

The Swale Estuary rMCZ no 10

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 The Swale Estuary rMCZ no 10	3. Site surface area 5105 ha 51.05 km ²
2. Site centre location ETRS89 N51 22' 7.491" E0 55' 48.876" N51 22.125' E0 55.815' (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 the Swale Estuary ¹

Feature type	Feature name	Area / No. of records ²
Broad-scale habitats	A1.3 low energy intertidal rock	0.61 km ²
	A3.3 low energy infralittoral rock	0.96 km ²
	A5.2 subtidal sand	9.23 km ²
	A5.3 subtidal mud	6.84 km ²
	A5.4 subtidal mixed sediments	13.53 km ²
Habitat FOCI	Blue mussel beds	0.21 km ²
	Peat and clay exposures	0.74 km ²
	Rossworm (<i>Sabellaria spinulosa</i>) reef	625.67m ²
	Sheltered muddy gravels	11 records
	Subtidal sands and gravels	0.24 km ²
Species FOCI Low mobility	Native Oyster (<i>Ostrea edulis</i>)	2 records
Species FOCI High mobility	European Eel (<i>Anguilla anguilla</i>)	n/a

6. Features within the Swale Estuary not proposed for designation ³

Feature type	Feature name	Comments
Broad-scale habitats	A1.1 High energy intertidal rock	Small areas
	A1.2 Moderate energy intertidal rock	Small areas
	A2.2 Intertidal sand and muddy sand	Small areas
	A2.3 Intertidal mud	Fully protected by The Swale SSSI
	A2.5 Coastal saltmarshes/saline reedbeds	Fully protected by The Swale SSSI
	A2.6 intertidal sediments (aquatic angiosperms)	Fully protected by The Swale SSSI
	A5.1 Subtidal coarse sediment	Not occurring (on boundary)
	Mosaic of A2.3, A2.5	Fully protected through The Swale SSSI and SPA
Habitat FOCI	Seagrass beds	Fully protected by The Swale SSSI
Species FOCI High mobility	Smelt (<i>Osmerus eperlanus</i>)	Only a very few individuals
	Undulate Ray (<i>Raja undulata</i>)	None occurring within the site

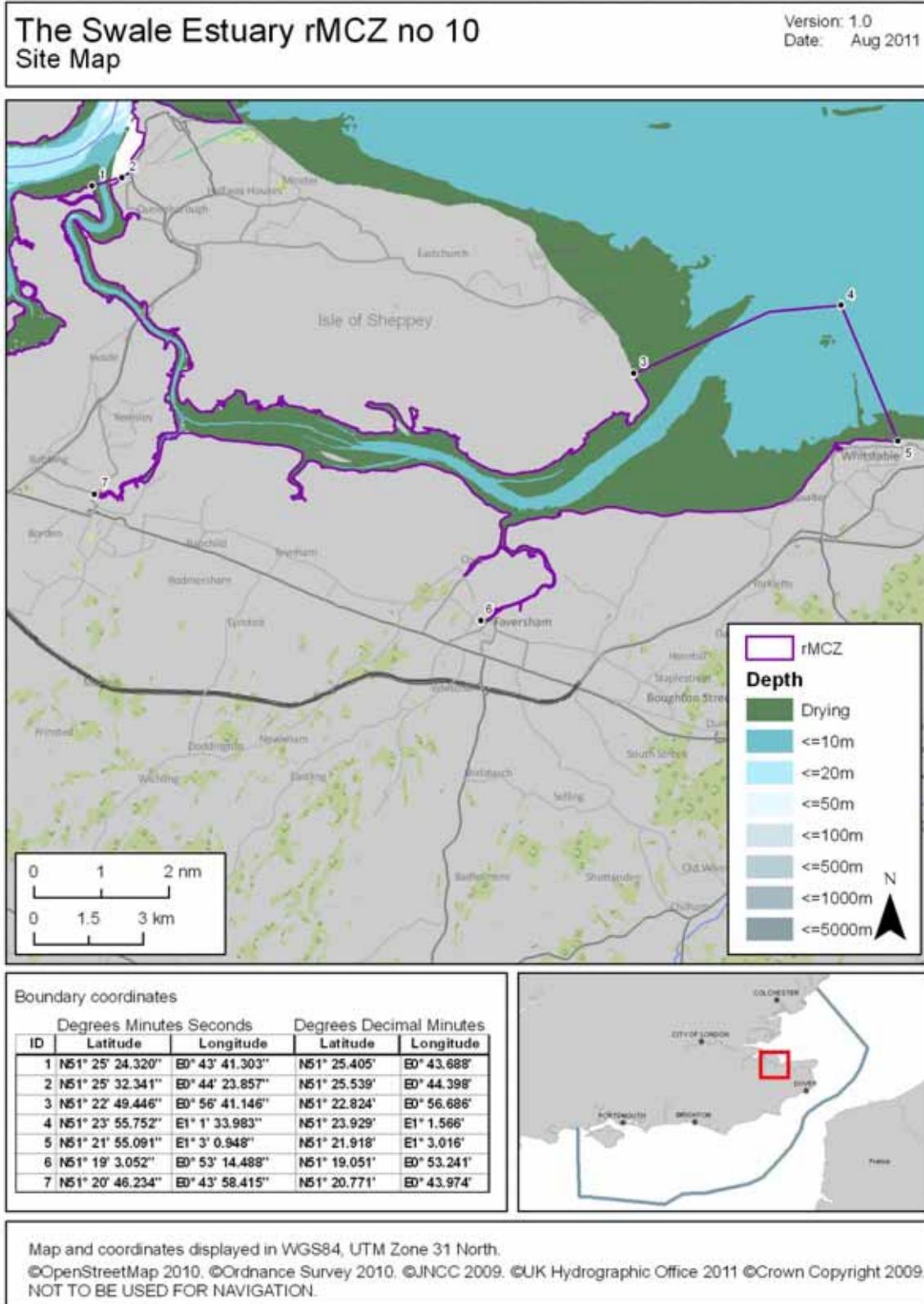
¹Sources of information relating to these features are listed in Section 13.

