped the seabed habitats of three areas within the UK offshore marine area. Acoustic techniques such as multibeam and sidescan were used to gain an indication of the seabed morphology. Techniques such as Hamon grab sampling, photographs and video were then used to 'ground truth' the acoustic data and develop seabed habitat maps.

© Neil Golding/JNCC

JNCC also continued its offshore survey programme to identify the seabed areas that may be recommended to Defra as offshore SACs. In April 2008, the Centre for Environment, Fisheries and Aquaculture Science (Cefas) surveyed parts of the Dogger Bank for JNCC to provide new and more comprehensive information to support our revised site recommendation to Defra in November 2008. We also commissioned two further surveys in the offshore marine area in 2008. The first targeted an area of submarine structures in the mid-Irish Sea. These carbonate structures are reef-like and provide a unique habitat for a wide range of marine life. The second survey was of an area of bedrock and stony reef around the Solan Bank, off northern Scotland.

During the reporting year, JNCC continued work to identify areas of the sea around bird colonies that should be covered by extensions of Special Protection Areas (SPAs) identified under the EU Birds Directive. Work was completed to identify red throated diver *Gavia stellata* feeding areas near to breeding sites in Scotland, and recommendations will be made in collaboration with the Scottish Government and Scottish Natural Heritage. In addition, other areas were identified that could be proposed as SPAs for seabirds, and further work was carried out to identify possible SPAs for inshore species such as ducks and divers.

The new Marine Bills (see Chapter 7) make provision to establish a network of Marine Protected Areas around the UK. In preparation for the Marine and Coastal Access Bill achieving Royal Assent, JNCC is collaborating with Natural England on a Defra-funded project to design and take forward a process to identify Marine Conservation Zones in English waters and offshore waters adjacent to England and Wales with full stakeholder involvement. We are also working with Scottish Government and Scottish National Heritage to establish a project to identify Marine Protected Areas in Scottish offshore waters.



Soft corals and brittlestars
Solan Bank, north-east Scotland

Some 50km north of Cape Wrath, Scotland, Solan Bank is an exposed bedrock outcrop that stands 100 metres above the surrounding seabed and almost reaches the sea surface.

In the shallower areas, lush kelp forests cover the rock and are grazed by purple sea urchins. Deeper down,

craggy bedrock ridges form cliffs that are encrusted with orange and white soft corals known as dead man's fingers *Alcyonium digitatum*. Special instruments that take images of the sea floor using sound were towed behind a survey vessel, while an underwater camera was used to capture video and stills from the depths.

© JNCC