

## **REPORT OF THE JOINT NATURE CONSERVATION COMMITTEE TO THE SECRETARY OF STATE ON THE RESPONSES TO JNCC'S CONSULTATION ON THE FIRST SEVEN POSSIBLE OFFSHORE SPECIAL AREAS OF CONSERVATION (SACS)**

**7th July 2008**

### **Executive summary**

This report summarises the views expressed by respondents to JNCC's 2007-08 public consultation on the seven offshore Special Areas of Conservation (SAC) proposals and their associated Impact Assessments (IAs). It outlines how site recommendations have been adjusted by JNCC in discussion with Government, to take account of representations made in this consultation. In total, 38 individuals and organisations responded to the consultation, with respect to both the science underpinning site identification, and the socio-economic costs and benefits of the sites to inform the Impact Assessments. Out of the 114 responses on the scientific justification for the seven site proposals (many respondents commented on more than one site), 57 (50%) agreed with the scientific bases presented, 25 (22%) did not agree, and 31 (28%) did not state their opinion.

JNCC has taken account of representations made during the consultation and has made the following changes to recommendations for the seven possible sites:

- i) The site boundary for five of the seven possible SACs has been adjusted to enclose the area of Annex I habitat more closely and reduce the area of non-Annex I habitat within the site boundary. These five sites are: Braemar Pockmarks; Scanner Pockmark; North Norfolk Sandbanks and Saturn Reef; Haig Fras; and Stanton Banks. The boundaries of the Darwin Mounds and Wyville Thomson Ridge possible SACs have not been modified. This change results in more complex site boundaries with more, longer, coordinates, but significantly reduces the area of non-Annex I habitat enclosed within the site boundary.
- ii) Relevant scientific information provided on the Annex I interest features has been incorporated within the SAC selection assessment documents, or where not applicable to a particular site, will be taken into account in the identification and selection of future possible SACs.
- iii) Information provided on the condition of the features at the sites, and on activities taking place within the sites has provided additional justification for the selection criterion 'conservation of structure' for several sites. The grading for this criterion has been adjusted from 'excellent' to 'well conserved' for two sites (Haig Fras and Stanton Banks). JNCC will update the draft *Advice on Operations* for these possible SACs using direct and indirect information on the condition of the features and the types of activities currently occurring within the site boundaries.
- iv) The Impact Assessments have been updated using new information provided during the consultation. They have also been re-assessed to take account of the new site boundaries for the five sites where the recommended boundary has been changed. The Impact Assessments are provided separately.

To reflect the decisions made to change the site boundaries, JNCC will update its 2004 guidance on defining site boundaries for SACs away from the coast.

## 1 Introduction and background

The UK, as a member state of the European Union, is required to develop a network of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) to protect those species and habitats listed in the EC Habitats Directive (92/43/EEC) and the EC Birds Directive (79/409/EEC). This network of protected sites is known as Natura 2000, and is intended to maintain or restore natural habitats and species of wild flora and fauna at favourable conservation status across the European Union. The obligations placed on the UK by the Birds and Habitats Directives were initially transposed in the mid-1990s into UK law through regulations applying terrestrially and to inshore waters (within 12 nautical miles of the coast). On 21st August 2007 new regulations, The Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 (OMCR), entered into force, extending the area over which SAC and SPA sites could be identified, designated and protected, from 12nm to the 200nm extent of British fishery limits and the seabed within the UK Continental Shelf area. In accordance with these Regulations, Government gave notice that it proposed to include 7 offshore sites on the list transmitted to the European Commission as eligible for selection as sites of Community importance. These are:

- Braemar Pockmarks;
- Scanner Pockmark;
- North Norfolk Sandbanks and Saturn Reef;
- Haig Fras;
- Stanton Banks;
- Darwin Mounds;
- Wyville Thomson Ridge.

As required by the Regulations, JNCC undertook consultation on these seven possible Special Areas of Conservation (SACs) in UK offshore waters. This consultation ran from 20th December 2007 to 14th March 2008 (see [www.jncc.gov.uk/marineconsult](http://www.jncc.gov.uk/marineconsult) for further information). Information on this consultation was provided by JNCC through our website, supported by one-to-one dialogue with key stakeholders, and presentations at a number of meetings, events and conferences.

The consultation on offshore SACs had two elements: consultees were asked to consider firstly the scientific justification for proposing these possible SAC sites and their boundaries, and secondly the socio-economic costs and benefits of defining the sites to inform the accompanying Impact Assessment (formerly Regulatory Impact Assessment). The list of questions put to stakeholders under these two themes is included as Appendix 1.

Under the Habitats Directive, supported by European case law (Case C-371/98), the selection of SACs and their boundaries must be made using only the scientific criteria in Annex III to the Habitats Directive and relevant scientific information. This report presents the responses received by JNCC on the scientific justification for the seven possible SACs and their boundaries, and JNCC's responses to the representations made.

Impact Assessments evaluate the likely impacts of a policy change and the range of options for implementing it. The offshore SACs Impact Assessments considered the socio-economic impact of three SAC designation options: 1. Do nothing; 2. Implement the site designation,

but knowing the costs and benefits. 3. Search for alternative sites for SAC designation. Socio-economic information provided by consultees has been collated and analysed, and is being used to update the site-specific Impact Assessments, which will then be considered by Government to assess the socio-economic implications of designating these areas as SACs.

## 2 Overview of responses

JNCC would like to thank all those who took the time to send a response to this offshore SACs consultation. A total of 38 responses were received, all of which have been acknowledged and logged in a database. Organisations who responded to this consultation are listed in Appendix 2. The 38 respondents were assigned to one of 6 broad groups in Table 1 (below).

**Table 1: Number of offshore SAC consultation responses by sector**

Sector	Number of respondents
Trade association	10
Public sector	12
Non-Governmental Organisation	3
Industrial/business	5
Individual	1
Energy supply industry	3
Academic/research	4
<b>TOTAL</b>	<b>38</b>

A number of consultation responses were received more than two weeks after the deadline for responses had passed. JNCC has incorporated relevant elements of these late responses, but they are not included in the statistical summary of responses received.

### ***2.1 The scientific justification for proposing possible Special Areas of Conservation and their boundaries***

JNCC received 114 responses (from 38 respondents) on the scientific basis for identification of the seven possible SACs. Some respondents commented on one or two sites only, others stated their support (or lack of support) for all possible SACs in this consultation round (see Table 2). In several cases, respondents made clear that they were not opposed to the establishment of offshore SACs and understood the scientific rationale for their identification, but questioned the site boundary delineation methodology. Only a small number of respondents explained their (lack of) support for sites; where provided, this explanation is documented.

General comments on the scientific selection are outlined in the following section of this report, and site-specific comments are outlined in Section 2.3 for each site.

**Table 2: Number of responses to question SAC 1 ‘Do you support the scientific basis for the possible SAC being put forward in this round of consultation?’**

Site	Total responses per site	Yes	Yes (qualified)	No	No (explained)	Not stated
Braemar pockmarks	15	7	1	2	1	4
Scanner pockmark	11	7	1	2	1	
North Norfolk Sandbanks	22	9		1	5	7
Haig Fras	15	9			2	4
Stanton Bank	15	7		2	3	3
Wyville Thomson Ridge	15	7		1	3	4
Darwin Mounds	13	8		1	1	3
Site not specified	8	1				7
<b>Total</b>	<b>114</b>	<b>55</b>	<b>2</b>	<b>9</b>	<b>16</b>	<b>32</b>

## **2.2 General comments made by respondents on the scientific selection of the sites as SACs**

Three themes stood out when respondents were asked whether they had any comments on the scientific selection of the sites as SACs in addition to comments on specific sites:

- i) the size of the possible SACs in relation to the area of interest feature;
- ii) the level of scientific data required to support SAC selection; and
- iii) broader SAC network considerations (such as habitat/species representation within the network).

### **2.2.1 Size of site in proportion to area of interest feature**

This was the most frequently raised issue in relation to the scientific selection of SACs. The size of some sites in proportion to area of interest feature was challenged by CNPMEM, Oil and Gas UK, SFF, NFFO, the Dutch Fish Product Board, the Seafish Industry Authority, Crown Estate, the Renewable Energy Association, the British Marine Aggregate Producers Association, Hanson Aggregates Marine Ltd, West of Scotland Fish Producers Organisation, Killybegs Fishermen's Organisation and Irish Fish Producers Organisation, the Scottish Government and DBERR. Their main concern lay with potential restrictions on offshore industries within site boundaries, where these industries have little or no effect on Annex I interest features (for example fishing in muddy substrata surrounding bedrock reef, or petroleum extraction adjacent to shallow sandbanks). It was argued that the scientific justification for the possible SAC boundary delineations needed to be better clarified, or the boundaries amended.

Oil and Gas UK felt that many of the proposed site boundaries were based, in part, on minimising the risk of damage from trawling, and this had the effect of making sites larger

than necessary. However, fishing industry associations, such as NFFO and CNPMM, also believed the area covered by sites was disproportionate to the objective of safeguarding the protected feature. Consultees proposed that boundaries be more closely drawn round Annex I habitats, on account of improved navigation technology used by the fishing industry. SFF maintained that 'delineating large complicated boundaries is very simple and vessels can easily input such data into their navigational equipment'. The Seafish Industry Authority agreed, claiming that any fishing vessel can determine its position 'to within five metres'. However, no respondents gave consideration to the location of mobile demersal gear in relation to vessels operating close to site boundaries.

On the other hand, SAMS took the opposite view on the boundary delineation advice above, recommending that possible SAC boundaries be kept as simple as possible, to make it easier for industry to determine the location of offshore SACs. They suggested that the Darwin Mounds and Wyville Thomson Ridge possible SACs be combined into one SAC.

