

Offshore Special Area of Conservation: Stanton Banks

SAC Selection Assessment



(MESH North Western Shelf Consortium survey 2006)*

Version 4.0 (7th July 2008)

* Cover photo illustrates circalittoral boulder and bedrock reef habitat with *Mycale lingua* recorded on Stanton Banks

Introduction

This document provides detailed information about the Stanton Banks site and evaluates its interest features according to the Habitats Directive selection criteria and guiding principles.

The advice contained within this document is produced to fulfil requirements of JNCC under Part 2 of the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007, relating to the conservation of natural habitat types and habitats of species through identification of Special Areas of Conservation (SACs) in UK offshore waters. Under these Regulations, JNCC has an obligation to provide certain advice to Defra to enable the Secretary of State to fulfil his obligations under the Regulations, and to Competent Authorities to enable them to fulfil their obligations under the Regulations.

This document includes information required under Regulation 7 of the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007 to enable the Secretary of State to transmit to the European Commission the list of sites eligible for designation as Special Areas of Conservation (SACs). JNCC have been asked by Defra to provide this information to Government.

Sites eligible for designation as offshore marine SACs are selected on the basis of the criteria set out in Annex III (Stage 1) to the Habitats Directive and relevant scientific information. Sites are considered only if they host a Habitats Directive Annex I habitat or Annex II species. Moreover, sites for Annex II species must contain a clearly identifiable area representing physical and biological factors essential to these species' life and reproduction to be eligible. Socio-economic factors are not taken into account in the identification of sites to be proposed to the European Commission¹.

In addition to information on the Annex I habitats and/or Annex II species hosted within the site, this document contains i) a chart of the site, ii) its name, location and extent, and iii) the data resulting from application of the criteria specified in Annex III (Stage 1) to the Habitats Directive. This is in line with legal requirements outlined under Regulation 7. JNCC has adhered to the format established by the Commission for providing site information. This format is set out in the 'Natura 2000 Standard data form' (CEC, 1995) (prepared by the European Topic Centre for Biodiversity and Nature Conservation on behalf of the European Commission to collect standardised information on SACs throughout Europe).

¹ Following European Court of Justice 'First Corporate Shipping' judgement [C-371/98](#) (7 November 2000)

Document version control

Version and issue date	Amendments made	Issued to and date
StantonBanks_SelectionAssessment_4.0.doc (7 th July 2008)	- Post consultation modifications, including site boundary amendment	Secretary of State (July 2008)
StantonBanks_SelectionAssessment_3.1.doc (13 th November 2007)	- Draft SAC changed to possible SAC	Public consultation (December 2007)
StantonBanks_SelectionAssessment_3.0.doc (12 th April 2007)	- New introductory text, revised site summary and map layout, heading & text amendments - Revised site boundary - Additional guiding principles for site selection incorporated under Global Assessment - Conservation Objectives and Advice on Operations moved to separate document	Scottish Executive (12 th April 2007), JNCC Committee (June 07) and UK Marine Biodiversity Policy Steering Group (September 07)
StantonBanksDossier_2.0_Draft.doc (26 th August 2006)	- Draft Conservation Objectives and (revised) Advice on Operations added. - Map layout revised	Defra, Devolved Administrations, and other Govt. departments (25 th September 2006)
Stanton Banks Proforma and provisional management action statements: JNCC 05 P10 (September 2005)		JNCC Committee (September 2005) and Defra (Dec 2005)

Further information

This document is available as a pdf file on JNCC's website for download if required (www.jncc.gov.uk)

