

Survey Report: C5785K

Swallow Sand MCZ Survey Report

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Issue date: April 2014

Published date: January 2023

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This report should be cited:

Mcllwaine, P. 2023. Swallow Sand MCZ Survey Report. [Contracted] Report by Cefas for Defra and JNCC (Project Code: C5785).



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1 Background and Introduction

1.1 Survey Project Team

The Swallow Sand MCZ survey was carried out between the 16th – 18nd March 2014 on the RV Cefas Endeavour (cruise code CEND0514). The survey team for the duration of the fieldwork included Cefas marine ecologists and surveyors and JNCC Marine Protected Area (MPA) specialists (see below).

Cefas-Marine ecologist
Cefas – Data manager
Cefas - GIS specialist
JNCC MPA specialist

Cefas - Plankton-taxonomist
Cefas – Marine engineer
Cefas –Marine ecologist
Representative of Geotech Ltd

1.2 Site Description

Swallow Sand MCZ is located approximately 100 km offshore of the NE coast of England (Figure 1).

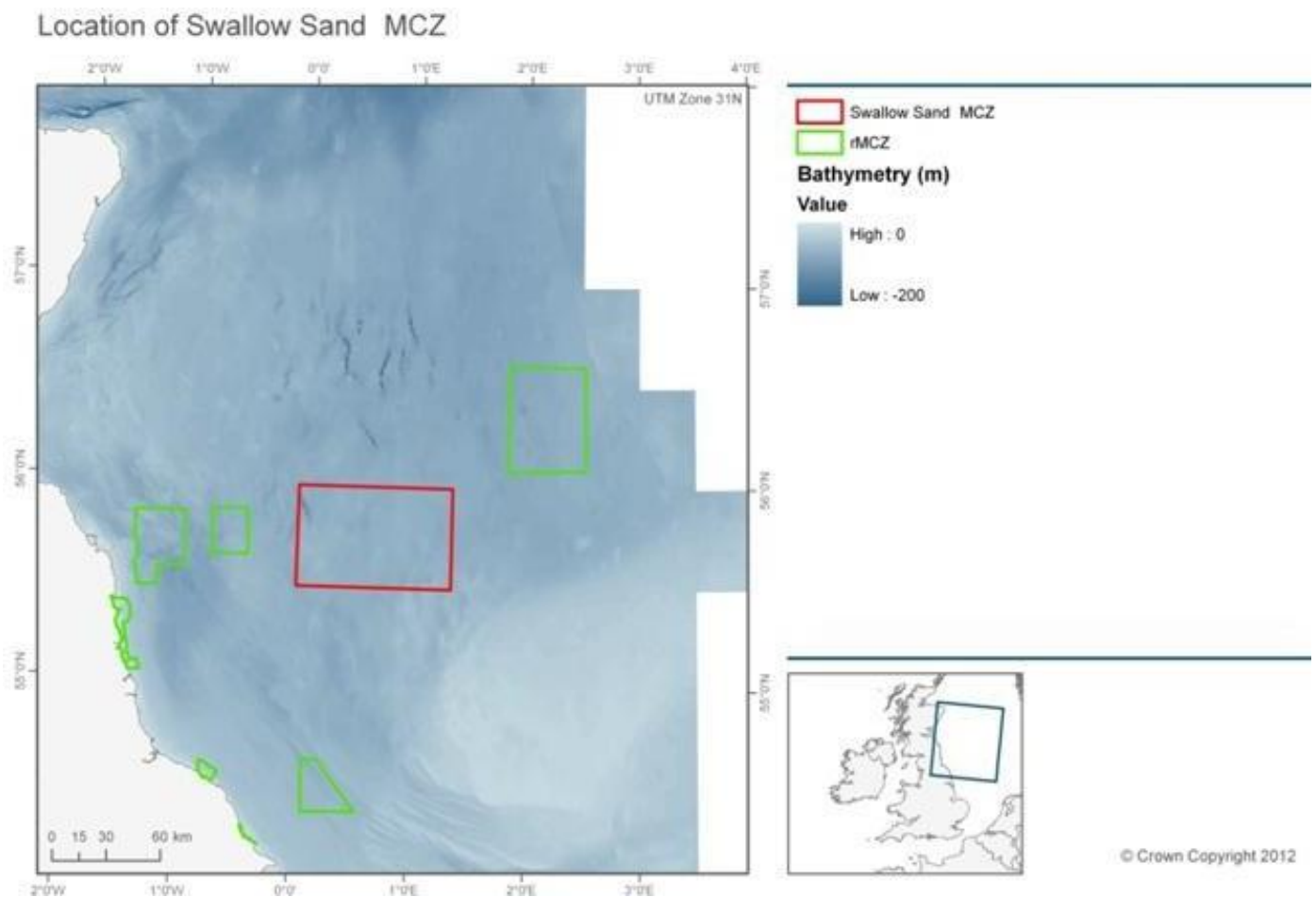


Figure 1. Location of the Swallow Sand MCZ. [Bathymetry is from the Defra Digital Elevation Model (Astrium 2011)].

1.3 Geological and Biological Context

A number of Broad Scale Habitat (BSH) features and FOCI have been proposed for designation within the Swallow Sand rMCZ (Table 1). An area of deeper bathymetry, the geomorphological feature known as 'Swallow Hole', was also identified as potentially comprising an additional BSH (A5.3 Mud) to those included in the Site assessment Document (SAD) for this site.

The species FOCI *Arctica islandica* had previously been identified as present within the Swallow Sand rMCZ. However, it was not proposed for designation due to the limited evidence of its occurrence within the area.

Table 1. Features proposed for designation within Swallow Sand rMCZ.

| Feature Type | Feature Name |
|---|---|
| Broad Scale Habitat (BSH) | A5.1: Subtidal coarse sediment A5.2: Subtidal sand |
| Features of Conservation Interest (FOCI) | |
| Habitats | Subtidal sands and gravels |
| Species | N/A |