### **2.2.2 Level of scientific data required to support site selection**

Respondents were divided on the level of scientific data required to support site selection. In general, offshore industries and industry associations felt that insufficient survey had taken place on the UK's continental shelf and that the scientific data supporting site identification was of insufficient quality and quantity. A lack of ground truthing within sites was identified as a particular limitation. A dependence on offshore industry survey information was also criticised, which meant that information was obtained 'serendipitously' (Hartley Anderson Ltd) rather than through systematic search effort. It was felt that little attempt had been made to identify suitable sites away from offshore industry operations. Several respondents were also concerned that SACs of greater conservation interest may be identified in future and, as such, JNCC should wait until all planned survey work has been undertaken before recommending a final suite of sites to Government. Site selection without complete information about Annex I habitat distribution on the UK Continental Shelf was described as 'premature' by Oil and Gas UK. The Scottish Government recognised that the ideal approach to identification of offshore Natura sites would be to identify and recommend a suite of sites based on robust and detailed knowledge (including an understanding of the quality of these sites in relation to other locations in the UK) but that this approach was not possible due to current gaps in knowledge. They therefore recommended making best possible use of the additional scientific information provided through this consultation exercise.

Greenpeace felt that insufficient scientific information should not be used a reason to delay offshore SAC selection. They pointed out the significant difference between requiring a comprehensive understanding of the entire ecosystem before selecting a site as opposed to using indicative information about the presence of vulnerable features of conservation interest. They stated that "unless there is a very large programme of intensive marine ecosystem research (which there currently is not), applying the former threshold for designation is tantamount to inaction. We support a low threshold for available information on SAC designation."

### **2.2.3 SAC network considerations**

Several respondents questioned the broader SAC network development strategy and how the seven sites in this consultation round fitted into future plans for the network. The RSPB asked for further information on representation of Annex I features within the network, stating that it was unclear from the consultation document “the level of representativity of the different habitats and their sub-types being referred to...it is therefore impossible at this stage to make informed comments on how JNCC has approached the overall issue of representativity of each habitat type and whether the implied decisions to omit certain offshore sites from selection are appropriate.” RSPB have requested a published audit trail that identifies and describes the conservation value of the offshore sites considered and rejected and the reasons behind these decisions. Greenpeace raised concerns about the time taken to build the offshore SAC network, and outlined what they felt to be key elements of the network (e.g. size, scale, adequate protection, representativity, and connectivity). They commented that the first seven offshore possible SACs did not fully meet these network objectives. Issues of representativity were also raised by Hartley Anderson Ltd, in relation to the Braemar Pockmarks possible SAC, who suggested further survey for submarine structures made by leaking gases was necessary to confirm this site contained a representative example of this feature. BERR sought assurance that SAC delineations could be revised, in light of scientific evidence, to ensure that the final SAC network became ‘a reasoned representation of offshore habitats’ and was not over-precautionary. Finally, the question of sufficiency was broached. Respondents, such as the Dutch Fish Product Board, noted that the Habitats Directive did not specify what proportions of Annex I habitat were required in the network, and they therefore recommended that the offshore sites be reduced in size

Several Fishing Industry Associations and Public bodies provided information about the type and distribution of fishing activity within the seven possible SACs (CNPMEM, Killybegs Fishermen's Organisation and Irish Fish Producers Organisation, MFA, NFFO, SFF). This information (particularly if provided in conjunction with Vessel Monitoring System (VMS) data) gives an indication of the degree to which the Annex I interest features are likely to have been affected by recent demersal or other fishing activities.

### **2.2.4 JNCC's reponse to the general comments on the scientific selection of the sites as SACs**

#### **Size of site in proportion to area of interest feature:**

As a result of the general comments received during the consultation on these seven possible offshore SACs, JNCC have modified the recommended boundaries to five of the possible SACs (see Section 2.3) to reduce the area of seabed included within the site boundary which is not Annex I habitat. This has resulted in more complex site boundaries, but has reduced the areas of the sites by between 17 and 76%. To reflect these changes, JNCC will modify its working guidance on defining boundaries for SACs for Annex I habitats (JNCC 2004) to accommodate the following:

- i) more complex site shapes (but still using a minimal number of straight lines and points) drawn more tightly around feature of interest are favoured over simple square/rectangular boundaries (to reduce the area of ‘non-interest-feature’ included within the site boundary);

- ii) coordinate points are located as close to the edge of the feature of interest as possible, rather than located at the nearest whole degree or minute point (further decreasing the area of 'non-interest-feature' included within the site boundary);
- iii) where habitat of interest occurs in a number of separate 'pieces' with 'non-interest-feature' habitat between, the preference is to include all 'pieces' within a single site boundary to enable effective conservation of the features of the site and to maintain its ecological function. However, where small, isolated instances of habitat occur at some distance from the main location of the habitat, these may be excluded from the site boundary if their inclusion would result in large areas of 'non-interest-feature' being included within the site boundary;
- iv) the margin added (according to water depth at the site) to allow for mobile gear on the seabed being at some distance from recorded position of the vessel is retained.

#### **Level of scientific data required to support site selection and SAC network considerations**

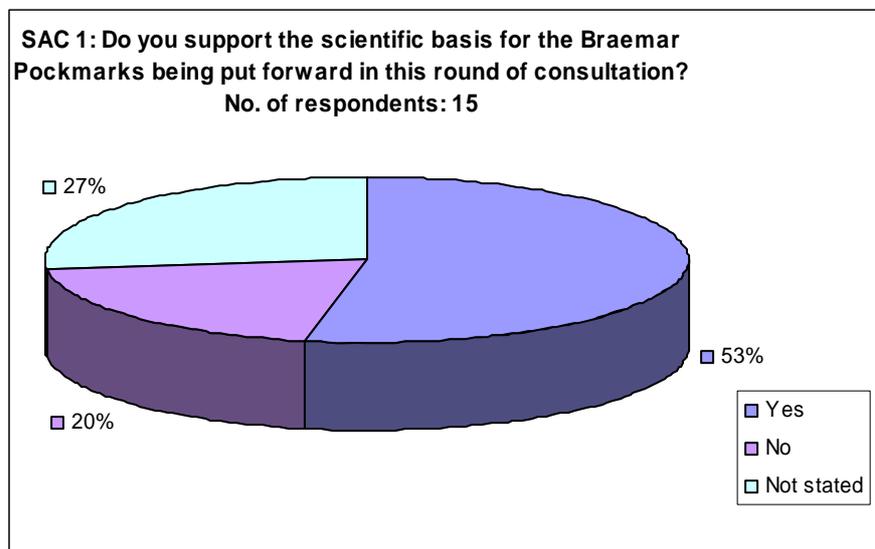
In the identification of all the potential offshore SACs JNCC have used the most recent information available from a variety of sources, and have followed the EC guidance on amount of information needed in order to propose a SAC to the European Commission (EC 2007). All of the seven possible sites which were consulted upon in 2007-08 are essential components of the UK network of SACs as there are no known areas of similar or equivalent Annex I habitat elsewhere in UK offshore or inshore waters. However, in subsequent consultations, and as a matter of course, JNCC will provide more simplified information on the selection of SACs across UK as a whole.

#### **Information provided on activities occurring within the possible SAC boundaries**

JNCC have used information on activities taking place within the site boundaries to support the grading of the 'Conservation of structure' criterion within the SAC Selection Assessment Document for several sites, and have re-graded this criterion from 'excellent' to 'well conserved' for Stanton Banks and Wyville Thomson Ridge to take account of new information on fisheries activities within the site which are likely to have affected the condition of the reef feature. This information will also be used when JNCC update the *Conservation Objectives and Advice on Operations* documents which were provided in draft for each site for information during the consultation on selection of the sites.

## 2.3 Representations on individual sites

### 2.3.1 Braemar Pockmarks



Just over half of all respondents (53%) (and over two-thirds of those who expressed a view on this site) supported the scientific basis for the selection of the Braemar Pockmarks possible SAC. Only two respondents provided explanation for their lack of support. Professor Paul Dando, (University of Bangor), questioned the biological significance of the submarine structures made by leaking gases at this site and asked that the submarine structures located in the Irish Sea be considered for site selection by JNCC. The Scottish Government were only partially supportive of this site (a qualified 'Yes'), suggesting the submarine structures made by leaking gases were likely to have been damaged given the level of fishing recorded in this part of the North Sea. This view was the same as the Scottish Fishermen's Federation (SFF), but they did not support the scientific basis for this site's selection. David Bingham of BP Exploration did not state whether he supported the scientific basis for the Braemar Pockmarks possible SAC identification, but did provide a report of an acoustic survey carried out by Gardline Environmental over the Braemar Pockmarks area in 2006. Hartley Anderson Ltd (who supported this site's identification) also provided references for two scientific papers on submarine structures made by leaking gases in the North Sea, as further support for the scientific basis for this site (Fyfe *et al.*, 2003; Judd and Hovland, 2007).

