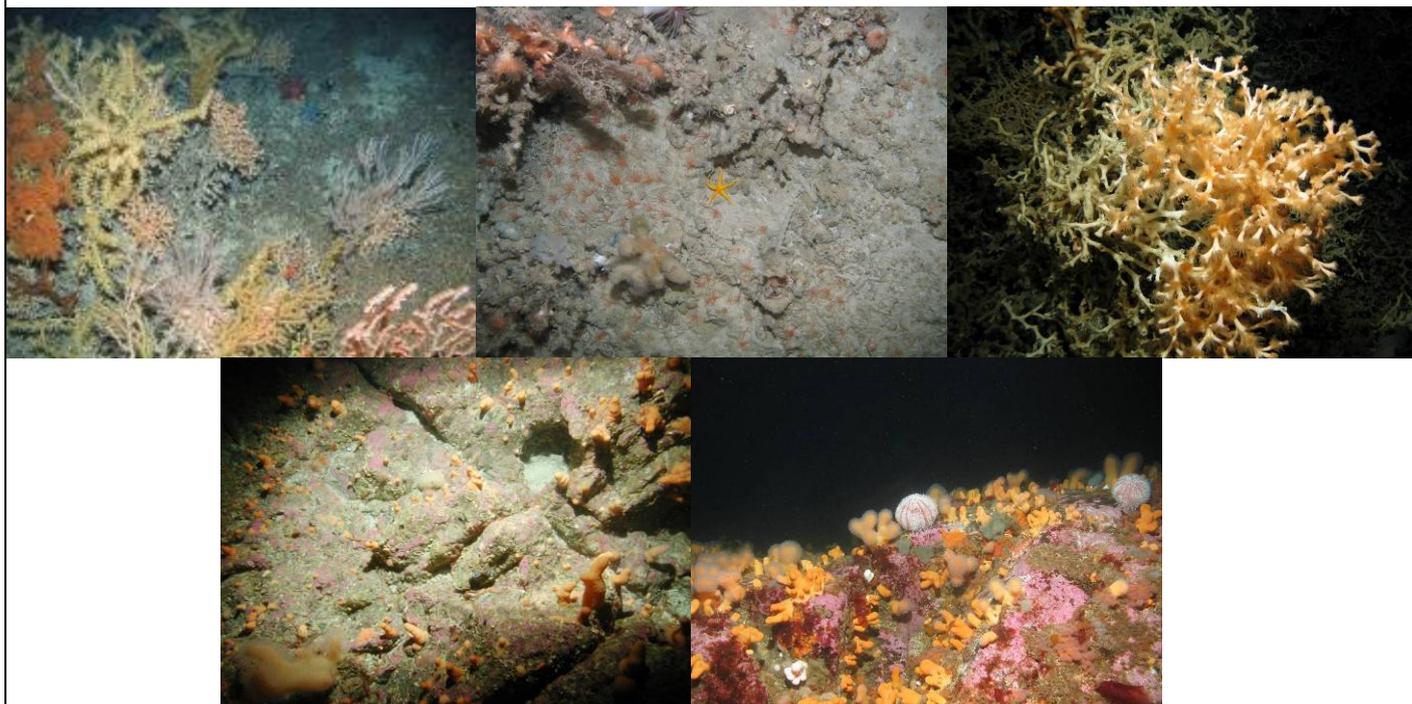




**Report to Scottish Ministers on the 2012 consultation
concerning the selection of five possible Scottish offshore
Special Areas of Conservation**



31st August 2012 v3.0

Key to the images on the front cover



Anton Dohrn Seamount
Gorgonians, *Lophelia pertusa*, antipatharians and soft corals at Anton Dohrn Seamount.
© JNCC



East Rockall Bank
A volcanic parasitic cone with *Lophelia pertusa* cold water coral, *Actiniaria* anemones, *Caryophyllia* sp. and *Henricia sanguinolenta*, recorded at East Rockall Bank.
© JNCC



Hatton Bank
Live *Lophelia pertusa* coral on dead biogenic reef framework at the Hatton Bank site
© DTI/Defra 2006



Pobie Bank Reef
Annex I bedrock reef with encrusting coralline algae and bryozoans and abundant soft corals (*Alcyonium digitatum*) at Pobie Bank Reef.
© DTI 2003



Solan Bank Reef
Soft coral (*Alcyonium digitatum*), common sea urchin (*Echinus esculentus*) and encrusting coralline algae on shallow circalittoral bedrock reef at Solan Bank Reef.
© JNCC 2008

Sign off procedure

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1. Introduction and background

This document describes the formal consultation process undertaken by the Joint Nature Conservation Committee (JNCC) and Scottish Natural Heritage (SNH) for five possible Special Areas of Conservation (SAC) sites¹ – Anton Dohrn Seamount, East Rockall Bank, Hatton Bank, Pobie Bank Reef and Solan Bank Reef – and outlines the responses received during the consultation. The document also summarises JNCC/SNH's recommendations following consideration of responses received.

The European 'Habitats Directive'² and 'Birds Directive'³ together provide for the creation of a network of protected areas for important or threatened wildlife habitats across the European Union to be known collectively as 'Natura 2000'. This network consists of SACs for habitats and non-bird species, and Special Protection Areas (SPAs) for birds.

JNCC is responsible for recommending sites and conducting public consultation on SACs and SPAs for UK offshore waters (12-200 nautical miles and the UK Continental Shelf), and reporting to Defra (or as in this case, Scottish Government for sites in Scottish offshore waters). SNH is responsible for advising the Scottish Government on possible inshore and terrestrial SACs and SPAs and conducting relevant public consultations.

Anton Dohrn Seamount is situated in the Rockall Trough, 200km (108nm) from the Outer Hebrides. East Rockall Bank is also located in the Rockall Trough, 320km (173nm) from the Outer Hebrides. Hatton Bank is situated in the Atlantic North-West Approaches, towards the western extent of the UK Continental Shelf. Pobie Bank Reef is located in the North Sea, approximately 20km (11nm) east of Unst, Fetlar and Whalsey in Shetland and is separated from Shetland by the Unst Basin. Solan Bank Reef is located approximately 50km (27nm) north of Cape Wrath on the Scottish mainland. All five possible sites have been recommended to Scottish Government for their seabed habitat 'reefs'. Following approval by Scottish Government, the formal consultation for these five sites commenced on 5th March 2012 and closed on 25th May 2012.

A total of 12 responses to the consultation were received. The present report summarises the purpose of the consultation, how it was carried out, how the responses were analysed, what the nature of the responses was by sector and the key messages arising from it.

Following the consultation, JNCC and SNH have reviewed the scientific case for selection of each site and drawn up final site recommendations, taking into account representations made during the consultation. Final impact assessments have also been drafted to comply with Government guidance and are being submitted along with the final recommendations to Scottish Government. JNCC and SNH have made minor amendments to the SAC Selection Assessment documents for each site, and JNCC has updated the impact assessment for each site in the light of comments made. The selection feature for which the sites have been identified (reefs) has not changed. The site boundary has been amended for Pobie Bank Reef but has not changed for the other four sites and they remain as they were originally outlined in the public consultation.