| Geomorphological Feature | North Sea glacial tunnel valleys (Swallow Hole) |

1.4 Existing data and information utilised to inform survey planning

The initial ground-truth survey at the Swallow Sand rMCZ was carried out onboard the RV Cefas Endeavour (cruise code CEND0812) during May 2012. A survey report detailing preliminary findings and the samples collected during CEND0812 was provided to Defra and JNCC in July 2013 (Ware, 2013). The sampling strategy of this survey was designed to verify the habitat map which was used in the Site Assessment Document (SAD) to propose the sites designation as an MCZ (Net Gain, 2011). The North Sea glacial tunnel valley present within the Swallow Sand rMCZ ('Swallow Hole') was surveyed using the mini Hamon grab and the sediment was classified as A5.3 Mud. The Admiralty chart for the area depicts the boundary and depth contours of the 'Swallow Hole' feature.

Therefore, additional survey work was required to confirm the presence and, where possible, extent of the 'subtidal mud' BSH in association with the geological feature.

2 Survey Design and Methods

2.1 Survey planning and design

Existing data from the CEND0812 survey of the Swallow Sand rMCZ, the SAD habitat map and information from the Admiralty chart for the area was used to determine the number and location of the planned ground-truthing stations. A 1.5km triangular lattice was used to ensure coverage of the 'Swallow Hole' feature and 50 target stations were identified for sampling. Stations in close proximity to previously identified subtidal mud BSH were to be completed first, followed by sampling across the remaining stations. Multibeam bathymetry and backscatter data were to be collected opportunistically on transit between the ground truthing survey stations in order to improve information on the extent of the North Sea glacial tunnel valley 'Swallow Hole' feature and to potentially identify the backscatter signature of any 'A5.3 Subtidal Mud' BSH present. Camera sledges were to be carried out following the successful completion of the grab survey to ensure feature coverage, as identified from the preliminary assessment of sediment composition when reviewing the HamCam video footage).

