



**Offshore Special Area of Conservation:
Bassurelle Sandbank**

SAC Selection Assessment



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Version 4.0 (20 August 2010)

Introduction

This document provides detailed information about the Bassurelle Sandbank 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 (as amended), 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 (as amended), 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 Commission.

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).

Document version control

Version and issue date	Amendments made	Issued to and date
BassurelleSandbank_SelectionAssessment_4.0.doc (20 August 2010)	Site changed to a candidate SAC throughout documentation	Submission to Europe (20 August 2010)
BassurelleSandbank_SelectionAssessment_3.0.doc (21 June 2010)	Minor text changes following consultation	Secretary of State (Defra) (22 June 2010)
BassurelleSandbank_SelectionAssessment_2.0.doc (23 November 2009)	Site changed to a possible SAC throughout documentation	Formal Consultation
BassurelleSandbank_SelectionAssessment_1.0.doc (8 January 2009)	UK Annex I sandbank resource figures updated	UK Marine Biodiversity Policy Steering Group (January 2009)
BassurelleSandbank_SelectionAssessment_0.4	Site boundary justification modified to take into account SNH comments	CSG
BassurelleSandbank_SelectionAssessment_0.3 (20 August 2008)	Figures updated. Slight changes in wording made to Sections 7, 8, 9 and 12.	MN2KPG 8 September 2008
BassurelleSandbank_SelectionAssessment_0.2 (11 August 2008)	Sandbank sites in the Southern North Sea Regional Sea added into the documentation for comparison	MN2KPG 11 August 2008
BassurelleSandbank_SelectionAssessment_0.1 (9 August 2008)		CSG 9 August 2008

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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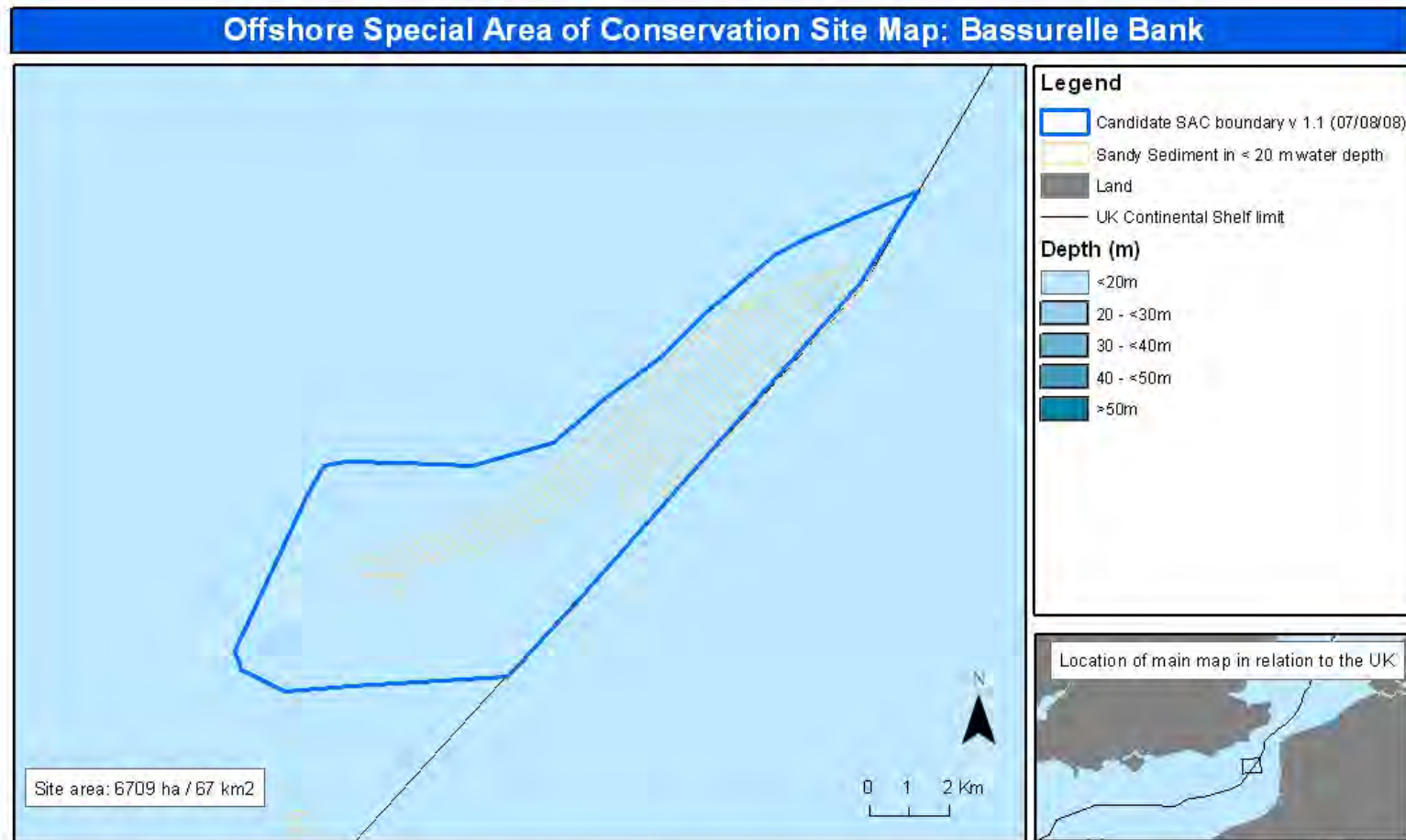
Bassurelle Sandbank SAC: Selection Assessment