¹ The two joint inshore and offshore possible SACs are Pobie Bank Reef and Solan Bank Reef. Anton Dohrn Seamount, East Rockall Bank and Hatton Bank are located entirely offshore (e.g. past 12nm)

² Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

³ Directive came into force in 1979, and is superseded by Directive 2009/147/EC of the European Parliament and the Council of 30 November 2009 on the conservation of wild birds

2. Purpose of the consultation and how it was carried out

2.1. The purpose of the consultation

The purpose of the consultation was to seek the view of all interested parties on:

- The scientific case for the designation of Anton Dohrn Seamount possible SAC (pSAC), East Rockall Bank pSAC, Hatton Bank pSAC, Pobie Bank Reef pSAC and Solan Bank Reef pSAC;
- The assessment of the likely economic and social impact of the designation of each site.

It is important to note that the Habitats Directive does not permit socio-economic impacts to influence the choice of a site or its boundary. The UK, as a Member State, must identify the sites and boundaries based only on scientific evidence. Socio-economic information will be used to inform the development of advice on the management of activities for each site, to ensure the features for which the sites have been designated are conserved. Draft Conservation Objectives and Advice on Operations for each site were also made available to assist stakeholders in assessing the likely effects of the site designation on their activities. The Conservation Objectives for each site were not the subject of the consultation although any comments that were received will be considered and taken into account when JNCC and SNH develop their formal conservation advice.

2.2. How the formal consultation was carried out

The formal consultation ran for three months and followed the Government's 'Code of Practice on Consultation'⁴. At the start of the consultation, 678 letters were emailed or posted to stakeholders by JNCC. The documents being consulted on were available on JNCC's website and hard copies were available upon request.

The documents presented for consultation for each site were:

- an SAC Selection Assessment document;
- an Impact Assessment document;

In addition, during the informal dialogue conducted by JNCC before formal consultation on the site recommendations, the Scottish Fishermen's Federation (SFF) offered data on the location of fishing effort over a period from 1998 to 2011 for East Rockall Bank pSAC, and for Solan Bank Reef pSAC. Some of this trawling data can potentially be utilised as a proxy to indicate where some types of Annex I reef habitat (including coral reef, steep bedrock and boulders) are present due to the inability to fish over those areas without damaging nets. However, only verifiable information on presence / absence of habitat could be accepted. For instance anecdotal observations regarding the ability to fish the area or what substrate/species could be found would not be accepted, whereas geo-referenced and dated information i.e. multibeam/singlebeam imagery or referenced grab/trawl/video samples would be accepted.

The following information was also made available on the JNCC website during the consultation:

- List of consultees;
- The letter sent to consultees;

⁴ HM Government, 'Code of Practice on Consultation', July 2008 - <http://www.bis.gov.uk/files/file47158.pdf>

- A document entitled “2012 Consultation on the selection of five UK offshore Special Areas of Conservation” which sets out the purpose of the consultation, what was being consulted upon and how to respond;
- Draft Conservation Objectives and Advice on Operations for features on each site;
- A GIS shapefile of each of the site boundaries; and
- A document providing answers to some ‘Frequently Asked Questions’.

Consultees were encouraged to respond via a standard template which was also posted on the website. However, responses were accepted in any format. The questions asked of consultees are set out in Annex I.

2.3. Raising awareness of the consultation

JNCC recommended Hatton Bank to Government as a draft SAC (dSAC) in February 2009, Pobie Bank Reef and Solan Bank Reef in October 2011 and Anton Dohrn Seamount and East Rockall Bank in December 2011. Pending Scottish Government approval to start a formal consultation, JNCC conducted some informal dialogue meetings on the sites between December 2011 and March 2012. Meetings were also held with stakeholder groups concerned with the five sites during the consultation period (see list below). These meetings introduced the format and timing of the planned formal consultation, described the impact assessment, and provided an opportunity for early informal feedback on the five possible SACs.

JNCC sent out a press release, posted notices on the JNCC website and sent individual letters to stakeholders and stakeholder groups inviting them to participate in the consultation. Prior to, and during, the consultation period major stakeholder groups were asked if they would like additional meetings with JNCC to update them on the consultation, and meetings were also held with any stakeholder that requested them.

Stakeholder meetings prior to consultation	Stakeholder meetings during consultation
Ministry of Defence	Tavish Scott MSP
North-West Waters Regional Advisory Council	Scottish Environment Link
Scottish Fishermen’s Federation	Scottish Fishermen’s Federation
UK Marine Biodiversity Policy Steering Group	Shetland Fishermen’s Association

JNCC and SNH also met with the Scottish Fishermen’s Federation (SFF) and Shetland Fishermen’s Association (SFA) after the close of the consultation. This was to further discuss the scientific justification underpinning the pSAC recommendation at Pobie Bank Reef following SFF and SFA’s response to the consultation.

3. Analysis of the responses

In total, 12 responses to the consultation were received from the following stakeholder sectors:

- commercial fishing (4 responses);
- public sector (3 responses);
- conservation (2 responses);
- landowner (1 response);
- research (1 response);
- political (1 response).

Each response was logged and an acknowledgement issued to the consultee.

The table below provides a summary of the responses received to each consultation question. The list of questions in full can be found in Annex I. Please note that 'Yes' indicates that either a respondent responded 'yes', or provided additional information.

	Yes	No	Not stated
Scientific			
<hr/>			
1. Do you accept scientific basis?			
Anton Dohrn	4	0	8
East Rockall	4	0	8
Hatton	4	0	8
Pobie Bank	4	0	8
Solan Bank	4	0	8
<hr/>			
2. Can you provide additional scientific information?			
Anton Dohrn	1	0	11
East Rockall	1	0	11
Hatton	2	0	10
Pobie Bank	1	0	11
Solan Bank	1	0	11
<hr/>			
3. Can you provide additional information on the condition of the features of the site?			
Anton Dohrn	0	1	11
Anton Dohrn	1	1	10
East Rockall	0	1	11
Hatton	0	2	10
Pobie Bank	0	2	10
Solan Bank	0	2	10
<hr/>			
4. Do you wish to provide further comment on scientific selection?			
Anton Dohrn	3	0	9
East Rockall	2	0	10
Hatton	4	0	8
Pobie Bank	5	0	7
Solan Bank	1	0	11
<hr/>			

	Yes	No	Not stated
<i>Economic and social impact of designation (these questions were inserted solely to help improve the impact assessment and for future potential use in developing management measures)</i>			
1. Can you provide additional information on assessing the value of goods and services for European habitats?			
Anton Dohrn	2	2	8
East Rockall	3	1	8
Hatton	1	1	10
Pobie Bank	2	2	8
Solan Bank	2	1	9
2. Can you provide additional activities that were not listed?			
Anton Dohrn	1	2	9
East Rockall	2	1	9
Hatton	0	2	10
Pobie Bank	1	1	10
Solan Bank	1	1	10
3. Can you provide information on what vessels would do in the event of a partial or full closure to certain types of fishing activity?			
Anton Dohrn	2	2	8
East Rockall	3	1	8
Hatton	1	1	10
Pobie Bank	3	1	8
Solan Bank	2	1	9
4. Can you provide additional information to improve the assessment of the costs of selecting the site?			
Anton Dohrn	2	1	9
East Rockall	2	1	9
Hatton	1	1	10
Pobie Bank	2	1	9
Solan Bank	1	1	10
5. Can you provide additional information to improve the assessment of the benefits of selecting the site?			
Anton Dohrn	0	1	11
East Rockall	0	1	11
Hatton	0	1	11
Pobie Bank	0	1	11
Solan Bank	0	1	11
6. Can you provide information on the importance of the features in supporting the wider ecosystem?			
Anton Dohrn	0	1	11
East Rockall	0	1	11
Hatton	0	1	11
Pobie Bank	0	1	11
Solan Bank	0	1	11

