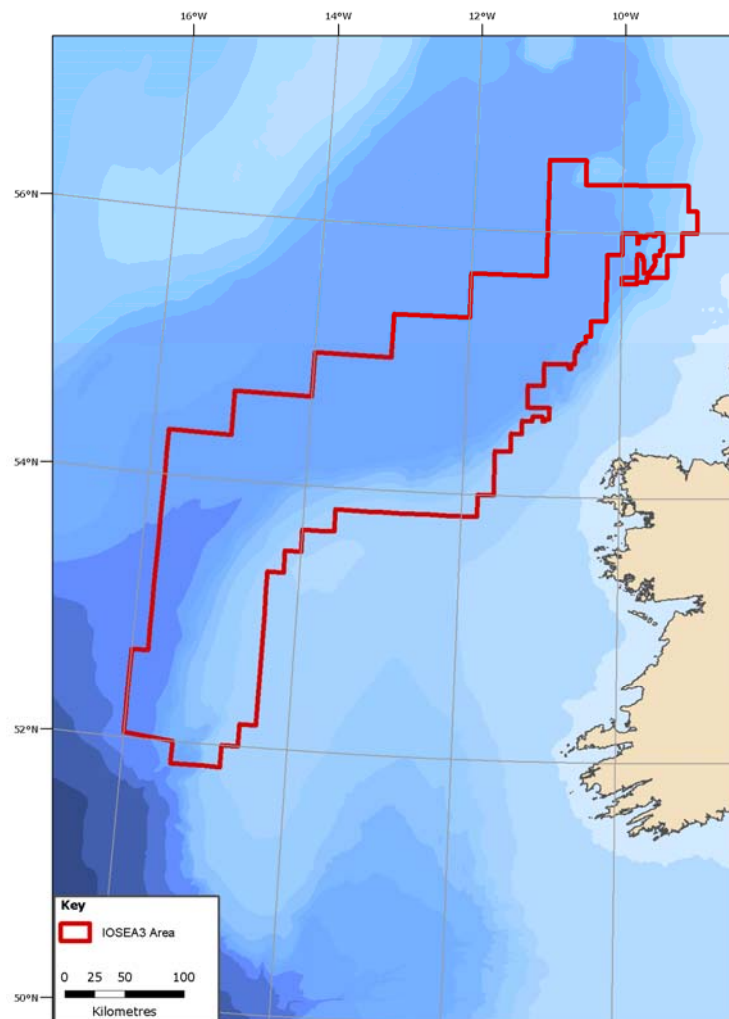




Department of Communications, Energy and Natural Resources
Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádurtha
www.pad.ie

Third Strategic Environmental Assessment for Oil and Gas Activity in Ireland's Offshore Atlantic Waters: IOSEA3 Rockall Basin

Early Consultation Document



This report was commissioned by:



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Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádurtha
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and prepared by:

