

Goodwin Sands rMCZ no 8

Marine Conservation Zone: Selection Assessment Document

Version and Issue date	Amendments made
V1.0 07.09.11	Draft final recommendations refined by the RSG and Local Groups in July 2011 and finalised by the RSG 2/3 August 2011.

1. Site name Goodwin Sands rMCZ no 8. Contains: Goodwin Knoll draft Reference Area no 6	3. Site surface area 27691 ha 276.91 km ²
2. Site centre location ETRS89 N51 15' 23.836" E1 35' 11.227" N51 15.397' E1 35.187' (N.B. WGS 84 UTM 31N coordinates are provided in the map vertices)	4. Biogeographic region Southern North Sea

5. Features proposed for designation within Goodwin Sands¹

Feature type	Feature name	Area ²
Broad-scale habitats	A3.2 mod energy infralittoral rock	0.65 km ²
	A4.2 mod energy circalittoral rock	0.58 km ²
	A5.1 subtidal coarse sediment	115.55 km ²
	A5.2 subtidal sand	159.97 km ²
Habitat FOCI	Blue mussel beds	312.57 m ²
	Rossworm (<i>Sabellaria spinulosa</i>) reef	625.29 m ²
Geology	Eastern English Channel outburst flood features	n/a

6. Features within Goodwin Sands not proposed for designation³

Feature type	Feature name	Reason
Species FOCI High mobility	European Eel (<i>Anguilla anguilla</i>)	Occurrence not certain
	Smelt (<i>Osmerus eperlanus</i>)	Occurrence not certain
	Undulate Ray (<i>Raja undulata</i>)	Occurrence not certain

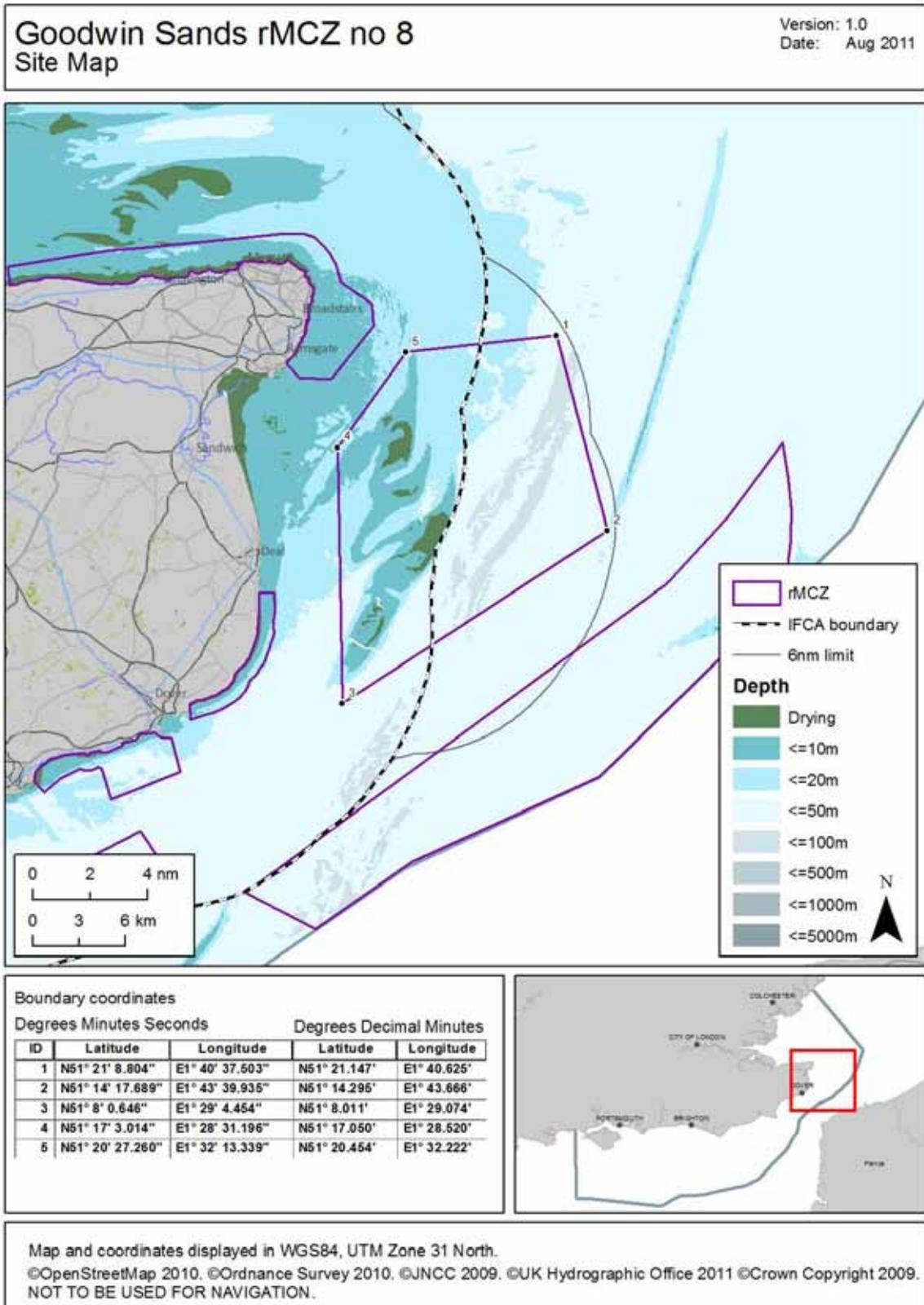
¹ Sources of information relating to these features are listed in Section 13.