	Yes	No	Not stated
7. Can you provide information on how much time a business might take to familiarise themselves with the implications of SAC designation?			
Anton Dohrn	2	0	10
East Rockall	2	0	10
Hatton	1	0	11
Pobie Bank	2	0	10
Solan Bank	2	0	10
8. Can you provide information on significant unintended consequences that have not been identified?			
Anton Dohrn	2	1	9
East Rockall	2	1	9
Hatton	1	1	10
Pobie Bank	2	1	9
Solan Bank	1	1	10
9. Do you agree with the assessments of impacts on small businesses?			
Anton Dohrn	0	0	12
East Rockall	0	0	12
Hatton	0	0	12
Pobie Bank	0	0	12
Solan Bank	0	0	12
10. Can you provide comment on any other aspects of the impact assessment?			
Anton Dohrn	4	0	8
East Rockall	4	0	8
Hatton	3	0	9
Pobie Bank	3	1	8
Solan Bank	2	1	9

The majority of respondents did not directly answer each question and hence 'not stated' is the most common response in the analysis.

For all possible sites, 33% of stakeholders accepted the scientific basis, with the remaining 67% not stating whether they agreed or disagreed. It should be noted that one stakeholder agreed with the scientific basis for selecting the sites, but did not agree with the scientific evidence underpinning the specific location of the site feature. This is discussed within the following 'Summary of key messages' section.

Any scientific reports and detailed comments on the SAC Selection Assessment document provided by stakeholders have been analysed and incorporated where appropriate. New data and detailed comments were also provided for the impact assessment and have been included where necessary. Revised versions of these documents have been produced. A few stakeholders also provided comments on the conservation objectives, which will be assessed before the conservation objectives are finalised. The comments highlighted are discussed in more detail below.

Summary of key messages and JNCC/SNH comments

4.1 Scientific case for designation of the five possible SACs

4.1.1 Anton Dohrn Seamount

a) Justification for reef habitat

- All responses to the scientific justification for recommending Anton Dohrn Seamount to protect the Annex I habitat 'reefs' were positive;
- It was highlighted that the survey data is sparse for the site which extends 1429km².

JNCC response

The JNCC survey (conducted by the vessel *M/V Franklin*) was designed to examine in detail a range of areas and specific features (Stewart et al., 2009b) to improve understanding of the habitats present over an extensive area of Anton Dohrn Seamount. It should be borne in mind that the Anton Dohrn Seamount Area of Search (AoS) was 5651km² and therefore the data gathered on the 2009 cruise represents only a small part of the area that was under investigation as a potential SAC. Similarly the area of ground-truthing through the evaluation of camera tows represents only a small proportion of the area surveyed by multi-beam and sidescan sonar. The survey was designed to identify and map the key biological communities present and conducted 215 line kilometres of multi-beam echosounder and 10 photographic 'ground-truthing' sites acquired within the Anton Dohrn Seamount AoS.

The survey data provides multi-beam coverage over two areas on the flanks of the seamount, the South-Eastern and the North-Western flanks. These include diverse morphological features noted during the Strategic Environmental Assessment (SEA) 7 survey⁵ in 2005 (which conducted lower detail multi-beam coverage for the whole Anton Dohrn Seamount area and nearby surrounding flats) (Jacobs, 2006). These data sets provide a contrast between the South-Eastern area and North-Western areas as they are subjected to different water masses, at different depths and have different morphological features. As such, whilst we do not have full coverage data for the entire site, we have a good representative sample and enough evidence to be confident in inferring that we are likely to encounter similar habitats across the remaining flanks of the seamount.

b) Boundary delineation

- No comments were received that related to the proposed boundaries of the site.

4.1.2 East Rockall Bank

a) Justification for reef habitat

- All responses to the scientific justification for recommending East Rockall Bank to protect the Annex I habitat 'reefs' were positive;
- A respondent, while agreeing with the scientific basis for the site recommendation, did not entirely agree with the location of 'stony reef' as illustrated in the Selection Assessment Document.

⁵ Conducted by the DTI, now the Department for Energy and Climate Change

JNCC response

Plotter data were provided by some respondents as a proxy for where reef occurs. While these data can prove useful for identifying potential areas of 'bedrock reef', and for defining boundary margins, they cannot be used to completely define 'stony reef' as this habitat can consist of boulders and stones ranging from 5m to 64 mm in diameter – the finer end of this grain size spectrum of this habitat can still be trawled. Please refer to the European Commission's Interpretation Manual of European Union Habitats and additional UK interpretation⁶ for further details on how 'stony reef' is defined under Annex I criteria. The definition also allows for highly patchy areas of stony ground or iceberg ploughmarks, which are common along the ridge and plateau of East Rockall, to still be classed as 'stony reef' as long as certain characteristics are met (Irving, 2009).

Along the crest of the Western bank of the site, 'stony reef' has been predicted and/or verified for much of the length of the site. While we do not have ground-truthing along the entirety of the site, video and camera stills from JNCC, National Oceanography Centre (NOC) and Marine Scotland Science (MSS) surveys have verified a number of areas of stony reef spread along the ridge. Using this data, along with multi-beam and sidescan acoustic data we were able to predict the most probable areas of Annex I qualifying reef. Refer to the SAC Selection Assessment Document⁷ for full detail of data collected.

b) Boundary delineation

- Clarification sought as suggestion that commercial fishing activity and supporting video from Marine Scotland Science demonstrates that 'stony reef' in the western areas of the site have been wrongly identified;
- Four areas of contention within the proposed site boundary were identified during a pre-consultation meeting with stakeholders. These areas included:
 - The area south of 56°52'N which was identified as having relatively less ground-truthed data than other regions of the proposed site;
 - The two areas between 56°52'N to 57°25'N and 57°25'N to 58°15'N where ground is identified as potential 'stony' reef but which was suggested as being towable with fishing gear;
 - The area north of 58°15'N where ground-truthed data was questioned due to its scarcity and the ability to tow trawled gear in some parts.
- The area within the northern part of the proposed site, at depths below 1200m, was agreed to contain rocky drop-offs and many sponges and was also considered to be unsuitable for towed gear.
- Comment received that further survey work in the immediate vicinity of East Rockall Bank will be undertaken by Marine Scotland Science during June 2012 and welcome further dialogue on outcomes of this survey.

⁶ European Commission, 'Interpretation Manual of European Union Habitats', July 2007 - http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/2007_07_im.pdf

Additionally please see JNCC Report No. 432 on 'The identification of the main characteristics of stony reef habitats under the Habitats Directive', April 2009 - http://jncc.defra.gov.uk/pdf/web_432.pdf

⁷ Please note that additional data has been included within the most recent version of the SAC Selection Assessment Document.

JNCC response

On reviewing the data provided by Marine Scotland Science, there are no occurrences where the data indicate Annex I reef has been incorrectly identified. In two areas along the western ridge of the site, patches of ground have been surveyed which show areas of non qualifying habitat (sandy gravel). However this area had already been identified as such within the SAC Selection Assessment Document as presented during the consultation.