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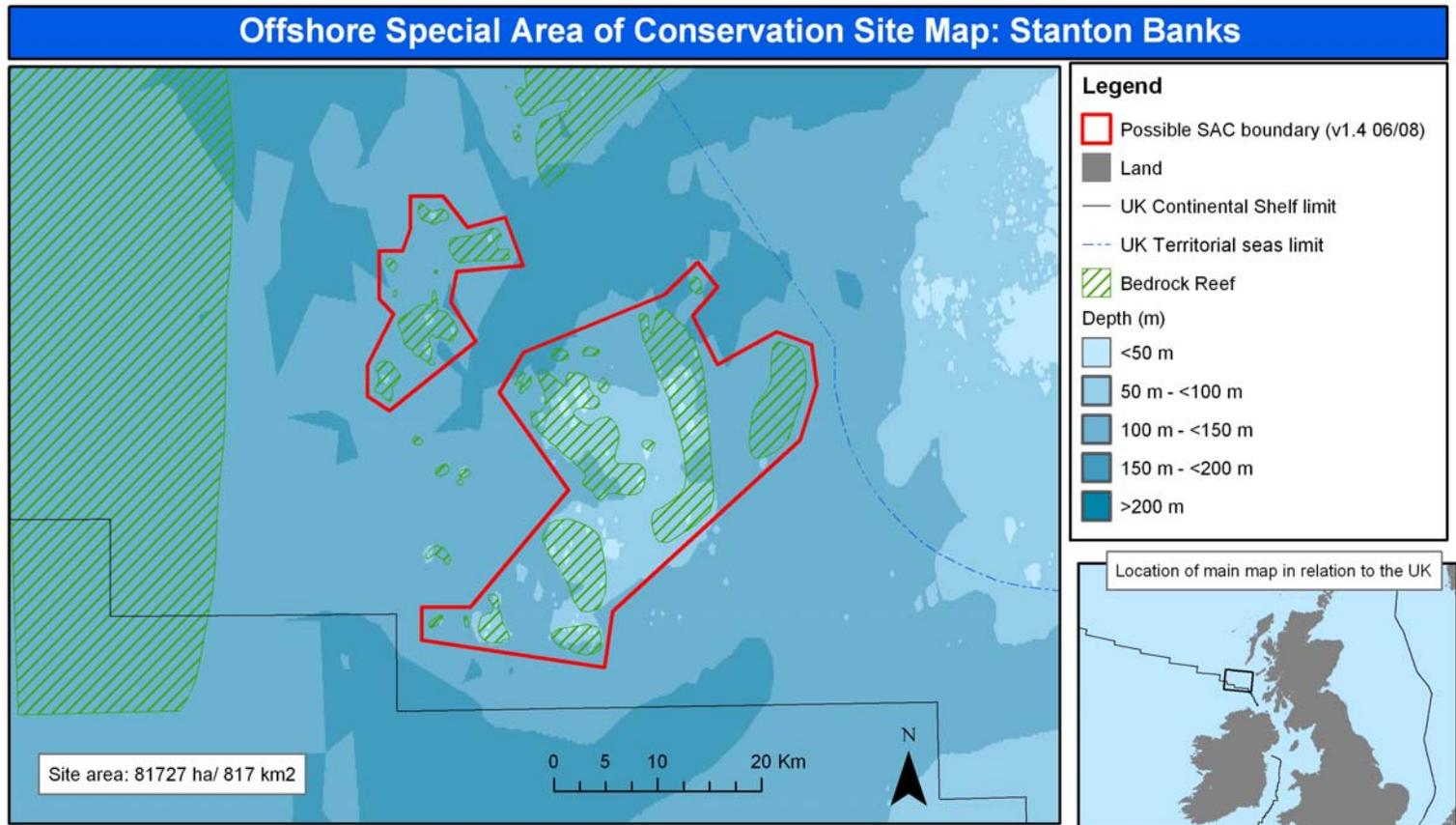
Stanton Banks: SAC Selection Assessment

1. Site name Stanton Banks	2. Site centre location 56°14'5", -7°-54'-28" (Datum: WGS 1984)
3. Site surface area 81,727 ha/ 817 km ² (Datum: WGS 1984 UTM Zone 29 North, calculated in ArcGIS)	4. Biogeographic region Atlantic

5. Interest feature(s) under the EU Habitats Directive

1170 Reefs

6. Map of site



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°21'1", -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.

7. Site summary

Stanton Banks are a series of granite rises which outcrop from the seafloor south of the Outer Hebrides. Although rounded by glacial action, they remain deeply fissured and extremely rugged (Stewart and Long, 2006). The inter-connecting gullies are filled with rippled coarse shell sand. The tops of the banks are smooth and characteristically colonised by encrusting red algae and small encrusting sponges. On the slopes, where the rock is less smooth, featherstars, dead man's fingers and hydroids are abundant (Service & Mitchell, 2004). At their edges, the banks are fringed with boulders and cobbles.

The Stanton Banks are located in the Scottish Continental Shelf Regional Sea (JNCC, 2004a; Defra 2004), and lie approximately 124km west of the UK mainland, 43km WSW of Tiree and 83km NNE of Malin Head (Ireland). The rocky outcrops rise from the seabed at 190m to approximately 62m from the sea surface encompassing a vertical rise of approximately 130m.

In the areas of the banks which have been surveyed, the biological communities represent moderately exposed/exposed circalittoral bedrock reef habitat of the Scottish Continental Shelf Regional Sea. Listed below are existing SACs within the Scottish Continental Shelf Regional Sea which contain Reefs as a qualifying Annex I habitat. The types of Reefs present are summarised.