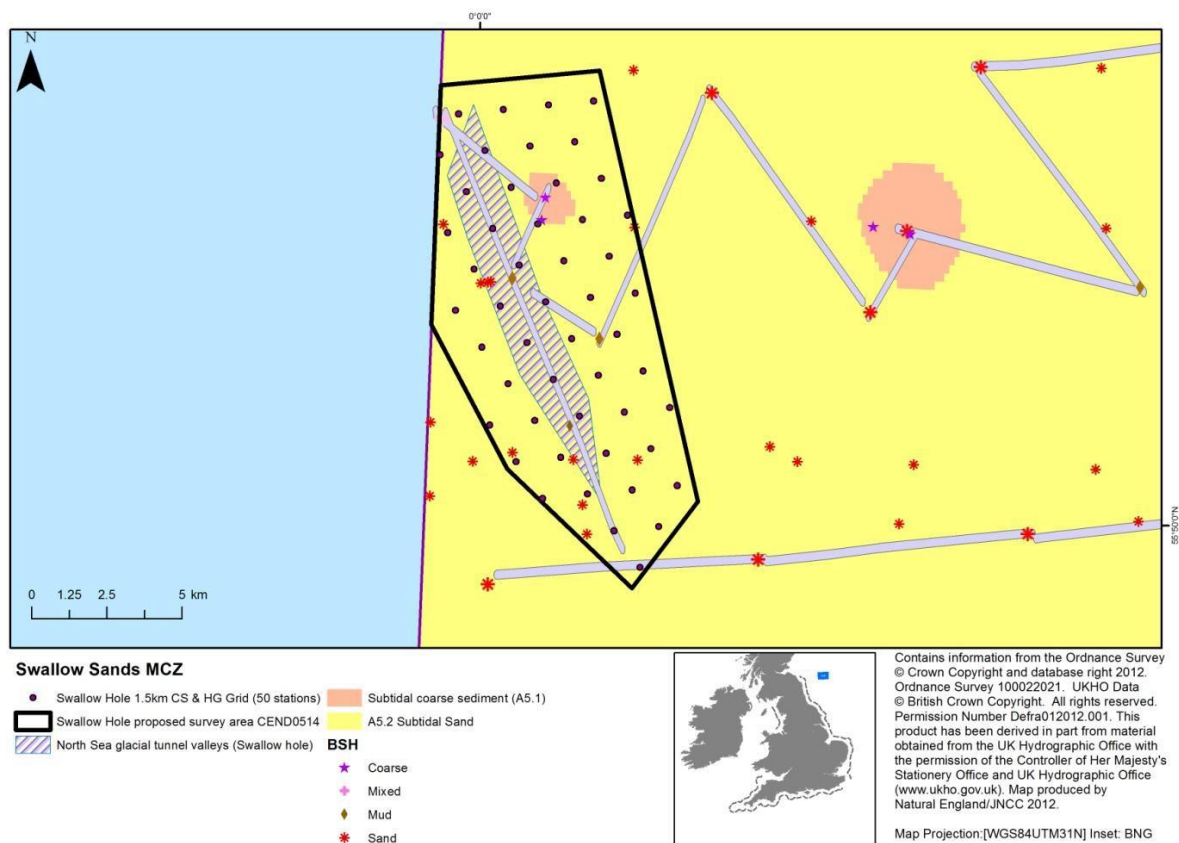


Figure 2. Planned ground truthing stations based on Selection Assessment Document habitat map and Admiralty chart.

2.2 Sample collection and processing methods

2.2.1 Seabed imagery

The camera sledge system comprised a video camera with capability to also capture still images (Figure 3). Illumination was provided by two Seatronic LED lights and a Kongsberg flash unit synchronised to the stills camera. The camera was fitted with a four-spot laser-scaling device to provide a reference scale in the video image. Set-up and operation

followed the MESH 'Recommended Operating Guidelines (ROG) for underwater video and photographic imaging techniques'. Video was recorded simultaneously to a Sony GV-HD700 DV tape recorder and a computer hard drive. A video overlay was used to provide station metadata, time and GPS position (of the vessel central reference point) in the recorded video image. An Ultra Short Base Length beacon was used to geo reference the seabed imagery acquired.