In terms of the provision of information on the condition of the submarine structures made by leaking gases at the site, the SFF provided images of analysed Vessel Monitoring System (VMS) data for 2005-2007 which indicated demersal fishing has occurred within the site boundaries, and is likely to have affected the structure of these features. SFF also made reference to fishermen's charts which failed to show any obstacles or structures within the site that could cause damage to fishing gear, except for one area in the northeast of the site that appears to correlate with one of the pockmarks (Pockmark C). SFF claim that this indicates the Annex I structures are likely to have already been damaged by fishing. The SFF note that, as the site is small, it is probable that vessels have fished over the site without

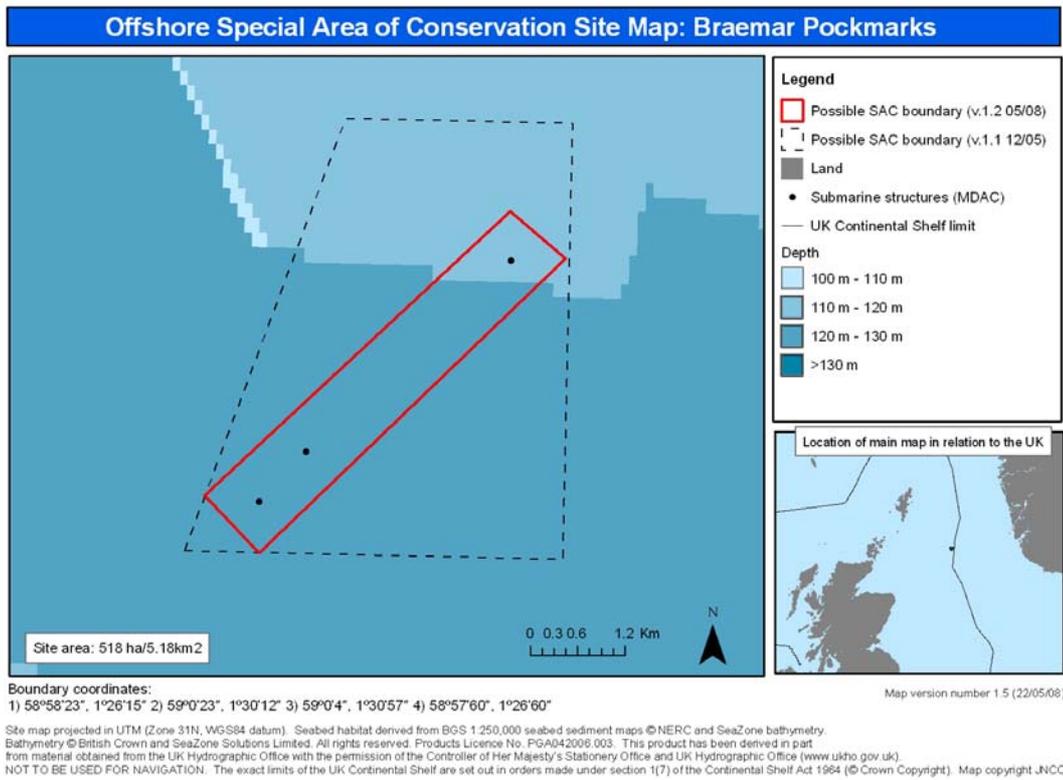
sending a VMS signal; hence fishing activity in the area could be greater than that depicted by their data. As above, the Scottish Government also referred to likely damage incurred by heavy demersal fishing effort at this site. The Gardline Environmental report submitted by BP Exploration indicated that extensive trawling had taken place in the area of the possible SAC. Finally, Oil and Gas UK remarked that it has not yet been established whether the source of the seepage forming the submarine structures was petrogenic or shallow biogenic gas. If petrogenic, then extraction of the underlying reservoir by the petroleum industry may be affecting the maintenance (and recoverability) of this feature.

#### **JNCC's response to the consultation on Braemar Pockmarks possible SAC:**

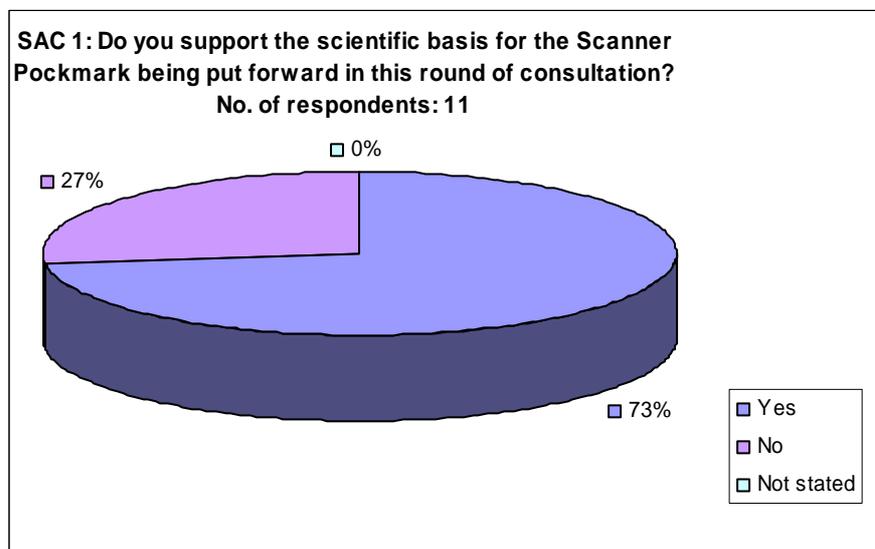
JNCC considers that the features present within the Braemar Pockmarks site fully fit the definition of submarine structures made by leaking gases agreed by Member States and the European Commission (EC 2007), and that the site supports a biological community characteristic of this habitat. JNCC considers that the Braemar Pockmarks site will be an essential component of the UK's offshore SAC series. JNCC recognises the potential vulnerability of the site to trawling damage and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

However, JNCC has taken full account of the representations made as to the desirability of drawing the site boundary more closely to the features of interest. As a consequence, JNCC has modified the boundary of the Braemar Pockmarks possible SAC so that the site boundary more closely follows the distribution of the Annex I submarine structures made by leaking gases. A protective margin around the interest features of 375m (three times water depth) to allow for distance between mobile gear on the seabed and vessel's position, as described in JNCC's guidelines on marine SAC boundary definition (JNCC, 2004), has been included within this delineation. This boundary revision removes 16.2km<sup>2</sup> from the area of the site (76%) compared to the boundary consulted upon (see Figure below). A potential submarine structure made by leaking gases at 8km from the site boundary was identified by Gardline Environmental in 2006. JNCC has not extended the Braemar Pockmarks site boundary to include this feature, as this would result in a disproportionately large site with large areas of non-Annex I habitat within it; however, this information will be taken into account in the future consideration of possible SACs in this area.

**Recommended revised boundary (solid red line):**



### 2.3.2 Scanner Pockmark



The majority of respondents (73%) supported the scientific basis for the Scanner Pockmark site. As with the Braemar Pockmarks possible SAC, Professor Paul Dando (University of Bangor) did not support this site, asserting that there was insufficient evidence for a number of the statements made in the Scanner Pockmark SAC Selection Assessment document in relation to the chemosynthetic communities. The Scottish Government had moderate support for the Scanner Pockmark possible SAC, again sceptical of the permanency of carbonate structures in an area subject to intensive demersal fishing. SFF did not support this site's selection because of suspected removal of the interest features by fishing activity. An additional scientific reference was supplied by Hartley Anderson Ltd (who supported this site's identification) (Homes and Stoker, 2005).

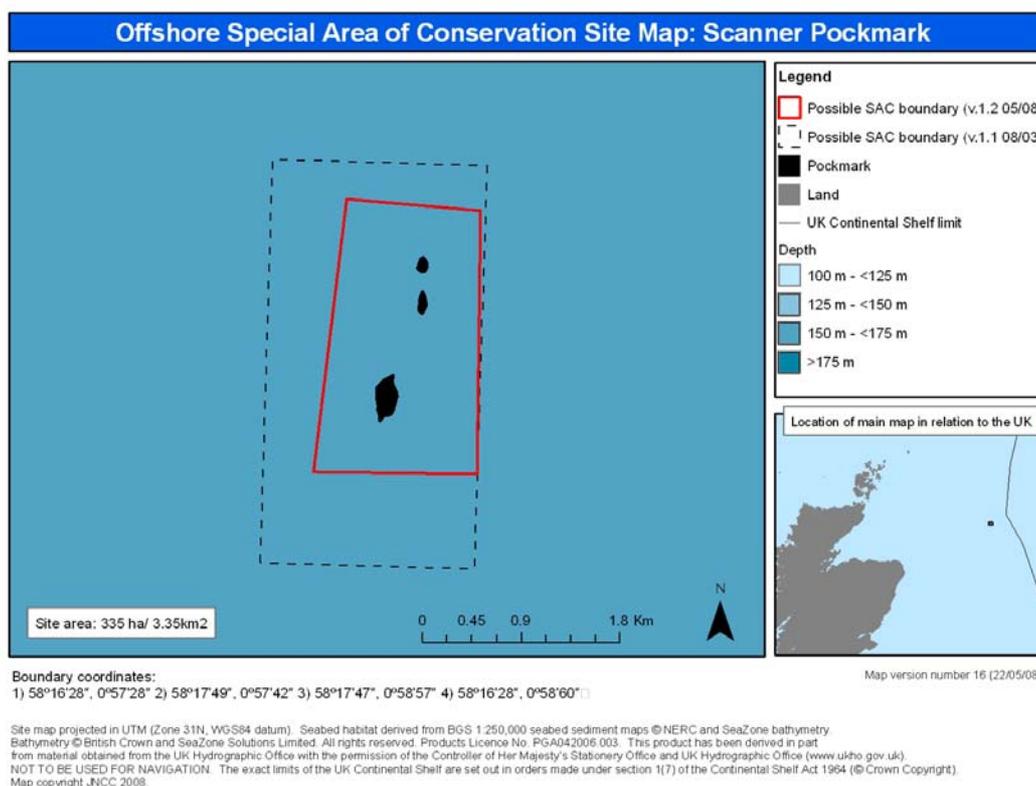
With regard to the condition of the submarine structures made by leaking gases at the site, VMS data was presented by the SFF showing demersal fishing effort in the Scanner Pockmark possible SAC. This data, presented with associated fishing charts, suggested that a significant amount of trawling had occurred over the site, and that no obstacles to fishing activity had been identified by fishermen. They reiterated that, because of the small size of the site, it is possible that vessels could have fished inside the possible SAC without sending a VMS signal; hence fishing activity in the area could be greater than that depicted by their data. These views were supported by the Scottish Government.

