Section 4

Conservation

4 Conservation

4.1 Overview

An extensive area of the west and southwest Irish coastline is of international and national conservation importance. There are also two nature conservation designations within the IOSEA2 area.

The Habitats and Birds Directives (92/43/EEC and 79/406/EEC), the Convention on Wetlands 'Ramsar' 1975, the Bonn Convention 1997, The OSPAR Convention 1992 and the United Nations Convention on Biodiversity (the Rio Convention) 1992 provide the international framework for domestic policy on nature conservation. In Ireland, nature conservation is covered by the Wildlife Act 1976, the Wildlife (Amendment) Act 2000, the European Community (Conservation of Wild Birds) Regulations 1985 and the European Union (Natural Habitats) Regulations (SI94 of 1997). An overview of commitments on sustainable development and wildlife nature conservation are included in the National Biodiversity Plan 2002 (DoEHLG, 2006).

The maritime archaeological heritage of the IOSEA2 area is restricted by water depth and limited historical human use of the local environment. As such, the main archaeological interest is likely to come from historic wrecks. The European Convention on the Protection of the Archaeological Heritage 1992 provides the basic framework for policy on the protection of the archaeological heritage. Irish maritime archaeological heritage is protected by the National Monument Acts 1930 to 1994, with wrecks and underwater archaeological objects specified in the 1987 Act (as amended). The Irish Government published broad principles for the protection of the archaeological heritage in 1999 (DAHGI, 1999).

4.2 Offshore habitats

4.2.1 Special Areas of Conservation

The European Union's Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna), in conjunction with the Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds) is the main legal tool of the European Union for nature conservation. The stated aim of the Directive is to contribute to the maintenance of biodiversity within the European territory of the Member States through the conservation of natural habitats and of wild fauna and flora of Community interest.

The Habitat Directive seeks to establish a network of protected areas throughout the European Community. It is the responsibility of each member state to designate Special Areas of Conservation (SACs) to protect habitats and species, which, together with the Special Protection Areas (SPAs) designated under the EU Birds Directive, form the Natura 2000 site network.

The Habitats Directive was transposed into national legislation by the European Communities (Natural Habitats) Regulations 1997 (S.I. 94 of 1997). To date, Ireland has transmitted 424 sites to the European Commission as candidate Special Areas of Conservation. These cover an area of approximately 13,500 square kilometres. Across the EU, over 12,600 sites have been identified and proposed, covering an area of 420,000 sq. km.

Four offshore candidate SACs (cSACs) have been designated off the west coast of Ireland. The term cSAC refers to the fact that these sites have been proposed to the EU Commission by Ireland, and are awaiting final approval. Candidate SACs retain the full legal protection of EU-approved SAC status. Two of these, the Hovland Mound Province (Site Code: 002328) and the Belgica Mound Province (Site Code: 002327) are located within the IOSEA2 area. The other two, the North-West Porcupine Bank (Site Code: 002330) and the South-West Porcupine Bank (Site Code: 002329) are located northwest and west of the IOSEA2 area respectively. Figure 4.1 shows the locations of the offshore cSACs with respect to the IOSEA2 area. The government notice of these designations is copied in Appendix 4 of the main environmental report.

The Belgica Mound Province is located on the eastern edge of the Porcupine Seabight approximately 100 km southwest of the Co Kerry coastline. Extensive research has identified more than 60 carbonate mounds at depths of between 550 and 1,060 m in the Province, broadly distributed in two ranges running north-north-east/south-south-west. The majority have an elongated shape, are

aligned in a north-south direction and average 166 m high. A number of mounds in the southern part of the Province are buried.

The area selected for designation is the central part of the Province where coral-forming reefs are widespread. The site is, at its maximum, approximately 29 km long and 13 km wide, and covers an area of 411 km^2. The western-most mounds close to the edge of the continental slope where water currents are strongest support the best examples of coral reefs. This western range includes the Thérèse Mound and "Friends" and the Galway Mound where the living coral is more extensive on the steep western slopes of the mounds. Smaller coral patch reefs are found on the Moira Mounds and may represent the start of mound formation.

In this area, *Madrepora oculata* and *Lophelia pertusa* are the main reef-forming coral species. A spectacular array of epibionts, including glass sponge (*Aphrocallistes* sp), hydroid, bryozoan species, are found attached to coral colonies. Gorgonian coral (*Acanthogorgia* sp), octocoral (*Anthotela grandiflora*), stylasterid colonies (*Pliobrothus* sp) sometimes with attached gastropods (*Pedicularia* sp), unattached gastropods (*Clio* sp and *Diacria* sp) eunicid polychaetes, crustaceans (*Bathynectes* sp and *Pandalus* sp), bivalves (*Clamis sulcata* and *Delectopecten vitreus*) and sea urchins (*Cidaris* sp) have also been recorded.