Camera tows lasted a minimum of 10 minutes, with the sledge being towed at ~ 0.5 knots ($\sim 0.25 \text{ ms}^{-1}$) across a 50 m radius 'bullring' centred on the sampling station. Still images were captured at regular one-minute intervals and opportunistically if specific features of interest were encountered. The sledge was controlled by a winch operator with sight of the video monitor and deployed from the stern gantry on the back deck.

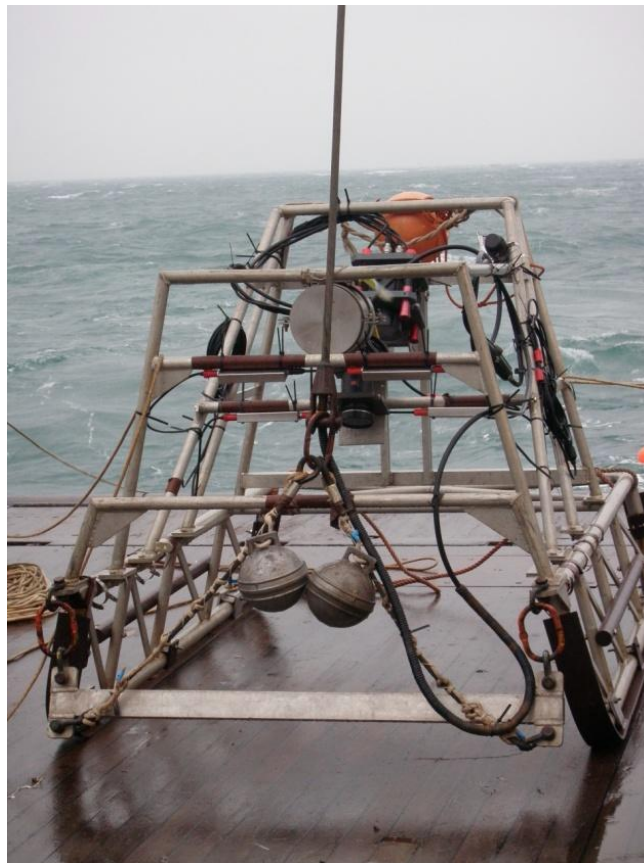


Figure 3. Camera sledge with video and still imaging system.

2.2.2 *Sediment sampling*

A 0.1m² mini Hamon grab (Figure 4) was used to collect sediment samples for infaunal community and sediment Particle Size Analysis (PSA). For each valid sample, a photograph was obtained and a sub sample (approx 0.5lt) of the sediment was collected for subsequent PSA back at the laboratory. The remaining sediment was sieved over a 5mm screening mesh and 1mm capture sieve in order to remove the less than 1mm sediment fraction from the infauna sample while maintaining the integrity of the animals within. Each fraction was photographed before being combined and fixed in buffered 10% formalin for transport back to the laboratory.



Figure 4. Mini Hamon grab with video camera (HamCam).

3 Survey Narrative

A conductivity, depth, temperature micro logger (CTD) was deployed at station SWSD11 at 14:01 on the 16th March 2014 in order to collect the Sound Velocity Profile (SVP) of the water column as required for calibration of the Multi Beam Echo Sounder (MBES) acquisition software.

A toolbox talk detailing the safe deployment and recovery of the mini Hamon grab fitted with camera (HamCam) was given to survey staff before the successful collection of a sediment sample at SWSD11 at 14:27 on the 16th March 2014. A running order was generated to ensure the efficient collection of all sediment samples whilst also acquiring relevant MBES data from the transits between and through target stations (Figure 5). Sediment samples for infauna and particle size distribution analyses were successfully collected from all 50 target stations. It was then decided that the collection of additional sediment samples from the southern region of the original sampling grid would be beneficial before commencing the seabed imagery survey. 15 of these additional stations were surveyed using the HamCam. The internal clock on the seabed imagery system was synchronised with the GPS clock, to within 5 seconds before a toolbox was given to those staff involved in the deployment of the camera sledge. Stations were identified for surveying with the camera sledge based on spatial extent of the geological feature with a total of 15 stations being successfully sampled with the camera sledge. Only two lights were fitted to the camera sledge due to technical issue (Appendix 6.4). The survey at 'Swallow Hole' finished at 21:55 on the 18th March 2014.