#### **JNCC's response to the consultation on Scanner Pockmarks possible SAC:**

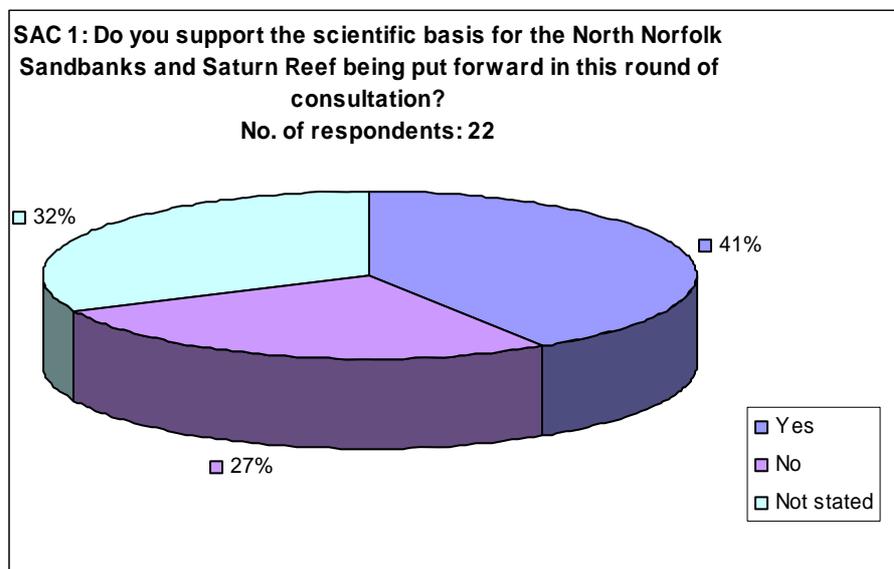
JNCC considers that the features present within the Scanner Pockmark site fully fit within the definition of submarine structures made by leaking gases agreed by Member States and the European Commission (EC 2007), and that the site supports a biological community characteristic of this habitat. JNCC considers that the Scanner Pockmarks site will be an essential component of the UK's offshore SAC series. JNCC recognises the potential vulnerability of the site to trawling damage and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

However, JNCC has taken full account of the representations made as to the desirability of drawing the site boundary more closely to the features of interest. As a consequence, JNCC has modified the boundary of the Scanner Pockmark possible SAC so that the site boundary more closely follows the distribution of the submarine structures made by leaking gases. A protective margin around the interest features of 450m (three times water depth) to allow for distance between mobile gear on the seabed and vessel's position, as described in JNCC's guidelines on marine SAC boundary definition (JNCC, 2004), has been included within this delineation. This boundary revision removes 3.9km<sup>2</sup> from the area of the site (54%) compared to the boundary consulted upon (see Figure below). The presence of the Scotia pockmark complex in this site has been made more explicit in the site map and selection assessment document.

**Recommended revised boundary (solid red line):**



### 2.3.3 North Norfolk Sandbanks and Saturn Reef



The scientific justification for North Norfolk Sandbanks and Saturn Reef site was supported by 41% of respondents (over half of those who expressed an opinion on the site). The Crown Estate, the Renewable Energy Association (REA) and the British Marine Aggregate Producers Association (BMAPA) felt that there was insufficient scientific evidence to support the identification of such a large site, and questioned why this particular site was being recommended to Government instead of other, apparently similar, Annex I ‘Sandbanks which are slightly covered by seawater all of the time’ in offshore waters. Hanson Aggregates Marine Ltd suggested that the possible SAC boundary was larger than necessary along the western edge (‘a relatively flat seabed with no identified features of conservation significance’). No associated biological or geological data were provided to support this statement. The British Marine Aggregate Producers Association contended that the coverage and resolution of data used by JNCC for sandbank habitat characterisation at this site was relatively limited. BMAPA and the Crown Estate cited recent research undertaken by the British Geological Survey, HR Wallingford and ABPmer (under contract to The Crown Estate) on the migration of the North Norfolk sandbanks system (Cooper *et al.*, 2008) which provides detailed information on migration rates, directions and volumes of sand being transported, as well as the source of this sand. These organisations highlighted possible incorrect assumptions on sandbank migration in the North Norfolk Sandbanks and Saturn Reef SAC selection assessment document. Finally, Natural England, who supported the scientific basis for this possible SAC (for Annex I Sandbanks), suggested that the results of the Natural England North Norfolk Sandbanks surveys in 2007 would provide further scientific support for this site’s selection.

The identification of a second habitat, the Saturn *Sabellaria spinulosa* reef, as a qualifying feature within this site generated some disagreement. Hanson Aggregates Marine Ltd, the National Federation of Fishermen's Organisation (NFFO), British Marine Aggregate Producers Association, Oil and Gas UK all felt that a SAC should only be designated for an Annex I interest feature if there is recent scientific evidence of its existence. There was concern that the North Norfolk Sandbanks and Saturn Reef possible SAC would be

designated on the assumption that the *Sabellaria spinulosa* reef identified in 2003 might regenerate, and that this could set a precedent for future offshore SAC designations in the UK. Natural England (NE) noted that grading the reef as 'a well-conserved structure' in the SAC selection assessment based on its condition in 2003 could be misinterpreted if it had subsequently been degraded (either naturally or as a result of trawling), and it was not made clear that restoration of the reef would be required. The Crown Estate highlighted recent research on *Sabellaria spinulosa* reef development (Pearce *et al.*, 2007) which emphasised the dynamic nature of these reefs, and this respondent therefore questioned the value of trying to protect these features through SAC designation. However, JNCC note that this paper also provides evidence of the recoverability of *Sabellaria spinulosa* aggregations (within 5 years of a disturbance event).

In terms of the condition of the Annex I features at this site, JNCC's SAC selection assessment document for the North Norfolk Sandbanks and Saturn Reef states that aggregate extraction near the NW of the site boundary may have had an effect on the structure and function of the sandbanks. BMAPA challenged the accuracy of this statement, citing the data used to inform the assessment process for the initial permission at this site (1995) and subsequent consent monitoring by Hanson Marine Aggregates Limited. They maintain that impacts on the sandbank features have not been identified. Hanson Marine Aggregates Ltd concur with this statement, citing that '15 years of monitoring data at this location that clearly shows limited sand transport across the area and therefore no impact on the features of conservation interest'. These data have not yet been made available to JNCC. A similar argument is put forward by Oil and Gas UK, who disagree with JNCC's assessment that the sandbanks may have been impacted by gas extraction infrastructure. They affirm that the physical presence of this infrastructure does not necessarily cause a negative biological impact, and that the sandbanks recover quickly from physical disturbance, such as pipe laying.

The MFA supplied a list of fishing operations that occur within the possible SAC boundary, including mobile demersal gear types which are likely to have an impact on feature condition. The NFFO did not comment on the condition of the North Norfolk Sandbanks and Saturn Reef interest features, though did provide a chart indicating which areas within the site boundaries were not fished by their vessels. It was not specified whether this information was based on Vessel Monitoring System (VMS) data or NFFO fishermen's knowledge; however, it provides information on sandbank areas which are less likely to have been impacted by fishing (at least by NFFO vessels).

### **JNCC's response to the consultation on North Norfolk Sandbanks and Saturn reef possible SAC**

JNCC considers that the North Norfolk Sandbanks and Saturn Reef site will be an essential component of the UK's offshore SAC series. The available scientific evidence points to the strong likelihood of *Sabellaria spinulosa* reefs existing and re-forming within the site. These reefs may be subject to natural dynamic change as well as damage due to man's activities which can be taken into account when determining future management of the site. These reefs should, therefore, be retained as an interest feature.

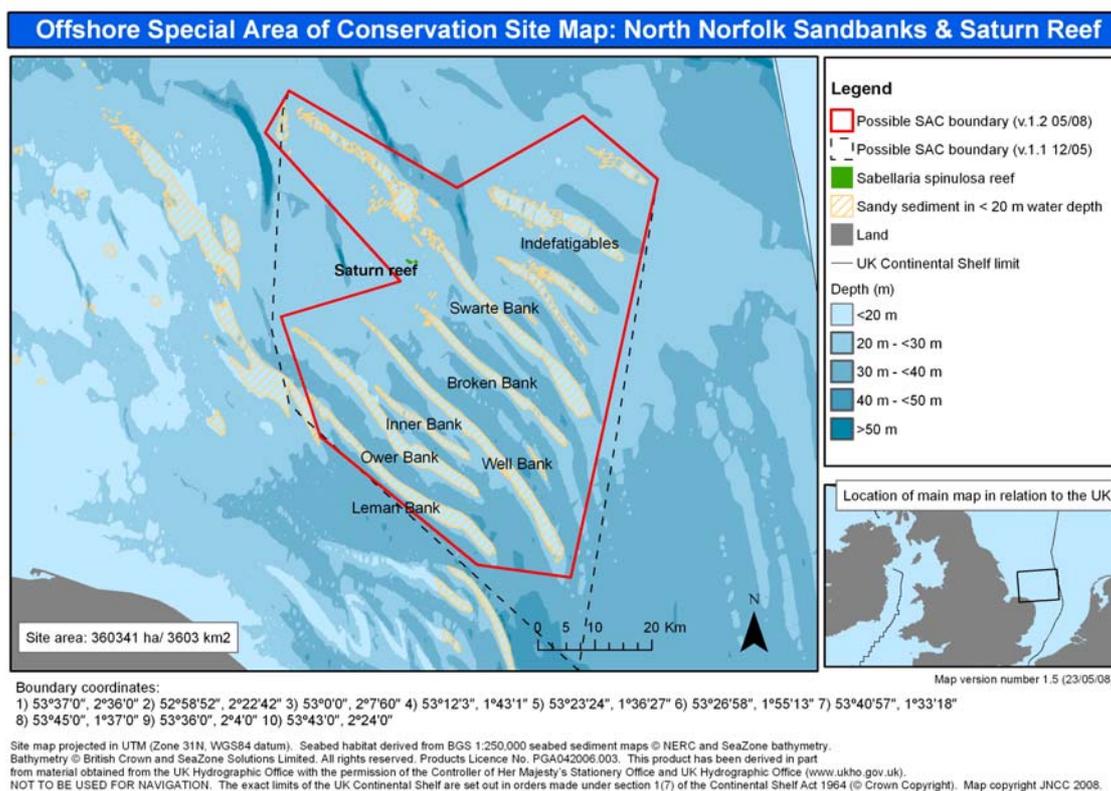
However, JNCC has taken full account of the representations made as to the desirability of drawing the site boundary more closely around the features of interest. As a consequence, JNCC has modified the North Norfolk Sandbanks and Saturn Reef possible SAC boundary so

that the site boundary more closely follows the distribution of the Annex I ‘sandbank covered by seawater all of the time’, and also encloses the area of reef. The north-western tip of the site has been extended to include a small area of shallow Annex I sandbank. No margin to allow for mobile gear was applied at this site as water depth is very shallow and the sandbank and reef features do not have a precise ‘edge’ from which to calculate such a small margin. The boundary is defined to enclose the extent to which the sandbanks are expected to migrate within the next 50 years, based on Cooper *et al.* 2008. This boundary revision removes 724km<sup>2</sup> from the area of the site (17%) compared to the boundary consulted upon (see Figure below).