² Areas have been calculated according to spatial GIS data and are indicative only.

³ Features may occur in both tables (sections 5 & 6) if the rMCZ overlaps with an existing MPA where the features are protected.

Goodwin Sands rMCZ no 8

7. Map of site



8. Site summary

The main feature of this site is the Goodwin Sands, a large dynamic and constantly changing area of subtidal sand and coarse sediments that is regularly exposed at low tide, providing an important haul out site for the Common and Grey Seal and good foraging grounds for certain bird species. Around the Sands themselves, the site includes deeper areas of subtidal coarse sediment that are known to be of particularly high biodiversity, as indicated by benthic species taxonomic distinctness and regular pelagic seasonal fronts. The site also contains Rossworm (*Sabellaria spinulosa*) reefs and a subtidal Blue Mussel bed. An extension was made to the site in May 2011 in order to capture shortfall ENG targets (A5.1 and A5.2) and an area of high biodiversity to the south east of the site. . The inner or IFCA 6 nm line divides the site, so that although it lies within the outer 6nm line as shown on charts, part of it lies outside the area of jurisdiction of the IFCA⁴.

The combination of dynamic sediment habitats and low levels of activity around the Goodwin Sands means that the draft conservation objectives for this site are currently all MAINTAIN, which means that management could be limited to monitoring, and that current activities would be able to continue at the same level.

9. Detailed Site Description



The following is a description of the site based on extracts from literature held by the Balanced Seas Project and stakeholder correspondence. It does not constitute a complete literature review or ecological description of the site.

The site boundaries encompass the Goodwin Sands, a collection of sandbars and shoals that become exposed at low tide, the permanently subtidal areas immediately surrounding them and a deeper channel running along their seaward side. According to the UKSeaMap/MESH data (JNCC 2011 v.7), the site contains small patches of moderate energy infralittoral and circalittoral rock and large areas of subtidal coarse sediment and subtidal sand (see Broad-scale habitats map.).

As a result of their shifting nature and the risk this poses to shipping, the Goodwin Sands are surveyed at regular intervals by the UK Hydrographic Office; the 2009 survey comprised a full survey of the whole area, the results of which are shown in UK Hydrographic Office (2010). A 2008 consultancy study (HR Wallingford Ltd, 2008) of recent changes in the bathymetry of the South Goodwin Sands, carried out for the Dover Harbour Board, showed that although the morphology of the South Goodwin Sands has changed significantly over time, the overall volume had remained the same indicating that the bank is in a state of dynamic equilibrium (i.e. although the morphology of bank is changing, the volume of sediment is remaining at/near a constant amount). Over most of the area looked at, surveys between the mid-1990s and 2006 showed that there has been accretion on the bank (up to 12 m vertically) apart from the eastern side of the bank where the sea bed has dropped by as much as 15m indicating that the bank has retreated landwards or eroded.

Examples of Blue Mussels beds and Rossworm (*Sabellaria spinulosa*) reef have been found within the site, and on the same spot (see FOCI map). Both are dependent on the underlying broad scale habitat (Wildlife Trusts, RSG meeting report, August 2011) with *Sabellaria* occurring particularly on coarser areas of sediment including pebbles and boulders (Essex/Thames/North Kent Local Group

⁴ The inner 6 NM limit is a line drawn 6 NM seaward from the baselines. The area inshore of this line represents the area over which the IFCA has responsibility, along with other authorities, for fisheries management. For the purposes of this paragraph "the baselines" means the baselines as they existed at 25th January 1983 in accordance with the Territorial Waters Order in Council 1964 (1965 111 p. 6452A) as amended by the Territorial Waters (Amendment) Order in Council 1979 (1979 11p. 2866).

Meeting Report 4, April 2011). It has been suggested that the two FOCI together could stabilize the sediment if their distribution and density were to increase across the southern part of the site (Wildlife Trusts, Balanced Seas North Kent Sites Meeting Report, July, 2011).

The highly mobile species Common Smelt, European Eel and Undulate Ray are thought to transit through the area although no records exist to confirm permanent or regular populations and the offshore conditions may be unsuitable for these species (Balanced Seas RSG 6 Meeting Report, January, 2011).

Part of the geological feature English Channel Outburst Flood Features occurs within the site forming the deep channel running through the eastern part of the site (National contract data DEFRA MB102 2A), and the RSG have selected this as a feature for protection (see Geology map.) This geomorphological feature is evidence of a megaflood which occurred some 200,000 years ago when a huge glacial lake in the North Sea burst through the Dover Straits Isthmus which contained it, thus separating England from mainland Europe. Sonar evidence of the seabed reveals deeply gouged channels where the floodwaters broke through (Gupta *et al.* 2007).