Elsewhere along the western ridge and slope, acoustic and ground-truthing (video/still) data has shown Annex I reef to occur. In particular reference to 'stony reef' along the ridge crest, a patchy distribution is expected to occur, and would not negate predictive interpolation. Further to this a large number of iceberg ploughmarks have been identified in this region (see Long *et al.* 2010 for detailed survey analysis) and are known to produce sediment conditions typical of 'stony reef' (Irving, 2009), and this is corroborated by 2006 video groundtruthing on the western edge of the proposed site. Studies in the North-East Atlantic have suggested that the raised edges of iceberg ploughmarks, known as berms, often have winnowed boulders exposed and these could provide the initiation point for reef development (Freiwald *et al.*, 1999) and a refuge for mobile species.

Following the pre-consultation meeting with stakeholders, JNCC reviewed the evidence underpinning selection of the site as an SAC. JNCC decided that no boundary alterations would occur to the East Rockall Bank proposed site. While it was agreed that large areas of the northern part of the site contained non Annex I reef, when buffers were added to known or potential reef polygons there was no clear area where the boundary could be trimmed without simultaneously sacrificing regions of potential reef. While some of these reef regions could be considered small relative the rest of the site (from 0.2 km²), it is important to maintain the integrity of the site, and also to allow for other areas of likely reef in the vicinity (identified through the coarser SEA7 multi-beam data).

While JNCC agrees that the 'stony reef' identified along the ridge crest of the bank (to the west of the proposed site) is patchy in its distribution, it is nonetheless confirmed and predicted to be present in sufficient abundance to warrant including it as Annex I reef. This identification comes from a mixture of acoustic and ground-truthing analysis, highlighting iceberg ploughmarks and clear areas of reef habitat. JNCC has therefore applied the boundary margin limits according to the known/predicted reef extent, following stated JNCC boundary design guidelines⁸.

In the southern region of the site, while ground-truthing data are less abundant, areas of iceberg ploughmarks have been clearly identified from the higher quality multi-beam collected during the JNCC joint survey (**Fig 4.1**). The absence of full coverage of data for the site should not exclude regions of the proposed site from designation given the level of knowledge we do have for this area.

⁸ JNCC (2012) *UK Guidance On Defining Boundaries For Marine Sacs For Annex I Habitat Sites Fully Detached From The Coast* [On-line]. Available from http://jncc.defra.gov.uk/pdf/SACHabBoundaryGuidance_2012Update.pdf (Accessed on 30/08/12);

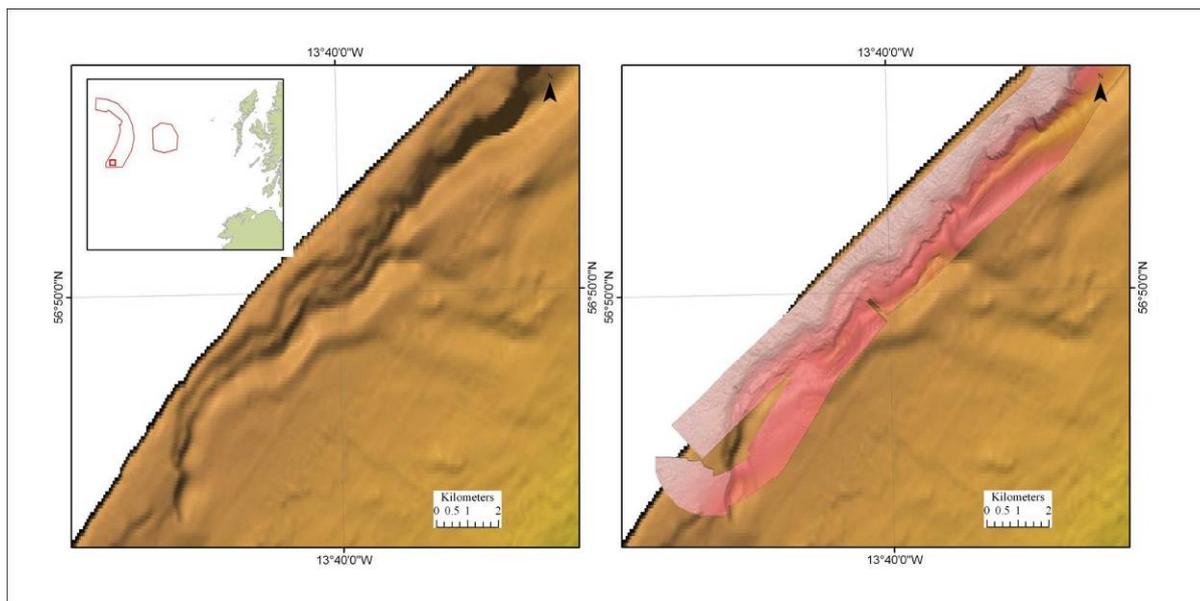


Figure.4.1 Comparison of multi-beam echo-sounder data gathered at southern end of East Rockall Bank Area of Search (AoS) during 2005 (left) and 2009 (right). The data on the right illustrates the quality of the data obtained, showing iceberg ploughmarks at the crest of the escarpment (from Long *et al.* 2010).

We note that further surveys are planned for the area around Rockall Bank in summer 2012. Any data gathered which provides additional scientific evidence to verify the location of Annex I reef at East Rockall Bank will be considered as it becomes available.

4.1.3 Hatton Bank

a) Justification for reef habitat

- All responses to the scientific justification for recommending Hatton Bank to protect the Annex I habitat 'reefs' were positive.

b) Boundary delineation

- Questions over why the boundaries follow the proposed ICES fisheries closure and do not follow the JNCC Boundary Guidelines.

JNCC response

JNCC is aware that there are significant areas of Annex I reef situated across the Hatton Bank pSAC area (and coincident North East Atlantic Fisheries Commission (NEAFC) fisheries closure) and has ground-truthing points to confirm the presence of coral records at various locations across the site. However, as the site covers such a large area we do not have full coverage data across the entire site to clearly define the location of discrete areas of Annex I reef. In the absence of full coverage data JNCC has taken the boundary of the NEAFC closure as a proxy for the location of Annex I reef and consequently the map indicates that Annex I reef occurs at depths down to 1740m but this is an artefact resulting from the way the closure area has been derived. The International Council for the Exploration of the Sea (ICES) provided NEAFC with advice relating to the fisheries closure which is now in place at Hatton Bank and, as a member of the ICES Working Group on Deep Water Ecology, JNCC contributed to the independent ICES process to determine the location of the boundary of the fisheries closure to

protect Vulnerable Marine Ecosystems (including cold water coral reef). The ICES advisory process can be treated as an independent review process. All ground-truthed records of reef fall within the boundary for the fisheries closure and nearly all of them are inside the appropriate 2km buffer. We do not feel there is adequate justification to support proposing a SAC boundary which is only marginally different to the NEAFC closure when there is already effective fisheries management across the site. As such, we are comfortable that the NEAFC closure affords adequate protection to the reef at Hatton Bank and do not support a deviation in the SAC boundary from the NEAFC fisheries closure.

4.1.4 Pobie Bank Reef

a) Justification for reef habitat

- All responses to the scientific justification for recommending Pobie Bank Reef to protect the Annex I habitat 'reefs' were positive;
- A respondent, while agreeing with the scientific basis for the site recommendation, did not entirely agree with the location of 'stony reef' as illustrated in the Selection Assessment Document;
- Concerns were expressed about the paucity of survey information used to define the habitat as survey lines generally between 5 and 10km apart;
- It was felt that before further consideration is given to the proposal to designate the site that a more detailed survey of the area is carried out to ascertain the true extent of the habitat.