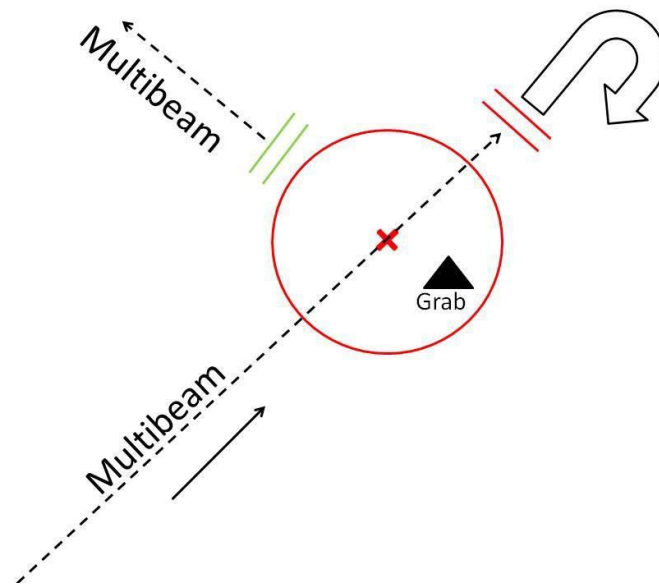


Figure 5. Schematic showing the collection of opportunistic Multi beam Echo Sounder data. The system was set to log data during the transit from the completed grab station to (and through) the next. The dashed black line represents MBES data are being recorded.

4 Preliminary Results

4.1 Acoustic survey

Multibeam bathymetry and backscatter data were collected opportunistically during transits between the ground truthing stations. However, these data were not processed during CEND0514 (Figure 6). Subsequent processing of the MBES data will allow the 'Swallow Hole' feature to be identified in terms of its bathymetry and the backscatter signal strength of seabed sediment.

