

Swallow Sand Marine Conservation Zone

Site Summary Document

Designated: November 2013



Sea pens and a hagfish on sandy sediment © JNCC & Cefas

Version 4.0

Background

The UK Government and the Devolved Administrations are committed to establishing an ecologically coherent network of Marine Protected Areas (**MPAs**) in the UK seas to meet international commitments and European obligations. The Marine and Coastal Access Act (2009) (as amended), Marine (Scotland) Act (2010) and Marine (Northern Ireland) Act (2013) place a requirement on the UK Governments to create a network of MPAs that will comprise existing sites (European Marine Sites, SSSIs and Ramsar sites) together with new national designations. The Marine and Coastal Access Act makes provision for the designation of Marine Conservation Zones (**MCZs**) in the UK Marine Area apart from Scottish and Northern Irish inshore waters¹; MCZs will be called Marine Protected Areas in Scottish Offshore Waters. Together the network will protect the range and diversity of marine features found in UK waters (Section 123)².

The UK Government's Department of Food, Environment & Rural Affairs (Defra) commissioned the Joint Nature Conservation Committee (**JNCC**) and Natural England to identify and recommend MCZs in English nearshore waters, and UK offshore waters around England, Northern Ireland and Wales. Together with the existing MPAs, these recommended MCZs would enable the UK Government to meet its obligations towards achieving an MPA network.

JNCC and Natural England established four regional MCZ project groups³ who worked with stakeholders (sea users, regulators and interest groups) to identify MCZs. In September 2011 the Regional MCZ Projects submitted their recommendations to JNCC and Natural England⁴. These recommendations were reviewed by an independent Science Advisory Panel, and then further assessed by JNCC and Natural England who provided their formal scientific advice to Defra in July 2012. Defra reviewed the scientific advice alongside socio-economic information and undertook a public consultation on the recommended MCZs between December 2012 and March 2013. Defra put forward 31 of the original 127 recommendations for potential designation. After reviewing the responses to the public consultation, Defra designated 27 MCZs in November 2013.

Swallow Sand was recommended by the Net Gain Regional MCZ Project, and was one of the 31 sites proposed for designation as a MCZ in 2013. Following the public consultation, Defra confirmed its intention to progress the site and *Swallow Sand* MCZ was designated in November 2013.

Purpose of Document

The present document provides information about *Swallow Sand* MCZ, including basic information on its location, the site main characteristics and a description of the features protected under Section 117 of the Marine and Coastal Access Act 2009 (as amended)⁵.

The scientific information provided in this document was used by Defra to designate the MCZ⁶, for the purpose of conserving marine flora or fauna, marine habitats or types of marine habitat, and features of geological or geomorphological interest. This document does not provide *advice* on conservation management. JNCC will separately issue formal conservation advice to meet its obligation under Section 127 of the Marine and Coastal Management Act 2009 (as amended)⁷

⁴ MCZ regional project recommendations: <u>http://jncc.defra.gov.uk/page-6228</u>

¹ The Marine (Scotland) Act and Marine (Northern Ireland) Act make provision for Marine Protected Areas in Scottish inshore waters and Marine Conservation Zones in Northern Irish inshore waters.

² Marine & Coastal Access Act 2009: <u>http://www.legislation.gov.uk/ukpga/2009/23/section/123</u>

³ MCZ regional project information: <u>http://jncc.defra.gov.uk/page-2409</u>

⁵ Section 117 Marine Coastal Access Act 2009 http://www.legislation.gov.uk

⁶ Designation order: <u>www.gov.uk/government/publications</u>

⁷ Section 127 Marine & Coastal Access Act 2009: <u>http://www.legislation.gov.uk/ukpga/2009/23/2010-01-12</u>

Version Control

Version	Date	Amendments made	Author(s)
V1.0	22/07/2013	Creation of document for Swallow Sand MCZ	NT
V 2.0	17/09/2013	Draft version submitted to JNCC MPA Sub Group	NT
		for independent review	
V 3.0	14/10/2013	Final draft version	NT
V4.0	08/11/2013	Final published version	NT

This document is available for download from JNCC's website at: incc.defra.gov.uk

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Monkfish © JNCC & Cefas

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Burrowing megafauna hold fast in the sediment © JNCC & Cefas

Swallow Sand MCZ: Site Summary Document

1. Site name

Swallow Sand MCZ

2. Site location

The coordinates for the site boundary are based on the WGS84 Datum.

