Briefing 2

Natura 2000 in the Marine Environment

1 Introduction

The EU is committed under the Convention on Biological Diversity (CBD) to protect and, if necessary, restore biodiversity in all Member States. This commitment is implemented in part by the EU habitats and birds Directives. Together, the two Directives set out provisions for a network of sites called Natura 2000, designed to protect Europe's habitats and species.

The Natura 2000 network is a key component in the EU's efforts to conserve biodiversity. It is made up of protected areas designed to maintain or restore important habitats and species at a favourable conservation status. Fully implemented, the Natura 2000 network is to span the entirety of the EU, from the Shetland Islands in the North Atlantic to the Greek islands in the Mediterranean, creating an ecologically coherent system of representative sites on land and at sea.

To date, the UK has notified around 840 sites under the habitats and birds Directives, covering more than 10 per cent of its territory.

Most marine Natura 2000 sites in the UK – also known as European Marine Sites - are situated close to shore, but sites will eventually need to be created throughout UK waters. The inshore waters, in particular, are subject to a wide range of commercial and recreational activities, not least fishing. The designation of a Natura 2000 area does not necessarily prevent these activities, but requires them to be carried out without harming the integrity of the site.

Meeting the UK's Commitment to Marine Protected Areas

Within the North-East Atlantic region, the UK is committed to identifying a first set of marine protected areas by 2006, and to creating an international network of well-managed marine protected areas by 2010 (OSPAR Convention), as well as to designating relevant areas of the North Sea by 2010 (North Sea Conference).

In 2002, these commitments were reinforced at the World Summit for

Lagoon, Easedale Quarry; ANON © JNCC

Sustainable Development. The UK signed up to developing and facilitating 'the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks, by 2012 and time/area closures for the protection of nursery grounds and periods'.

Implementing the habitats and birds Directives by designating Natura 2000 areas in UK inshore waters, as indeed offshore, will go some way to fulfilling these targets.

Special Areas of Conservation and Special Protection Areas jointly make up Natura 2000 and may overlap in certain areas.

2 The Legal Requirements – Natura 2000

The habitats Directive requires the designation of Special Areas of Conservation (SACs) for the protection of habitats and species of Community importance. Together with Special Protection Areas (SPAs) for wild birds under the EU birds Directive, these are to form a coherent European network known as Natura 2000.

While the standards that have to be met under the two Directives differ somewhat, SACs and SPAs jointly make up Natura 2000 and may overlap in certain areas. The main differences relate to the process for identifying, selecting and designating sites.

Under the habitats Directive, SACs have to be selected on the basis of strict scientific criteria. To ensure that the overall network is representative of all European environments, the sites undergo a 'process of moderation' at the EU level, involving scientists from the Member States and the Commission. They have to agree on a balanced set of sites, covering an area sufficient to ensure the safeguarding of all biodiversity, whether on land or at sea.

SACs proposed by the Member States, which contain priority natural habitat types and/or species (as identified by the habitats Directive) do not require assessment through moderation, but are directly considered for adoption at EU level. For SPAs, sites are identified by the Member State alone, without the EU moderation process.

The central requirements for the *protection* of Natura 2000 sites are similar for SACs and SPAs, as follows:

- if need be, a site **management scheme** or equivalent measures reflecting site-specific conservation objectives (not required under the birds Directive) should be established;
- measures to **avoid the deterioration or disturbance** of the habitats and species for which the site is designated need to be taken;

Wick of Sound, Yell, Shetland; ANON © JNCC

- **assessment of plans or projects** that are likely to have an impact on the conservation features for which the site is designated need to be undertaken; and
- a **surveillance programme** to monitor habitats, species and activities undertaken within each site has to be put in place.

The UK has taken the view that a site management scheme is the appropriate mechanism by which to avoid deterioration of and disturbance at all ***marine*** sites, including SPAs. In general, economic, social and cultural requirements, as well as regional and local characteristics, should be taken into account in the implementation and management of Natura 2000.

A site management schemes is considered the appropriate mechanism by which to avoid deterioration of and disturbance at all marine sites, including SPAs.