ERT (Scotland) Ltd



Marine Environmental Consultants

Aqua-Fact International Services Ltd



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Section 1

Introduction

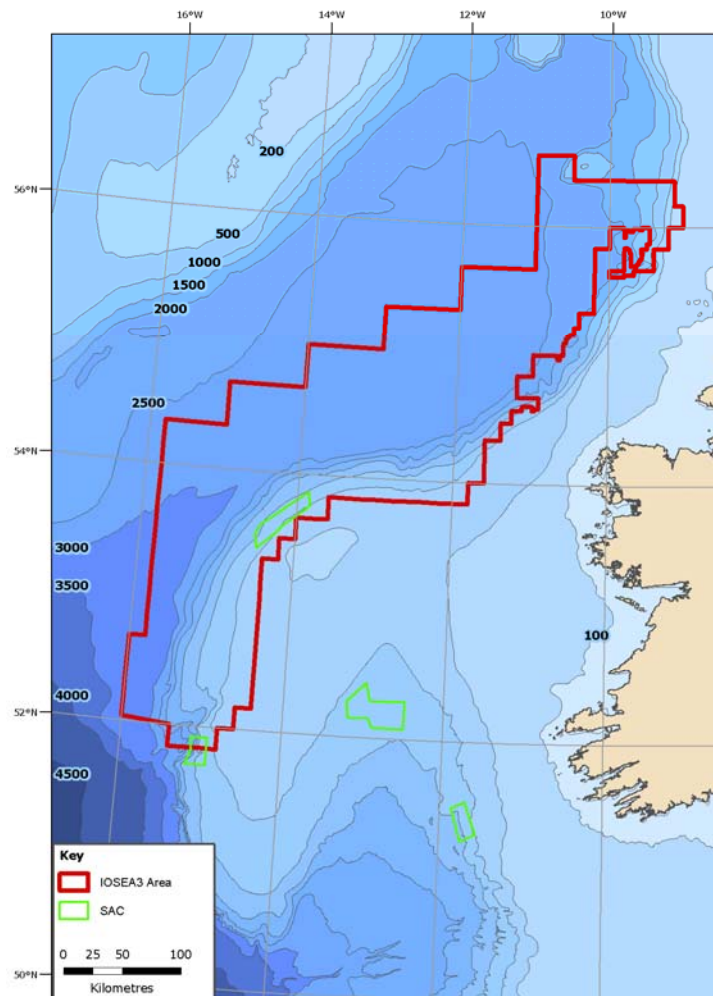
1 Introduction and background

1.1 Introduction

The Department of Communications, Energy & Natural Resources (DCENR) will hold an offshore oil and gas licensing round covering approximately 71,900 square kilometres of acreage in the Rockall Basin in 2009 (Figure 1.1). DCENR is currently undertaking a strategic environmental assessment (SEA), in order to identify and assess any potential environmental constraints within the proposed licence area. The SEA for the Rockall Frontier acreage (IOSEA3) will be the third Strategic Environmental Assessment undertaken by DCENR, with previous ones undertaken for the Slyne, Erris and Donegal Basins to the west and northwest of Ireland in 2006 (IOSEA1), and the Porcupine Basin to the west and southwest of Ireland in 2007 (IOSEA2).

The purpose of the IOSEA3 is to assess the significance of all potential impacts arising from the Draft plan (ie a forecast of the expected seismic and exploration drilling activity levels by DCENR), and to present the outcome of this assessment in an environmental report. The Draft plan and the environmental report shall be made available to the authorities delegated by the Irish government and to the general public for their comment. These environmental authorities, together with other expert bodies and the general public shall be given early and effective opportunity to express their opinion before the available acreage within the IOSEA3 area will be made available for the forthcoming licensing round.

Figure 1.1 The Rockall Basin Frontier IOSEA3 Area





1.2 Legislative background and requirements

The SEA Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment came into force in 2001. The SEA directive has been implemented into Irish law by the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 [Statutory Instrument (SI) 435 of 2004], and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 [SI 436 of 2004]. SI 436 covers SEA for land use planning and development purposes, whilst SI 435 covers SEA for other specified plans and programmes.

As such, Article 9.1.a of SI 435 states that an environmental assessment shall be carried out for all plans and programmes which set the framework for future development consent of projects listed in Annexes I and II to the Environmental Impact Assessment Directive¹ Annex II of the EIA Directive includes the extraction of petroleum and natural gas, surface industrial installations for the extraction of petroleum and natural gas, as well as Oil and gas pipeline installations

SI 435 also states that a plan or programme referred to in sub-article 9.1 which determines the use of a small area at local level only requires an environmental assessment where the competent authority determines that it is likely to have significant effects on the environment. As the competent authority, DCENR has recognised that the proposed Draft plan for the Rockall Basin may potentially have significant effects on the environment, and therefore has embarked on an SEA process to inform the Irish government, oil companies and the general public of specific environmental considerations in its licensing process.

1.3 The scope and purpose of this early consultation document

This document is the first step in initiating the IOSEA3 process, and has been prepared to facilitate a programme of informal consultation so that any potential concerns of stakeholders are identified at an early stage and can be addressed appropriately in the environmental assessment report. In order to do so, this early consultation document includes a brief overview of the SEA process, followed by an outline of the proposed work programme. It also lists the likely key environmental issues requiring particular attention in assessing the impacts of the proposed operations on the receiving environment.

DCENR is committed to undertaking the IOSEA3 in an open and transparent manner, with due regard for the environment and any local interests. Consequently, DCENR welcomes comments on any aspect of the proposed work programme, which is also known as the 'Draft plan', and is keen to identify any concerns held by stakeholders. Any comments or concerns can be sent to DCENR by letter or e-mail using the address details provided in Section 6 of this document.

¹ Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment.

Section 2

Draft plan and alternatives

2 Draft plan and alternatives

2.1 Introduction

The IOSEA3 is a result of the Irish Government's decision to conduct a licensing round in the Rockall Basin in Q2 2009. Successful applicants will be offered Frontier Exploration Licences in Q3 2009 that will last 15 years, as detailed in the Draft plan below. The licence period will be divided into four phases, each with work obligations as follows.