А	В	C	D
55° 59' 57"N, 0° 1' 12"W	56° 0' 3"N, 1° 20' 23"E	55° 30' 3"N, 1° 20' 30"E	55° 29' 59"N, 0° 0' 57"W

Swallow Sand MCZ is located approximately 100km offshore from the Northumberland coast in the North East of England. The site covers 4,746 km² (calculated in WGS 1984, Zone UTM31N) (See Map 1).

3. Site boundary

Net Gain regional project⁸ was responsible for the initial recommendations for Swallow Sand MCZ, which was then scrutinised by the Statutory Nature Conservation Bodies (**SNCB**s) and put through public consultation by Defra, between December 2012 and March 2013. The boundary has not changed from the original recommendation. See Section 8 for further details.

It is important to note that the boundary depicts the MCZ designation itself. Any future management measures that may be required to deliver the conservation objectives will be determined by the appropriate Public Authorities in consultation with JNCC, and may have different delimitations within the MCZ site boundary.

4. Site bathymetry

Min depth: 50m Max depth: 150m (approx) below chart datum.

The site comprises a sandy plane ranging in depth below chart datum from 50m at its shallowest, down to 150m in the top north-west corner of the site, marking the glacial tunnel valley geological feature (see Map 2)

5. Biogeographic region

JNCC Regional Sea: Northern North Sea. OSPAR Region II: Greater North Sea

6. Designated Features of Swallow Sand MCZ

Feature	Feature Type	General Management Approach
A5.1: Subtidal coarse sediment ⁹	Broad-Scale Habitat	Maintain in Favourable Condition
A5.2: Subtidal sand ¹⁰	Broad-Scale Habitat	Recover to Favourable Condition
North Sea glacial tunnel valleys (Swallow Hole)	Geological/Geomorphological Feature	Maintain in Favourable Condition

See Map 2 for further information on distribution of the designated features.

⁸Archived regional project webpage: <u>http://jncc.defra.gov.uk/page-6230-theme=default</u>

⁹ MCZ Features Catalogue: <u>http://jncc.defra.gov.uk/page-5801</u>

¹⁰ MCZ Features Catalogue: <u>http://jncc.defra.gov.uk/page-5803</u>

7. Site maps



Boundary coordinates: A) 55° 59' 57"N, 0° 1' 12"W B) 56° 0' 3"N, 1° 20' 23"E C) 55° 30' 3"N, 1° 20' 30" E D) 55° 29' 59"N, 0° 0' 57"W

Site map projected in UTM (Zone 31N, WGS84 datum). Bathymetry © British Crown Copyright 2011. 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 2013.

Map 1: Location and Bathymetry map of Swallow Sand MCZ



Site map projected in UTM (Zone 31N, WGS84 datum).

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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 2013.

Map 2: Designated Features of Swallow Sand MCZ

8. Detailed site information

Site Description

The boundary for Swallow Sand MCZ was set to include the geological/geomorphological feature Swallow Hole and broad-scale habitats that encompass coarse and sandy sediment ecosystems. The site is a simple rectangle (See Map 1).

The original site initially proposed by the Net Gain Project included over 15,500km² of subtidal sand, with more than 7,000km² falling within the Dogger Bank cSAC¹¹. With this in mind, the Project stakeholders decided that a significant reduction in size of the original site was acceptable and the site was reduced by 5,000km² to form Swallow Sand MCZ as it is now presented.

The site occurs in the Mid North Sea region where the offshore seabed consists predominantly of sand with some gravelly sand and muddy patches. Gravel habitats found offshore waters (deeper than 30m) subject to low tidal stress often constitute relatively stable habitats that support a diverse range of marine flora and fauna. Subtidal coarse sediments such as these include communities comprising *Anthozoan* anemones, polychaete worms such as *Pisione remota and Glycera lapidum*, bivalve molluscs including *Spisula elliptica*, and Echinoderms including the sea urchin *Echinocyamus pusillus* (Jones *et al.*, 2004; Heip *et al.*, 1992).

Fine-grained compacted sands in offshore areas exposed to moderate wave action and weak tidal streams are characterised by the thin-shelled bivalve mollusc *Fabulina fabula* (Jones *et al.*, 2004). Other species found on this habitat type in the North Sea include polychaete worms (e.g *Aricidea minuta* and *Ophelia borealis*) and crustaceans including the sand hopper *Bathyporeia elegans* (Heip *et al.*, 1992).