² Areas have been calculated according to spatial GIS data and are indicative only. A "record" is a survey point where a single individual, population or habitat has been found.

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

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7. Map of site



8. Site summary

The site is considered to be a highly biodiverse area, and is important as a spawning and nursery ground for various species. The main channel of the Swale Estuary is subtidal mud and subtidal mixed sediments, which have been identified for protection in the rMCZ to complement the intertidal broad-scale habitats protected by The Swale SSSI and SPA. Subtidal sands and gravels at The Street in Whitstable have also been identified for protection. The site also contains intertidal and subtidal Blue Mussel beds, native oysters, peat and clay exposures (specifically of London Clay), Rossworm (*Sabellaria spinulosa*) reef and good examples of sheltered muddy gravels.

Although the RSG agreed to put this site forward for its conservation importance, there was no consensus at Local Group level and considerable opposition from some sectors, particularly the private landowners and oyster fisheries that own a large proportion of the site. The draft conservation objectives potentially affect various activities but a better understanding of the distribution of the features proposed for protection and the activities that might impact on them is essential in order to discuss appropriate management.

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.

This site covers the Swale Estuary from the point at which it meets the Medway Estuary, south of the Isle of Sheppey, seawards to the end of The Street at Whitstable. The Estuary is made up of vast saltmarshes and grazing marshes (Medway and Swale Estuary Partnership, 2003) supporting breeding wildfowl and scarce plant and invertebrate species (Halcrow Ltd, 2010).

The broad-scale habitat information is provided by the UKSeaMap/MESH data (JNCC 2011 v.7), which shows the site contains low energy intertidal and infralittoral rock, subtidal sand, mud and mixed sediments (see Broad-scale habitats map). The most significant source of sediment to the Swale and Medway estuaries is from the offshore supply of fine suspended material from the Great Thames Embayment. High rates of sea level rise & low rates of sediment supply may lead intertidal mudflat habitats to suffer from erosion where defences or high land constrain landward upward movement of the shoreline (Halcrow Group Limited, 2010).

As explained at the Local Group meeting (July 2011), the blue mussel beds were historically commercially important and the reason for their decline is unclear, but it may be due to a combination of contaminants from wood pulp factories in the past and change of habitat from sand to clay due to storm events. Some stakeholders believe that the habitat is no longer suitable for the beds to re-establish.

The national contract data (Seeley *et al.* 2010 MB102 2B) seriously under-estimates the extent of the distribution of native oysters in the Swale, where there are important commercial fisheries (see FOCI map). Native oyster stocks in Kent have however, like the mussels, diminished drastically over the last two centuries (Bayes, 2009), due to a variety of factors including the pest, the slipper limpet *Crepidula fornicata* and possibly habitat and water quality change. A large proportion of the native oyster beds are privately owned (there are four private oyster fisheries) and these companies have invested considerable resources over time in trying to improve stocks (North Kent Local Group meeting, July 2011).