First phase	1 September 2009 to 31 August 2012 - seismic data acquisition
Second phase	1 September 2012 to 31 August 2016 - at least one exploration well
Third phase	1 September 2016 to 31 August 2020 - at least one exploration well
Fourth phase	1 September 2020 to 31 August 2024 - to be agreed with the Minister

In the first phase, the licensee must undertake a work programme that shall include at a minimum 2D or 3D seismic data acquisition. Where exploration drilling is not included in the first phase, planning for drilling in the second phase should take place and be proposed prior to the start of the second phase. The third phase should include a proposal to drill a further exploration well. Licensees will be required to undertake reasonable site-specific environmental studies as may be appropriate to the work programmes. The Licensing Terms for Offshore Oil and Gas Exploration, Development and Production, 2007¹ will apply to licences granted under this Licence Round. The IOSEA3 covers the first and second phases only ie the period 2009 to 2016. It is proposed that subsequent phases and licensing rounds for exploration in this area will be the subject of further SEA at a future date.

2.2 Scenarios and assumptions for Draft plan

The scenarios being considered for the range in activity levels following licensing awards comprise the undertaking of 2D and 3D seismic data gathering from 2010 (it is unlikely that any seismic acquisition could be organized to commence in the remaining four months of 2009) to 2016 and exploratory drilling in the period 2011 to 2016. Although IOSEA3 is an assessment of exploration activities only, recognition of the possibility that a proportion of the exploration may ultimately result in development drilling taking place is also made. Estimates for minimum and maximum levels of each activity have been made by the PAD on the basis of experience and are shown in Table 2.1.

Since all previously held licences in the area have been relinquished some time ago, there are no activities arising out of previous licensing rounds which need to be considered. Exploration activities occurring in the neighbouring Slyne/Erris/Donegal and Porcupine basins are covered by IOSEA1 and IOSEA2, respectively.

Table 2.1 Exploration activities (and potential development activity) forecast in the IOSEA3 area between 2010 and 2016 arising from the Rockall Basin licensing round

Type of activity	2010		2011		2012		2013		2014		2015		2016	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2D seismic survey (km)	-	7,000	-	7,000	-	7,000	-	7,000	-	7,000	-	7,000	-	7,000
3D seismic survey (km ²)	-	4,000	-	4,000	-	4,000	-	4,000	-	4,000	-	4,000	-	4,000
Exploration drilling (numbers of wells)	-	-	-	1	-	2	-	3	-	3	-	3	-	3
Appraisal drilling (numbers of wells)	-	-	-	-	-	-	-	1	-	1	-	1	-	1
Development drilling (numbers of wells)	-	-	-	-	-	-	-	-	-	2	-	2	-	2

¹ *New Licensing Terms were announced by the DCENR in 2007. These new licensing terms include a profit resource rent tax operated on a graded basis of profitability. This is intended to ensure a greater return to the State from its own natural resources, while maintaining the incentive for exploration. These new Licensing Terms will apply to all future exploration licences.*