3 Habitats Covered by Natura 2000

The habitats Directive requires the designation of sites for eight marine habitat types – seven occurring in the UK. As of October 2003, the UK had designated 601 SACs, of which 90 sites (15 per cent) include one or more marine interest features. Most of the 90 sites are coastal, and all are situated in inshore waters. Most of these include either mudflats or reefs, or both. Sandbanks and sea caves are also present in a large number of sites. The seven habitat types requiring UK SAC designation are:

Subtidal sandbanks

Subtidal sandbanks are sandy sediments permanently covered by shallow sea water and typically elongated, rounded or irregular 'mounds' at depths of less than 20 m below sea level. There are four main sub-types: i) gravelly and clean sands; ii) muddy sands; iii) eelgrass beds; and iv) maerl beds. The latter two sub-types are of high conservation value because of their species diversity and scarcity in the UK. Subtidal sandbanks are widespread in inshore waters and also occur offshore in the southern North Sea and in the Irish Sea; to date, the UK has designated **38 sites**.

The *Scilly archipelago* SAC, off the south-west tip of England, encompasses extensive tide-swept sandbanks, which are important because of their extensive and diverse associated communities. Their rich flora and fauna include crustaceans, polychaete worms, sea anemones, molluscs and fish, and they harbour the best-developed eelgrass beds of southern England.

Estuaries

Estuaries comprise an interdependent mosaic of subtidal and intertidal habitats, normally closely linked to surrounding terrestrial habitats. The

Sandbank at Dawlish Warren Point, Exe Estuary; Iain Dixon © JNCC

intertidal and subtidal sediments support rich biological communities varying with the type of sediment, salinity gradients, geographic location and the strength of tidal currents. The UK has over 90 estuaries and has to date designated **21 sites**. SACs generally extend from the tidal limit or extent of brackish influence to the mouth of the estuary. They cover all habitats and species that are important to the integrity of the site, including the water column.

Morecambe Bay SAC in north-west England is the confluence of four principal estuaries: Leven, Kent, Lune and Wyre. It is also described as the largest single area of continuous intertidal mudflats and sandflats in the UK, and the best example of muddy sandflats on the west coast. The estuary further comprises fringing saltmarshes and open intertidal flats.

Intertidal mud- and sandflats

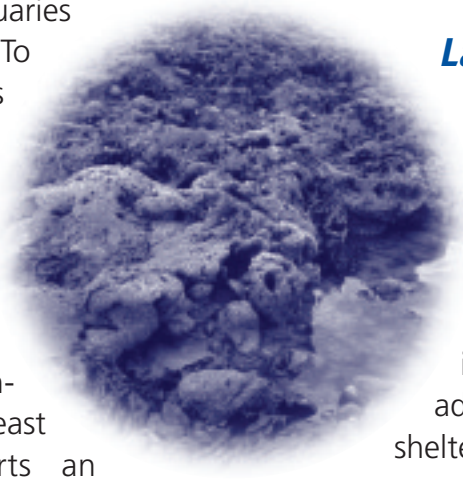
Intertidal mud- and sandflats are major components of estuaries and large shallow inlets and bays in the UK. They also occur widely along the open coast and in lagoons. They range from mobile, coarse-sand beaches on wave-exposed coasts to stable, fine-sediment mudflats in estuaries and other marine inlets. To date, the UK has designated around **50 sites**.

Berwickshire and North Northumberland Coast SAC is part of a diverse stretch of coastline in north-east England and south-east Scotland, which supports an extensive range of intertidal mudflats and sandflats. The conditions vary from wave-exposed beaches to sheltered muddy flats with rich infaunal communities. These flats are home to extensive mussel beds (*Mytilus edulis*), populations of sand eels, and burrowing heart-urchins and bivalve molluscs.