1 Site name Bassurelle Sandbank	2 Site centre location 50°35'35", 1°0'23" (Datum: WGS 1984)
3 Site surface area 6,709 ha/ 67 km ² (Datum: WGS 1984 UTM Zone 31 North, calculated in ArcGIS)	4 Biogeographic region Atlantic

5 Interest feature(s) under the EU Habitats Directive

1110 Sandbanks which are slightly covered by sea water all the time.

6 Map of site



Boundary coordinates:

1) 50°38'39", 1°7'20" 2) 50°34'13", 1°1'25" 3) 50°33'10", 1°0'0" 4) 50°32'60", 0°56'39" 5) 50°32'53", 0°55'13" 6) 50°33'10", 0°54'18" 7) 50°33'25", 0°54'8" 8) 50°35'32", 0°55'34" 9) 50°35'58", 0°55'57" 10) 50°36'2", 0°56'26" 11) 50°36'2", 0°57'36" 12) 50°36'1", 0°59'7" 13) 50°36'22", 1°0'51" 14) 50°36'58", 1°1'51" 15) 50°37'34", 1°3'5" 16) 50°38'14", 1°4'5" 17) 50°39'0", 1°5'30" 18) 50°39'0", 1°5'30" 19) 50°39'13", 1°6'5" 20) 50°39'55", 1°8'31"

Map projected in WGS84 (Zone 31N). World Vector Shoreline © US Defense Mapping Agency. 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. 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

The Bassurelle Bank is a linear sandbank in the Dover Strait which straddles the boundary between UK and French waters. It is an example of an open shelf ridge sandbank, which is formed by tidal currents (Graham *et al* 2001). The part of the sandbank within UK waters is approximately 2.5km at its widest point, and has a maximum height of around 15m. It extends for about 15km in a NE-SW direction to the UK-France median line, and then continues for some distance into French waters.

The sandbank is mainly composed of very well sorted sand with some gravelly sand, with occasional shells. The surface tidal currents along the bank are weak to moderately strong (peak spring surface current velocity of 0.7 m/s), and run along the direction of the sandbank (James *et al* 2007). Sand waves and megaripples are abundant on parts of the bank and are up to 2.5m in height (James *et al* 2007). Biological communities present include those typical of sandy sediments, dominated by polychaete worms such as the tube-worm *Lagis koreni* and the bristleworm *Spiophanes bombyx*.