Muddier habitats also tend to occur in areas afforded some shelter from wave and tidal pressure, such as deep holes and channels. Polychaete worms, Ophiuroid Brittlestars and bivalve molluscs often dominate this muddier sediment type.

A survey in 2012 confirmed the presence of juvenile *Spatangoid* sea urchins in abundance, as well as a wide variety of worm species, burrowing brittlestars (*Amphiura* species) and Copepod crustaceans across the broad-scale habitats (Cefas, In draft). Further information on the species found will be described once the full survey report is published.

Designated Features and Features of Conservation Importance

In Swallow Sand MCZ, the seabed is predominantly composed of A5.1 Subtidal coarse sediment and A5.2 Subtidal sand (See Map 2). Seabed samples gathered during the MB0120 survey in 2012 also indicate the presence of A5.3 Subtidal Mud within the site. The site includes the geological/geomorphological feature Swallow Hole, an example of a North Sea Glacial Tunnel Valley believed to relate to the Devensian/Weichselian glaciations (Ehlers and Wingfield, 1991). A5.2 Subtidal sand is the most abundant habitat, covering the majority of the site.

The Net Gain regional project derived the site to help protect an adequate area of the Broad-Scale Habitats A5.1 Subtidal coarse sediment and A5.2 Subtidal sand in the region. Swallow Sand MCZ is the largest offshore MCZ designated in the first tranche of the MCZ network.

¹¹ Special Areas of Conservation: <u>http://jncc.defra.gov.uk/page-23</u>

9. Supporting documentation and reference material

The following table details the sources of information and reference material used to support the designation of *Swallow Sand* MCZ.

Data

Feature	Type of information	Source
	PSA points - Grabs	BGS seabed sediment data points
A5 1: Subtidal coarso	Ground-truthing	Cefas habitat points
AJ. 1. Sublidal Coal Se	Habitat map (modelled)	UKSeaMap 2010
seument	PSA points	Cefas survey: MCZ Verification
	EUNIS points - stills	Cefas survey: MCZ Verification
	Ground-truthing PSA points	Cefas survey: MCZ Verification
	Ground-truthing EUNIS points stills	Cefas survey: MCZ Verification
A5.2: Subtidal sand	PSA points - grabs	BGS seabed sediment data points
	Habitat points – Ground-truthing	Cefas habitat points
	Habitat map (modelled)	UKSeaMap 2010
North Sea glacial tunnel valleys (Swallow hole)	Habitat map	MB0102 Task 2A

Reports

The reports detailing the fundamental steps taken in order to reach the designation of Swallow Sand MCZ are listed below.

Date	Report	Link
2011	Regional Project MCZ Recommendations	http://jncc.defra.gov.uk/page-6230
2012	JNCC and NE Advice on Regional Project	http://jncc.defra.gov.uk/page-6229
	Recommendations	
2012	JNCC and NE Amendments Report	http://jncc.defra.gov.uk/page-6229
2013	JNCC Advice on offshore MCZs proposed for designation in 2013	http://jncc.defra.gov.uk/page-6229

10. References

Ehlers and Wingfield (1991). Ehlers, J. R & Wingfield, R., 1991. *The extension of the Late Weichselian/Late Devensian ice sheets in the North Sea Basin.* Journal of Quaternary science 6 (4) 313-326.

Heip *et al.* (1992) Heip, C., Basford, D., Craeymeersch, J., Dewarumez, J, M., De-Wilde, P., Dorjes, J., Duineveld, G., Eleftheriou, A., Herman, P. M. J., Huys, R., Irion, G., Niermann, U., Kingston, P., Kunitzer, A., Rachor, E., Rumour, H., Soetaert, K & Soltwedel, T., 1992. *The benthic communities of the north sea: a summary of the results on the north sea benthos* survey. Pp 148 – 175 in Anon,. (ed) report of the ICES Advisory Committee on Marine Pollution. ICEA Cooperative research Report, 190. ICEA: Copenhagen, Denmark.

Jones *et al.* (2004) Jones, L. A., Coyle, M. D., Evans, D., Gilliand, P. M & Murray, A. R. 2004. *The mid north sea marine natural area profile: A contribution to regional planning and management of the seas around England*, English Nature, Peterborough.