The Goodwin Sands complex is one of two primary seal haul-out sites in the South and S.E. England regions (the other is the Margate Sands complex to the north), with the Goodwin Sands being the most important for Grey Seals, particularly on the North Sand sandbank (Bramley and Lewis, 2004; Lewis, 2006). There are an estimated 1000 seals in the South and Southeast regions, two thirds of which are Grey or Atlantic Seals with a smaller number of Harbour or Common Seals. Haul out sites are assumed to be close to biodiversity hot-spots for a range of fish and crustacean species, given the foraging behaviour of seals (Lewis, email to project team, 2010).

This assumption is underpinned by the data held by the project from surveys indicating the importance of this area for benthic species taxonomic distinctness, benthic species richness, and regular pelagic seasonal fronts (National Contract Data DEFRA MB102 2F), areas of additional pelagic ecological interest (Wildlife Trusts), Great Cormorant and Black Kittiwake foraging ranges (RSPB), Fulmar and Gannet seasonal foraging areas (RSPB, Balanced Seas Essex/Thames/North Kent Inshore Task Group Meeting Report, December, 2010) and other additional species and biodiversity richness (EA, 2010-2011). The Goodwin Sands is one of the Key Inshore Biodiversity Areas in the Balanced Seas Region recommended as an MCZ (for mussels beds, Sabellaria reefs and seals), by the South East England Biodiversity Forum (SEEBF, 2010).

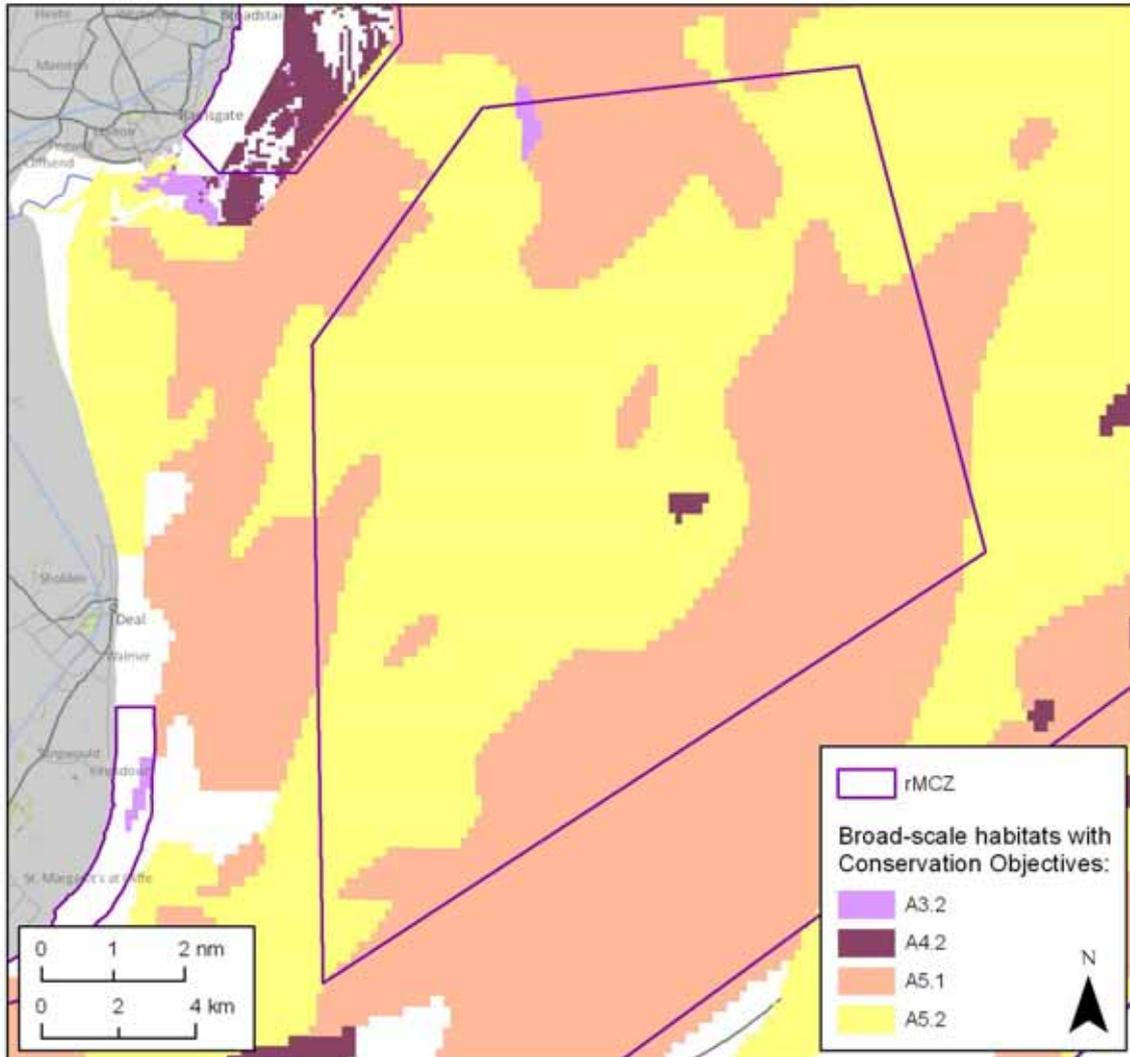
There have been frequent sightings of Thornback ray laying eggs mainly in Spring and September, which could mean that this site is an established spawning ground for this species. Females can take up to 9 years to mature and are thought not to travel far from the recruitment area. The diverse seabed and depths from dry at low water to over 40 metres around the sands suggests that it might also be important for spawning for other species such as Sand Eel and cod (B. Marshall, email, 16 March 2011). The area is also thought to be important for Sand eel, bass, mackerel, smoothhounds and sprat (Balanced Seas Essex/Thames/North Kent Local Group Meeting Report 3, November, 2010). More commercial species cod, whiting, red mullet, squid, plaice, Dover sole, and dogfish also occur in the area (Balanced Seas Offshore Task Group, March 2011). Crustacea such as lobster are found amongst the many wrecks in the site (Balanced Seas RSG 6 Meeting Report, January 2011).