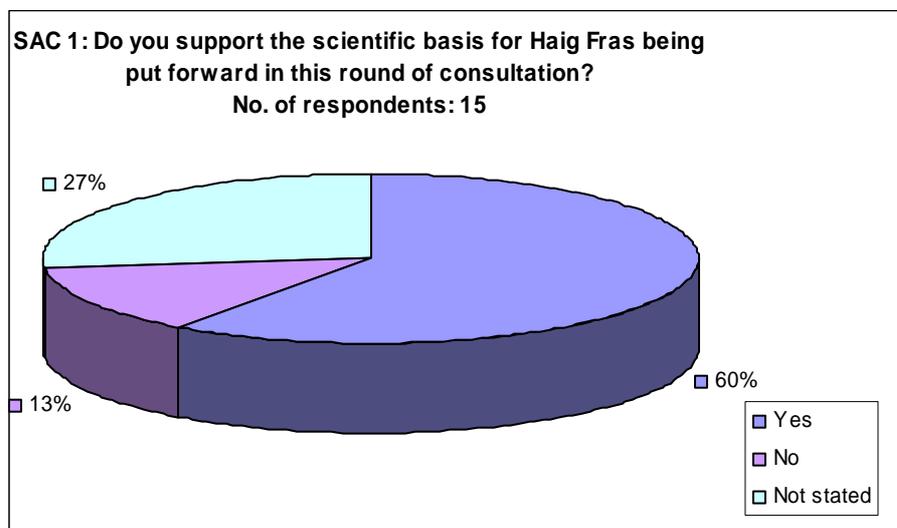
JNCC recognises the potential vulnerability of the site to trawling damage, in particular the biogenic reef, and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

Other points raised in the consultation will be addressed in revision of the draft *Conservation Objectives and Advice on Operations* for the site.

**Recommended revised boundary (solid red line):**



## Haig Fras



Just under two-thirds of respondents (and over 80% of those who expressed an opinion) supported the scientific basis for the identification of the Haig Fras possible SAC. Several fishing industry organisations (NFFO, West of Scotland Fish Producers Organisation, Comité National des Pêches Maritimes et des Elevages Marins [CNPMEM]) took issue with this site, as its boundary was felt to extend beyond the protected feature (bedrock reefs). The West of Scotland Fish Producers Organisation suggested that ‘the reefs protect themselves from fishing vessels’, which avoid the reef to minimise gear damage. They saw no scientific justification for the boundary of the protected area to extend beyond the limit of the reefs. CNPMEM also suggested that the smaller rocky area to the southwest of the main bedrock reef had a different topography to the main reef, being ‘at the same depth as adjacent sediment areas’. This anecdotal information was not supported by scientific data. As the soft sediments surrounding this smaller reef area are being targeted by French fishing vessels, they suggested this southern part of the site be excluded from the Haig Fras possible SAC boundary.

With regard to the condition of the bedrock reefs at this site, the MFA supplied a list of fishing operations occurring within the possible SAC, which includes the use of static nets. Depending on the intensity and location of use, this static gear is likely to have had an impact of the condition of the reef. The NFFO provided a rough pencil drawing of Haig Fras indicating where different gear types are used. This map suggests that the condition of the reef will probably have been affected by gillnet and tangle net fishing activity. It was not specified whether this information was based on Vessel Monitoring System or NFFO fishermen’s knowledge. The reef is unlikely to have been affected by mobile demersal fishing, as this feature, according to CNPMEM ‘represents a physical barrier to bottom trawlers.’ However, VMS data for French fishing vessels indicate that the site’s interest features are being affected by demersal trawling (albeit less than surrounding muddy sediment).

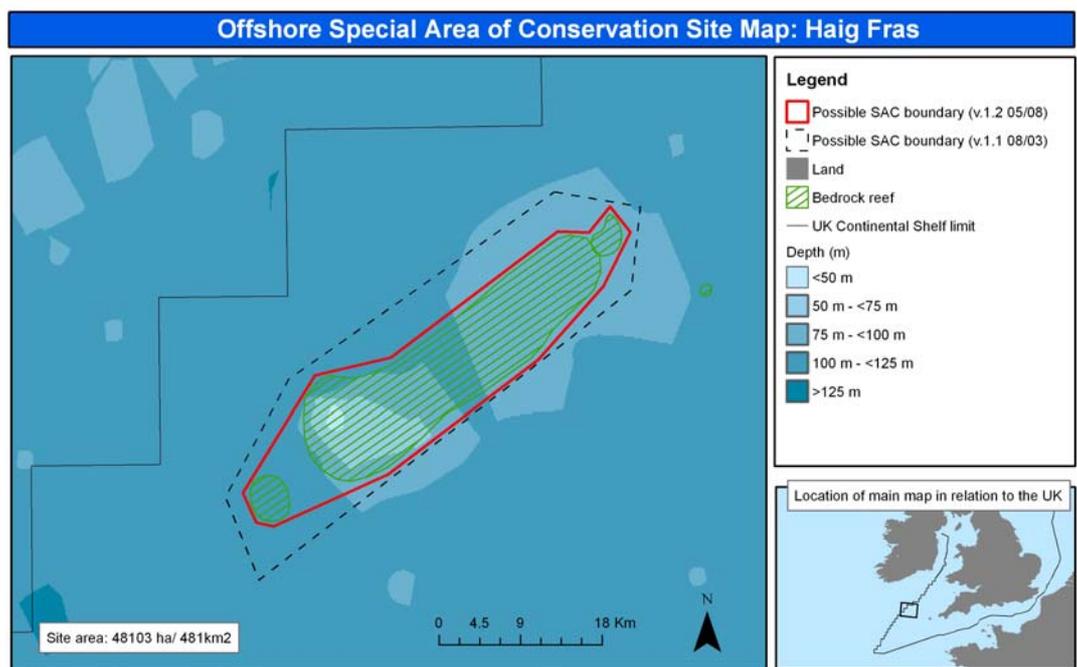
## JNCC's response to the consultation on Haig Fras possible SAC

JNCC considers the Haig Fras site will be an essential component of the UK's offshore SAC series. JNCC has taken full account of the representations made as to the desirability of drawing the site boundary more closely to the features of interest. As a consequence, JNCC has modified the boundary of the Haig Fras possible SAC so that the site boundary more closely follows the distribution of the Annex I reef feature. A protective margin around the interest features of 330m (three times water depth) to allow for distance between mobile gear on the seabed and vessel's position, as described in JNCC's guidelines on marine SAC boundary definition (JNCC, 2004), has been included within this delineation. The original data from BGS show the southern most reef outcrop arising 20m above the surrounding seabed (rather than the 40m of the main reef area), and it is bedrock (igneous) with thin cover of cobble/boulder in places. The University Wales, Bangor data confirms there is outcropping rock (visible on sidescan). Conclusion: this south-western outcrop *should* be included within site boundary. This boundary revision removes 276km<sup>2</sup> from the area of the site (36%) compared to the boundary consulted upon (see Figure below).

Given that demersal fishing is occurring over the reef interest feature, the grading of 'Conservation of structure' of the reef (formerly 'excellent') has been changed to 'well conserved' in the site selection assessment document.

JNCC recognises the potential vulnerability of the site to trawling damage and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

### Recommended revised boundary (solid red line):



Boundary coordinates:

1) 50°25'3", -7°29'49" 2) 50°23'29", -7°27'58" 3) 50°20'16", -7°30'36" 4) 50°15'57", -7°36'47" 5) 50°9'13", -7°50'55"  
 6) 50°6'12", -8°1'35" 7) 50°6'26", -8°3'10" 8) 50°8'14", -8°4'23" 9) 50°15'13", -7°57'34" 10) 50°16'12", -7°50'29"  
 11) 50°23'36", -7°34'45" 12) 50°23'31", -7°31'50"

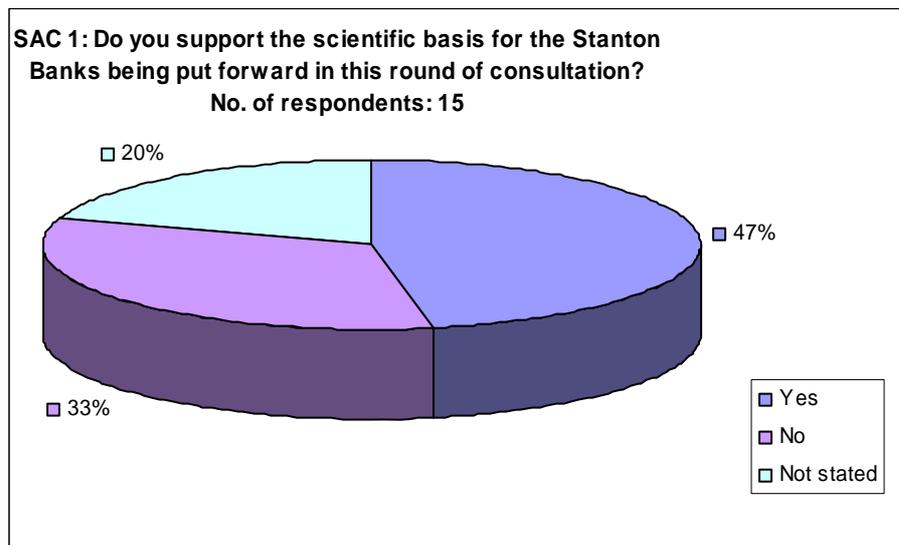
Site map projected in UTM (Zone 29N, WGS84 datum). Seabed habitat derived from BGS 1:250,000 seabed sediment maps © NERC and SeaZone bathymetry.