Coastal lagoons

Coastal lagoons are areas of shallow salt water, wholly or partly separated from the sea by sandbanks, shingle or, less frequently, rocks. The plant and animal communities of lagoons, and thus the character of sites, varies significantly with the physical characteristics and salinity regime of the lagoon. Due to their scarcity in the EU, lagoons are a priority habitat type, which means that they will have to be protected through the designation of SACs. The UK has proposed **23 sites** in just over half of these the lagoon is considered amongst the primary features for protection.

The Vadills in Shetland is an outstanding example of a complex lagoon system with high biodiversity, comprising both lagoon inlets and silled lagoons.

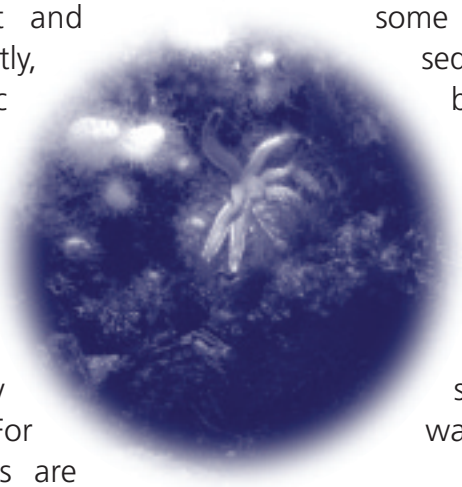


Large shallow inlets or bays

Large shallow inlets or bays are relatively shallow (often less than 30 m) and generally have much lower freshwater influence than estuaries. In addition, they are often more sheltered from wave action than

Tarn Bay, Ravenglass; Roger Covey © JNCC

the open coast. Habitat and species diversity varies greatly, depending on geographic location, size, shape, form and geology.



Although widespread along the coasts of Europe, their specific characters vary significantly from region to region. For example, fjardic sea lochs are scarce outside the UK, whilst rias are a particular feature of France and northern Spain as well. The UK has designated around **17 sites**.

Strangford Lough SAC on the east coast of Northern Ireland is an excellent example of a large, enclosed fjardic sea lough. It displays a remarkable marine fauna and contains one of the highest levels of biodiversity in UK sea loughs. Amongst the highlights are communities of burrowing brittlestars, Norway lobster and horse mussels.

Reefs

Reefs are rocky marine habitats or biological concretions that rise from the seabed. The category includes vertical rock walls and horizontal ledges, as well as sloping or flat bed rock, broken rock, boulder fields, and aggregations of cobbles. Another ecologically important type of reef is created by accumulations of certain organisms, which can form substantial, discrete communities or habitats which are very different from the surrounding seabed. The structure of the reef may be composed almost entirely of the reef building organism and its tubes or shells, or it may to some degree be composed of sediments, stones and shells bound together by the organisms. These are called biogenic reefs. In UK waters, biogenic reefs are mainly formed by blue mussels, horse mussels, ross worms, serpulid worms and cold-water corals.

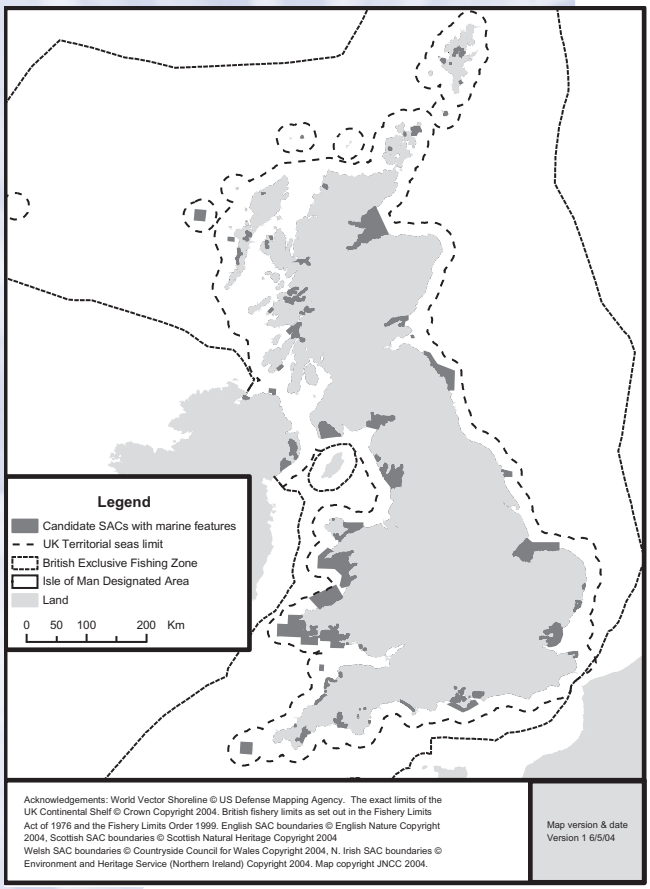
Most reefs are subtidal, but they do occasionally extend into the intertidal zone. Reefs occur widely around the UK, in both inshore and offshore waters. Rocky reefs are more common than biogenic concretions. To date, the UK has designated **41 sites**.