The Goodwin Sands are famous for the many hundreds of wrecks that lie there, several of which are designated as protected and are managed by English Heritage, the most famous of which is the Rooswijk. These wrecks are in various stages of decay ranging from well preserved to near disintegration and serve as artificial habitats for wildlife.

Goodwin Sands dMCZ no 8

Version: 1.0
Date: Aug 2011

Broad-scale habitats (EUNIS Level 3) with Conservation Objectives



Broad-scale habitats with Conservation Objectives:

- A3.2 mod energy infralittoral rock
- A4.2 mod energy circalittoral rock
- A5.1 subtidal coarse sediment
- A5.2 subtidal sand

IMPORTANT: Only those broad-scale habitats with Conservation Objectives have been shown here. To see those habitats that have not been proposed for designation, please look at Section 6.

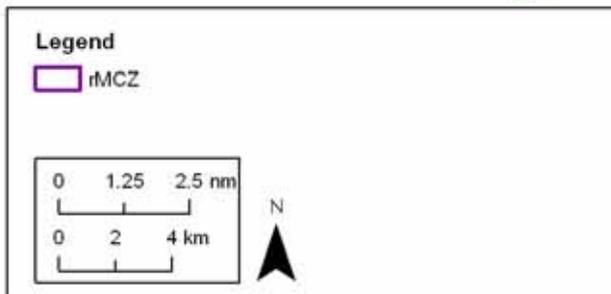
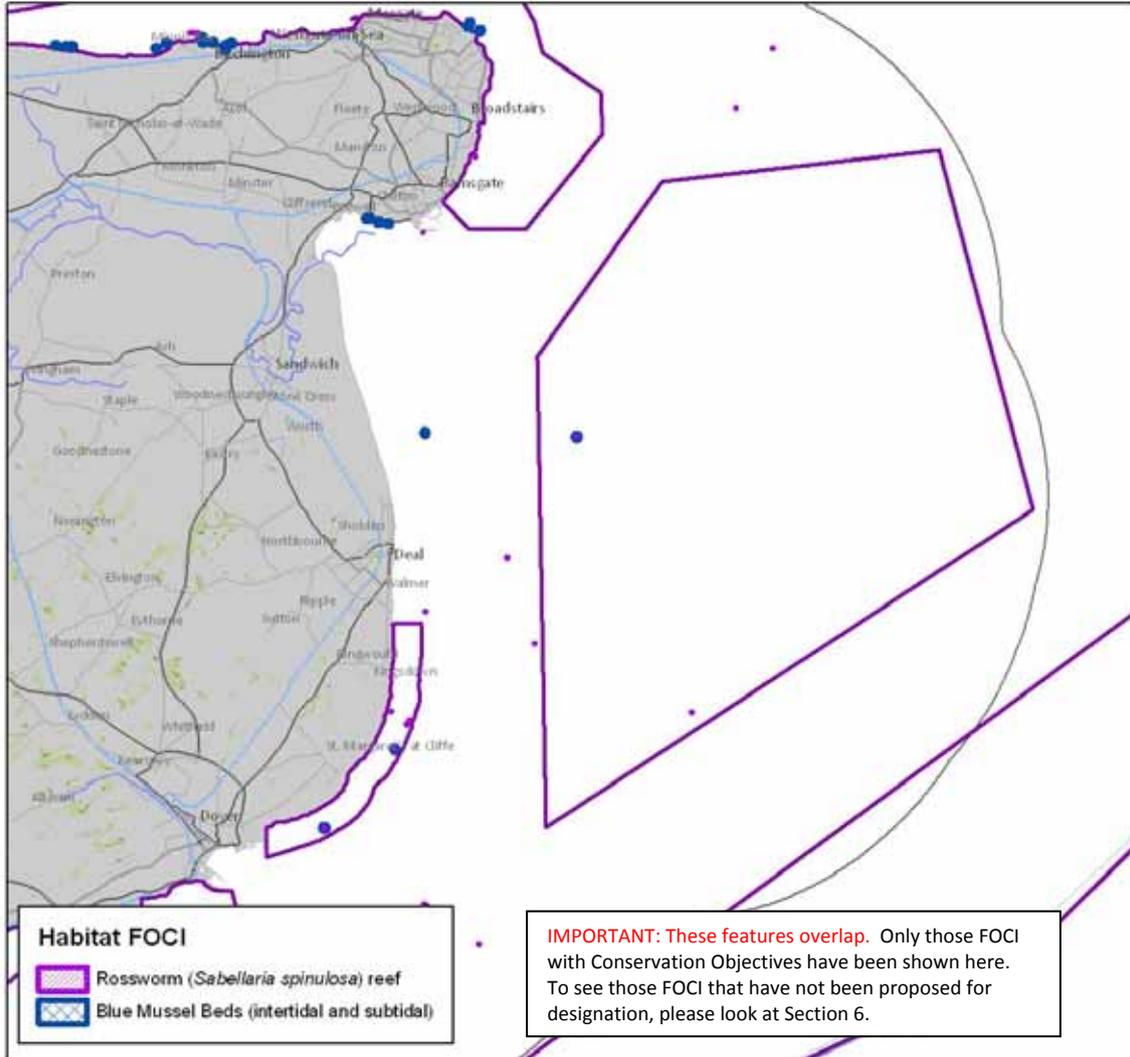