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Map version number 1.5 (23/05/08)

### 2.3.4 Stanton Banks



Opinion was divided on the scientific basis for the Stanton Banks possible SAC, although the majority of respondents were in support of the site. The Scottish Government suggested that more sampling would have improved the scientific robustness of the site boundary justification. They also observed that reef 'only occupies approximately 30% of the proposed site', and as such consider that there is a strong case for a boundary review as proposed by other stakeholders, such as SFF (The Scottish Fishermen's Federation). SFF, although accepting the presence of Annex I reef, disagreed with the boundary's size and put forward an alternative boundary delineation, aligned more closely to the interest features. Based on international Vessel Monitoring System (VMS) data for years 2005 – 2007 and fishing charts, SFF also highlighted that in the NW corner of the possible SAC, the edges of several areas of potential reef (as originally classified by BGS using data interpolation techniques) appear to be fished by trawlers. Given that fishermen using mobile demersal gear tend to avoid the reefs in this area, the detail of the shape and size of these north western reefs may be different to that mapped at a coarse scale by BGS. SAMS, who supported the selection of the Stanton Banks site, drew attention to multibeam surveys of the reefs undertaken during the MINCH project in 2004 (Roberts *et al.*, 2004; Roberts *et al.*, 2005).

Regarding the condition of the interest feature at this site, VMS data provided by SFF indicated the demersal Norway lobster (*Nephrops norvegicus*) fishing was occurring in the north of the site over the muddy substratum but that the outcropping reefs are unlikely to have been directly affected by trawling at this site. The Killybegs Fishermen's Organisation and Irish Fish Producers Organisation also provided VMS data for Irish vessels fishing in Stanton Banks, which suggested a similar pattern of mobile demersal fishing to that of SFF. According to the SFF, due to the north-westerly flow of water across the site, any sediment suspended by demersal fishing in areas adjacent to the reefs would not impact the reef communities (data provided by Scottish Government Fisheries Research Services Oceanographic Department). Evidence of static gear use within the site (most likely over the Annex I reefs) for crab fishing was provided by Comhairle nan Eilean Siar; the use of this gear over the reefs would have had an effect on their condition.

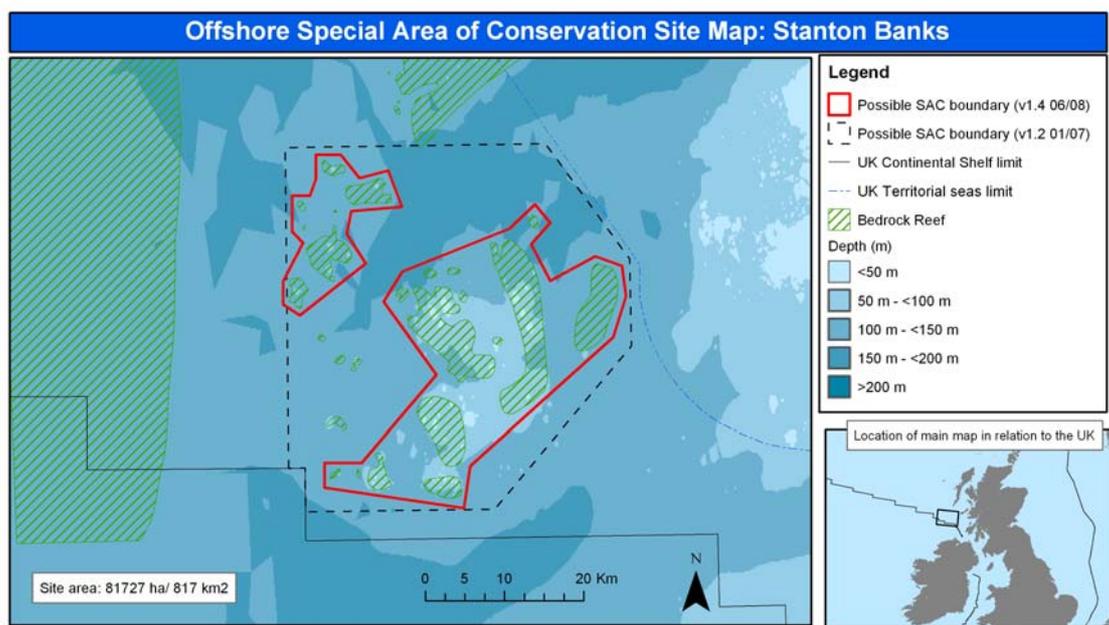
### JNCC's response to the consultation on Stanton Banks possible SAC

JNCC considers that the Stanton Banks site will be an essential component of the UK's offshore SAC series. JNCC has taken full account of the representations made as to the desirability of drawing the site boundary more closely to the features of interest. As a consequence, JNCC has modified the boundary of the Stanton Banks possible SAC so that the site boundary more closely follows the distribution of the Annex I reef feature and excludes large areas of deep muddy sediments which are not Annex I habitat. This results in the possible site now being composed of two separate parts, and the exclusion of four small reef outcrops which are separate to the main reef outcrops and surrounded by large areas of sediment. The protective margin around the interest features of 570m (three times water depth) to allow for distance between mobile gear on the seabed and vessel's position, as described in JNCC's guidelines on marine SAC boundary definition (JNCC, 2004), has been included within this delineation. This boundary removes 928km<sup>2</sup> from the area of the site (53%) compared to the boundary consulted upon (see Figure below). Four and half square kilometres of the 928km<sup>2</sup> now excluded is Annex I reef located at approximately 5-10km distance from the main reef outcrops.

Given that crab fishing appears to be occurring over the reef interest feature, the grading of 'Conservation of structure' of the reef (formerly 'excellent') has been changed to 'good' in the site selection assessment document.

JNCC recognises the potential vulnerability of the site to damage and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

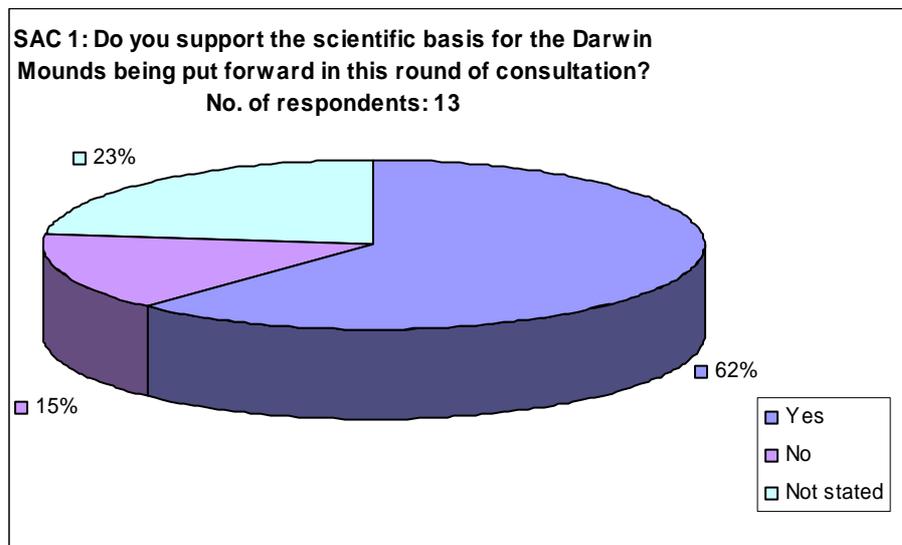
#### Recommended revised boundary (solid red line):



**Boundary coordinates:**  
 NW polygon: 1) 56°26'28", -8°8'9" 2) 56°24'51", -8°5'56" 3) 56°25'20", -8°2'22" 4) 56°22'51", -8°0'46" 5) 56°22'35", -8°6'59" 6) 56°21'11", -8°7'34" 7) 56°18'59", -8°5'18" 8) 56°15'29", -8°13'24" 9) 56°16'13", -8°15'28" 10) 56°17'48", -8°15'26" 11) 56°20'27", -8°12'55" 12) 56°21'15", -8°14'15" 13) 56°23'40", -8°14'12" 14) 56°23'40", -8°12'2" 15) 56°24'48", -8°11'17" 16) 56°26'29", -8°11'15"  
 SE polygon: 1) 56°20'6", -7°44'58" 2) 56°17'35", -7°42'44" 3) 56°19'12", -7°37'10" 4) 56°18'31", -7°33'56" 5) 56°16'26", -7°33'32" 6) 56°13'38", -7°35'9" 7) 56°4'60", -7°52'54" 8) 56°2'7", -7°53'43" 9) 56°3'39", -8°10'40" 10) 56°5'21", -8°10'38" 11) 56°5'19", -8°6'6" 12) 56°11'15", -7°56'50" 13) 56°16'21", -8°3'9" 14) 56°18'23", -8°0'49" 15) 56°21'13", -7°47'38" 16) 56°22'51", -7°44'26" 17) 56°21'35", -7°42'36"

Site map projected in UTM (Zone 29N, WGS84 datum). Seabed habitat derived from BGS 1:250,000 seabed sediment maps © NERC and SeaZone bathymetry. Bathymetry © British Crown and SeaZone Solutions Limited. All rights reserved. Products Licence No. PGA042006.003. This product has been derived in part from material obtained from the UK Hydrographic Office with the permission of the Controller of Her Majesty's Stationery Office and UK Hydrographic Office (www.ukho.gov.uk). NOT TO BE USED FOR NAVIGATION. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown Copyright). Map copyright JNCC 2008.