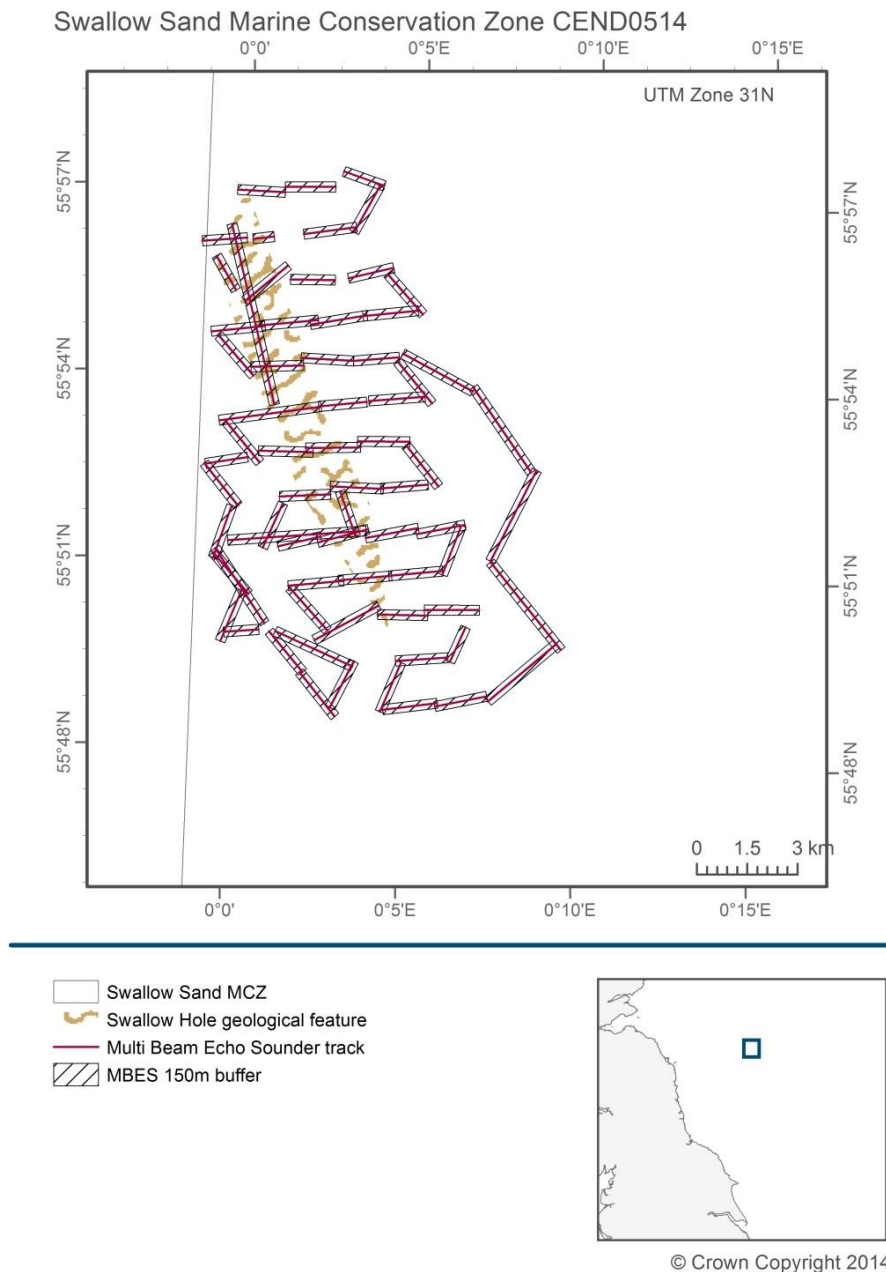
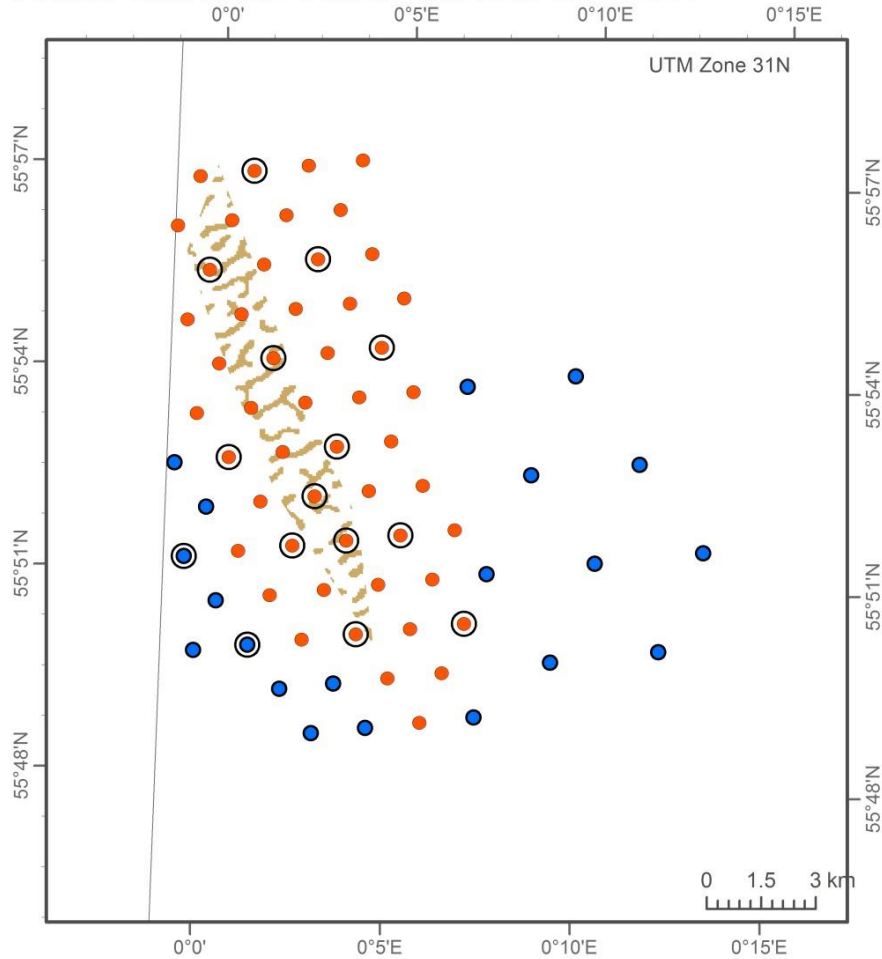