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Goodwin Sands rMCZ no 8

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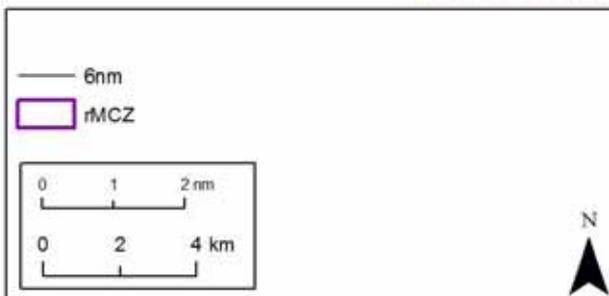
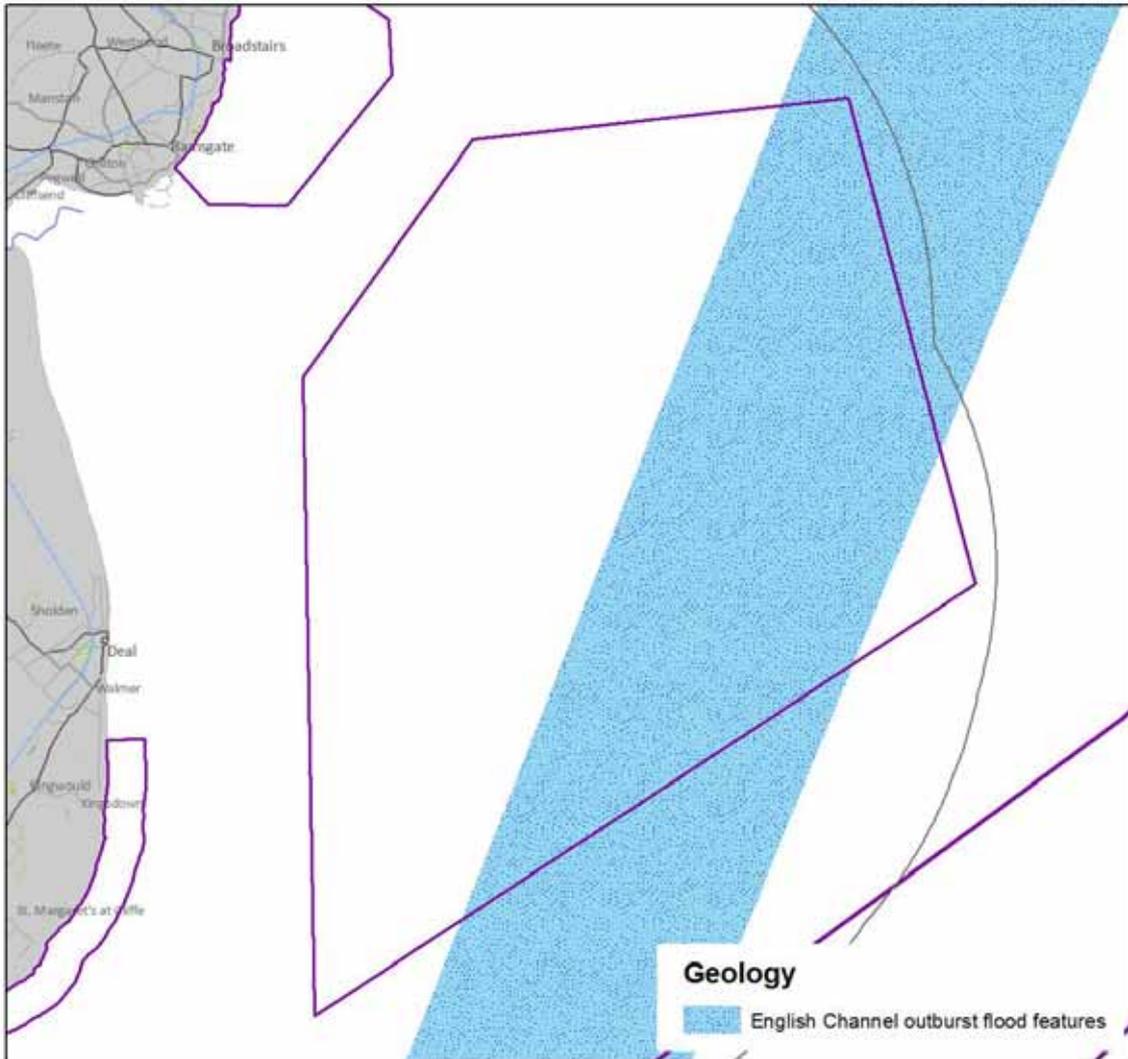
Habitat and Species FOCI Conservation Objectives