Section 3

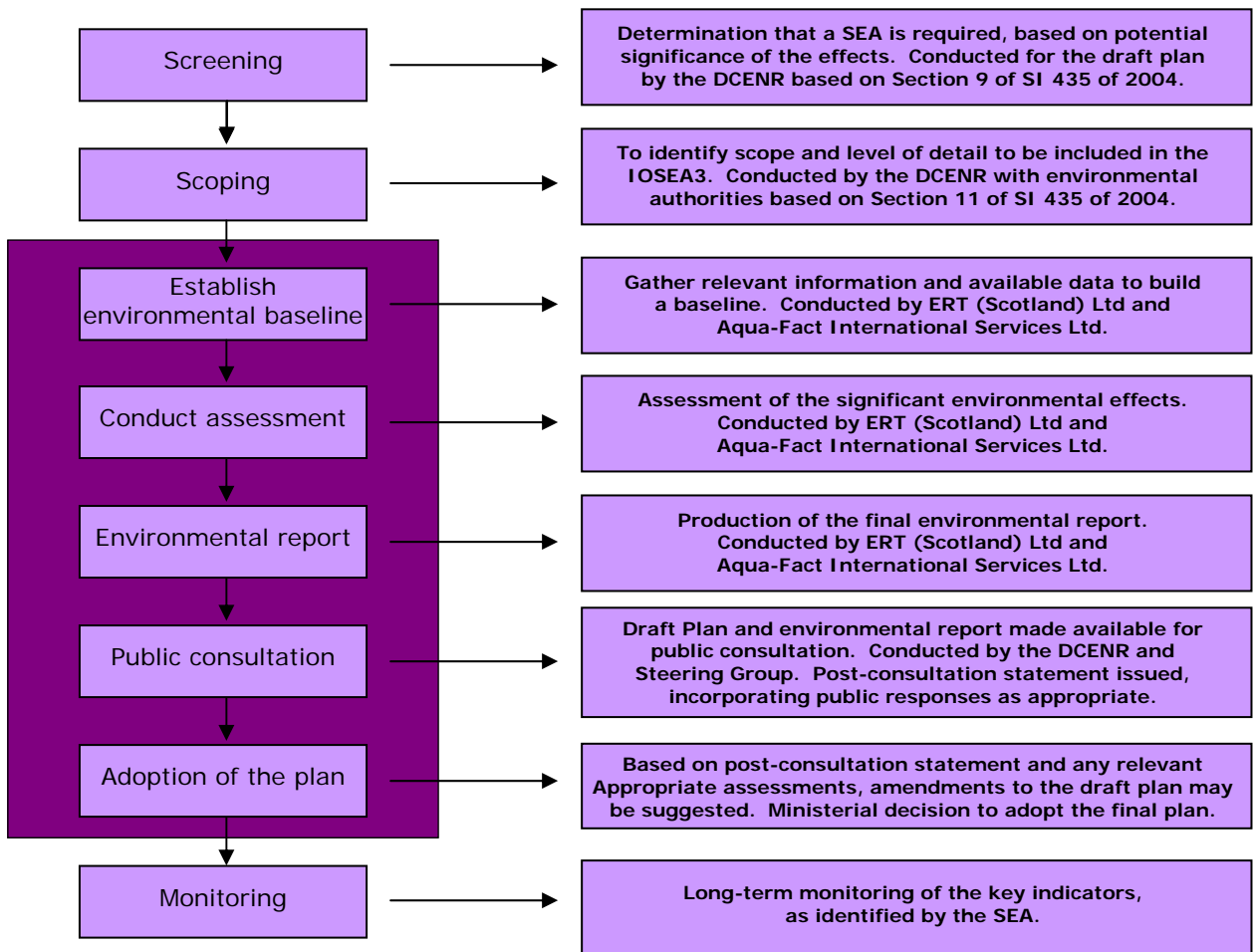
The ISOEA3 process

3 The IOSEA3 process

As outlined in Section 2 above, DCENR will undertake the IOSEA3 in compliance with the SEA Directive 2001/42/EC, as transposed into Irish law by the European Communities (Environmental Assessment of Certain Plans and programmes) Regulations 2004 (SI 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI 436 of 2004). It will also take into account guidelines for SEA prepared by the Environmental Protection Agency (EPA) for the implementation of the Directive (EPA, 2003) and the guidance to implementing the SEA Directive published by the Department of the Environment, Heritage and Local Government (DoEHLG, 2004).

The key stages to be taken in the complete SEA process as outlined in the Directive are described in Figure 3.1 below.

Figure 3.1 SEA process (adapted from DoEHLG, 2004)





This early consultation document is part of the ‘scoping’, or ‘informal consultation’, stage in this process, and responses will be reported in the environmental report. Once finalised, the draft plan and environmental report will be circulated for a 6 week formal consultation period later this year, during which expert bodies and the general public will be able to provide feedback to DCENR through various channels including specially arranged meetings open to the public. The consultation feedback and submissions received from the formal consultation will, in turn, be reported in a post-consultation statement that will incorporate any recommendations as to how the draft plan for the licensing round may be amended.

Both the IOSEA3 report and the post-consultation statement will then be presented to the Minister for Communications, Energy and Natural Resources for adoption of the final plan¹.

¹ *The final plan will outline the acreage within the IOSEA3 area that ultimately will be made available for oil and gas exploration, together with any specific conditions to ensure such operations will only be undertaken with due regard for the environment and any local interests.*

Section 4

The local environment

4 The local environment

The environmental report will contain a comprehensive description of the local environment in the IOSEA3 area. The remainder of this section highlights a few of the main environmental characteristics of the IOSEA3 area and presents an overview of relevant information sources that have been identified so far, and which will be used to inform this section of the IOSEA3 environmental report. Other references will be added to this list as the IOSEA3 process continues. DCNER invites all interested parties to put forward any additional relevant information or data sources that do not yet appear in this section.