This site is located within the Eastern English Channel Regional Sea (JNCC, 2004; Defra, 2004). The only Special Area of Conservation in the Eastern English Channel for which 'Sandbanks which are slightly covered by sea water all the time' is a qualifying feature, is Solent Maritime SAC, however, this habitat type is graded at C and was not a primary reason for site designation. The notable characteristics of this site are shown below:

SAC	Notable characteristics of Sandbank interest feature (JNCC, 2007)
Solent Maritime	Sandy mound sandbanks occur around the Solent Maritime SAC, particularly in the large harbours. They are present in variable/reduced salinity and subject to strong coastal influence. These subtidal sandbanks are composed of muddy sand and some support eelgrass beds. They are typically colonised by a burrowing fauna of worms, crustaceans, bivalve molluscs and echinoderms but where coarser, more stable material is present epifaunal attached species include foliose algae, hydroids, bryozoans and ascidians (Natural England, pers. comm. 2007).

Bassurelle Bank is of a different physiographic type than sandbanks in the Solent Maritime SAC. It is composed of coarser sediments, occurs in full salinity waters, and is located away from coastal influences. Due to the strong influence of sediment type and other environmental factors on biological communities, it is highly likely that a different range and distribution pattern of biological communities will be present on Bassurelle in comparison to the sandbanks of the Solent Maritime SAC.

As the site is close to the adjacent Southern North Sea Regional Sea (JNCC, 2004; Defra, 2004) additional comparison is provided with the proposed Margate and Long Sands site in the outer Thames area for which 'Sandbanks which are slightly covered by seawater all the time' is the qualifying feature. The site comprises headland associated, estuary mouth and sandy mound subtypes with intermediate coastal influence in full salinity water. The sandbanks are non-vegetated and consisting of gravelly sand and sand. The fauna of the banks is characteristic of mobile sand environments, and is dominated by polychaete worms and amphipods. Within the troughs a higher diversity of polychaetes, crustacea and bivalves are found.

Bassurelle is of a different physiographic type to Margate and Long Sands and is in a different Regional Sea. The two sites are separated by the Dover Straits where a transition from North Sea water to Atlantic water commences, therefore their biological communities can be expected to be significantly different.

8 Site boundary

The proposed site boundary for Bassurelle Sandbank has been defined using JNCC's marine SAC boundary definition guidelines (JNCC, 2008). The proposed boundary is a simple polygon enclosing the minimum area necessary to ensure protection of the Annex I habitats.

The proposed boundary includes both 'sandy sediments in less than 20m water depth' and the flanks and troughs of the bank which are also part of the sandbank feature but extend into deeper waters. The boundary has been drawn to closely follow the 30m contour, which appears (from Admiralty Charts and recent survey data) to correspond with the extent of the sandbank. Coordinate points have been positioned as close to the bathymetric contour as possible, whilst trying to avoid an overly-complicated boundary.

The southern boundary has also been aligned with the proposed boundary of the Ridens et dunes hydrauliques du Detroit du Pas de Calais (Megaripples and hydraulic dunes in the Pas-de-Calais/Dover Strait) possible SAC which has recently undergone public consultation by the French Government. The Ridens et dunes hydrauliques du Detroit du Pas de Calais site encompasses a number of different sandbanks in French waters, including the remainder of Bassurelle Bank. Therefore, the vertex on the UK-France median line deviates slightly (<2km) from the 30m contour, in order to meet the corresponding boundary of the proposed Ridens et dunes hydrauliques du Detroit du Pas de Calais site. No margin to allow for mobile gear was applied given the shallow water depth at this site and the lack of a precise feature edge from which to add a margin.

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 Sandbanks

Annex III selection criteria (Stage 1A):

a) *Representativity*

The Bassurelle Bank is located in the Eastern English Channel Regional Sea, and represents non-vegetated, sublittoral, open shelf ridge, tidal current sandbanks consisting of sandy sediment. The interest feature is located in full salinity waters, away from coastal influences.

Sandwaves and megaripples present on the north flank and crest of the bank indicate that the surface sediment is regularly mobilised by tidal currents. The biological communities present include those typical of sandy sediments, being dominated by polychaete worms such as the tube-worm *Lagis koreni* and the bristleworm *Spiophanes bombyx*. Where the sand is more gravelly, the community contains a variety of crustaceans and polychaetes more typical of gravel sediments such as the hermit crab *Pagurus bernhardus* and the brittlestar *Ophiura* spp.