The Wildlife Trust has provided data on peat and clay exposures additional to the national contract data, and has highlighted some important areas where this feature is London Clay (see Figures 1-3).

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The Environment Agency collated biotope data from various regional surveys, which were used to locate sheltered muddy gravel locations and to show that this example of the habitat is particularly biodiverse. Subtidal sands and gravels are found on the boundary of the site where it joins the Medway. The national contract data (Seeley *et al.* 2010 MB102 2B) gives two data points for Rossworm reef (*Sabellaria*) but some local stakeholders have considerable doubts about these records, and a DONG Energy representative said that a 2010 survey of the mouth of the Swale did not reveal any *Sabellaria* here. The Wildlife Trust however considers this site to have suitable habitat for *Sabellaria* and that this should be protected (North Kent Local Group meeting, July 2011). The EA data showed that mud habitats in deep water occur in the Swale, but stakeholders felt that the estuary was too shallow to qualify for this description and did not recommend this feature for protection here (RSG 8, 20.04.11). Subtidal sands and gravels occurring adjacent to The Street at Whitstable were specifically listed for protection.

The Wildlife Trust has collated records of species and habitats that are important to the southeast region and their dataset shows that this site contains rare algal communities on shingle, as well as Peacock worm (*Sabella pavonina*) and important sea squirt beds (see Southeast Features map). The estuary is one of the Key Inshore Biodiversity Areas in the Balanced Seas Region recommended as an MCZ by the South East England Biodiversity Forum (SEEBF, 2011). A variety of bird species use this site as one of the complex networks of 'refuelling' sites as they migrate to wintering grounds further south (Medway and Swale Estuary Partnership, 2003). Stakeholders have noted that the area would benefit from general protection for spawning and nursery grounds but no specific information was provided for individual species.