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Goodwin Sands rMCZ no 8
Geology

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10. Site boundary

The northernmost point of the site is described by the Goodwin Knoll Buoy, due east of Ramsgate Port. From there, the eastward boundary follows a straight line southwest to the 10m depth contour in Gull Stream which is due north of the SW Goodwin Buoy and drops down to just north of the Buoy to meet the 5m depth contour at the tail of the Goodwin Sands. The boundary then follows a straight line southeast to meet the South Falls Buoy, a straight line to a wreck due east of NE Goodwin Buoy and a straight line to meet the northernmost point. The IFCA 6 naut mi line crosses the site north to south which will have implications for management.

11. Conservation objectives

Individual conservation objective forms for each feature can be found in Appendix 1. For a site-based summary of the conservation objectives and proposed management measures, please see Section 15.

12. Sites to which this site is related

This site is not associated with any existing designation. There are a number of protected wrecks in the vicinity.

13. Supporting documentation (information relating to ENG features only)

Information	Type of information	Source	Name of survey	Date
Broad-scale habitats	Modelled and survey data	JNCC V.7 Combined UKSeaMap and MESH	Combined	June 2011
Rossworm (<i>Sabellaria spinulosa</i>) reef	Survey	Kent Wildlife Trust		31/08/2005
Rossworm (<i>Sabellaria spinulosa</i>) reef	Survey	Environment Agency database		31/12/2005
Blue mussel beds	Survey	Kent Wildlife Trust		31/08/2005

References (additional information can be found in the Bibliography)

BRAMLEY, J. AND LEWIS, B. 2004. *Pilot Survey of Seal Haul-Out Sites off of the North Kent Coast*. Proceedings of the Second North Kent Coastal Conference. English Nature Report 630.

BROOKS, A.J., ROBERTS, H. KENYON, N.H. & HOUGHTON, A.J. 2009. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes. Report No 8 Task 2A: Mapping of Geological and Geomorphological Features*. DEFRA, London.

JACKSON, E.L., LANGMEAD, O. HISCOCK, K. TYLER-WALTERS, H. MILLER, P. McQUATTERS-GOLLOP, A. SAUNDERS, J. & C. FOX. 2009. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes. Task 2F: Development of Marine Diversity Data Layer: Review of Approaches and Proposed Method*. DEFRA, London.

GUPTA, S., COLLIER, J.S. PALMER-FELGATE, A. & POTTER G. 2007. Catastrophic Flooding Origin of Shelf Valley Systems in the English Channel. *Nature* **448** : 342-345

HR WALLINGFORD LTD. 2008. *Goodwin Sands: Study of Historical Changes*. Technical Note Consultancy report DDM6067/TN01 for Dover Harbour Board: 12

LEWIS, B. 2006. Beyond the Sandbanks: An Introduction to the Use of Satellite Telemetry to Monitor the Movements of Harbour Seals (*Phoca vitulina*) around the Kent Coastline. In: Child, T. and Tittley, I. eds. *Natural England Research Report NERRO29. Current Marine and Coastal Issue for N. E. Kent: Proceedings of the Third N.E. Kent Coastal Conference 9 November 2006*. Natural England, Sheffield.

SEEBF (South East England Biodiversity Forum (SEEBF) 2010. Key Inshore Biodiversity Areas in the Balanced Seas Region for recommendation as Marine Conservation Zones. Letter and list to RSG and Balanced Seas Project Team, 22 Nov 2010.

UK HYDROGRAPHIC OFFICE. 2010. Goodwin Sands: Assessment on the analysis of routine resurvey areas GS1, GS2, GS3 & GS4, from the 2009 survey. UK Hydrographic Office, Taunton.

14. Stakeholder support for this site

The RSG as a group reached consensus that this site should be put forward in their final recommendations.