The grade for the feature is A (excellent representativity).

b) Area of habitat

The evaluation of relative surface area is approximate as it is not possible to calculate an accurate total extent figure for Annex I shallow sandbank habitat for UK waters. A best minimum estimate, based on the mapped area of sandy sediments in less than 20m water depth, of 1,720,000 hectares has been used to assess area of habitat. This figure gives the following thresholds for the grades of this criterion (CEC, 1995):

A – extents between 258,000 and 1,720,000 ha (15-100% of total resource)

B – extents between 34,400 and 258,000 ha (2-15% of total resource)

C – extents less than 34,400 ha (0-2% of total resource)

Bassurelle Bank sandbank habitat occupies a minimum area of 2,018ha (based on the 20m contour, Chart Datum). Therefore the area of the interest feature falls between the '0 and 2%' bracket on the Natura 2000 Data Form and is graded as C.

c) Conservation of structure and functions

Degree of conservation of structure

There is no licensed offshore industry occurring at the site. It is highly probable that the fauna of the banks have been impacted by bottom trawling as the south-west of the site is situated in a region of demersal fishing activity (Eastwood *et al* 2007; ICES, 2008). The physical structure of the banks is intact and the biology is representative of the habitat. The grading is II: structure well conserved.

Degree of conservation of functions

The prospects of this feature to maintain its structure in the future, taking into account unfavourable influences and reasonable conservation effort, are good. Regulations are in place to control oil and gas activity in and around SACs in the UK Continental Shelf Designated Area and developments are subject to Appropriate Assessment if they are likely to affect the features of a SAC. 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. The aggregates industries' operations are currently subject to Environmental Assessment, and would be subject to Appropriate Assessment if likely to affect SAC interest features. The laying of submarine cables and pipelines also requires regulatory consent. The banks are distant from terrestrial sources of pollution. The grading is II: good prospects.

Restoration possibilities

Restoration of habitat on the Bassurelle sandbank 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. The grading is II: restoration possible with average effort.

Overall grade

When grade II for the first sub-criterion, grade II for the second sub-criterion and grade II for the third sub-criterion are combined, the overall grade for the criterion is B: good conservation.

d) Global assessment

The suggested grades for Stage 1A criteria a)-c) are A, C and B respectively. Taking all the above factors into consideration, the Global Assessment grade is B ('good conservation value').

Summary of scores for Stage 1a criteria

Area of habitat	Representativity (a)	Relative surface (b)	Structure and function (c)	Global assessment (d)
Bassurelle Bank	A	C	B	B

10 Sites to which this site is related

This site is related to the French site, Ridens et dunes hydrauliques du Detroit du Pas de Calais (Megaripples and hydraulic dunes in the Pas-de-Calais/Dover Strait) possible SAC (Figure 1). JNCC have followed the EC Guidance on the establishment of the Natura 2000 network in the marine environment (CEC 2007) in recommending a boundary for the Bassurelle Bank SAC based on available scientific data for the UK sector of the bank. The boundary for the cross-border site has been agreed with the French Marine Protected Area Agency in Brest.