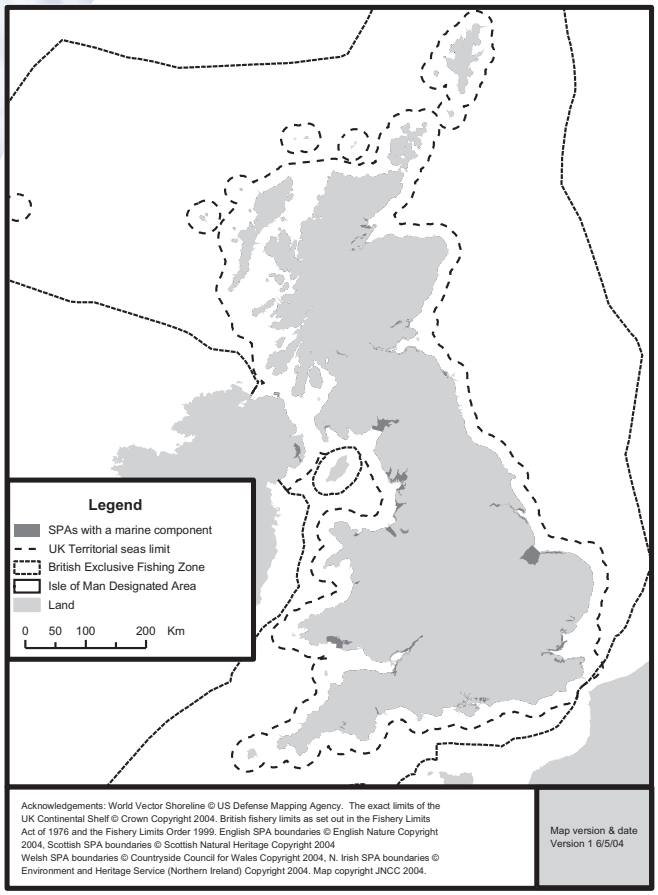
The *Firth of Lorn SAC*, thought to be amongst the most diverse reefs in both the UK and Europe, comprises a large variety of reef types and associated communities. Reefs occur from the shallow waters between the islands and the mainland into depths of over 200 metres. Some species that occur in the area, such as sponges and featherstars, are normally found in deeper waters.

Submarine structures made by leaking gases

Submarine structures made by leaking gases are most likely to occur in offshore areas (ie beyond 12 nm). They commonly consist of rocks, pavements and pillars up to 4 metres high, and result from microbial oxidation of gas emissions, mainly methane. The formations usually harbour a highly diverse ecosystem. They often cover relatively small areas at depths

Reef offshore SSW of Gribbin Head, Mevagissey; Rohan Holt © JNCC





between 850 and 2,300 metres, and are vulnerable to physical damage. The UK is still mapping the locations of these structures, and has not yet designated any sites.