Figure 6. Multibeam Echosounder data coverage during transits between ground-truth stations.

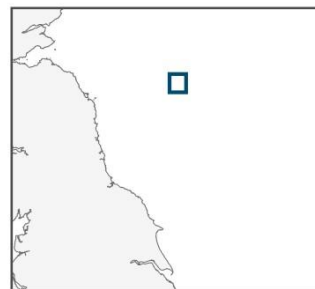
4.2 Seabed imagery

15 successful camera sledge tows with 206 associated stills images were collected from 15 target stations; 11 original and 4 additional (Figure 7). Representative images from each video tow are presented in Appendix 6. A complete analysis of the seabed imagery will better describe the physical environment and faunal community present at each station.

Swallow Sand Marine Conservation Zone CEND0514



-  Swallow Sand MCZ
-  Swallow Hole geological feature
-  Camera sledge tow
-  Additional sediment sampling stations
-  Sediment sampling stations



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Figure 7. Samples collected during CEND0514.

4.3 Sediment sampling

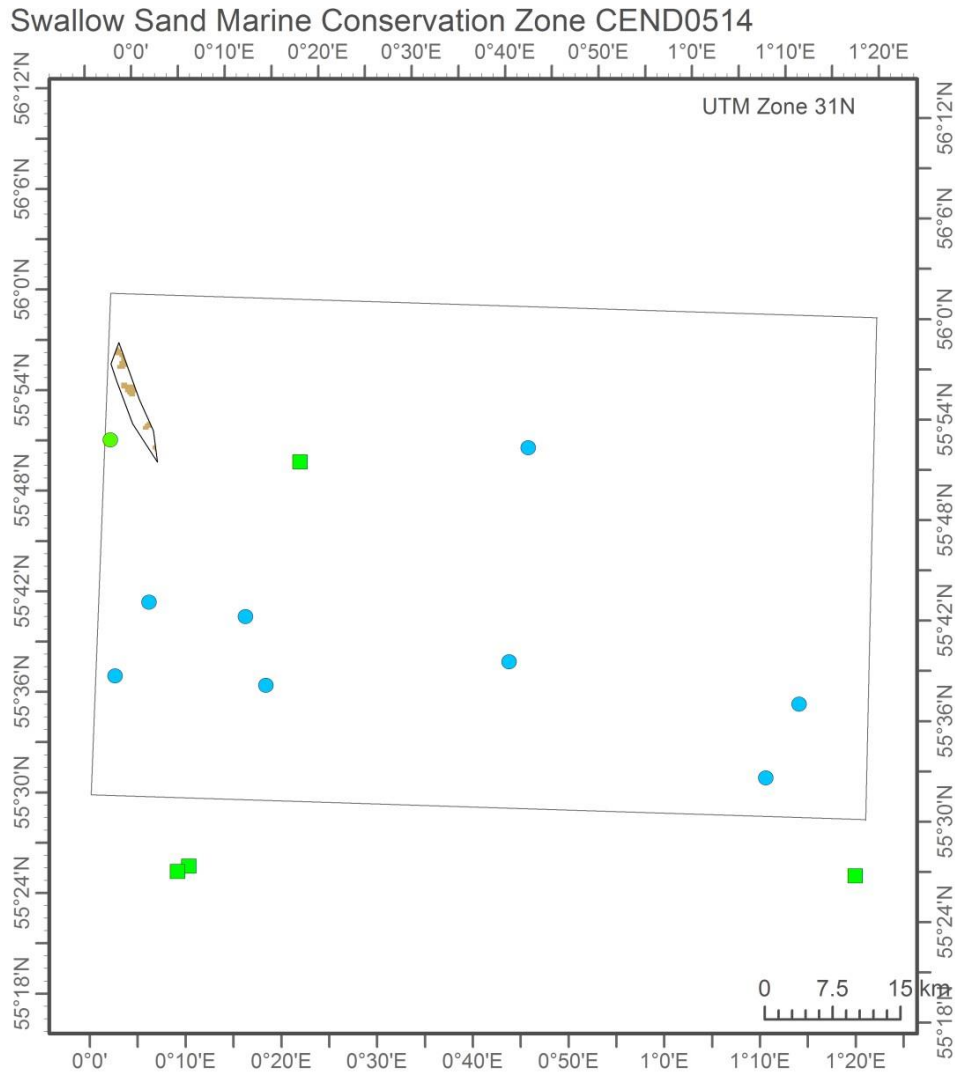
65 sediment samples were collected for infauna and particle size distribution analyses (Figure 7). See Appendix 6.2 for the images taken during on deck processing of the sediment samples.