4.1 The physical environment

4.1.1 Bathymetry and seabed characteristics

The IOSEA3 area lies offshore northwest of Ireland, on the east side of the Rockall basin, and covers an area of approximately 71,900 km². The area lies on the edge of the continental shelf, with water depths ranging from 130 m in the northeast, to water depths over 3,400 m in the southwest. The majority of the IOSEA3 area, beyond the steep shelf slope, lies in water over 2,500 m deep. Basic information regarding bathymetry and seabed types will be extracted from relevant Admiralty Charts.

The seabed landscape in the IOSEA3 area has been shaped by glacial periods, when large volumes of material were eroded from the land and shelf and deposited at the shelf edge and over the continental slope. The present-day sediments are the result of reworking and redistribution by near-bottom currents and gravity-driven processes. Surface sediments in the Rockall Basin generally become finer towards greater water depths and consist of clayey sands overlying silty clays.

4.1.2 Oceanography

The west of Ireland falls between two major circulation features of the north Atlantic; the sub-polar and sub-tropical gyres bounded by the region's major ocean currents. The North Atlantic Current (NAC) forms the southern boundary of the sub-polar gyre and heads eastwards from the western north Atlantic. The main branch of the NAC then sweeps north offshore of Irish waters to the west of the Rockall Bank, with a southern branch of the NAC flowing southeast into the Bay of Biscay. At the edge of the continental shelf is a north flowing slope current including the relatively warm and saline Shelf Edge Current (SEC), and at greater depths below this, a deep ocean recirculation, with Sub-Arctic Intermediate Water (SAIW) and Labrador Sea Water (LSW) masses flowing southwards from the Arctic.

The IOSEA3 area has been the site of considerable oceanographic measurement campaigns since the mid 1970s. Oceanographers have been making repeated measurements at a number of stations along a section due west from the Scottish coast across the Rockall Trough. The time series was established by David Ellett and was therefore called the "Ellett Line". The Ellett line is one of a relatively small number of high quality physical time series in the North Atlantic Ocean and is very important for investigating oceanic climate variability. It is particularly relevant to the UK and northwest Europe because the warm water flowing through the Rockall Trough moderates the climate of the region, keeping winters warmer than expected for this latitude.

Since 1996, the Ellett Line was extended to Iceland. The Extended Ellett line is important oceanographically because it completes the measurements of the warm salty water flowing into the Nordic Seas from the eastern north Atlantic. It also measures around half of the returning deep and cold current, the overflow water (the rest returns to the Atlantic via the Denmark Strait which is west of Iceland).

This long term data set is of great importance in developing an understanding of the effects of the North Atlantic Oscillation (NAO) and climate change. There are also other discrete oceanographic measurements within the IOSEA3 area and these along with data from the Extended Ellett line will be used to describe the physical oceanography of the area.



4.2 The biological environment

4.2.1 Plankton

The Rockall Trough is understood to be characterised by low zooplankton stocks in winter, coupled in the spring with higher rates of population increase, compared to the adjacent shelf. This is manifested as a pronounced spring bloom of phytoplankton (usually occurring in mid to late April), followed by a period of nearly five months of relative stability of stocks of both phyto- and zooplankton. The nekton of the Rockall Trough area is characterised by euphausiids and fish occurring in surface waters, while mysid and decapod crustaceans live at greater depths. Some of the deeper living species have been observed to regularly migrate toward surface layers to feed.

The Rockall Trough has also been observed to contain benthopelagic fauna – a component of the pelagic fauna that lives relatively close to the ocean floor. These often occur in higher densities than the pelagic fauna in the overlying water column. Such organisms have been shown to form a significant proportion of the diet of demersal (bottom dwelling) fish living in the Rockall Trough. Research has suggested that current patterns within the Rockall Trough are likely to result in plankton and other pelagic fauna being 'exported' to adjacent oceanic regions. Advection of oceanic organisms to the Norwegian Fjords and the Norwegian Basin, from the Rockall Trough, has been documented on several occasions.

4.2.2 Benthos

Characteristic species of the continental shelf include tube dwelling polychaetes, molluscs and sea urchins. Estimates of population densities of the most common epifauna indicate particularly high densities of a few species including the tube dwelling bristleworm *Ditrupea arietina* (>1,000 tubes/100 m²) and the sea urchin *Cidaris cidaris* (9 to 22 per 100 m²) and *Echinus acutus* (7 to 168 individuals/100 m²).