Goodwin Sands rMCZ no 8

Individual sectors wishing to note their support or concerns about the site recorded the following at the final RSG meeting in August 2011; their comments have been transcribed verbatim from the form that they completed:

SECTOR	ORGANISATION	COMMENT for Goodwin Sands rMCZ 8
Yachting	RYA	Support on basis there is no impact on recreational boating.
Sea Angling		Goodwin Sands is all maintain this would allow RSA to continue (charter boats) fishing.
Ports		Aspirations for Dover Port to extract aggregate from within this site for infill for future developments. Location of this <u>TBC</u> .
Fishing - under 10s (static gear)	NUTFA	(Tick)
Fishing - FPO, beam trawling		Parts of area fished heavily. No support for south and east of site. NW of site reasonable support.
Shipping	Chamber of Shipping	Especially if CO moved to recover, maintenance and expansion of navigational buoyage must be unfettered.
Birds	RSPB	Support site but CO for Sabellaria needs revisiting to see whether trawling overlaps, if so, CO should be recover. Consideration should be given to 'recover' for supporting broadscale habitats.
Wildlife Trusts	Hampshire Wildlife Trust	Support this site but the CO of maintain is based on no overlap but activity data is inconsistent as IFCA and Belgium fleet say activity does exist. BSH needs recover to support FOCI.
Marine ecology	Seasearch	Strongly support site, but CO needs to be recover for sensitive habitat FOCI and their supporting broadscale habitats, to allow these consolidating reef communities to spread.
Marine Wildlife	Marine Conservation Society	<u>Support site</u> . But is invalidated (made the equivalent of paper parks) by "maintain" objectives.
IFCA	Kent & Essex IFCA	<u>General Support</u>
Heritage and Archaeology	English Heritage	Support as long as excavation of wrecks allowed.

15. Site summary of conservation objectives (COs) and proposed management measures

A conservation objective (CO) is a statement describing the desired quality of the feature. Existing MPAs in the UK use the term *Favourable Condition* to represent the desired state of their features. Some pressures caused by human activities may stop the feature attaining favourable condition if present at sufficient intensity.

MAINTAIN means that, the *stated levels of activity* currently occurring on the feature are considered acceptable, but features will be monitored and restrictions may have to be introduced if the condition declines.

RECOVER means that restrictions may be necessary on the activity causing the pressure, in order to allow the feature to recover to favourable condition. It does not necessarily mean that the activity will be prohibited, as other mitigation measures might be appropriate (e.g. change in gear type, reduction of intensity, seasonal restrictions, etc)

The table below documents the draft COs for ALL the features listed for protection within the site, as established by JNCC and NE through the Vulnerability Assessment (VA) process⁵ and then sense-checked at the national level⁶. Where a RECOVER objective is noted, the associated activity causing the pressure is indicated. In some cases, where data and information warrant it, the RSG chose to adopt the changes to COs recommended by the public authorities: Inshore Fisheries and Conservation Authorities (IFCAs), Marine Management Organisation (MMO), Environment Agency (EA) or Natural England. Changes were only accepted when recommended by these authorities and have been clearly noted. Where the VA has not yet been undertaken, or there is considerable uncertainty surrounding the accuracy of the information being used to recommend a change to the conservation objective, it has been noted as 'TO BE ASSESSED'. Local and regional stakeholders were given the opportunity to comment on the COs and potential management measures and to provide additional information that might not have been taken into account in the VA work.

For greater detail on discussions relating to the site and the network, please refer to both RSG and Local Group stakeholder meeting reports at www.balancedseas.org.

⁵ The process of establishing conservation objectives is outlined in the [Conservation Objectives Guidance](#) (JNCC /NE 2011)

⁶ VA results were standardised across all four regional projects but the fisheries activity data is still undergoing assessment.

Goodwin Sands rMCZ no 8

Feature	Draft CO	Activity exerting pressure	IFCA/MMO/EA/NE Comments	Stakeholder comments on draft COs and potential management measures
A3.2 Moderate energy infralittoral rock	MAINTAIN		NE feel that level of trawling justifies this CO, but would need monitoring	Wildlife Sector concerned about levels of trawling
A4.2 Moderate energy circalittoral rock	MAINTAIN		NE stated that if levels of set netting increase, they may need review	Wildlife Sector concerned about this CO
A5.1 Subtidal coarse sediment	MAINTAIN			Wildlife sector is concerned that a MAINTAIN CO would not allow <i>Sabellaria</i> and blue mussels to gain a foothold and stabilise this sediment habitat.
A5.2 Subtidal Sand	MAINTAIN			Wildlife sector is concerned that a MAINTAIN CO would not allow <i>Sabellaria</i> and blue mussels to gain a foothold and stabilise this sediment habitat.
Blue Mussel beds	MAINTAIN			Wildlife sector is concerned that a MAINTAIN CO would not allow blue mussels to gain a foothold and stabilise this sediment habitat across the southern part of the site. (See below)
Rossworm (<i>Sabellaria spinulosa</i>) reef	MAINTAIN		<p>IFCA think there is a low level of trawling</p> <p>NE clarified that this will need re-assessing if activity is found to overlap with the feature.</p>	<ul style="list-style-type: none"> Wildlife sector is concerned that a MAINTAIN CO would not allow <i>Sabellaria</i> to gain a foothold and stabilise the sediment habitat across the southern part of the site, because of impact of benthic trawling; would want to see a RECOVER objective; concerns with both the level of activity of commercial fishing in the site and the types of gear – Dutch fleet have licences to use fishing gear that they consider to have less impact on the seabed; it could be explored as the only type of fishing allowed. UK fishing industry flagged that they would be disadvantaged as they do not have the license to use this gear type. Fishing industry don't think there is any overlap between feature and activity, as <i>Sabellaria</i> occurs in areas that are too shallow to trawl A RECOVER objective would cause concern for the shipping sector particularly with regards to the laying of new navigational buoys. RSA support a maintain objective.
English Channel Outburst Flood Features	MAINTAIN			The vulnerability assessment and associated COs had not been undertaken prior to the IFCA/MMO/EA and Local Group meeting in July 2011, so was not discussed at these meetings.