SAC	Notable characteristics of Reef interest feature (JNCC, 2007)
Sanday	Intertidal and subtidal bedrock reefs of low topographic complexity and moderate energy levels. The reefs are in full salinity waters, and are subject to strong coastal influence (SNH pers. comm. 2007). Dense forests of kelp <i>Laminaria</i> spp (to 20m depth) provide a habitat for species-rich, red algal turf communities. Sponges (e.g. <i>Clathrina coriacea</i>) and ascidians (e.g. <i>Aplidium punctum</i>) occur on the vertical rock faces. The tide-swept north coast supports a rich fauna of dense bryozoan/hydroid turf and dense brittlestar and horse mussel <i>Modiolus modiolus</i> beds in mixed sediment below the kelp zone.
St Kilda	Extremely wave-exposed bedrock reefs composed of hard, igneous rock, forming steep and vertical faces. These topographically complex reefs extend to depths of 50 m (encompassing the intertidal, infralittoral and circalittoral) and are subject to minimal coastal influence. Dense kelp forests may occur as deep as 35 m due to water clarity. The full salinity circalittoral reefs are dominated by diverse communities of anemones, sponges and soft corals, with different species of sponge, hydroid and bryozoan occurring in surge gullies and caves.
Papa Stour	Very exposed bedrock and boulder reefs (intertidal, infralittoral and circalittoral) reaching depths of more than 30 m. The reefs are in full salinity waters, and are subject to moderate coastal influence (SNH pers. comm. 2007). The underwater terrain is rugged and complex. Extensive kelp forests extend to depths of up to 28 m. Circalittoral communities are dominated by the soft coral <i>Alcyonium digitatum</i> , the featherstar <i>Antedon bifida</i> , encrusting coralline algae and the serpulid worm <i>Pomatoceros</i> , with turfs of the jewel anemone <i>Corynactis viridis</i> , ascidians and bryozoans. Scour-tolerant organisms such as the hydroid <i>Abietinaria abietina</i> and the brittlestar <i>Ophiocomina nigra</i> are also present.

North Rona	A variety of littoral reef habitats extending from the intertidal to the deep circalittoral (> 50 m). The hard bedrock reefs are of low and medium topographic complexity and support rich marine communities characteristic of very exposed, conditions (sponges, anemones, soft corals and ascidians) (SNH, 2006). Kelp forests extend as deep as 35m. The reef is subject to full salinity and has moderate coastal influences upon it (SNH pers. comm. 2007). The influence of the North Atlantic Drift is apparent in the presence of many southern species, but colder sub-arctic water accounts for the northern elements of the fauna and flora (SNH, 2006).
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Stanton Banks is different in character to these existing SACs. It is distant from terrestrial/fluviial influences, as well as being deeper and more wave exposed than many of the other sites. This has resulted in the development of different biological communities on Stanton Banks.

One additional offshore SAC has been recommended to Defra by JNCC for its reef feature, part of which extends into this Regional Sea. This site is shown below with its characteristic features.

Possible SAC	Notable characteristics of the Reef interest feature
Wyville Thomson Ridge	Wyville Thomson Ridge is an iceberg ploughmark reef (a subtype of stony reef) which is located in a transition area between three biogeographic regions. The reef habitat on the Ridge is unique due to the distinctive hydrographic regime. The faunal communities are composed of species representative of hard marine substrata in deep water such as sponges, brachiopods, octocorals, carpet forming featherstars and sedentary, filter-feeding holothurians.

The Wyville Thomson Ridge reef feature differs substantially from that of Stanton Banks: it comprises iceberg ploughmarks (stony reef) rather than bedrock reef. The hydrographic regime at Stanton Banks is also a differentiating factor between the two sites. These differences in substratum, topography and hydrography have lead to the development of different ecological communities at the two sites.

8. Site boundary

The proposed boundary for the Stanton Banks site has been defined using JNCC's marine SAC boundary definition guidelines (JNCC, 2004b) and information provided during public consultation on this site in 2007-2008. The proposed boundary is a complex polygon enclosing the minimum area necessary to ensure protection of the Annex I habitat. Coordinate points have been positioned as close to the edge of the interest features as possible, rather than being located at the nearest whole degree or minute point. The proposed boundary includes a margin to allow for mobile gear on the seabed being at some distance from the location of a vessel on the sea surface. The maximum depth of water around the feature is 190m; therefore, assuming a ratio of 3:1 fishing warp length to depth, the proposed boundary is defined to include a margin of 570m from the bedrock reef. The reef habitat feature extent is drawn from interpolated data from British Geological Survey (BGS) mapped at a scale of 1:250,000 (Graham *et al.*, 2001).

Note that the boundary proposed is for the SAC. Any future management measures which may be required under the Offshore Marine Conservation (Natural Habitats, & c.) Regulations will be determined by Competent Authorities in consultation with JNCC, and may have different boundaries to the SAC site boundary.