The Hovland Mound Province is located at the northern edge of the Porcupine Seabight approximately 130 km west of the Blasket Islands off the Co Kerry coastline. Some 25-40 carbonate mounds are located at depths of between 400 and 1,000 m in the Province. They frequently have a depression at their base and range in height from 100 to 300 m (on average 200 m). The bases of the mounds have a mean width of 1,300 m, the upper flanks are steepest and the tops are flat. The highest mounds tend to occur in water depths of approximately 700 m. The mounds may be complexes amalgamating smaller mounds and the largest of these in this Province is the Propeller Mound.

The designated site is, at its maximum, approximately 50 km long and 38 km wide, and covers an area of 1,086 km^2. Patch reefs with the corals *L pertusa* and *M oculata* generally occur below the mound summit on the steep flanks where they form a rim around the mound, although they have been found on the summit of at least one mound. The coral distribution appears to be more abundant on flanks that face a depression at the base of the mound. Other corals such as *Desmophyllum cristagalli*, *Flabellum macandrewi*, *Stylaster gemmascens* and *Stenocyathus vermiformes* are also present. Sea pens, echinoids, holothurians, caridean and thalassinean shrimps, and fish are commonly observed from Remotely Operated Vehicles (ROVs). Porifera, hydroids, octocorals, zoanthids, crinoids, serpulids, bivalves, bryozoa and ascideans have been recorded from infaunal surveys.

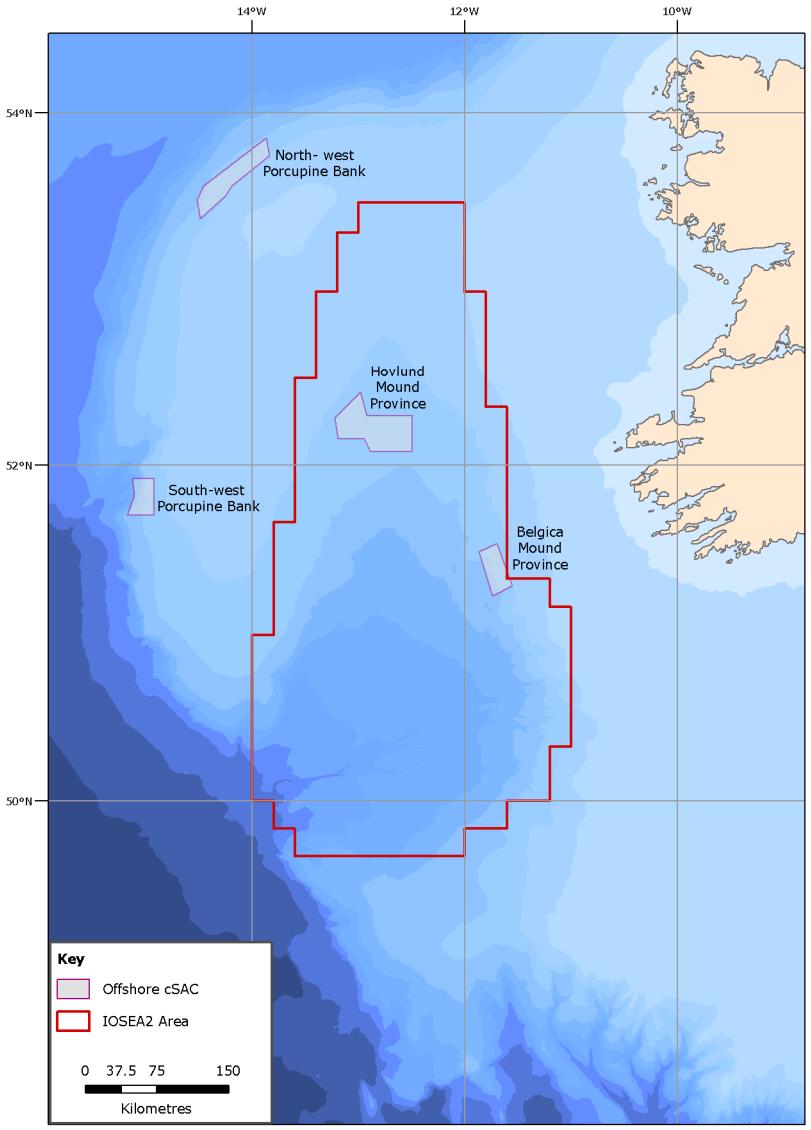
The distribution patterns of live corals on these mounds are thought likely to be linked to benthic dynamics, ie strong currents are required to keep substrates swept clean of sediment for successful settlement and the continued health and development of live coral reefs.