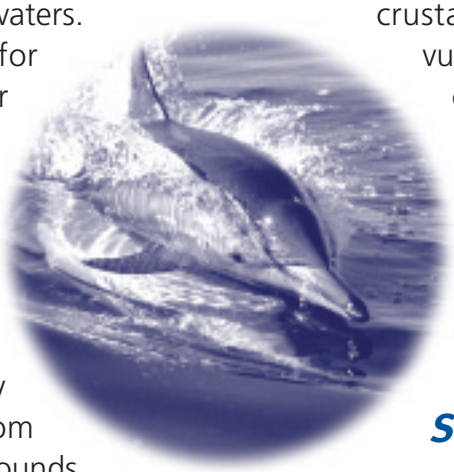
4 Species Covered by Natura 2000

The designation of sites plays a relatively minor role in the protection of most marine species currently covered by the habitats Directive. Most 'species sites' have been designated to protect marine mammals. The UK, for instance, has proposed nine SACs for the protection of the bottlenose dolphin, three of which are particularly important (Moray Firth, Pen Lyn a'r Sarnau and Cardigan Bay), and 16 sites for seals. While the harbour porpoise occurs in 22 proposed sites, none of these have been designated specifically to protect it.

The *Cardigan Bay European Marine Site* is a good example of a marine SAC designated and managed for the protection of bottlenose dolphins. Cardigan Bay is one of the very few areas around the UK where significant numbers of this species are known to occur regularly. Thus, at least parts of the Bay are specifically managed to protect areas important to the local dolphin population.

Fish species occurring in sea and/or brackish waters, which are afforded site protection under the habitats Directive are typically rare and occur

only sporadically in UK waters. Sites proposed for designation have so far been selected within their freshwater and/or estuarine habitats. One such site is the proposed *Solway Firth SAC*, which provides migratory passage for the sea lamprey on its way to and from spawning and nursery grounds in a number of local rivers.



UK SACs have to be designated for:

Seals

The grey seal is relatively rare, and 40 to 45 per cent of the world population and 95 per cent of the EU population breed in British waters. Britain is also home to about 5 per cent of the world common (or harbour) seal population, and 50 per cent of the European sub species. To date, seven sites have been proposed primarily to protect the grey seal, and at least nine to protect the common seal. Accidental capture of animals in gill nets is not uncommon.

Cetaceans

The bottlenose dolphin and the harbour porpoise are accidentally caught in set net fisheries, notably gill nets, drift nets and trammel nets, and less frequently by trawlers and seiners. To date, three sites have been proposed primarily to protect the bottlenose dolphin.

Otters

Otters forage in intertidal and shallow rocky areas, feeding on fish and crustaceans. They are thus vulnerable to entanglement in certain types of fishing gear. To date, the UK has proposed 22 sites (exclusively freshwater) where the otter has been one of the primary reasons for designation.

Sea turtles

The loggerhead turtle is the only turtle species for which SACs have to be designated. However, protection will be achieved primarily through designation of breeding sites in the Mediterranean. Sea turtles are not common in UK waters, and the UK has not proposed any sites.

Fish

A number of fish species require the designation of SACs, including the allis and twaite shad, lampern, sea lamprey and sturgeon. The Atlantic salmon only requires the designation of freshwater sites. The UK has to date proposed eight sites (including freshwater) for which the sea lamprey has been one of the primary reasons for designation, four for the twait shad, and 18 for salmon (exclusively freshwater). No sites have been proposed specifically for the allis shad, although it is an interest feature in a number of sites.

Important bird areas can also be found along the UK coast – in estuaries, on sea cliffs, coastal marshes and mudflats – but this is to be expanded to include areas of open water important for resting and feeding, based on the identification of

Dolphin © Photolibrary.com

seasonal concentrations of seabirds. Conway Bay SPA is the first fully marine SPA in the UK.

On land, Natura 2000 sites already cover approximately 18 per cent of the EU land territory.

5 Implementing Natura 2000 in the UK Marine Environment

The habitats Directive sets out a legal timeframe for setting up the Natura 2000 network, which was to be completed by 2004. This timetable has slipped significantly since the Directive's adoption in 1992, and the completion of the network is still some years off.

Much progress has been made, however, particularly on land, where Natura 2000 sites already cover approximately 18 per cent of the EU land territory* – an area bigger than Germany. Progress on marine habitats and species has been slower, which is particularly discouraging given that they are under-represented in the Directive itself.