9. Assessment of interest feature(s) against selection criteria

9.1 Reefs

Annex III selection criteria (Stage 1A):

a) *Representativity*

The Stanton Banks site is located in the Scottish Continental Shelf Regional Sea and represents hard bedrock and boulder reef in full salinity, subject to intermediate coastal influence. The banks are of high to medium topographic complexity due to their fissured nature (Service & Mitchell, 2004). The faunal communities on these offshore rocky banks are characteristic of those present on exposed to moderately exposed circalittoral hard substrata in deep waters (Connor *et al.*, 2004). They consist largely of encrusting fauna such as red coralline algae, barnacles and serpulid worms, sponges (including small sponges crusts, cup-shaped Axinellid sponges and massive sponges), robust hydroids and more mobile fauna such as featherstars and brittlestars (Service & Mitchell, 2004). The grade for the feature is A (excellent representativity).

b) *Area of habitat*

The reef feature covers approximately 29,000 hectares (flat mapped extent) (Graham *et al.*, 2001). An estimate of the entire Annex I reef resource (bedrock, cobble and biogenic reef) in UK waters is 5,723,600 hectares (UK Favourable Conservation Status Reporting 2007). This total extent figure gives the following thresholds for the grades of this criterion (CEC, 1995):

A – extents between 5,723,600 and 858,540 ha (15-100% of total resource)

B – extents between 858,540 and 114,472 ha (2-15% of total resource)

C – extents less than 114,472 ha (0-2% of total resource)

This site's feature therefore falls within the '0-2%' bracket for Area of Habitat and is graded C.

c) *Conservation of structure and functions*

Degree of conservation of structure

Available evidence suggests that static demersal fishing is occurring over the Stanton Banks reefs (Comhairle nan Eilean Siar, 2008), and this is likely to have affected the biological structure of the feature. However, the physical structure of the reefs is intact to the best of our knowledge, and therefore the grade is II: structure well conserved.

Degree of conservation of functions

The prospects of this feature in terms of maintaining its structure in the future

(taking into account unfavourable influences and reasonable conservation effort) are excellent. A mechanism is available through the European Commission's Common Fisheries Policy regulations to modify fishing activity in the area if this is deemed to be necessary. In addition, regulations are in place to regulate oil and gas activity in and around SACs in the UK Continental Shelf Designated Area, should oil and gas exploration/exploitation occur in this region. The laying of submarine cables and pipelines also requires regulatory consent. The banks are distant from terrestrial sources of pollution. The grade is I: excellent prospects.

Restoration possibilities

Restoration of the biological communities on Stanton Banks would be possible accepting that restoration methods in the offshore area focus on the removal of impacts, which should allow recovery where the habitat has not been removed. It is likely that a similar community to that present now would develop if activities causing damage were removed. The grade is II: restoration possible with average effort.

Overall grade

Due to the second sub-criterion of this criterion being graded I: excellent prospects, the overall grade is A: excellent conservation (regardless of the other two sub-criteria).

d) Global assessment

The suggested grades for Stage 1A criteria a)-c) are A, C and A respectively. Given these evaluations and taking into account the lack of known impacts or damage to the habitat, the Global Assessment grade is A ('excellent conservation value').

Summary of scores for Stage 1a criteria

Area of habitat	Representativity (a)	Relative surface (b)	Structure and function (c)	Global assessment (d)
Stanton Banks	A	C	A	A

10. Multiple interest

Not applicable

11. Supporting scientific documentation

Five surveys have been conducted which confirm the presence of reef and identify the biological communities present. A British Geological Survey (BGS) manned submersible survey of an area within the Stanton Banks confirmed the presence of reef habitat and described characteristic reef fauna (Eden *et al.*, 1971). A collaborative survey between JNCC and DARDNI (Department for Agriculture and Rural Development, Northern Ireland) was undertaken in 2003 (Service & Mitchell, 2004). Two areas of Stanton Banks (Stanton 1 and 2) were surveyed acoustically using RoxAnn acoustic ground discrimination system (AGDS) and multibeam to characterise the physical

properties/morphology of the seabed. Biological ground truthing of these areas using video tows and stills camera images confirmed the presence of bedrock reef and identified the major faunal communities. Further survey was undertaken by the North Western Shelf consortium, as part of the MESH² project in 2005 and 2006 (MESH, 2005; MESH, 2006). This included multibeam survey of three further areas (Stanton 1, 3 and 4) and biological ground truthing of Stanton 4 using drop-down video and ROV (remotely operated vehicle). The extent of these surveys can be seen in figure 2.