Figure 1. Seasalter London Clay



Figure 2. Shellness London Clay

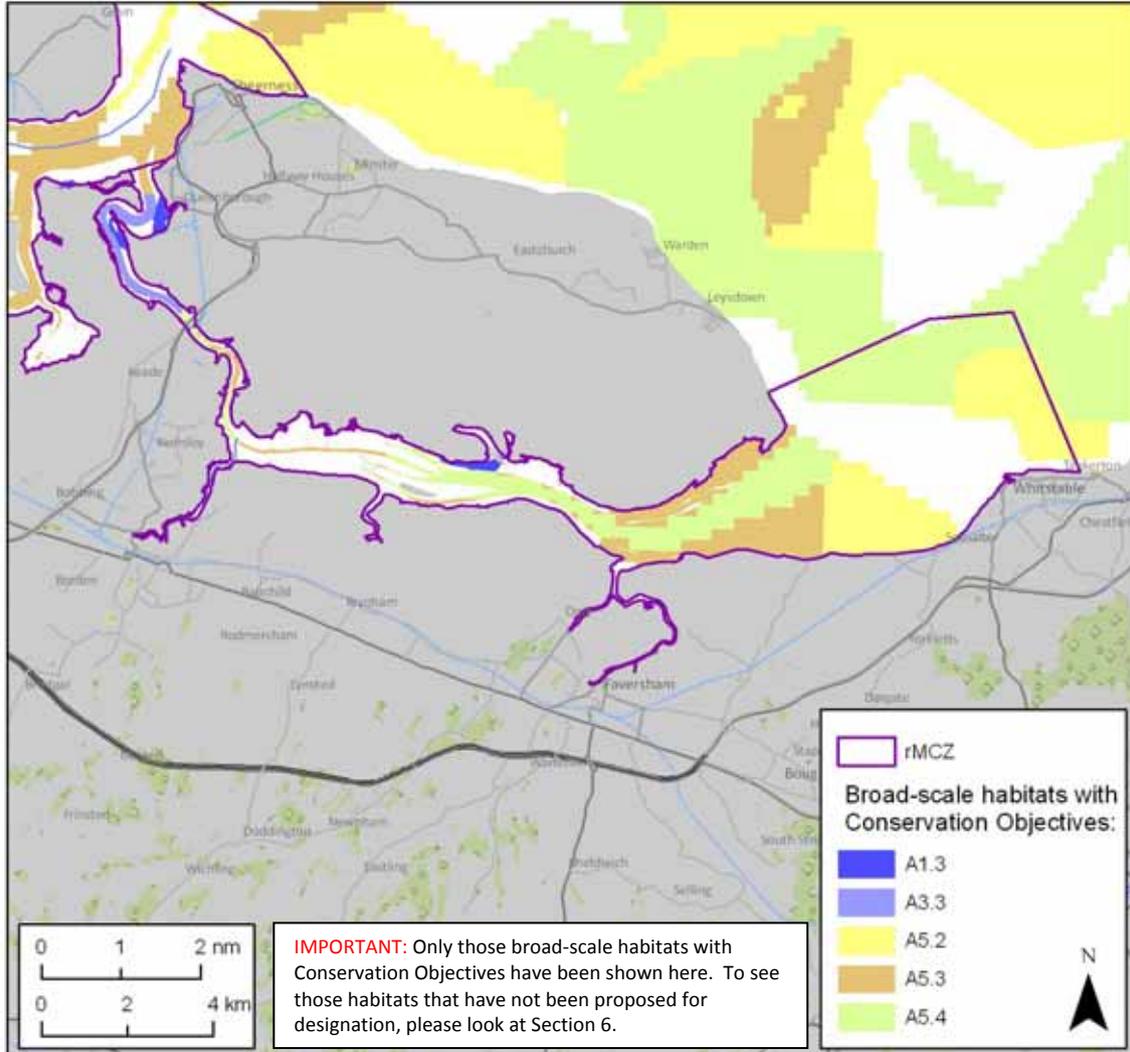


Figure 3. Exposed London Clay and shingle at Seasalter

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



Broad-scale habitats with Conservation Objectives:

- A1.3 low energy intertidal rock
- A3.3 low energy infralittoral rock
- A5.2 subtidal sand
- A5.3 subtidal mud
- A5.4 subtidal mixed sediments



Map and coordinates displayed in WGS84, UTM Zone 31 North.

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The Swale Estuary rMCZ no 10 Habitat and Species FOCI Conservation Objectives

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Legend

rMCZ

0 0.5 1 NM

0 1 2 km



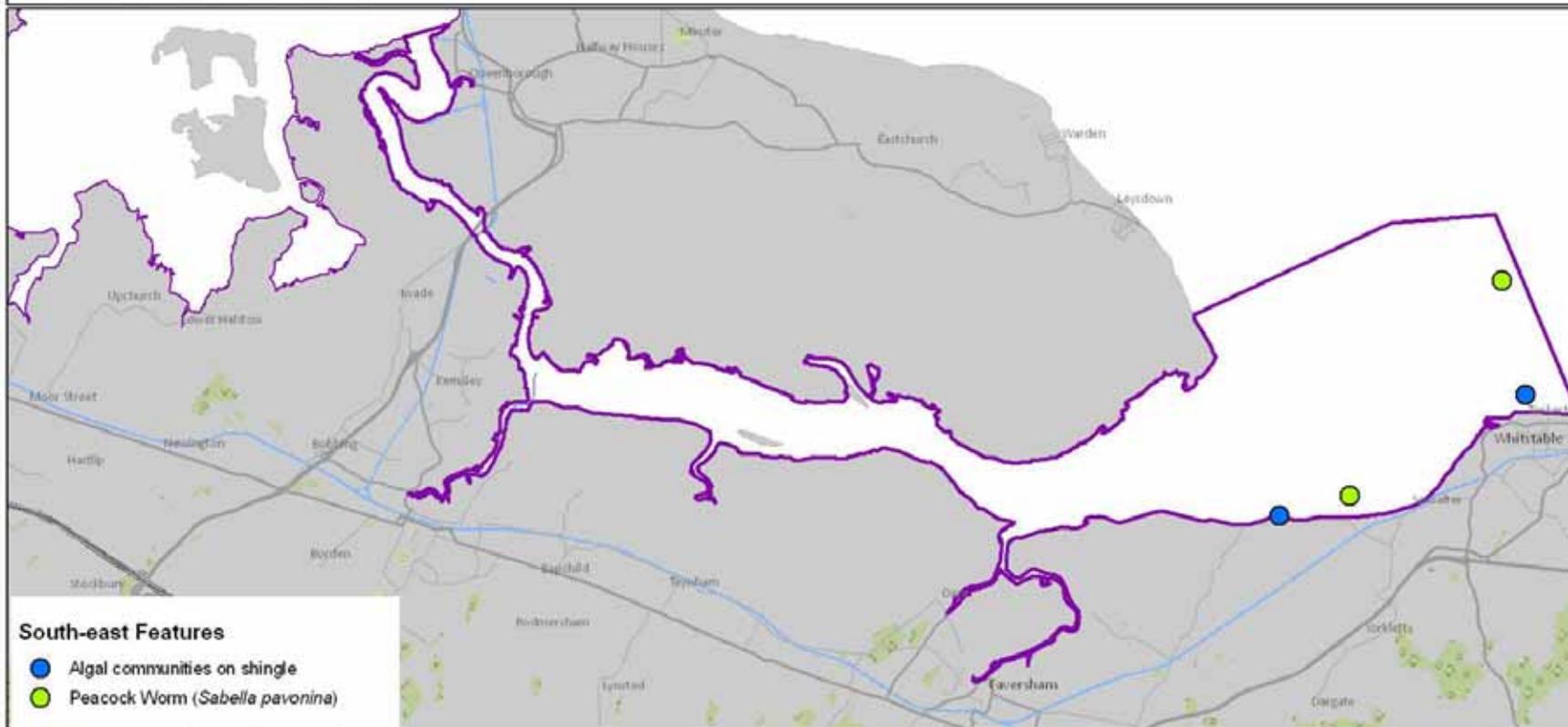
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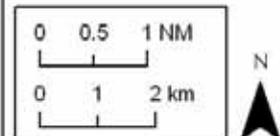