These sites have been selected as Special Areas of Conservation for biogenic reefs, which is a habitat listed in Annex I of the EU Habitats Directive. Cold-water coral reefs are formed by *L pertusa* and *M oculata*.

There are a number of Annex I habitat 'Sandbanks' identified from within and around the IOSEA2 area (WWF, 2001). However, these sandbanks in the depth range of the IOSEA2 area do not have conservation value in the context of the Habitats Directive.

Ireland has undertaken that a marine site network for SACs be in place by 2008 with management objectives agreed and instigated by 2010 (Message from Malahide, 2004).

Figure 4.1 cSACs in the vicinity of the IOSEA2 area



4.2.2 OSPAR Marine Protected Areas

A key element of OSPAR Annex V 'On the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area' is the development of an ecologically coherent network of Marine Protected Areas (MPAs). The Bremen Statement (OSPAR, 2003) included the commitment to identify the first set of MPAs by 2006 and a complete network by 2010. Ireland is aiming to submit a first report on selected MPAs by MASH (Working Group on Marine Protected Areas, Species and Habitats) 2007 (BDC, 2007). Irish marine sites designated under the Habitats Directive with suitable qualifying features are likely to be proposed as OSPAR MPAs.

Those habitats which have been specified as in decline and or threatened in OSPAR Region V (wider Atlantic) and may be of potential relevance to the west of Ireland are:

- carbonate mounds;
- deep sea sponge aggregations;
- *Lophelia pertusa* reefs;
- seamounts;
- *Modiolus modiolus* beds.

Those habitats which have been specified as in decline and or threatened in OSPAR Region III (Celtic Seas) and may be of potential relevance to the west of Ireland are:

- deep sea sponge aggregations;
- *Lophelia pertusa* reefs;
- seapen and burrowing megafauna communities;
- intertidal mudflats;
- intertidal *Mytilus edulis* beds on mixed and sandy sediments;
- *Ostrea edulis* beds;
- *Zostera* beds;
- Maerl beds;
- *Sabellaria spinulosa* reefs;
- *Modiolus modiolus* beds.

4.3 Offshore species

4.3.1 Special Areas of Conservation and Special Protection Areas

There are a number of species listed in Annex II and IV of the Habitats Directive that may be found in the offshore environment to the west of Ireland. Annex II lists species that require protection through site-based measures and Annex IV lists species in need of strict protection across their natural range. Annex II and Annex IV species that may occur in the study area are listed in Table 4.1. It is unlikely that any of the species listed in Habitats Directive Annex II will meet the criteria for site designation within, or adjacent to, the IOSEA2 area. However, new research into the at-sea movements of both seal species found in Ireland, using telemetry, may provide the first steps in this direction.

Annex I of the Birds Directive lists rare or vulnerable species for which Special Protection Areas (SPAs) should be designated. At present, there are no offshore SPAs and the identification of any such sites would require further survey work. Annex I bird species that are known to occur, if rarely, in the study area include Leach's storm-petrel, Cory's shearwater, Mediterranean shearwater and the common and Arctic terns. Both Directives confer general obligations beyond site-based measures to protect wild birds and biodiversity.

Table 4.1 Marine species identified in the Habitats Directive which may be found in the vicinity of the IOSEA2 area

	Common name	Latin name
Annex II (Animal and plant species whose conservation requires the designation of SACs)	Grey Seal	*Halichoerus grypus*
	Harbour Seal	*Phoca vitulina*
	Harbour porpoise	*Phocoena phocoena*
	Bottlenose dolphin	*Tursiops truncatus*
	Loggerhead turtle (occasional vagrant)	*Caretta caretta*
	Green turtle (very rare)	*Chelonia mydas*
	Sea lamprey	*Petromyzon marinus*
	Sturgeon	*Acipenser sturio*
	Shad	*Alosa* spp
Annex IV (animal and plant species in need of strict protection)	Whales and dolphins (all species)	Cetacea
	Loggerhead turtle (occasional vagrant)	*Caretta caretta*
	Green Turtle (very rare)	*Chelonia mydas*
	Kemp's ridley turtle (less frequent)	*Lepidochelys kempii*
	Hawksbill turtle (very rare)	*Eretmochelys imbricata*
	Leatherback turtle	*Dermochelys coriacea*
	Sturgeon	*Acipenser sturio*