A further survey by BGS in June 2006 (cruise CD180 of the RV Charles Darwin) took place over part of Stanton 4 (Stewart and Long, 2006). This survey gathered geophysical data using a sparker system, pinger, and a precision echo-sounder.

12. Site overview and conservation interest

Acoustic and multibeam survey of two areas of the Stanton Banks reef in 2003 showed a rocky landscape criss-crossed by deep gullies (See Figure 1) (Service & Mitchell, 2004). The major gullies are approximately 100m wide and up to 30m deep; the others are typically a few 10s of metres wide. These are probably fracture orientations within the Lewisian granite rocks (Service & Mitchell, 2004). Multibeam survey in 2005 and 2006 (MESH, 2005; MESH, 2006) of three more areas of the Banks also showed the presence of deep gullies.

Interpretation of the acoustic backscatter data gathered in 2003 (Service & Mitchell, 2004) revealed four acoustically distinct ground-types at Stanton 1 and 2. From limited ground-truthing data, these appeared to correlate well with the four biotopes described from video and stills camera analysis. The four biotopes identified as present included two found within the 'moderately exposed circalittoral rock' section of the Marine Habitat Classification for Britain and Ireland (Code CR.MCR) (Conner *et al.*, 2004) (EUNIS equivalent 'Atlantic and Mediterranean moderate energy circalittoral rock': Code A4.2)). The remaining two biotopes identified were from the sublittoral sand section (Service & Mitchell, 2004). The topographical highs of these survey areas corresponded to regions of bedrock outcrops heavily encrusted with coralline algae, keel worms and brittlestars, with regions of sponges in places (Plate 1) (Service & Mitchell, 2004). The seabed at the bottom of the gullies was predominantly clean sand, and between these regions were areas of cobbles and gravel (Plate 2). Many of the cobbles were encrusted with coralline algae and keel worms (Service & Mitchell, 2004).

Further survey by MESH (2005; 2006) confirmed that the lower circalittoral zone of the Stanton Banks is characterised by smooth, silty bedrock dominated by extensive encrusting coralline red algae, numerous barnacles, brittlestars, small sponges crusts (including *Hymedesmia paupertas*), cup-shaped Axinellid sponges (*Axinella infundibuliformis*) and massive sponges (*Mycale lingua* and *Pachymatisma johnstonia*) (see Plates 4 and 6). Sea urchins (*Echinus* sp.) and colonies of filamentous tubeworms (*Filograna* sp.) were also common.

On the slopes, there is a transition from smooth bedrock to fissured rock outcrops, boulder and cobble with featherstars (*Leptometra celtica*) (see Plates 3 and 5), dead man's fingers (*Alcyonium digitatum*) and robust hydroids (*Tubularia* spp.) (Service *et al.*, 2004; MESH, 2006; Picton, B., pers comm.). Cold water coral (*Lophelia pertusa*) has been observed on Stanton Banks but distinct biogenic reefs have not been identified (Roberts *et al.*, 2003).

² MESH: Mapping European Seabed Habitats www.searchmesh.net

There are no data currently available on fish and mobile epifaunal species at a suitable scale specifically within the proposed site boundary. However, general information on the interest of the area in relation to fish, with a bias towards commercially exploited species (as it is for these that data have been collected) can be gleaned from sources such as Fisheries Sensitivity Maps in British Waters (Coull *et al.*, 1998) and Fisheries research scientists in both England and Scotland. According to these sources, the Stanton Banks site lies within an area identified as high for distribution of Norway pout eggs and within recognised nursery areas for Norway pout, lemon sole and Norway lobster (*Nephrops norvegicus*). In general, however, the spawning and nursery sensitivities for these species are not unique to the proposed site, and are not rigidly fixed (N. Bailey, pers. comm. January 2006).

Figure 1: Multibeam bathymetry of the ‘Stanton 2’ survey site at the Stanton Banks (Service & Mitchell, 2004)