JNCC/SNH response

Plotter data were provided by some respondents as a proxy for where reef occurs. While these data can prove useful for identifying potential areas of 'bedrock reef', and for defining boundary margins, they cannot be used to completely define 'stony reef' as this habitat can consist of boulders and stones ranging from 5m to 64 mm in diameter, – the finer end of this grain size spectrum can still be trawled. Please refer to the European Commission's Interpretation Manual of European Union Habitats and additional UK interpretation⁹ for further details on how 'stony reef' is defined under Annex I criteria.

While the site does not have full coverage of survey data we have aimed to create a good spread of data across the site and are content that the data represents an adequate reflection of the shape and reef types present on the Pobie Bank. While we would encourage further data collection in future to clarify areas where potential reef is shown, we are confident enough to progress the site on best available evidence as it currently stands and is represented in the SAC Selection Assessment Document.

b) Boundary delineation

- Comment questioned the feature location and requested the use of evidence from fishermen's data to clarify the location of reef features;
- Query over the proposed boundaries of the site as it includes significant fishing areas unlikely to be 'rocky reef';
- Question over the need for a 300 metre buffer zone around the site;

⁹ European Commission, 'Interpretation Manual of European Union Habitats', July 2007 - http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/2007_07_im.pdf

Additionally please see JNCC Report No. 432 on 'The identification of the main characteristics of stony reef habitats under the Habitats Directive', April 2009 - http://jncc.defra.gov.uk/pdf/web_432.pdf

- Queries over why areas of potential reef outside of the boundary have been excluded from the site;
- Clarification sought over why the patch of reef identified as high-confidence in the north-east corner of the proposed site was included within the site when it is some distance away from the main concentration of Annex I reef.

JNCC/SNH response

Please refer to response in a) above regarding the use of plotter data in acting as a proxy for where reef occurs.

The current SAC habitat boundary definition guidance (JNCC, 2008) states that a margin related to water depth at a ratio of 3:1 should be used in waters of this depth, irrespective of fishing method or location characteristics. The guidance also states that boundaries should be drawn to be kept as simple as possible by drawing straight lines. In this instance, we have reviewed the current boundaries and the straight lines which have been drawn to simplify the boundary and note concerns that substantial areas of non-qualifying habitat have been included within the proposed site boundary. Therefore, in order to reduce the amount of non-qualifying habitat included within the site, we have redrawn the boundaries more tightly around the reef polygons so that more vertices are included but less non-qualifying habitat included. A buffer to depth ratio of 3:1 remains between the location of known reef and the boundary. Figure 4.2 shows the recommended change in boundary at Pobie Bank Reef pSAC.

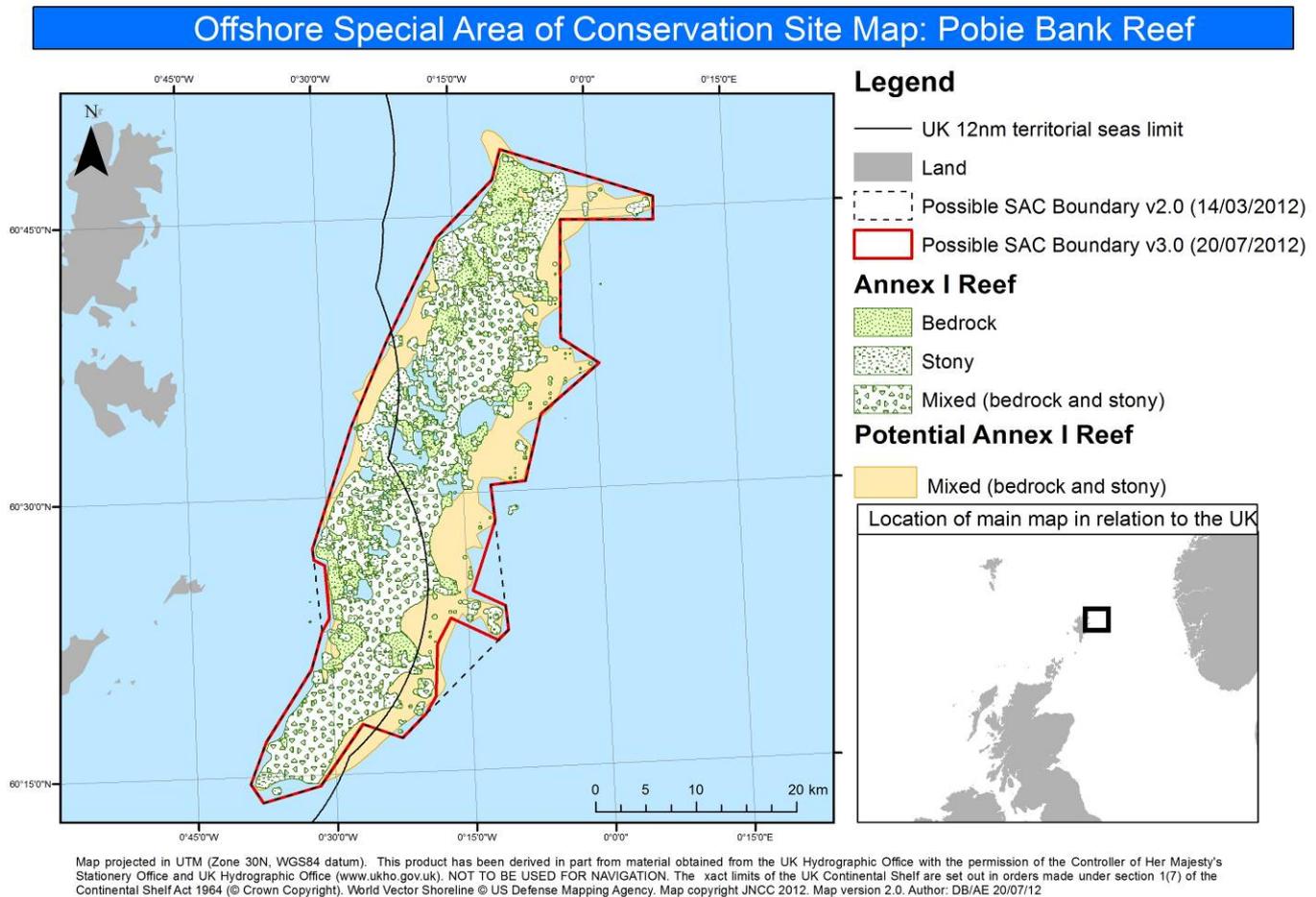


Figure.4.2 Map displaying the recommended change to the Pobie Bank Reef pSAC boundary following consultation (the dotted line is the previous boundary, the red line is the recommended new boundary)

It was decided to exclude regions of potential reef developed using the lowest confidence data from the British Geological Survey (BGS) rock layer (Gafeira *et al.*, 2010) where there is no supplementary higher confidence data to verify its presence, as this data is considered too unreliable to designate boundaries from in this area. Therefore determination of this site boundary has been based on the best available scientific evidence and the boundary has been drawn to incorporate all areas of medium and high confidence Annex I reef.

The three confidence ratings (as specified in the SAC SAD) are as follows:

1. Highest confidence. Annex I reef derived from acoustic data coverage and/or ground-truthing data;
2. Medium confidence. Annex I reef derived from data interpolation techniques using mapping software;
3. Low confidence. Potential Annex I reef derived by extension of the reef feature into potential reef areas identified by BGS.