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South-east Features

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Legend
rMCZ



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10. Site boundary

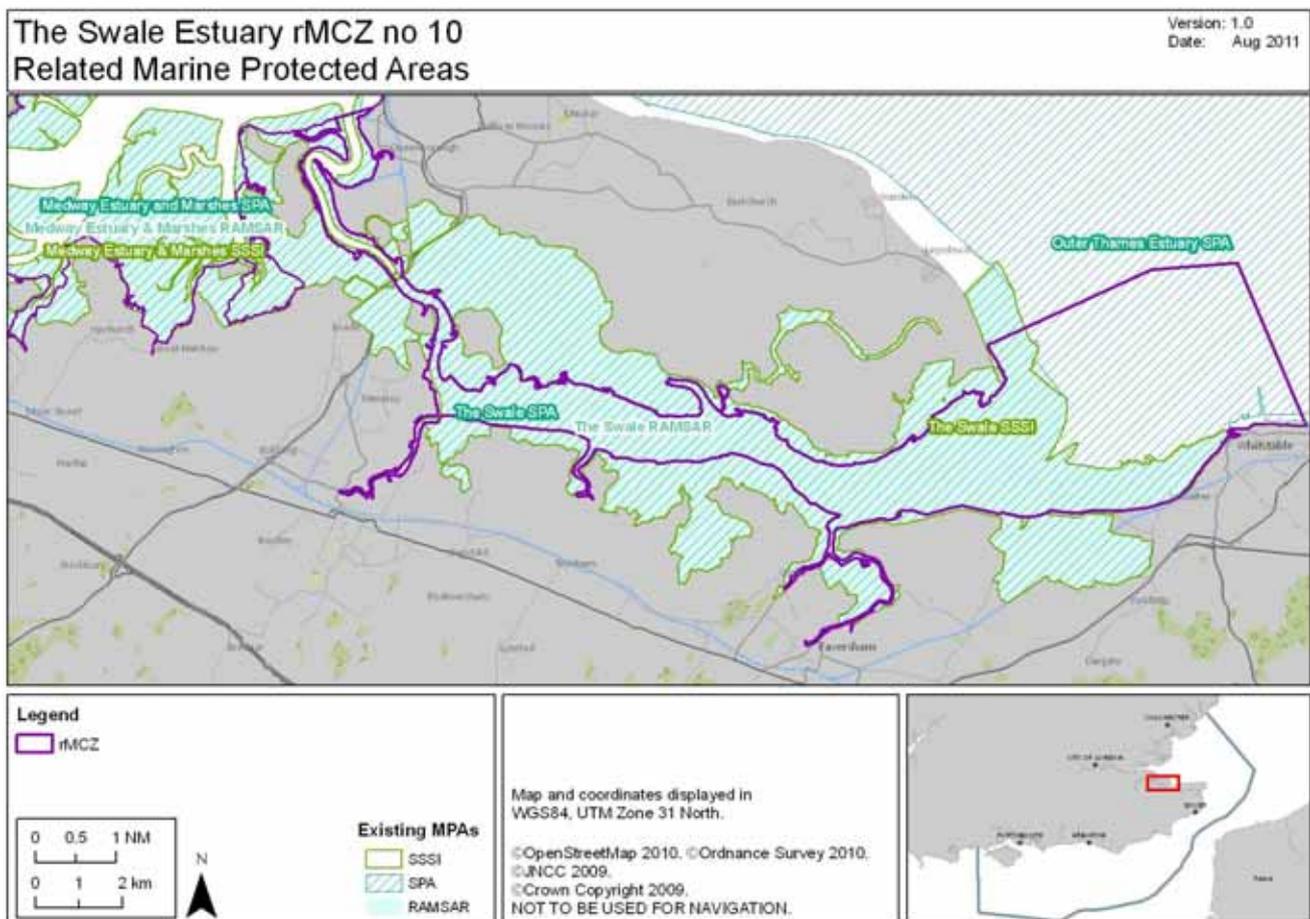
The landward boundary of the site is described by the Mean High Water mark right up to the point at which the estuary meets the Medway (this site abuts rMCZ 6 Medway Estuary). The seaward extent begins to the east of The Street at Tankerton and follows a straight line to the north west to meet the navigational buoy at the end of The Street, and westwards to meet Columbine Spit buoy before meeting the land at the groynes along Shellness Road on the Isle of Sheppey.