From the shelf break at approximately 200 m down to approximately 700 m, the composition of the benthic fauna depends on whether coral banks have developed (Gage, 1986). The coral banks are composed mainly of cold water reef building corals *Lophelia pertusa* and *Madrepora oculata* ('corail blanc'). There are two SAC located within the IOSEA3 area, the North-West Porcupine Bank (002330) with reef building *Lophelia pertusa* and *Madrepora oculata* and the South-West Porcupine Bank (002329) with reef building *Lophelia pertusa*. On the sparse sandy deposits where coral is not developed, the epibenthic fauna is rather sparse but prominent among it are the echinoderm species *Cidaris cidaris*, *Spatangus raschi* and *Stichopus tremulus* along with several others.

At around the 700 m contour on the slope, as the bottom sediment becomes predominantly a pelagic ooze, the benthic fauna becomes richer. Among the most characteristic species of this zone, which extends down to approximately 1,300 m, is the sea urchin *Echinus acutus norvegicus*. Other characteristic species include several decapod crustaceans and echinoderms, including the brittle star *Ophiacten gracilis*. Other species found at this level, such as the sea stars, solitary corals and pycnogonid have a bathymetric range that well extends to greater depths, while others have been recorded from shallower as well as deeper depths.

From approximately 1,400 m, the sediment changes little down to the base of the slope at approximately 2,000 to 2,500 m, consisting of a mixture of pelagic ooze and turbidite. The fauna is dominated by echinoderms with a few characteristic species such as *Echinus alexandri*, *Psilaster patagiatus* and *Plinthaster dentatus*.

The floor of the northern part of the Rockall Trough slopes gently from about 2,000 m in the north to about 3,000 m in the south and in general the epibenthic fauna is similar within this range. Near the base of the continental slope, the current bottom energy increases and growths of the arborescent gorgonian *Acanella arbuscula* are found which provide a perch for other fauna such as the brittlestar *Ophiacantha bidentata* to feed in the current. Other species present include those that occur on the lower slope but also mainly echinoderm species characteristic of the upper abyssal zone.

A number of survey cruises took place in the area of the Rockall Basin during the late 19th Century including HMS *Lightning*, *Porcupine*, *Lord Bandon (Flying Falcon)*, *Fingal*, *Harlequin* and *Granuaile*. In the 1920s the French studied the waters west of Ireland aboard the *Chalutier Tanche* and the *Chalutier Président Théodore Tissier*. Le Danois summarised all the data available on the benthic biology of the deep waters off the Atlantic coasts of Ireland from these cruises.

In the late 1960s, the BIOGAS programme was established which involved a long series of cruises to investigate the benthos of the Bay of Biscay (Golfe de Gascogne). In 1973, Dr John Gage (SAMS; Scottish Association of Marine Sciences formerly the SMBA; Scottish Marine Biological Association) began a wide ranging study of the benthic biology of the Rockall Trough and adjacent regions including the repeated sampling of a number of standard stations (see Gage, 1986).

In addition to these surveys and a number of other EU funded projects, several projects were established in association with oil exploration companies. For example, the Atlantic Frontier Environmental Network (AFEN) was established in 1995, and consisted of a consortium of oil companies with interest in the UK Atlantic Margin Oil Province. The Ocean Marine Deep Water Research Consortium (OMARC) established a number of programmes operating in the area eg ACES (Atlantic Coral Ecosystem Study), GEOMOUND (Geological Controls on Mound Formation and Growth) and ECOMOUND (Environmental Controls on Mound Formation along the European Margin)

Several research cruises have been undertaken regarding cold water coral in the vicinity of the Rockall Basin including *Pelagia*, *Challenger* and *Poseidon 316* (HERMES) cruises.

In Ireland, the Petroleum Infrastructure Programme (PIP) established three subprogrammes; the Rockall Studies Group (RSG), the Porcupine Studies Group (PSG) and the Offshore Studies Group (OSG). These projects concentrated on cetaceans, mammals and the benthos of the area.

Additional survey work has been carried out in the area by the Geological Survey of Ireland, the Marine Institute and various oil companies.

4.2.3 Fish and shellfish

The main sources of information include the Marine Institute's Fisheries Science Service Stock Book (FSS, 2007), the ICES Advisory Committee on Fishery Management/Advisory Committee on Ecosystems Report (ACFM, 2006), the report of the Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (ICES, 2008) and various fisheries research programmes. However, there are significant data gaps regarding the ecology and status of deep water fish species in Irish waters.