It was concluded that there is insufficient justification for removing the area of high confidence known reef in the north-east corner of the site as it is ~6 km from the main reef complex (~3 km from the nearest known reef) and is ~2.3 km² in size, and therefore considered to be part of the reef complex. Consequently we have made no changes to the boundary in this section of the site. While we have limited non-qualifying features within the proposed site boundary to a minimum, some areas will inevitably occur within the site between patches of qualifying reef. However we are confident that our current boundary is based on JNCC's published guidelines and uses the best evidence available.

4.1.5 Solan Bank Reef

a) Justification for reef habitat

- All responses to the scientific justification for recommending Solan Bank Reef to protect the Annex I habitat 'reefs' were positive;
- A respondent, while agreeing with the scientific basis for the site recommendation, did not entirely agree with the location of 'stony reef' as illustrated in the Selection Assessment Document.

JNCC/SNH response

Plotter data were provided by some respondents as a proxy for where reef occurs. While these data can prove useful for identifying potential areas of 'bedrock reef', and for defining boundary margins, they cannot be used to completely define 'stony reef' as this habitat can consist of boulders and stones ranging from 5m to 64 mm in diameter, – the finer end of this grain size spectrum can still be trawled. Please refer to the European Commission's Interpretation Manual of European Union Habitats and additional UK interpretation¹⁰ for further details on how 'stony reef' is defined under Annex I criteria.

¹⁰ European Commission, 'Interpretation Manual of European Union Habitats', July 2007 -

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/2007_07_im.pdf

Additionally please see JNCC Report No. 432 on 'The identification of the main characteristics of stony reef habitats under the Habitats Directive', April 2009 - http://jncc.defra.gov.uk/pdf/web_432.pdf

b) Boundary delineation

- One respondent commented that information on the location of 'stony reef' on the west of the Nun Bank seems incomplete;
- Question over the location of 'stony reef', since herring are not known to spawn on 'stony reef' and fishermen fish for haddock during herring spawning season in locations identified as 'stony reef' in the Selection Assessment Document.

JNCC/SNH response

We have ground-truthing data for 44 locations within the proposed site using a drop camera system which identified areas of the 'stony reef' and 'bedrock reef' (as well as areas of non-qualifying Annex I habitat). Along with this high resolution side-scan sonar and multi-beam echo-sounder data was collected to supplement the full-coverage multi-beam data gathered by the Maritime & Coastguard Agency, all of which is presented on the maps within the SAC Selection Assessment Document. We have no reason to suspect that the areas delineated as 'stony reef' from the acoustic data and accompanied with ground-truthing would be any different in composition to those areas of 'stony reef' which have not been ground-truthed. We accept that in between the areas identified as 'stony reef' there are areas of non-qualifying Annex I habitat of gravel/sand substrate. While it is true that survey effort for ground-truthing and higher resolution acoustics has been focussed to the east of the proposed site, the ground-truthing locations were chosen to give a good representation of biotopes present according to the various side-scan and multi-beam bathymetry values already recorded. We would welcome further data for the site to increase confidence in areas subject to less survey effort to inform management measures, but again are happy that the overall level of data currently underpinning site selection is adequate.

The occurrence of Atlantic herring (*Clupea harengus*) spawning grounds in areas identified as 'stony reef' are not incompatible with our conclusions of habitat type given that herring prefer to spawn on areas of hard flat substrate composed primarily of gravel, but usually also containing a mix of rocks, stones and sand or shingle (De Groot, 1980, Reid *et al.*, 1999). These habitat types are therefore consistent with the definition of 'stony reef' (Irving, 2009) interspersed with coarse sand/gravel.

4.1.6 Comments applicable to all five sites

- A comment questioned whether seamounts/banks support faunal assemblages are distinct from other deep-sea habitats;
- A comment proposed that information provided by fishermen on feature location be regarded as 'scientific' on the basis that it meets many dictionary definitions, in particular that the information is systematic and accurate;
- Questions were asked about the principles of building in a safety margin for mobile fishing gear as modern technology has advanced to such a level that fishermen are fully aware of the location of their gear, and where topography in the pSAC is suitable, fishing activity can easily be carried out parallel and adjacent to feature boundaries, effectively eliminating risk of contact.

JNCC response

The importance of seamounts as a habitat is now widely recognised (Rogers, 1993, Clark, *et al.*, 2010, Morato *et al.*, 2010). Seamounts are physically quite different to the surrounding flat abyssal plains (Hall-Spencer *et al.*, 2007). They support steep slopes, extensive areas of exposed bedrock and a diverse range of meso- and micro-habitats. In addition they affect the physical structure of the water column and

may be subject to vigorous currents. As a result the benthic communities on seamounts may be dominated by suspension feeders including stony corals, gorgonian corals, black corals, sea anemones, sea pens, hydroids, sponges, sea squirts (*Ascidacea*) and crinoids (Rogers, 1994). Seamounts have been described as islands harbouring unique or characteristic fauna (Moore *et al.*, 2003; Stocks, 2004), as oases supporting high biomass (Samadi *et al.*, 2006), and as biodiversity hotspots (Santillo and Johnston, 2005) with high rates of endemism (Richer de Forges *et al.*, 2000). However, this view of seamounts has recently been challenged with new research indicating that communities on seamounts are similar to those of comparable regions of the continental slope (O'Hara, 2007), and no more and in some cases less diverse than other submarine features such as canyons (Schlacher *et al.*, 2007) or the continental slope (O'Hara, 2007), with low or negligible rates of endemism (Samadi *et al.*, 2006; Hall-Spencer *et al.*, 2007; O'Hara, 2007). In their study comparing the epibenthic megafauna of Anton Dohrn seamount, Hatton Bank and Rosemary Bank seamount, Howell *et al.*, (2010) suggest that under similar environmental conditions e.g. similar substrate, depth and geomorphology, the benthic communities of Anton Dohrn Seamount are similar to those of neighbouring Hatton Bank and Rosemary Bank Seamount, and no more or less diverse, with endemism low or non-existent.

Therefore in summary, *Lophelia pertusa* biogenic reefs are associated with continental banks, slopes and seamounts (Hall-Spencer *et al.*, 2007). Annex I criteria within the Habitats Directive protects biogenic reef and not the slopes or seamounts themselves, so while the question regarding whether seamounts support distinct / more diverse habitats from other deep sea areas is interesting and worthwhile for further research, it should not inhibit the designation of the sites recommended during this consultation.

JNCC does consider certain data available from fishermen as scientific knowledge, and has used such data in site recommendations where they can be provided, are location-specific, and relevant to the characterisation, location or condition of a habitat (for example, data on cold water coral records and trawl tracks from Scottish Fishermen's Federation provided for NW Rockall Bank cSAC in 2010). However, in the case of these sites fishing data have been supplied to help define the location of 'stony reef'. Fishing data cannot be used to completely define 'stony reef', as earlier described in this report, because this habitat can consist of boulders and stones ranging from 5m to 64mm in diameter– the finer end of this grain size spectrum can still be trawled.

JNCC recognise concerns about the principles of the safety margin built into sites in order to protect the qualifying interest feature from mobile fishing gear and the advances in more technology to potentially eliminate that risk. JNCC remains of the opinion that established criteria specified within the JNCC Boundary Guidelines (JNCC, 2012) should not be changed as JNCC cannot be certain that fishing gear will not be in contact with Annex I habitat.

4.1.7 Draft Conservation Objectives & Advice on Operations

Some specific comments on the draft Conservation Objectives and Advice on Operations documents were received. None of these comments were of a nature that would influence the scientific case for the recommendation of the five sites to the Scottish Government as pSACs. However the comments did raise issues that will be addressed when the documents are updated ahead of JNCC issuing its formal Conservation Advice following submission of the five pSACs to the European Commission.