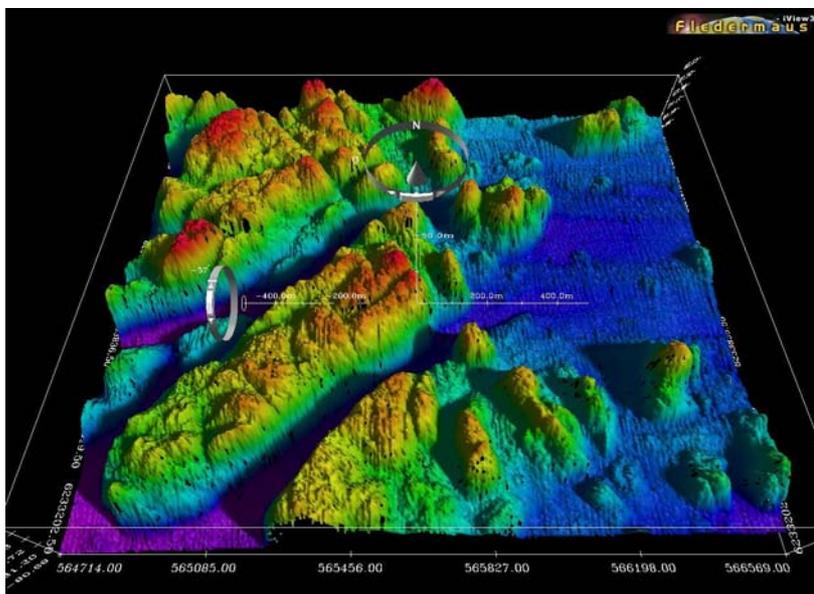
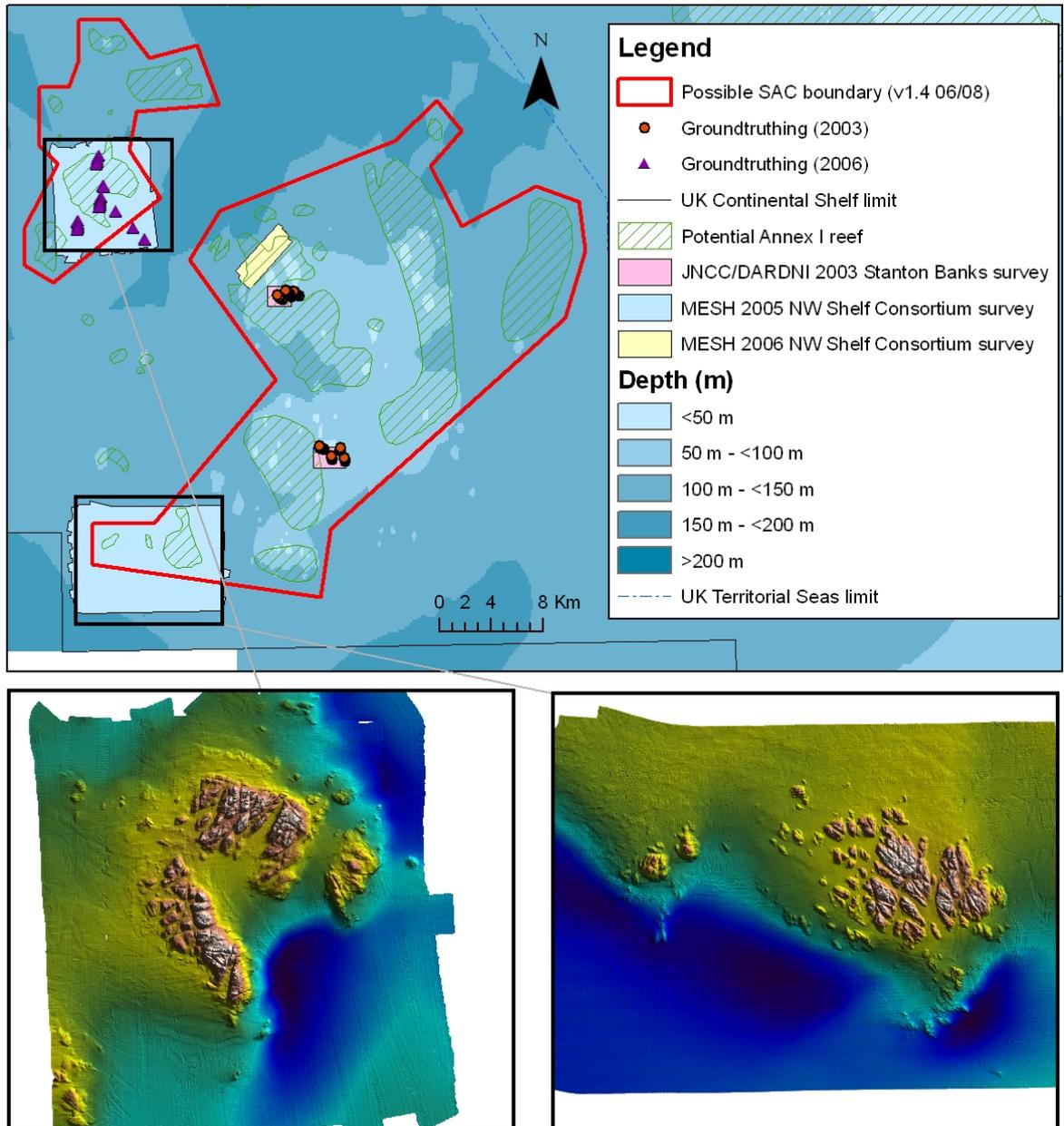


Figure 2: Areas of Stanton Banks which have been surveyed



Seabed habitat derived from BGS 1:250,000 seabed sediment maps ©NERC. 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 2007.