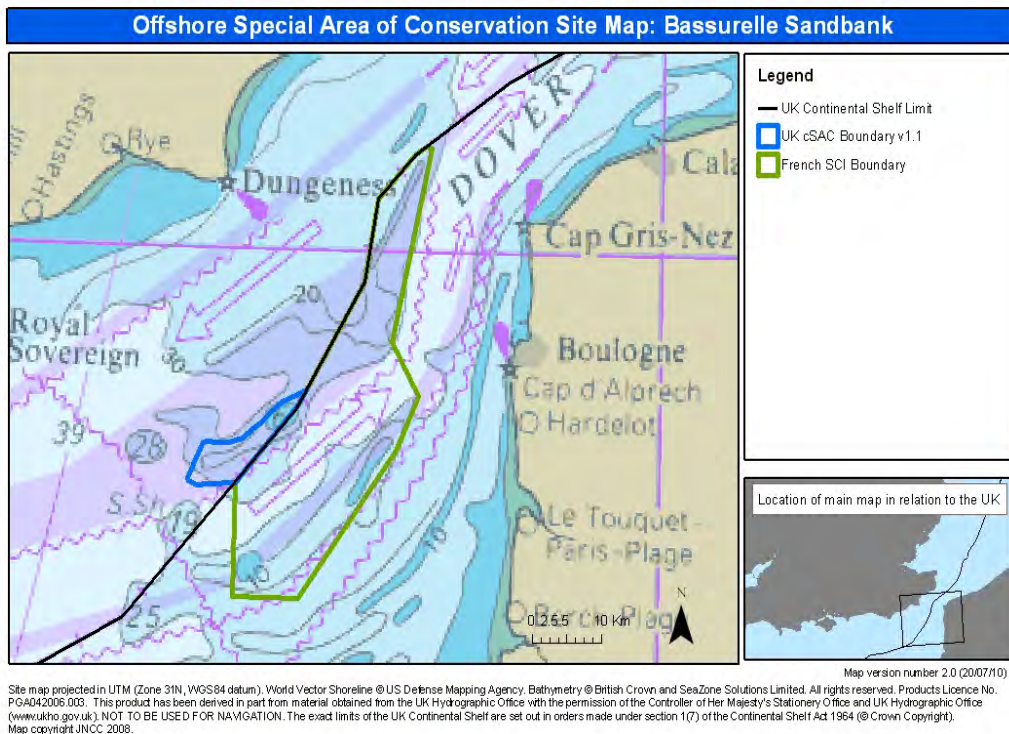


Figure 1. The location of the UK Bassurelle Bank candidate SAC with the French Ridens et dunes hydrauliques du Detroit du Pas de Calais (Megaripples and hydraulic dunes in the Pas-de-Calais/Dover Strait) SCI

11 Supporting scientific documentation

Scientific information on the Bassurelle sandbank comes from the Eastern English Channel Marine Habitat project (James *et al* 2007). Four surveys (two geophysical and two biological) were conducted as part of this project, between 2005 and 2006. However, the survey extent only covers half of the UK portion of Bassurelle Bank with the remainder of the bank within UK waters lying outside of the survey area. Only part of Bassurelle Bank lies within UK waters, with the remainder being in French waters. Data presented within the following section relates only to the UK part of the sandbank (Figure 2).