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 overlaps The Swale SSSI and SPA, the Outer Thames Estuary SPA, and two Ramsar sites: The Swale, and Thanet Coast and Sandwich Bay (not visible on map).



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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
Blue mussel beds	Survey	Kent Wildlife Trust		2005-2010
Blue mussel beds	Survey	National contract data, DEFRA MB102 2C	JNCCMNCR10000453	1993
Peat and clay exposures	Survey	National contract data, DEFRA MB102 2C		11/02/2009 And 19/12/2004
Peat and clay exposures	Survey	Kent Wildlife Trust		2005-2009
Subtidal sands and gravels	Survey	National contract data DEFRA MB102 2C		13/09/2006
Rossworm (<i>Sabellaria spinulosa</i>) reef	Survey	Kent Wildlife Trust (Sourced from: Environment Agency database)	Thames Array Benthic Grab Survey 2004	31/12/2004
Sheltered muddy gravels	Survey	Sourced from: Environment Agency database	Swale Habitats Directive Survey Habitats Directive Survey North Kent Marshes Estuarine Invertebrate Surveys	04/04/03
Sheltered muddy gravels	Survey	Sourced from: Environment Agency database	Swale Habitats Directive Survey	05-Dec-01
Native oyster (<i>O.edulis</i>)	Survey	National contract data, DEFRA MB102 2B		01/01/1955 And 14/12/2003
European eel (<i>Anguilla Anguilla</i>)	Survey	National contract data, DEFRA MB102 2B	CEFAS	

References (additional information can be found in the Bibliography)

- BAYES, J. 2009. *Shell Fish Production and Problems*. Seasalter Shellfish (Whitstable) Ltd, Whitstable. Unpublished report.
- SEELEY, B., LEAR, D. HIGGS, S. NEILLY, M. BILEWITCH, J. EVANS, J. WILKES, P. & ADAMS, L. 2010. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes: Mapping of species with limited mobility (Benthic species)*. (MB102 Task 2B). DEFRA, London.
- SEELEY, B., HIGGS, S., LEAR, D., EVANS, J., NEILLY, M., CAMPBELL, M., WILKES, P., ADAMS, L., 2010. *Accessing and Developing the Required Biophysical Dataset and Data Layers for Marine Protected Areas Network Planning and Wider Marine Spatial Planning Purposes. Report No 16: Mapping of Protected Habitats (MB102 Task 2C)*. DEFRA, London.
- DP World. 2010. London Gate Port & The Marine Environment
- MEDWAY SWALE ESTUARY PARTNERSHIP. 2010. *Medway Estuary and Swale Shoreline Management Plan*. Halcrow Group Ltd, Swindon.
- MEDWAY SWALE ESTUARY PARTNERSHIP. 2003. *Bird Atlas : Medway & Swale Estuary*. The Medway Swale Estuary Partnership, Gillingham.
- MEDWAY SWALE ESTUARY PARTNERSHIP. 2003. *Environmental Atlas : Medway & Swale Estuary*. The Medway Swale Estuary Partnership, Gillingham.
- SOUTH EAST ENGLAND BIODIVERSITY FORUM (SEEBF) 2011. *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 2011.