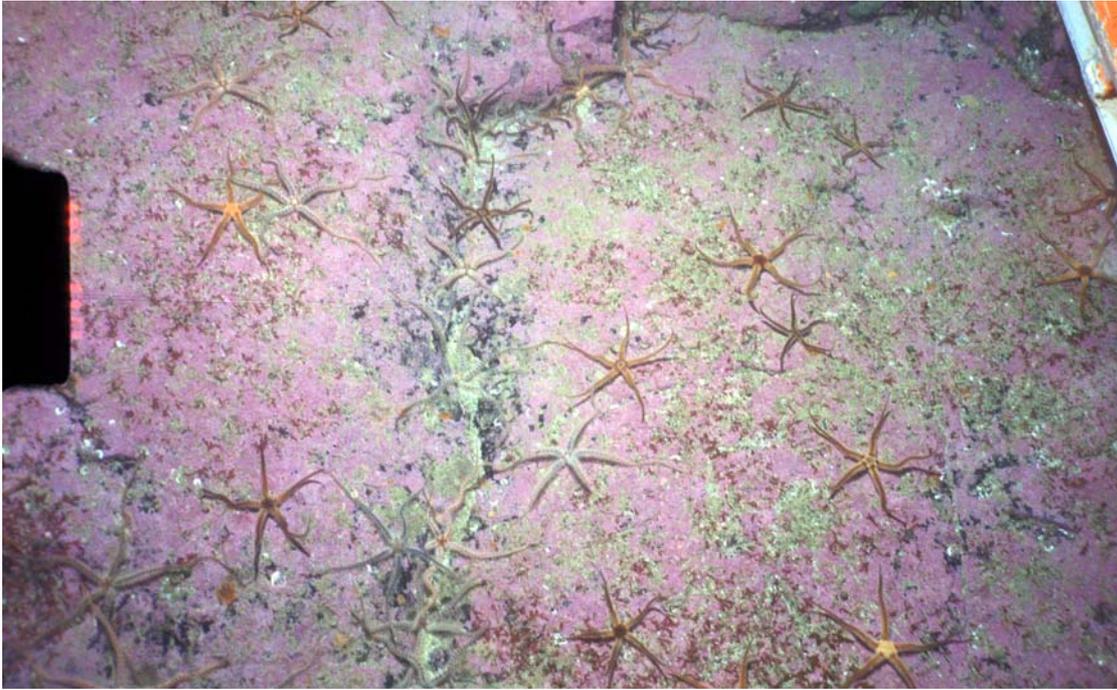


Plate 1: Fissured bedrock outcrop with brittle stars and encrusting coralline algae (Copyright © JNCC/DARDNI 2003)



Plate 2: Boulder and cobble filled fissure (Copyright © JNCC/DARDNI 2003)



Plate 3: Featherstars (*Leptometra celtica*) and the blue sponge crust *Hymedesmia paupertas* on bedrock and boulder reef (Photo taken during MESH North Western Shelf Consortium survey 2006)