Several questions were posed about the likely management measures associated with the sites as suggested in the draft Conservation Objectives and Advice on Operations documents. The Conservation Objectives are the first step in the process towards developing individual site management measures, in anticipation of these sites being designated. In the absence of knowledge of feature condition within sites, the high level Conservation Objectives are set following any direct evidence of damage and assessment of the vulnerability of the site features to pressures associated with operations. With this information on operations currently taking place on site, the risk of not taking action is highlighted. It is

anticipated that following submission of the five pSACs to the European Commission, socio-economic data will be examined in closer detail with the relevant industries during discussions about individual site management.

5. Conclusions and final recommendation on site boundaries

The overall site recommendations for Anton Dohrn Seamount, East Rockall Bank, Hatton Bank and Solan Bank Reef remain unchanged following the consultation. The originally proposed boundaries around Pobie Bank Reef have been slightly amended in order to reduce the amount of non-qualifying habitat within the site boundary.

The SAC Selection Assessment documents for each site have been amended in light of comments made in consultation responses. The Impact Assessment documents have also been updated to include new information provided by consultees and to address comments made during the consultation.

JNCC confirms its advice to Scottish Government that Anton Dohrn Seamount, East Rockall Bank, Hatton Bank, Pobie Bank Reef and Solan Bank Reef should be recommended to the European Commission as candidate SACs as part of the UK's contribution to the Natura 2000 network.

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Annex I: Consultation questions

The scientific justification for the sites and their boundaries

SAC1) Do you support the scientific basis for the sites being put forward in this round of consultation?	
SAC1.1) Anton Dohrn Seamount	Yes/No
SAC1.2) East Rockall Bank	Yes/No
SAC1.3) Hatton Bank	Yes/No
SAC1.4) Pobie Bank Reef	Yes/No
SAC1.5) Solan Bank Reef	Yes/No

SAC2) Please indicate if you have any scientific information, not already referenced in the SAC Selection Assessment document for each site (or in the East Rockall Bank addendum), to support your response to SAC1.	
SAC2.1) Anton Dohrn Seamount	
SAC2.2) East Rockall Bank	
SAC2.3) Hatton Bank	
SAC2.4) Pobie Bank Reef	
SAC2.5) Solan Bank Reef	

SAC3) Do you have any information additional to that included in the SAC Selection Assessment documents about the condition of Annex I habitats within each site boundary that you would like to share with JNCC?	
SAC3.1) Anton Dohrn Seamount	

SAC3.2) East Rockall Bank	
SAC3.3) Hatton Bank	
SAC3.4) Pobie Bank Reef	
SAC3.5) Solan Bank Reef	

SAC4) Do you have any further comments on the scientific selection of each site as a SAC?	
SAC4.1) Anton Dohrn Seamount	
SAC4.2) East Rockall Bank	
SAC4.3) Hatton Bank	
SAC4.4) Pobie Bank Reef	
SAC4.5) Solan Bank Reef	

Socio-economic Impact Assessment

IA1) Do you have any further information on assessing the value of goods and services for European habitats for each Impact Assessment for Option 1: Designate the site?	
IA1.1) Anton Dohrn Seamount	
IA1.2) East Rockall Bank	
IA1.3) Hatton Bank	
IA1.4) Pobie Bank Reef	
IA1.5) Solan Bank Reef	

IA2) Are there any other significant activities at each site that the IA has not identified?	
IA2.1) Anton Dohrn Seamount	
IA2.2) East Rockall Bank	
IA2.3) Hatton Bank	
IA2.4) Pobie Bank Reef	
IA2.5) Solan Bank Reef	

IA3) Can you provide any information to inform estimates of what vessels would do in response to closing each site or part of it to certain types of fishing methods?	
IA3.1) Anton Dohrn Seamount	
IA3.2) East Rockall Bank	
IA3.3) Hatton Bank	
IA3.4) Pobie Bank Reef	
IA3.5) Solan Bank Reef	

IA4) Can you provide any information to improve the assessment of the costs (and wider impacts) of selecting each site?	
IA4.1) Anton Dohrn Seamount	
IA4.2) East Rockall Bank	
IA4.3) Hatton Bank	
IA4.4) Pobie Bank Reef	

IA4.5) Solan Bank Reef	
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IA5) Can you provide any information to improve the assessment of benefits of selecting each site?	
IA5.1) Anton Dohrn Seamount	
IA5.2) East Rockall Bank	
IA5.3) Hatton Bank	
IA5.4) Pobie Bank Reef	
IA5.5) Solan Bank Reef	

IA6) In assessing the benefits, we do not take account of the role of the feature (i.e. habitat type) in supporting the wider ecosystem. Can you provide information on the importance of any of the features in supporting the wider ecosystem?	
IA6.1) Anton Dohrn Seamount	
IA6.2) East Rockall Bank	
IA6.3) Hatton Bank	
IA6.4) Pobie Bank Reef	
IA6.5) Solan Bank Reef	

IA7) How much time do you think a business might typically take to familiarise themselves with the implications of offshore SAC designation if implemented? (If you represent a particular sector, please make your answer specific to that sector)	
IA7.1) Anton Dohrn Seamount	

IA7.2) East Rockall Bank	
IA7.3) Hatton Bank	
IA7.4) Pobie Bank Reef	
IA7.5) Solan Bank Reef	

IA8) Are there significant unintended consequences associated with the Options (Baseline: do nothing or Option 1: designate the site) that have not been identified in the IAs?	
IA8.1) Anton Dohrn Seamount	
IA8.2) East Rockall Bank	
IA8.3) Hatton Bank	
IA8.4) Pobie Bank Reef	
IA8.5) Solan Bank Reef	

IA9) Do you agree with the assessments of impacts on small businesses and can you provide any further information?	
IA9.1) Anton Dohrn Seamount	
IA9.2) East Rockall Bank	
IA9.3) Hatton Bank	
IA9.4) Pobie Bank Reef	
IA9.5) Solan Bank Reef	

IA10) Are there any other aspects of the IAs on which you would like to comment or where you are able to provide further information?	
IA10.1) Anton Dohrn Seamount	
IA10.2) East Rockall Bank	
IA10.3) Hatton Bank	
IA10.4) Pobie Bank Reef	
IA10.5) Solan Bank Reef	

Annex II: List of respondents

Angus MacNeil MP

Asociacion De Armadores De Buques Pesqueros

Department of Energy & Climate Change

Maritime & Coastguard Agency

National Federation of Fisheries Organisations

Scottish Association for Marine Science

Scottish Environment Link

Scottish Fishermen's Federation

Shetland Fishermen's Association

Shetland Islands Council

The Crown Estate

World Wide Fund for Nature

Annex III: Key messages on Impact Assessment

The Impact Assessments (IA) for each of the five sites has been updated following the consultation, and will be provided to Scottish Government separately to this report. The following comments were received on the IAs during the consultation and have been assimilated into revised versions.

Anton Dohrn Seamount Impact Assessment

a) Fisheries specific comments

- The loss of fisheries of 'less than £1000 per annum' would seem to grossly underestimate the potential losses to the industry;

JNCC response

JNCC recognises that the figures presented within the IA may underestimate the potential losses to the industry, however using the data available this figure is our best estimate of losses to UK vessels landing to UK ports. A 'less than £1000 per annum' value is for UK registered vessels using demersal gear and landing to UK ports only (as described in Section 2.4 and Annex I of the IA). The value is an average value calculated from landings data between 2006 and 2009; however landings from UK vessels to UK ports were only recorded from the pSAC in 2006 (as presented in Annex I of the IA). Losses to foreign vessels are discussed but not included in headline figures.