Uncertainty as to whether Natura 2000 applies to the Member States' offshore waters (ie beyond 12 nm) and difficulties in defining and selecting marine sites have been blamed for the lack of progress in implementation.

As a consequence, many Member States are only now creating the necessary legal and administrative framework to apply the habitats and birds Directives beyond their coastlines.

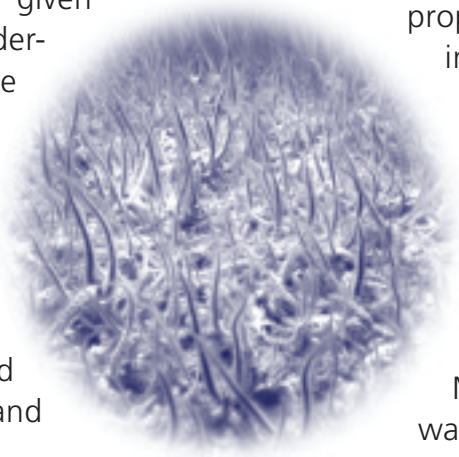
Moreover, scientific information about marine habitats and their species, particularly in offshore areas, is still incomplete. Until this knowledge gap has been filled, the Natura 2000 network will also remain incomplete.

In the meantime, efforts to protect and manage the sites that have already been identified will continue, notably in inshore waters. This process is already underway in the UK, but much remains to be done before full protection is secured.

Extending the scope of Natura 2000 in the UK marine environment

A number of marine habitats and species are not yet sufficiently represented on the UK list of proposed SACs, including intertidal mudflats and estuaries. In order to fulfil its obligations under the habitats Directive, the Government will have to submit further proposals to the Commission.

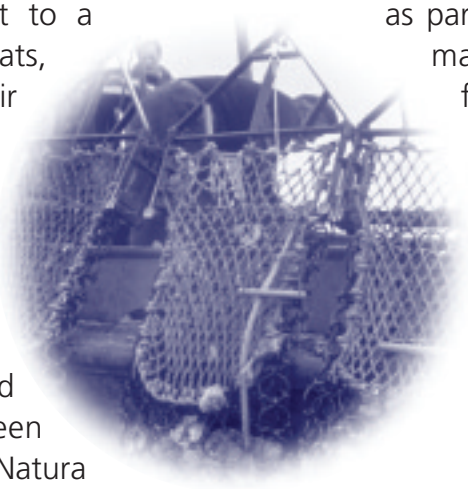
Moreover, for all European waters there are still scientific



This figure is for the fifteen 'old' member States, and should increase when the ten new Member States have joined.

Brittle star; Little Hurker, Cockburnspath; Robert Irving © JNCC

uncertainties with respect to a number of marine habitats, particularly regarding their distribution in offshore waters. Therefore, protection of offshore areas will not be regarded as complete until more scientific evidence is available and more sites have been suggested for inclusion in Natura 2000.



Bridging the gap between Europe's shores and ocean life

The habitats Directive emphasises the importance of connectivity, calling for management of landscape features that are of major importance to animals and plants. In the marine environment, the Government should in their selection of sites for Natura 2000 aim to create a link between terrestrial protected areas and marine protected areas, inshore and offshore. Member States should aim to integrate this work with their land-use planning and development policies.

For marine conservation, this may trigger a move towards greater use of spatial planning. This would hopefully ensure that migratory routes and dispersion corridors in the marine environment are taken into account when sites are selected. It should also help to establish coherence with other marine protected area networks, such as those to be established as part of international schemes on the high seas.

An approach which is more reliant on spatial planning could be considered as part of future changes to the management of the UK fishing sector. Overall, better spatial planning for the marine environment should encourage greater coherence between individual sites, and activities on sites.

6 Future developments

Delays and deficiencies in the application of the habitats Directive in the marine environment reflect some basic weaknesses in its provisions for marine conservation – notably an under-representation of marine habitat types and species. As it stands, the Directive lists 169 habitat types and 623 species for which Member States must designate SACs. Of these, only eight habitats and a handful of species occur in the sea.