### 2.3.5 Darwin Mounds



There was a high level of support for the Darwin Mounds site and the scientific basis for its selection (over 80% of those who stated their opinion, endorsed the site). The Scottish Government indicated their ongoing support for this site's protection. The Scottish Association for Marine Science (SAMS) was equally supportive of the selection of this site as a possible SAC, stating that 'the Darwin Mounds are probably the best mapped and characterised areas of *Lophelia pertusa* that have made it into the public domain and scientific literature'. The National Oceanography Centre in Southampton, who also supported the scientific basis for the Darwin Mounds possible SAC, provided additional references to support site selection assessment document. These papers focused on the nature of the sandy mound substratum and potential for restoration of the *Lophelia* reef where damage had occurred (e.g. Foubert *et al.*, 2005; Duineveld *et al.*, 2004; Wheeler *et al.*, 2006)). SAMS also provided an additional source of information (Hepburn, 2001) on the macrofaunal diversity associated with the cold-water coral, *Lophelia pertusa* at the Darwin Mounds. No additional information on the condition of the *Lophelia pertusa* reefs at the Darwin Mounds was provided by respondents.

#### JNCC's response to the consultation on Darwin Mounds possible SAC

JNCC considers that the Darwin Mounds site will be an essential component of the UK's offshore SAC series, and is not recommending any change to the boundary of the possible SAC.

**Darwin Mounds possible site boundary (unchanged):**

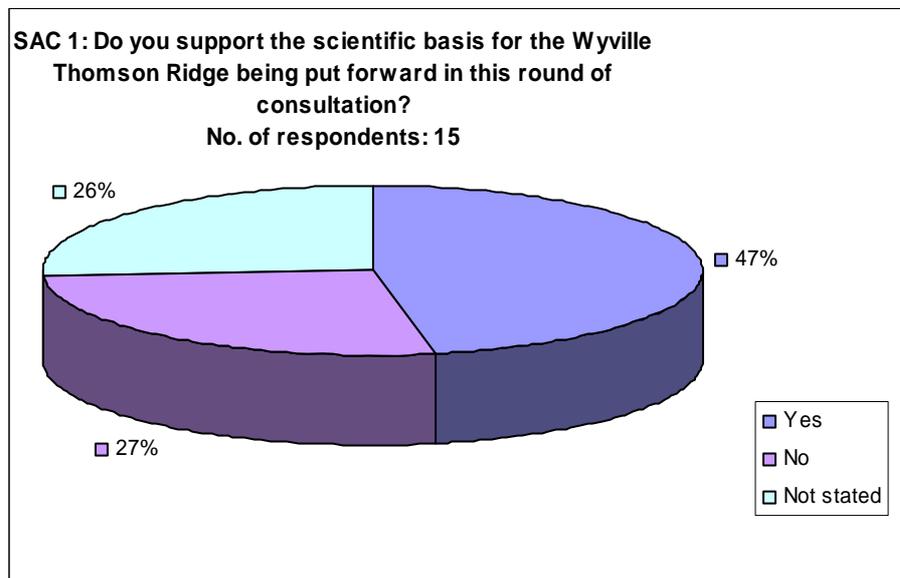


Boundary coordinates:  
 1) 59°54'0", -6°55'0" 2) 59°47'0", -6°47'0" 3) 59°37'0", -6°47'0" 4) 59°37'0", -7°39'0" 5) 59°45'0", -7°39'0" 6) 59°54'0", -7°25'0"  
 EU fishing regulation 602/2004 aligns with the draft site boundary.

Site map projected in UTM (Zone 29N, WGS84 datum). Seabed habitat derived from BGS 1:250,000 seabed sediment maps © NERC and SeaZone bathymetry. Bathymetry © British Crown and SeaZone Solutions Limited. All rights reserved. Products Licence No. PGA042008.003. This product has been derived in part from material obtained from the UK Hydrographic Office with the permission of the Controller of Her Majesty's Stationery Office and UK Hydrographic Office (www.ukho.gov.uk). NOT TO BE USED FOR NAVIGATION. The exact limits of the UK Continental Shelf are set out in orders made under section 1(7) of the Continental Shelf Act 1964 (© Crown Copyright). Map copyright JNCC 2008

Map version number 1.5 (28/06/08)

### 2.3.6 Wyville Thomson Ridge



47 % respondents (two thirds of those who expressed an opinion on the site) supported the scientific basis for the Wyville Thomson Ridge site. The Scottish Association for Marine Science (SAMS) stated that the ‘protection of the Wyville-Thomson ridge is important for preserving the biological communities associated with one of Europe’s most distinctive deep-water habitats’ and highlighted additional research on the hydrography and topography of the ridge (Sherwin and Turrell, 2005; Ellett, 1988, and Ellett, 1991). However, this support was balanced by concerns that the boundary delineation proposed by JNCC was not scientifically robust (e.g. by SFF), in part because of incomplete data on the distribution of the reef features within the site. SFF proposed an alternative boundary delineation for Wyville Thomson Ridge, surrounding only those areas which haven’t been fished (and ‘therefore likely to be in much more pristine state’). The Scottish Government questioned whether information on the distribution of the reef feature was robust enough to achieve pan EU restrictions on fishery restrictions, and noted that approximately two thirds of the possible site area is subject to a bilateral agreement with the Faeroe Islands Government. David Long at the British Geological Survey commented that the Wyville Thomson Ridge possible SAC boundary excluded nearby pinnacles, identified during the SEA7 survey in 2006. Although not investigated visually, it was felt that their form was significant (some being more than 100m high) and it was likely that they supported a range of habitats within a small area. BGS suggest that these pinnacles be included either within the Wyville Thomson Ridge possible SAC, or within an alternative SAC within the Hebridean shelf area.

Respondents also provided information which gave an indication of the condition of the reef feature at this site. The SFF provided images of analysed Vessel Monitoring System data for 2005-2007 which showed that the Wyville Thomson Ridge had been heavily fished with demersal gear since 2005 (no pre-2005 data available, although it was suggested the demersal fishing began at this site in the 1990s). Demersal fishing is thought to have increased over the last 3 years affecting most parts of the bank, especially the shallower areas and ridge slopes. This demersal fishing effort is likely to have had a considerable effect on the communities associated with the bedrock and stony reef. Similar (VMS) information is provided by CNPMM with regard to intensive French fishing operations in the south of the site.

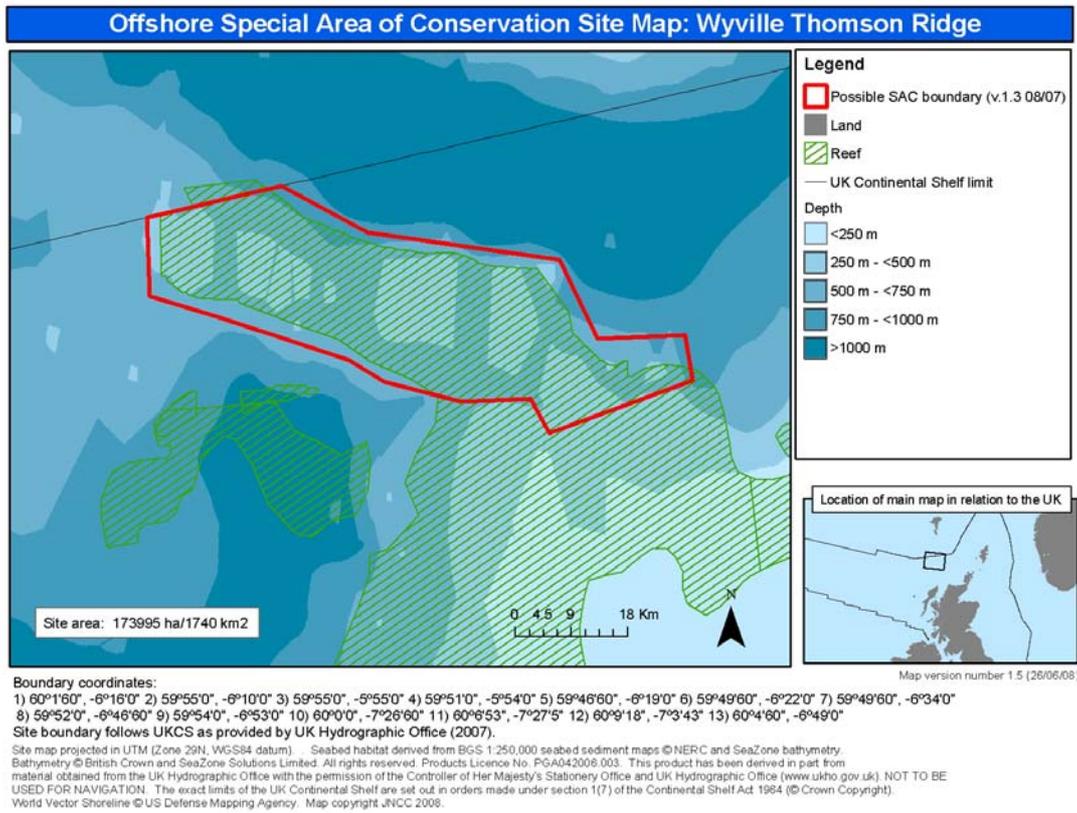
### **JNCC's response to the consultation on Wyville Thomson Ridge possible SAC**

JNCC considers that the Wyville Thomson Ridge site is a unique area of UK reef habitat and that the site will be an essential component of the UK's offshore SAC series. JNCC recognises that some parts of the site are likely to have suffered some trawling damage in the last few years, but that with appropriate management any such damaged areas are likely to recover in time.