East Rockall Bank Impact Assessment

a) Fisheries specific comments

- Disagreement with the fishing costs on the basis of the lack of recognition of monkfish and blue whiting catches in the area;
- Displacement of fishing activity from the western boundary of the site will result in it not being possible to achieve the allocated monkfish total allowable catch;
- It is anticipated that management measures for this area would not place restrictions on pelagic activity. Also concerns about the management measures placing uniform restrictions across the site, resulting in the loss of non-qualifying habitat for fishing activity;
- The IA assumes that fishing can be displaced without loss of earnings but no justification is provided.

JNCC response

JNCC understands that blue whiting are caught using pelagic gear. Pelagic fishing is not considered to pose a threat to Annex I habitats achieving favourable condition and hence is assumed that it will not be impacted by any of the potential fisheries management measures used to calculate losses in this IA. JNCC does not have the data necessary to calculate the precise current value of monkfish caught within the pSAC, however using information provided during the consultation period, JNCC has updated the IA to include a more information on monkfish catches within the pSAC and the possible impacts of designation on achieving the Total Allowable Catch for monkfish in the relevant ICES area.

A range of possible management measures has been used by JNCC to estimate the range of costs that could be associated with SAC designation. It should be noted that possible management measures put

forward in the IA will not steer for future decisions on management of the site. Fisheries data will be examined in closer detail with the fishing industry during discussions about site management. These discussions may result in a zoned approach to the applicable of management measures. Pelagic fishing is not considered to pose a threat to Annex I habitats achieving favourable condition.

The IA assumes that towed gear could be displaced from the reef with no loss of earnings under the minimum scenario because fishers with towed gear largely avoid the reef to protect their gear. Static gear is banned over biogenic reef under the minimum scenario but this also has no economic impact as the biogenic reef is not subject to static gear fishing (as shown in the annex to this IA).

Under the maximum scenario all demersal fishing is prohibited across the entire pSAC and so static fishing would be displaced and towed fishing would be displaced from non-reef areas within the pSAC boundary. These costs are included in the maximum scenario.

b) Other specific comments

- There are two inactive cables which cross the site.

JNCC response

JNCC has amended the IA to take into account the cables which cross the pSAC.

Hatton Bank Impact Assessment

c) Fisheries specific comments

- As the pSAC is already closed to fishing, the baseline uses the fact that no fishing is occurring at the present time whereas in the past it would have been fished and could be in the future. The IA does not include the cost of permanently removing this area as being fished by designation as an SAC.

JNCC response

JNCC notes that the NEAFC and EU fisheries closure at Hatton Bank is to protect Vulnerable Marine Ecosystems based on long-lived cold water corals and therefore it is anticipated to continue into the future.

Pobie Bank Reef Impact Assessment

d) Energy specific comments

- The proposed Laggan-Tormore export pipeline route crosses the possible SAC.
- The possible SAC overlaps with an area of search (East of Shetland – N7) identified in Marine Scotland's 'Scoping Study for Offshore Wind Development in Scottish Waters'.

JNCC response

JNCC has amended the IA to include details of this pipeline, which has now been installed.

JNCC has updated the IA to highlight that Pobie Bank Reef overlaps an identified area of search (N7) for future development of offshore wind. The impact of the site on renewables development has not been costed into the Impact Assessment as it is unknown whether the site itself will impact the location of the offshore wind areas of search - it could be technical constraints e.g. difficulty of development on rock – these are to be determined through Scottish Government’s Regional Locational Guidance exercise which will take into account potential environmental and technical constraints to development in that area.

e) Fisheries specific comments

- Questions over how the loss of profit of £125,000 per annum was calculated if there was a total ban on demersal fishing at the site. Suggested costs were put at £200,000 per annum by respondent.

JNCC response

Total landings lost from the site were estimated at £416,000 per annum, greater than the suggested £200,000 per annum. JNCC assumes that profit is 30% of the total landings value (as described in Section 4.2 of the IA) which brings the loss of profit down to £125,000 per annum. The headline figure is presented as a total loss of profit rather than a total loss of landings.

f) Other specific comments

- One inactive telecommunications cable crosses the possible SAC.

JNCC response

JNCC has amended the IA to take into account the telecommunications cable that crosses the site.

Solan Bank Reef Impact Assessment

g) Energy specific comments

- The possible SAC overlaps with an area of search (North Minch – NW7) identified in Marine Scotland’s ‘Scoping Study for Offshore Wind Development in Scottish Waters’.

JNCC response

JNCC has updated the IA to highlight that Solan Bank Reef overlaps an identified area of search (NW7) for future development of offshore wind. The impact of the site on renewables development has not been costed into the Impact Assessment as it is unknown whether the site itself will impact the location of the offshore wind areas of search - it could be technical constraints e.g. difficulty of development on rock – these are to be determined through Scottish Government’s Regional Locational Guidance exercise which will take into account potential environmental and technical constraints to development in that area.

h) Fisheries specific comments

- Comment that the assessment of activity relating to demersal fishing in the period 2006-2010 should not be regarded as representative of past and future fishing activity due to changes in Total Allowable Catch;

- Displacement from the area may well result in increased effort elsewhere, however as the area encompasses important haddock catch areas, it is unlikely that the fleet will be able to achieve the same catching opportunities elsewhere;
- The potting/creeling sector is active in this area and any loss of access would impact immediately as other sites would be unable to cope with the additional deployment of pots.

JNCC response

JNCC has included this new information on likely socio-economic impacts of site designation within Sections 2.4 and 4.2 of the IA. Additionally, more information is now included in the IA on haddock catching opportunities in the region and the likely impacts of displacement on static gears.

Other comments applicable to all sites

i) General comments

- The IA does not take into account the cumulative effect on the fishing industry of the other proposed SACs, MPAs and site allocation to the Renewables Sector;
- Indirect costs to the fishing industry are not included for all five sites;
- No attempt has been made to quantify the potential impact on foreign vessels that are active in the area;
- Comment received that if management measures were introduced for sites which affected shipping then there would be a significant increase in costs.

JNCC response

While JNCC recognises that there may be cumulative impacts on the fishing industry as a result of renewables developments or future MPAs identified under the Scottish MPA Project, individual site impact assessments are required to only assess the impact of the site itself on the UK economy.

Calculating indirect costs is beyond the scope of this IA. JNCC acknowledged this in Section 4.2 of the IAs but more clarity has been provided in response to the comments received.

JNCC notes that IAs are a UK policy requirement and assess costs to UK businesses only. JNCC recognises that designation also impacts foreign fishing interests and where we have foreign fishing, it is presented in the IAs for information only (e.g. landings data for vessels landing to UK ports). International fishing interests were included in the consultation process and the information they provided has now been included in the IAs. We acknowledge the importance of working with foreign fishing organisations to ensure that the pSACs are effectively managed for nature conservation and they will be consulted where fisheries management is required following site designation.

JNCC recognises the concern about management measures for sites and their possible impact on industries activities. Management measures are still to be considered and discussed with the relevant industries. However, management measures which impact the passage of ships are unlikely to be required in order to meet the currently draft conservation objectives of the sites.