14. Stakeholder support for the site

At the LG meeting in July 2011, no consensus was reached on the acceptability of an rMCZ here. It was agreed that the general health of the estuary had declined and that efforts to improve this had not been successful. The wildlife sector felt that an MCZ was the best opportunity to remedy this but other stakeholders felt that a better understanding of the causes

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of the decline is needed first. Private land owners and oyster fisheries have major concerns about possible restrictions to their activities.

The RSG as a group reached consensus that this site should be put forward in their final recommendations. The Medway and Swale Estuary Partnership provides a useful stakeholder forum to continue discussions about this site.

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 The Swale Estuary rMCZ 10
Yachting	RYA	Support subject to feature verification and, if recover, voluntary code of conduct on anchoring. MMO to verify, including in relation to anchoring on private seabed. If recover, depends on voluntary code.
Kite Surfing	British Kite Surfing Association	Supported.
Sea Angling		Not support recover but would support maintain with code of conduct. Site not supported locally needs more local consultation.
Ports		Any overlap with Whitstable Harbour's dredge needs to be checked.
	Local Fisheries Representatives	Little support will be gained from fisheries reps on the basis something may occur.
Fishing - under 10s (static gear)	NUTFA	(Tick)
Fishing - FPO, beam trawling		I have no real knowledge of this area, or expertise, but fisheries sector overriding principle is that "current activities must be allowed to continue".
Fishing - Over 10s, FPO, trawling sector (under and over 10m)	Gilson Co.	Not in best interest of fishing industry.
Shipping	Chamber of Shipping	Cannot support potential impacts on anchoring activity which is part of safe navigation and low-carbon transport. Also concerned re possible restrictions on expansion of maritime transport (via dredging).
Birds	RSPB	Support site. Support 'recover' for blue mussel beds. Support 'recover' fro Sabellaria + suggest this should be the CO for the supporting broadscale habitat too.
Wildlife Trusts	Hampshire Wildlife Trust	I support this site but the CO for the BSH should be recover to support the recover CO for Sabellaria.
Marine ecology	Seasearch	Strongly support this site for ecological importance. There needs to be recognition that habitat FOCI are reliant on underlying broadscale habitat, so CO needs to be recover for both, not just the FOCI at points where recorded.
Marine Wildlife	Marine Conservation Society	<u>Support site</u> . There should also be a recover objective for subtidal sand, mud and mixed sediments.
IFCA	Kent & Essex IFCA	General support.
Heritage and Archaeology	English Heritage	Support if I+E (possibly on peat) research 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) process⁴ and then sense-checked at the national level⁵. Where a RECOVER objective is noted, the associated activity causing the pressure is indicated. In some cases, where information and data 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.

⁴ The process of establishing conservation objectives is outlined in the [Conservation Objectives Guidance](#) (JNCC /NE 2011)

⁵ VA results were standardised across all four regional projects but the fisheries activity data is still undergoing assessment.

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Feature	Draft CO	Activity exerting pressure	IFCA/MMO/EA/NE Comments	Stakeholder comments on draft COs and potential management measures
A1.3 Low energy intertidal rock	MAINTAIN			
A3.3 Low energy infralittoral rock	MAINTAIN		The vulnerability assessment and resulting draft CO were only completed for the final RSG meeting in August and they were therefore not discussed at the Local Group meeting in July 2011. At the RSG meeting in August 2011, the SNCBs noted uncertainty about the overlap of commercial anchorages with this feature and the need for further information later.	
A5.2 Subtidal sand	MAINTAIN			SNCBs had requested further information from the LG about navigational dredging spoil disposal that might have an effect on the CO: <ul style="list-style-type: none"> • Historical navigation in creeks, • Ridham Terminal – navigational channels are not maintained
A5.3 Subtidal mud	MAINTAIN		Vulnerability assessment stated that monitoring of commercial anchoring may need to be part of management.	
A5.4 Subtidal mixed sediments	MAINTAIN		SNCBs stated that monitoring of features and activities would include recreational anchoring	LG (July 2011) said that there are long established recreational anchorages in the Swale; monitoring of features and activities would however include recreational anchoring AT the RSG, the Wildlife sector noted that BSHs are integral to the health of <i>Sabellaria</i> and blue mussel beds and are have concerned that the COs for BSHs in this site are all set to maintain. They suggest that wherever <i>Sabellaria</i> and blue mussel beds have a RECOVER CO then the corresponding habitat should also have a RECOVER CO; the project data for this site indicates that <i>Sabellaria</i> overlaps with subtidal mixed sediments.
Blue Mussel beds	RECOVER	Fishing - shellfish harvesting (towed dredging)	IFCA code of conduct IFCA recommend protection of one blue mussel bed within the Swale. This population further up the estuary might be suitable for protection and is inaccessible to vessels. NE advised that management could be variable across the site (consultation with private ground owners would be necessary)	Several LG members (July 2011) did not support this CO because: <ol style="list-style-type: none"> 1. The reasons for the poor status/decline of the mussel beds are still not understood. Towed dredges are not thought to be the main impact. 2. Vulnerability Assessment was done on information that there are 8 towed dredgers working here, but there are 3 at most working the North Side of the estuary mouth (Shellness). <ul style="list-style-type: none"> • Wildlife sector support CO of RECOVER • All sectors agree further scientific study is needed to understand the decline of the mussel beds. • Some of the mussel beds in the south are in an area managed by Kent Wildlife Trust; KWT says that some towed dredging occurs here but the fishing industry disagree • Upstream intertidal mussel bed is subject to very little dredging activity and could be a seeding population for other areas • Several LG members felt that they had worked hard over the years to understand the problem and recover the estuary and they believe that further protection is not