Dr John Gordon of Dunstaffnage Laboratory in Oban, Scotland carried out a long term study of the benthic and benthopelagic fishes of the Rockall Trough, concentrating on seasonal and inter-annual changes (Gordon, 1986; Gordon *et al*, 1996). IOOA (1998) documented the fish species of commercial importance from the Rockall Trough. This report reviewed data from a number of published sources (eg Connolly & Kelly, 1994, 1997; Gordon *et al* 1996; Gormley *et al* 1994; Kelly *et al* 1997; Kelly *et al* 1998; Clarke *et al* 1998). Additional surveys of the Rockall area have been carried out to date (eg Clarke *et al* 1999; Massuti *et al* 2004; Clarke *et al* 2005; O'Donnell *et al* 2007).

In the shallow shelf waters of the Rockall Trough, shelf and coastal waters are very productive and they support a diverse community of fish and shellfish species (Hartley Anderson, 2005). Demersal fish species including many which are of commercial importance (eg cod, haddock, whiting, sole and plaice) are present over much of the shelf with hake, anglerfish and megrim often also associated with the shelf edge. The distributions of many of these species are dynamic with feeding, spawning or migratory movements between coastal waters, the shelf and upper parts of the continental slope.

The seasonal distributions of pelagic species such as mackerel, horse mackerel and herring are associated generally with the distribution and properties of the relatively warm surface waters in the north east Atlantic (ACFM, 2004). These species are present within Irish waters largely on a seasonal basis, migrating between spawning and feeding grounds. Other widely distributed species such as bluefin and albacore tuna and pelagic sharks may be present over shelf or deeper waters although there is little information available on their distribution (Hartley Anderson, 2005).

Fish communities present within coastal areas include juvenile flatfish and sandeels over sandy sediments, with seasonal influxes of sprat, herring, juvenile gadoids, mullet and in southern areas, bass (Hartley Anderson, 2005). Rocky shore fish assemblages are diverse and dominated by small species such as wrasses, gobies and blennies, as well as juvenile pollack and saithe. Exploited coastal shellfish species include scallop, lobster, crayfish, spider crabs, brown crabs, green crabs and velvet crabs, shrimp, whelks, cockles, periwinkles, surf clams and razor clams (FSS, 2007).

Historically, there were important commercial fisheries for cod, haddock and whiting and a number of flatfish species (FSS 2007). Hake and angler fish are also fished across the whole area. The Rockall



plateau has important haddock and angler fish fisheries. On the shelf, the main resident pelagic species is herring.

The roundnose grenadier is one of the most dominant species in the deeper waters of the Rockall Trough area. Kaup's arrowtooth eels dominated the mid slope, while roundnose grenadier and Günther's grenadier ranked highly on the mid and lower slopes respectively (Gordon *et al*, 1996). Massuti *et al* (2004) analysed the fish assemblages from the Rockall Trough from 1978 to 1998. The number of species captured during this survey was 80. The family Macrouridae (grenadiers eg Roundnose grenadier *Coryphaenoides rupestris*, Common Atlantic grenadier *Nezumia aequalis* and Günther's grenadier *Coryphaenoides guentheri*) was the most important in terms of biomass throughout the whole depth range surveyed, although other important families included the Chimaeridae (chimaeras, ratfishes, and shortnosed chimaeras) and Gadidae (cod, haddock, whiting and relatives) on the upper slope, Alepocephalidae (slick heads or nakedheads) and Squalidae (dogfish) on the middle slope and Synphobranchidae (cutthroat eels) and Moridae (codlings and relatives) on the lower slope.

4.2.4 Mammals and reptiles

There have been extensive survey works carried out in the IOSEA3 area and inshore of this eg SAST, SIAR, ESAS, SCANS. In addition, the Irish Whale and Dolphin Group has operated an all-Ireland database of casual cetacean sightings and cetacean stranding records since 1991. Since 2001 regular monthly effort-related surveys from commercial ferries and land-based stations have been conducted. In 2003, the IWDG increased survey effort on offshore platforms on all Irish coasts and under a joint funding initiative, the Irish Scheme for Cetacean Observation and Public Education (ISCOPE II), commencing in 2006, offshore survey effort has focused on seasons and locations with a previously low record of cetacean survey effort. Seal population assessments have been carried out around the Irish coastline in recent times.