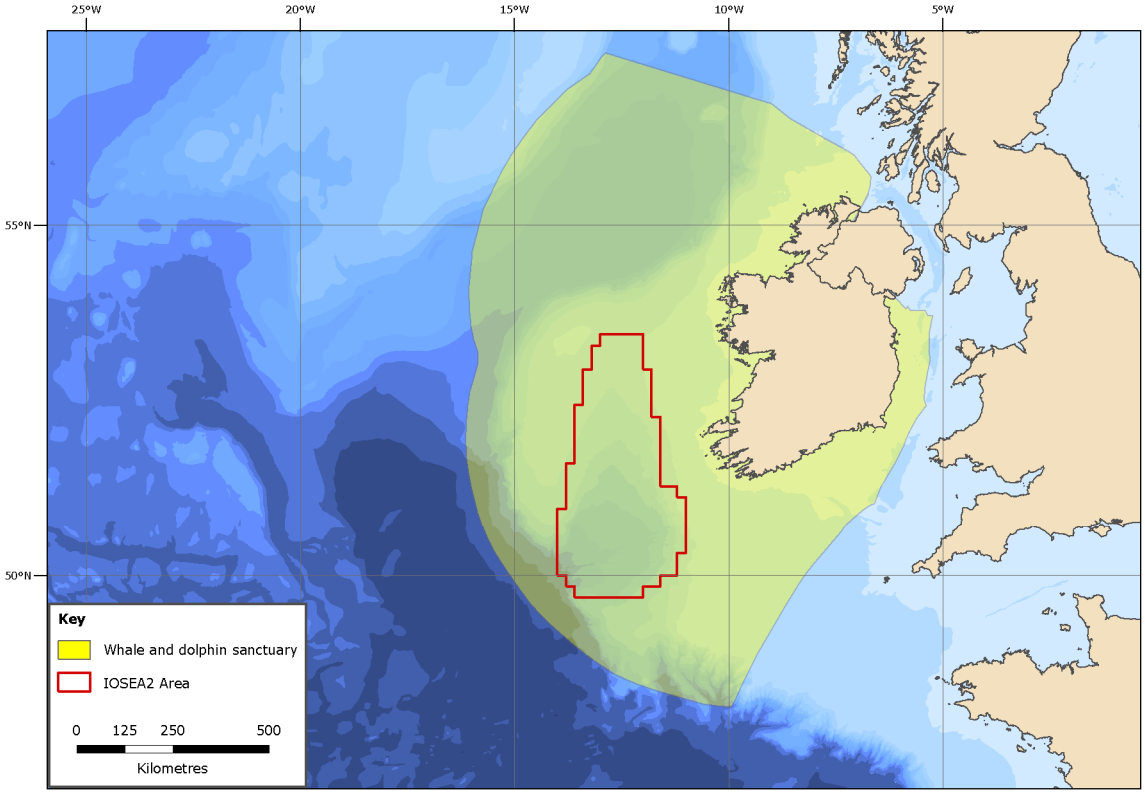
4.3.2 The Bonn Convention

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention) aims to conserve terrestrial, marine and avian migratory species throughout their range. It is an intergovernmental treaty, concluded under the United Nations Environment Programme, concerned with the conservation of wildlife and habitats on a global scale. The main pieces of legislation to ensure that the provisions of the Bonn convention are applied include the Birds Directive and the Habitats directive. The Convention was ratified in 1983.

4.3.3 Whale and dolphin sanctuary

Under the Whale Fisheries Act 1937 the hunting of all whale species, including dolphins and porpoises, is totally banned within the fisheries limits out to 200 miles from the coast. The Whale Fisheries Act also prohibited the hunting by Irish registered ships of certain whales, including right whales and female whales accompanied by calves, outside of the fisheries limits. In 1991, Ireland declared its waters a whale and dolphin sanctuary, the first European sanctuary within the fishery limits of an entire country (Figure 4.2). In addition, the Wildlife (Amendment) Act 1976 and 2000 list species of whales, dolphins, porpoises and seals as protected wild animals. It is an offence to kill or injure a wild animal. Any person who wilfully interferes with or destroys the breeding place or resting place of a wild animal is also guilty of an offence.