16. Evolution of the site recommendations

A Broad Area of Interest over this site was proposed in the first RSG meeting (RSG 1, April 2009) and was adjusted to follow the contours of the features more closely in subsequent early meetings. At the Essex and Kent Local Group meeting in November 2010, the boundaries were straightened and expanded slightly to include Rossworm reef records and an important seal haul out area. Following the incorporation of the MALSF Synthesis of the central and eastern English Channel REC data, ENG targets were below the minimum threshold and the RSG tasked the Project Team with suggesting suitable areas to incorporate into the network. Marxan (the conservation planning decision support tool) was used to suggest sites that met the necessary shortfall ENG target habitats and captured areas of high biodiversity in the region, one of which was an area to the southeast of the existing Goodwin Sands site (RSG 9A, 17.05.2011). The RSG extended the site boundaries to include this high biodiversity area in order to meet the additional ENG targets for A5.1 subtidal coarse sediment and A5.2 Subtidal sand.

For greater detail on discussions relating to the site and the network, please refer to both RSG and Local Group stakeholder meeting reports at www.balancedseas.org.

17. Implications for Stakeholders

The following issues affect this site:

- Dover Harbour Board has used part of the South Goodwin Sands to dredge for infill for port development due to its close proximity (thus reducing their carbon footprint during construction) and the quality of material for engineering purposes. Although not used at present, they have expressed concern that an MCZ here will conflict with any infill requirements in the future, particularly for construction of the planned second ferry terminal (Terminal 2). No licence is currently held and no application has been submitted yet for this activity.
- The IFCA 6 nm limit runs north-south through the centre of this rMCZ, and French, Belgian, Dutch and German fleets have historic rights in the eastern part of the site.
 - Belgium: historic fishing rights for demersal species and herring; the Belgian fleet uses the area beyond 6 n mi extensively for beam trawling, otter trawling and netting, and the Belgian fishing industry does not support the extension of this rMCZ beyond 6 n mi at all. The Belgian representative reported that some of the Belgian vessels use gear adaptations (pulse technology - an electrical system still under development) that might mitigate against potential damage. If this was the only type of beam trawling gear allowed within the site, as suggested by the Wildlife sector, the UK fishing fleet would be placed at a disadvantage due to lack of capital to make such adaptations, and MMO licence restrictions preventing use of such technology.
 - French: historic fishing rights for all species; French static fishing fleets from Calais use the area seasonally, and trawling fleets from Calais and Boulogne use the area all year round.
 - Dutch: historic rights for herring only within 12 nm and therefore the Dutch fishing representative has not expressed any problems with this site. The Dutch fleet is developing less damaging beam trawl fishing gear (the 'Sumwing' system) for use on trawling grounds.
 - German: historic fishing rights for herring only; have not engaged in the discussion
- Under IFCA byelaws, within the 6nm limit, there is a maximum size restriction of 17 m overall length for UK trawlers (except the few with 'Grandfather Rights') due to IFCA byelaws. This restriction does not apply beyond 6 nm and so there is greater potential pressure on habitats in the eastern part of the site from trawling. The UK over 10 m trawling fleet is not particularly

Goodwin Sands rMCZ no 8

concerned about the area within 6 nm, however they use the area outside 6 nm as a track to fish through to link with other adjacent fishing grounds;

- Under 10s commercial fishing fleets from Ramsgate and Deal using mainly static and drift fishing gear, depend on this area for their livelihoods, but with COs of MAINTAIN are willing to support this site;
- Parts of the Goodwin Sands provide important safe anchoring areas; Trinity Bay and The Downs, lying between the Goodwin Sands and Kent coast, provide a waiting area for ferry traffic in the event of the Port of Dover being closed and sheltered anchorage for large draught vessels as well as other commercial vessels and recreational craft (UK Hydrographic Office, 2010); commercial charter boats and the recreational sector support the rMCZ only if there is no impact on current anchoring usage.
- Shipping generally avoids the area because of its dynamic nature and keeps offshore to the south and east or uses the inshore route of Gull Stream to the west (estimated 900 vessels a year). Ferry traffic to or from Ramsgate crosses the northern end of the Goodwin Sands (UK Hydrographic Office, 2010).
- English Heritage has expressed concerns about the potential impact of an MCZ on their efforts to protect and manage the enormous number of wrecks here; the current MAINTAIN COs will mean that there should be no impact.
- The Wildlife sector believes that the COs will not achieve protection for the features to be designated and that the site will be considered to be a 'paper park'.
- The Crown Estate note that the site is within a future interest area for nearshore wave projects, tidal projects and has a number of telecom (active and inactive), wind farm and power cables. However, they accept the site.

This list represents only the major issues associated with the site. To see all stakeholder discussions, please refer to the Balanced Seas RSG and Local Group meeting reports at www.balancedseas.org.