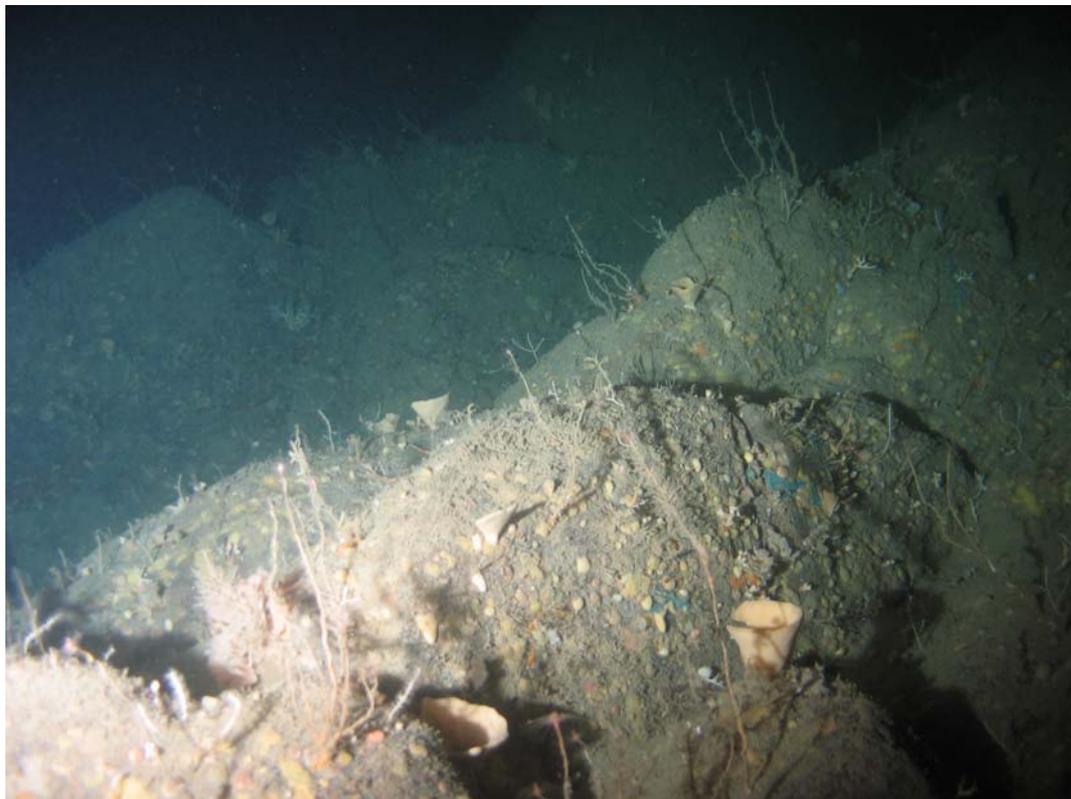


Plate 4: Cup-shaped Axinellid sponges (*Axinella infundibuliformis*), hydroids (*Tubularia spp.*) and Northern sea fan (*Swiftia spp.*) on silty bedrock (Photo taken during MESH North Western Shelf Consortium survey 2006)



Plate 5: Featherstars (*Leptometra celtica*), calcareous tube worms and the blue sponge crust *Hymedesmia paupertas* on bedrock and boulder reef (Photo taken during MESH North Western Shelf Consortium survey 2006)

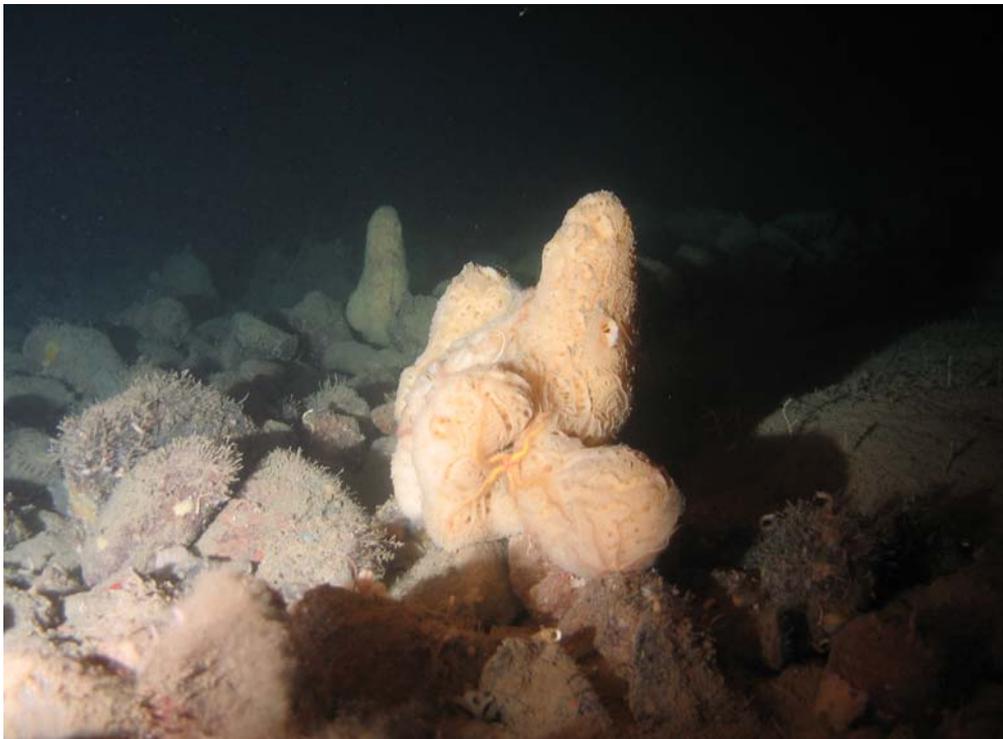


Plate 6: Circalittoral boulder and bedrock reef habitat with *Mycale lingua* recorded on Stanton Banks (Photo taken during MESH North Western Shelf Consortium survey 2006)

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