The toothed whale, dolphin and porpoise species known from the IOSEA3 area and inshore of the IOSEA3 area include the common dolphin, the bottlenose dolphin, the Atlantic white-sided dolphin, the white-beaked dolphin, Risso's dolphin, the striped dolphin, the harbour porpoise, the pilot whale, the northern bottlenose whale, Cuvier's beaked whale, True's beaked whale, the killer whale, the false killer whale and the sperm whale. The baleen whale species known from the IOSEA3 area and inshore of the IOSEA3 area include the minke whale, the humpback whale, the northern right whale, the sei whale, the fin whale and the blue whale. Additionally, the grey and common seal are located all along the Irish coastline.

The leatherback turtle is reported annually in Irish waters and is considered a regular and normal member of the Irish marine fauna. It is very possible that these species do occur within the IOSEA3 area. Loggerhead turtles occur less frequently in the IOSEA3 area than the leatherback turtle, with most specimens thought to have been carried north from their usual habitats by adverse currents. Comparatively, few Kemp's ridley turtles are found stranded on Irish coasts. The majority of stranded individuals are thought to originate from northwest Atlantic populations. Their usual habitat is inshore or near-shore waters with seagrass beds or muddy benthic habitat, where they feed predominantly on crabs (Pierpoint, 2000). The hawksbill turtle and the green turtle are very rare visitors to UK and Irish waters (Brongersma, 1972; O'Riordan *et al*, 1984; Branson, 1997). The hawksbill turtle breeds in Central America, Cuba and the Caribbean and forages on coral reefs. The green turtle breeds in the eastern Mediterranean, Florida, Surinam and Costa Rica. Adults prefer inshore habitats, feeding on seagrass and algae.

4.2.5 Seabirds

A number of seabird surveys have been carried out in offshore waters off the west coast of Ireland eg SAST and ESAS. In addition the Coastal and Marine Resources Centre (CMRC) (University College Cork) have carried out seabird research surveys throughout the Irish Atlantic Margin area.

A number of seabird species occur in the IOSEA3 area including petrels and shearwaters, northern gannet, skuas, gulls, terns and auks.

4.3 Other users of the sea

The waters around Ireland make up some of the most productive fishing grounds in the world. Fisheries in and around the IOSEA3 area are important both nationally and internationally, with a wide range of fish and shellfish species targeted by demersal and pelagic fishing fleets. Location specific fisheries catch data will be used to analyse and assess how the IOSEA3 area is used by the fishing industry. There are also several finfish and shellfish farms in operation on the west coast of Ireland.

Although shipping activity in the waters off the west coast of Ireland is less intense than that in the Irish Sea, Ireland's Atlantic Seaboard does support important shipping ports at Galway, Cork and along the Shannon Estuary. Major trade routes between Europe, America and Asia cross the Atlantic in the vicinity of Ireland's west coast.

Further information is currently being collected on levels of activity and historical human use of the IOSEA3 area.

4.4 Conservation areas

Extensive areas of the north and west coasts of Ireland are of international and national conservation importance. Four offshore marine Special Areas of Conservation have been identified west of Ireland, of which two occur in the IOSEA3 area (Figure 1.1). As more information becomes available on the offshore environment to the west of Ireland it is possible that new conservation areas may be designated to include other qualifying features under national and international legislation.

The maritime archaeological heritage of the IOSEA3 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. 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, and these will be taken into account when assessing the IOSEA3.

Section 5

Main environmental issues identified so far

5 Main environmental issues identified so far

Based on issues raised during the previous two IOSEA programmes undertaken in Ireland, the following aspects have thus far been identified to have a potential 'significant' effect on the environment:

- interactions between seismic survey and drilling noise generation and marine mammals (ie cetaceans and seals);
- impacts to seabed features and benthos from drilling muds and cuttings discharges;
- the risk of accidental events (oil spills in particular);
- atmospheric emissions generated during the various exploration operations (including flaring from well testing operations);
- physical presence of seismic survey vessels and drilling rigs, potentially interacting with other users of the sea.

These concerns, together with any concerns raised during the informal consultation process will be thoroughly assessed in the environmental report. Any potential cumulative and transboundary effects will also be considered, and appropriate mitigative measures will be proposed in order to minimise their impacts. The assessments will look at a range of possible scenarios and alternatives.

Section 6

Responses to DCENR

6 Responses to DCENR

If you have any comments or suggestions on any of the issues raised in this early consultation document please send them before 14 July 2008 to the address below:

E-mail address: Rory.Boyd@dcenr.gov.ie

Postal address: Rory Boyd
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Department of Communications, Energy & Natural Resources
Leeson Lane
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Section 7

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