Figure 4.2 Location of whale and dolphin sanctuary around Ireland



4.3.4 OSPAR list of threatened and/or declining species

The OSPAR Strategy on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area outlines the need to develop a list of species and habitats in need of protection. The Initial List of Threatened and/or Declining Species and Habitats was produced in 2003 and updated in 2004 (OSPAR, 2004a). The species that may be of potential relevance to IOSEA2 area and inshore of this area are listed in Table 4.2.

Table 4.2 Species identified by OSPAR which may be found in Regions III (Celtic Sea Region) and V (wider Atlantic region)

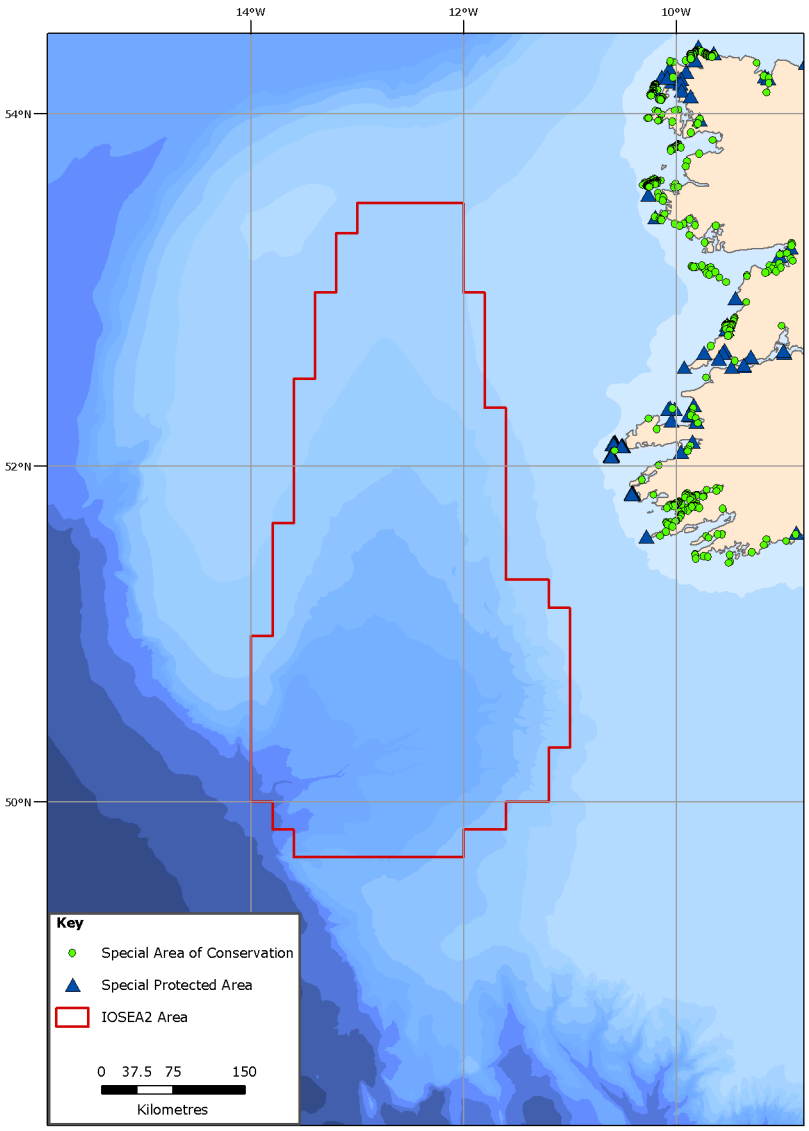
Group	Region	Common name	Latin name
Invertebrates	III	Ocean quahog	*Arctica islandica*
	V	Azorean barnacle	*Megabalanus azoricus*
	III, V	Dog whelk	*Nucella lapillus*
	III	Flat oyster	*Ostrea edulis*
	V	Azorean limpet	*Patella ulyssiponensis aspera*
Birds	V	Little shearwater	*Puffinus assimilis*
	III, V	Roseate tern	*Sterna dougallii*
Fish	III, V	Basking shark	*Cetorhinus maximus*
	III, V	Common skate	*Dipterus (Raja) batis*
	III, V	Spotted ray	*Raja montagui*
	V	Orange roughy	*Hoplostethus atlanticus*
	V	Atlantic bluefin tuna	*Thunnus thynnus*
	III	Allis shad	*Alosa alosa*
	III, V	Cod	*Gadus morhua*
	III, V	Long-snouted seahorse	*Hippocampus guttulatus*
	III, V	Short-snouted seahorse	*Hippocampus hippocampus*
	III	Sea lamprey	*Petromyzon marinus*
	III	Atlantic salmon	*Salmo salar*
Marine turtles	V	Loggerhead turtle	*Caretta caretta*
	III, V	Leatherback turtle	*Dermochelys coriacea*
Marine mammals	III, V	Blue whale	*Balaenoptera musculus*
	III, V	Northern right whale	*Eubalaena glacialis*
	III, V	Harbour porpoise	*Phocoena phocoena*