The boundary was drawn on the basis of the best available information and appropriately reflects the distribution of the reef feature and its biological interest. No new data on the location of areas of reef within the possible site boundary were provided by respondents to the consultation. Although pinnacles were identified around 7km from the site boundary during SEA7 survey in 2006, JNCC is not proposing to include these features within the possible SAC as i) there are no biological data on the pinnacles; and ii) a significant extension to the site boundary including large areas of non-reef habitat would be required to incorporate these features within the Wyville Thomson Ridge site. Nevertheless, this information will be taken into account in the future consideration of possible SACs in this area. Consequently, JNCC is not recommending any change to the boundary of this possible site. Information provided on the extent of demersal fishing over the reef interest feature has been used to re-grade the 'Conservation of structure' of the reef (formerly 'excellent') to 'well conserved' for the site overall in the site selection assessment document.

JNCC recognises the vulnerability of the site to damage by recent demersal trawling and the need to take conservation measures as a matter of urgency. JNCC recommends, therefore, the early transmission of this site to the European Commission as a site of Community importance.

**Wyville Thomson Ridge possible site boundary (unchanged):**



## References

Cooper W.S, Townend I.H. and Balson P.S. 2008. *A synthesis of current knowledge on the genesis of the Great Yarmouth and Norfolk bank systems*. Marine Estate Research report, The Crown Estate, Feb 2008.

EC 2007 *Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives*. European Commission May 2007.

JNCC. 2004. *UK Guidance on defining boundaries for marine SACs for Annex I habitat sites fully detached from the coast* [online]. Peterborough: JNCC. Available from: <http://www.jncc.gov.uk/pdf/SACHabBoundaryGuidanceFinal.pdf>

## Appendix 1: Consultation questions

### 2.3.7 Sites and their associated boundaries

SAC1) Do you support the scientific basis for the sites being put forward in this round of consultation?

SAC1.1) Braemar Pockmarks	
SAC1.2) Scanner Pockmark	
SAC1.3) NN Sandbanks and Saturn Reef	
SAC1.4) Haig Fras	
SAC1.5) Stanton Banks	
SAC1.6) Darwin Mounds	
SAC1.7) Wyville Thomson Ridge	

SAC2) Please indicate if you have any scientific information, not already referenced in the SAC Selection Assessment document for the site, to support your response to SAC1.

SAC2.1) Braemar Pockmarks	
SAC2.2) Scanner Pockmark	
SAC2.3) NN Sandbanks and Saturn Reef	
SAC2.4) Haig Fras	
SAC2.5) Stanton Banks	
SAC2.6) Darwin Mounds	
SAC2.7) Wyville Thomson Ridge	

SAC3) Do you have any information additional to that included in the SAC Selection Assessment document about the condition of Annex I habitats within the site boundary that you would like to share with the JNCC?

SAC3.1) Braemar Pockmarks	
SAC3.2) Scanner Pockmark	
SAC3.3) NN Sandbanks and Saturn Reef	
SAC3.4) Haig Fras	
SAC3.5) Stanton Banks	
SAC3.6) Darwin Mounds	
SAC3.7) Wyville Thomson Ridge	

SAC4) Do you have any further comments on the scientific selection of the sites as SACs?

SAC4.1) Braemar Pockmarks	
SAC4.2) Scanner Pockmark	
SAC4.3) NN Sandbanks and Saturn	

Reef	
SAC4.4) Haig Fras	
SAC4.5) Stanton Banks	
SAC4.6) Darwin Mounds	
SAC4.7) Wyville Thomson Ridge	

### 2.3.8 Associated Impact Assessments

IA1) Do you have any further information on the costs associated with the loss of biodiversity of European habitats for the Impact Assessment options 'Do nothing' and 'Search for alternative sites'?

IA1.1) Braemar Pockmarks	
IA1.2) Scanner Pockmark	
IA1.3) NN Sandbanks and Saturn Reef	
IA1.4) Haig Fras	
IA1.5) Stanton Banks	
IA1.6) Darwin Mounds	
IA1.7) Wyville Thomson Ridges	

IA2) Are there any other significant activities at the sites that the IAs have not identified?

IA2.1) Braemar Pockmarks	
IA2.2) Scanner Pockmark	
IA2.3) NN Sandbanks and Saturn Reef	
IA2.4) Haig Fras	
IA2.5) Stanton Banks	
IA2.6) Darwin Mounds	
IA2.7) Wyville Thomson Ridges	

IA3) Can you provide any information to inform estimates of what vessels would do in response to closing sites, or parts of them, to fishing?

IA3.1) Braemar Pockmarks	
IA3.2) Scanner Pockmark	
IA3.3) NN Sandbanks and Saturn Reef	
IA3.4) Haig Fras	
IA3.5) Stanton Banks	
IA3.6) Darwin Mounds	
IA3.7) Wyville Thomson Ridges	

IA4) Can you provide any information to improve the assessment of the costs (and wider impacts) of selecting the site, for the following sites?

IA4.1) Braemar Pockmarks	
IA4.2) Scanner Pockmark	
IA4.3) NN Sandbanks and Saturn Reef	
IA4.4) Haig Frs	
IA4.5) Stanton Banks	
IA4.6) Darwin Mounds	
IA4.7) Wyville Thomson Ridges	

IA5) Can you provide any information to improve the assessment of benefits of selecting the site, for the following sites?

IA5.1) Braemar Pockmarks	
IA5.2) Scanner Pockmark	
IA5.3) NN Sandbanks and Saturn Reef	
IA5.4) Haig Frs	
IA5.5) Stanton Banks	
IA5.6) Darwin Mounds	
IA5.7) Wyville Thomson Ridges	

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) Braemar Pockmarks (submarine structures made by leaking gases)	
IA6.2) Scanner Pockmark (submarine structures made by leaking gases)	
IA6.3) NN Sandbanks and Saturn Reef (shallow sandbank and reef)	
IA6.4) Haig Frs (reef)	
IA6.5) Stanton Banks (reef)	
IA6.6) Darwin Mounds (reef)	
IA6.7) Wyville Thomson Ridges (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) Braemar Pockmarks	
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IA7.2) Scanner Pockmark	
IA7.3) NN Sandbanks and Saturn Reef	
IA7.4) Haig Frs	
IA7.5) Stanton Banks	
IA7.6) Darwin Mounds	
IA7.7) Wyville Thomson Ridges	

IA8) Are there significant unintended consequences associated with the Options (1. do nothing; 2. Designate; 3. search for alternative sites) that have not been identified in the IAs?

IA8.1) Braemar Pockmarks	
IA8.2) Scanner Pockmark	
IA8.3) NN Sandbanks and Saturn Reef	
IA8.4) Haig Frs	
IA8.5) Stanton Banks	
IA8.6) Darwin Mounds	
IA8.7) Wyville Thomson Ridges	

IA9) Do you agree with the assessments of impacts on small businesses and can you provide any further information?

IA9.1) Braemar Pockmarks	
IA9.2) Scanner Pockmark	
IA9.3) NN Sandbanks and Saturn Reef	
IA9.4) Haig Frs	
IA9.5) Stanton Banks	
IA9.6) Darwin Mounds	
IA9.7) Wyville Thomson Ridges	

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) Braemar Pockmarks	
IA10.2) Scanner Pockmark	
IA10.3) NN Sandbanks and Saturn Reef	
IA10.4) Haig Frs	
IA10.5) Stanton Banks	
IA10.6) Darwin Mounds	
IA10.7) Wyville Thomson Ridges	

## **Appendix 2: Organisations who responded to the 2007-2008 offshore SACs public consultation**

- Bangor University (Prof. Paul Dando)
- BP Exploration
- British Geological Survey (BGS)
- British Marine Aggregate Producers Association (BMAPA)
- British Trust for Ornithology (BTO)
- British Wind Energy Association (BWEA) and Scottish Renewables
- CNPMM (Comité National des Pêches Maritimes et des Elevages Marins) - ANOP (Association Nationale des Organisations de Producteurs de Pêches Maritimes) - FEDOPA (Fédération des Producteurs de Pêche Artisanale) - UAPF (Union des Armateurs à la Pêche de France)
- Comhairle Nan Eilean Siar
- Crown Estate
- Department for Business, Enterprise and Regulatory Reform (BERR)
- Department for Culture, Media and Sport
- Dutch Fish Product Board
- English Heritage
- Greenpeace UK
- Hanson Aggregates Marine Ltd
- Hartley Anderson Ltd
- Highways Agency
- Killybegs Fishermen's Organisation and Irish Fish Producers Organisation
- Marathon Oil U.K., Ltd.
- Marine and Fisheries Agency, Defra (MFA)
- Ministry of Defence (MOD)
- National Federation of Fishermen's Organisation (NFFO)
- National Oceanography Centre, Southampton
- Natural England
- Oil & Gas UK
- Pelagic Regional Advisory Council
- Renewable Energy Association
- Royal Society for the Protection of Birds (RSPB)
- Scottish Association for Marine Science (SAMS)
- Scottish Government
- Scottish Fishermen's Federation (SFF) (including Anglo-Scottish Fishermen's Assn)
- Scottish Pelagic Fishermen's Association
- ScottishPower Renewables
- Seafish Industry Authority
- South Devon & Channel Shellfishermen
- United Kingdom Cable Protection Committee (UKCPC)
- West of Scotland Fish Producers Organisation