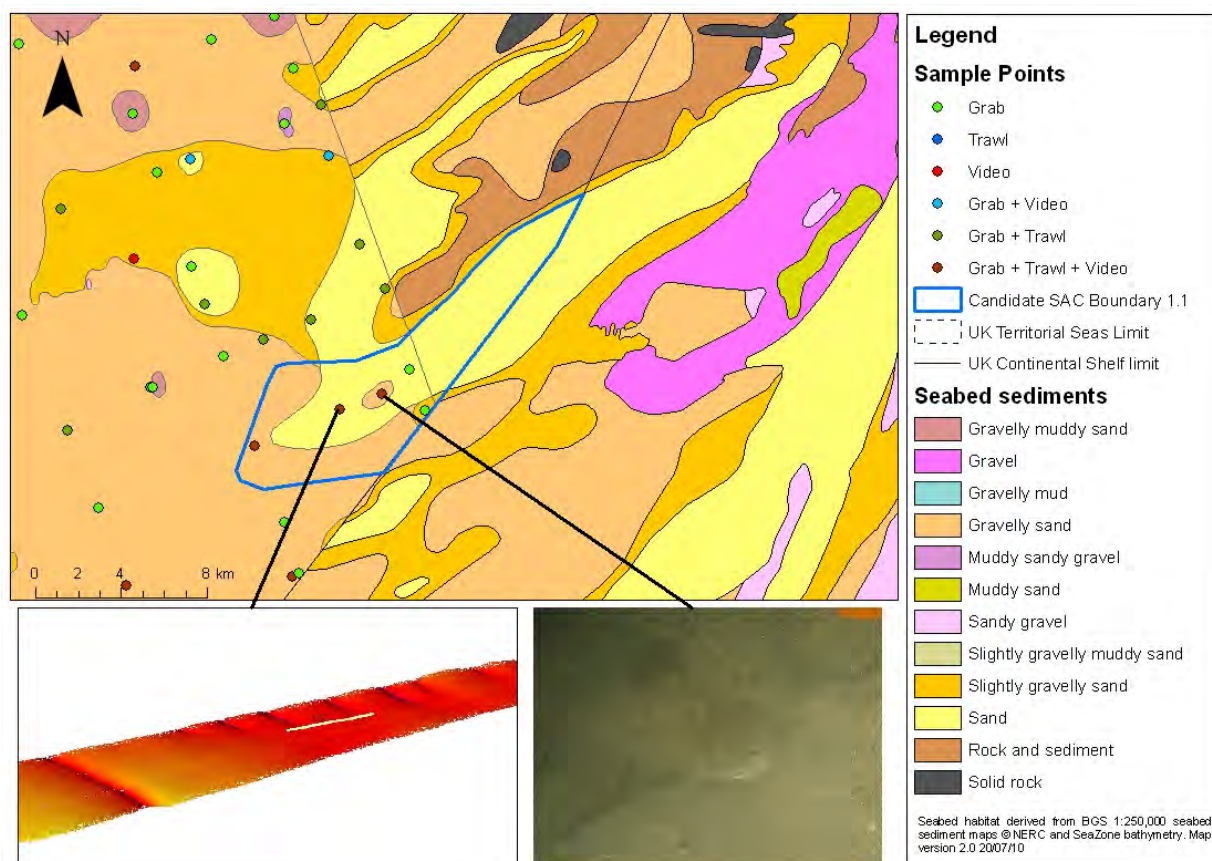


Figure 2. Data used for habitat characterisation (sediment type and biological community) within the Bassurelle Bank site boundary

12 Site overview and conservation interest

Bassurelle Bank is a sandbank comprised of a mixture of sand and gravelly sand, with shell and gravel visible at the surface. Although the surrounding seabed is also predominantly sandy, Bassurelle Bank is distinct due to the thickness of the sediment (up to 25m thick) and the elevation above the surrounding area. The sandbank is approximately 2.5km at its widest point, and has a maximum height of approximately 15m. It extends for approximately 15km in a NE-SW direction, to the UK-France median line, and then continues for some distance into French waters.

Within the Eastern English Channel Marine Habitat Map project, one geophysical acoustic corridor across the bank was surveyed. The acoustic data showed that the northern flank and crest of the bank has east facing, symmetrical sand waves of up to 2.5m in height.

The surface tidal currents along the bank are weak to moderately strong (peak spring surface current velocity of 0.7 m/s), and run along the direction of the sandbank.

On Bassurelle Bank, areas of fine sand have an infaunal community dominated by polychaete worms. These include species such as the polychaete worms *Lagis koreni*, *Spiophanes bombyx*, *Poecilochaetus serpens* and *Nephtys* sp., and the bivalves *Moerella pygmaea* (little tellin) and *Ensis* sp. (razorshell). This sandy community is also present across the Greater Bassurelle Sands sandwave field which lies north of the bank itself and it outside the boundary. In places on Bassurelle Bank, and on the margin of the sandwave field, the sediment is slightly more gravelly and shelly, with the coarser sediment often collecting in the troughs between sandwaves. In these areas, a slightly different infaunal community is found, with the polychaete worms *Anaitides lineata*, *Ophelia limacina*, and *Nephtys* sp., the amphipod *Siphonoecetes kroyeranus*, and in common with the sandier areas, the little tellin bivalve, *Moerella pygmaea*. The samples obtained on Bassurelle Bank were found to have a low diversity, and low numbers of organisms, in comparison to samples taken from the same habitat further north in the Greater Bassurelle Sands sandwave field. This could be a result of the high energy environment of shallow sandbanks that causes regular disturbance to the fauna present, and prevents more sensitive species from being present.

The epifaunal community present on the Bassurelle Bank was very impoverished, and typical of a sand and gravelly sand habitat. On the bank itself, the hermit crab *Pagurus bernhardus* was observed, as was the brittlestar *Ophiura* spp. and the hydroid *Hydrallmania falcata*, which was observed attached to shell and gravel fragments. The sand eel (*Ammodytes tobianus*) and weever fish (Echiichthys) were characteristically present, although these were absent from the sandy areas surrounding the bank. The region is a nursery area for lemon sole, mackerel and sand eel and a spawning area for cod, lemon sole, sole, plaice, sand eel and sprat (Coull *et al* 1998).

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