4.4 Coastal habitats and species

The IOSEA2 area approaches to within approximately 80 km of the Irish mainland coast and 63 km of the Blasket Islands SAC (Site Code: 002172) (Figure 4.3). The west coast of Ireland is a highly indented complex of headlands, embayments and estuaries with a diverse range of shore types and exposures to the Atlantic. This diverse coastline supports a rich variety of habitats and species. Much of the coast is designated as SACs for a range of marine features including seals, otters, reefs, large shallow inlets and bays, lagoons, marine caves, intertidal sand flats and salt marsh. Breeding sites for a number Annex I bird species including Arctic terns, storm petrels and barnacle geese have been designated as SPAs. The region is important for shorebirds and for breeding populations of the shag, puffin, Manx shearwater, razorbill and great black-backed gull. A number of wetland areas are also Ramsar sites. National areas of importance, or areas where boundary issue would make it difficult to designate SACs and SPAs, are protected as Natural Heritage Areas (NHAs) under the Wildlife (Amendment) Act 2000. They cover a range of features on the coast adjacent to the IOSEA2 area.

These designations and interests highlight the sensitivity of the coastal area, which, despite its distance from the IOSEA2 area, is regarded as vulnerable to events such as hydrocarbon spills.

Figure 4.3 Coastal conservation sites inshore of the IOSEA2 area (source: MIDA, 2007)



4.5 Maritime archaeological heritage

Offshore archaeological interest in the IOSEA2 area is likely to be restricted to shipwrecks due to the historically low levels of human activity. However, the majority of the wrecks around Ireland are found in coastal areas. Conditions influencing the distribution of wrecks include local environmental factors such as shoals and reefs, an increased level of traffic in the inshore region and the presence of major shipping routes. Historic wrecks of archaeological significance are protected under the National Monuments Act 1987 (as amended) and a database of their locations will be made available through the DoEHLG website as part of the ongoing Shipwreck Inventory of Ireland project (DoEHLG, 2007a).

4.6 Other plans

4.6.1 The National Biodiversity Plan

The National Biodiversity Plan is the main vehicle by which Ireland is meeting its commitments under the Convention on Biological Diversity and EC Biodiversity Strategy. The Plan was approved by

Government and published in April 2002. The Plan contains 91 actions aimed at securing the conservation and sustainable use of biodiversity. The Plan forms part of Ireland's commitment to the EU target to halt biodiversity loss by 2010. Actions specific to the marine and coastal environment that are relevant to IOSEA2 are:

- Prepare and adopt a National Integrated Coastal Zone Management Strategy making specific provision for the conservation of biodiversity.
- Develop a National Marine Biodiversity Resources Database as part of the National Biological Data Management System.
- Enhance surveys and research on marine biodiversity, through the implementation of a prioritised programme of surveys and mapping of marine benthic species and communities.
- Continue, and where necessary, enhance, in line with relevant EU and international instruments (eg OSPAR), existing programmes and measures to control and monitor pollution of coastal and marine ecosystems.

4.6.2 Particularly Sensitive Sea Areas

Western European Waters including the offshore area to the west of Ireland were designated as a Particularly Sensitive Sea Area (PSSA) in 2004 (IMO, 2007) (Figure 4.4).

MARPOL 73/78 defines certain sea areas as 'special areas' in which, for technical reasons relating to their oceanographical and ecological condition and to their sea traffic, the adoption of special mandatory methods for the prevention of sea pollution is required. Under the Convention, these special areas are provided with a higher level of protection than other areas of the sea. PSSAs are areas that require special protection through action by the IMO because of their significance for recognized ecological, socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities.

When an area is approved as a particularly sensitive sea area specific measures can be used to control the maritime activities in that area. Measures may include routeing and strict application of MARPOL discharge and equipment requirements for ships such as oil tankers. The majority of the IOSEA2 area lies within the PSSA boundary.

Figure 4.4 Location of Particularly Sensitive Sea Area in relation to the IOSEA2 area (Source: IMO, 2007)