Moreover, certain wide-ranging aquatic species may suffer from comparatively weaker site protection than terrestrial equivalents, since the Directive specifies that sites need to be proposed only when an area representing the physical and biological factors essential to their life and reproduction is clearly identifiable. This has proven difficult and is given as a reason for the lack of protection of

In selecting sites, Member States should aim to create a link between terrestrial protected areas and marine protected areas, inshore and offshore.

Scallop dredges; ANON © JNCC

some species, such as harbour porpoise.

Apart from site protection, however, fisheries managers do have a general duty to use their by-law making powers so as to comply with the habitats Directive. This includes the taking of conservation measures in light of knowledge of significant negative impacts on the conservation status of marine species due to their incidental capture and killing. Gear and access restrictions can be seen to fall within this responsibility.

These and other weaknesses of the habitats Directive are now widely recognised, and it is inarguable that future revisions of the Annexes of the Directive will introduce new provisions to address these shortcomings.

Summary of Briefing

- The EU is committed under the Convention of Biological Diversity (CBD) to protect and, if necessary, restore biodiversity. The Natura 2000 network seeks to implement this in part, by protecting a representative sample of European biodiversity.

- The Natura 2000 network is intended to cover the whole of the EU territory, on land and at sea. In inshore waters, Natura 2000 sites serve as links between sites on land and at sea, bridging the gap between coastal and marine habitats and complementing (future) protected area networks on the high seas.

- In the UK, the habitats Directive requires the designation of marine sites for seven habitat types and a number of species, including mammals, reptiles and fish. As of October 2003, the UK had designated 601 SACs, of which 15 per cent included one or more marine interest features. Most marine 'species sites' are being designated to protect mammals, such as seals and dolphins.

- For birds, the existing UK coastal network of sites is to be expanded to include areas of open water important for resting and feeding.

- The selection of marine sites has been difficult, in part because of a lack of information. Meanwhile, work is progressing in terms of protecting and managing those sites that have already been identified.

- The UK still has to complete its list of proposed marine SACs, particularly with regards to intertidal mudflats and estuaries.

- There are some basic weaknesses in the habitats Directive's provisions as regards marine conservation, notably an under-representation of marine habitat types and species. It is possible that future revisions of the habitats Directive could better reflect marine priorities.

- Natura 2000 can serve as a means to enhance the sustainable management of marine biological resources, not least fish stocks.

Information Sources:

The JNCC SAC web pages:
http://www.jncc.gov.uk/ProtectedSites/SACselection/default.htm

The UK Marine SACs site:
http://www.ukmarinesac.org.uk/uk-sites.htm

Gubbay, S. & Knapman, P.A. (1999) A review of the effects of fishing within UK European marine sites. English Nature (UK Marine SACs Project)
http://www.ukmarinesac.org.uk/pdfs/natura.pdf

Mapping European Seabed Habitats (MESH)
http://www.jncc.gov.uk/marine/mesh/default.htm

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This is the second in a series of IEEP briefings,[1] examining key provisions of EU nature conservation policy set out in the habitats and birds Directives, and how these relate to the UK inshore fishing sector (ie within 12 nm). It outlines the provisions for **Natura 2000** – the European ecological network of protected areas designed to protect species and habitats of EU-wide interest – in the marine environment.

The habitats and birds Directives have potentially far-reaching implications for various economic sectors, and the fisheries sector is no exception. The purpose of these briefings is to explore the possible consequences for the UK inshore fishing sector. In due course, the briefings will be followed by good practice examples from the UK and other European countries, demonstrating innovative ways of managing fisheries in support of EU nature conservation policy.

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1 published so far are:

1. EU Nature Conservation and the UK Fishing Sector – Overview of Issues
2. Natura 2000 in the marine environment
3. Species Protection and the Inshore Fishing Sector
4. Appropriate Assessment of Activities Affecting European Marine Sites
5. Managing European Marine Sites

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(http://www.pembrokeshiremarinesac.org.uk/english/episac.htm)

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