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Feature	Draft CO	Activity exerting pressure	IFCA/MMO/EA/NE Comments	Stakeholder comments on draft COs and potential management measures
				worthwhile until the research has been done to understand the issues. RSG comments same as for A5.4 above
Rossworm (<i>Sabellaria spinulosa</i>) reef	RECOVER	Fishing - benthic trawling (bottom gear)	IFCA code of conduct NE feel the CO should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed. IFCA code of conduct	<p>Many LG members (July 2011) did not support the CO of RECOVER because of lack of confidence in the data points; some LG members considered it does not currently occur at these locations; WT stated that it has been therein the recent past and the habitat is appropriate and thus suitable for protection for recovery</p> <ul style="list-style-type: none"> • 2010 DONG side scan survey found no evidence of Rossworm in the area but this data has not been submitted this data to the project • Whitstable Oyster Company does dredge this area (but not heavily – one vessel and one-person crew) and owns the ground. • Local stakeholders are concerned that due to its transient nature, restrictions may be enforced in other areas of the site and not just where the data shows the habitat to be now. • NE feel this should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed. <p>RSG comments same as for A5.4 above The RSG also noted that the distribution of <i>Sabellaria</i> occurs within private grounds in this site, which presents certain problems for management.</p>
	RECOVER	Fishing - hydraulic dredging (suction dredging)		
	RECOVER	Fishing - shellfish harvesting (towed dredging)		
	RECOVER	Tourism & recreation (anchoring from recreational vessels)	MMO code of conduct NE feel the CO should stay as RECOVER; it was emphasised that no designation will go ahead until feature verification has been completed.	
Peat and clay exposures	MAINTAIN			
Subtidal sands and gravels	MAINTAIN			
Sheltered muddy gravels	MAINTAIN			SNCBs requested further information on bait digging. LG stated: Not much sand in the area and therefore activity is not intense - 1-2 bait diggers
Native oyster	MAINTAIN			SNCBs requested further information on native oysters. LG stated: <ul style="list-style-type: none"> • Private ground owners have tried to bolster the population over many years; native oysters only exist here because of the continued relaying of oysters and shell for spat fall settlement. • Population only enough to support one vessel • Most dense populations are on the Ham Ground owned by Seasalter Shellfisheries
European eel	MAINTAIN		EA regulations in place	

16. Evolution of the site recommendations

This site was identified in the first RSG meeting as it contains several ENG features and is considered to be a highly biodiverse area for fish spawning and bird foraging. During RSG 6 (27.01.11), the seaward boundary was extended out to include The Street and the subtidal sediment habitats it comprises.

Various changes have been made to the features listed for protection throughout the process as it became clearer which features were already protected under existing designations (e.g. seagrass).

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 activities are associated with this site:

- Fuller discussion with the Medway and Swale Estuary Partnership (a multi-stakeholder coastal partnership) is necessary in relation to the management implications.
- Many parts of the seabed are in private ownership by oyster companies or individuals; these stakeholders will need to be consulted on management implications and some have registered their concern regarding the implications of an MCZ. The Swale has private oyster fisheries that want to improve the environment for oyster cultivation but are concerned that an MCZ would ultimately result in restrictions that would hinder the fisheries.
- The Crown Estate have noted that the site contains the London Array Wind Farm Cable, 3 active power cables and 1 active unknown cable, a proposed CCS pipeline and has licensing for wildfowling. These activities can be managed and the Crown Estate accepts the site recommendations.

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.