4.4 Features of Conservation Interest (FOCI)

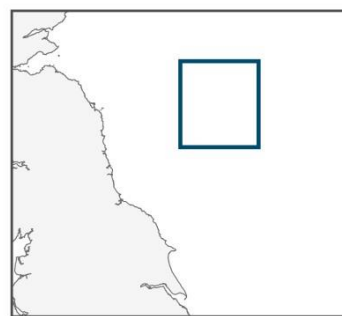
One individual of the species FOCI, *Arctica islandica*, was recorded from station ADDGT15; sampled during CEND0514. The specimen was returned alive after taking some morphometric measurements; maximum valve width = 77mm, maximum valve height = 64mm & maximum breadth of both valves = 32mm (Figure 8). This supplements other historical records for the area including those from the verification survey (cruise code CEND0812), (Figure 9).



Figure 8. *Arctica islandica* specimen collected from station ADDGT15 (station number 166) showing maximum valve width and height, on the image to the left, and maximum breadth of both valves, image on the right.



- Swallow Sand MCZ
- Swallow Hole geological feature
- Arctica islandica***
 - CEND0514
 - CEND0812
 - Historic records



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Figure 9. Locations of records of species FOCl *Arctica islandica* from current and previous surveys.

5 References








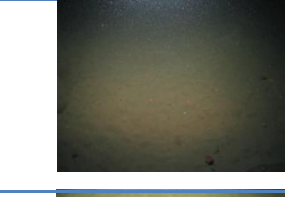

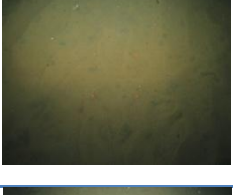
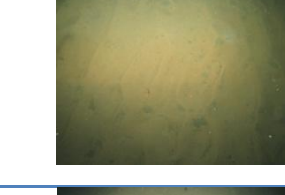

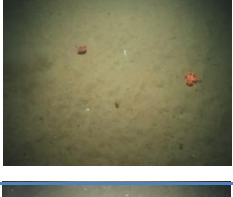
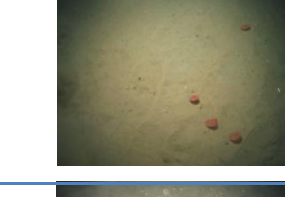
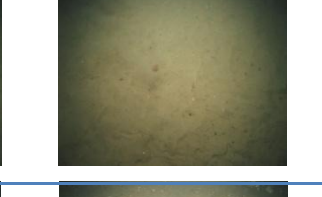

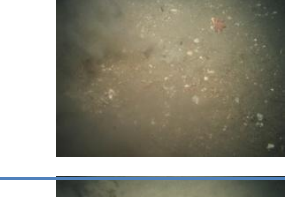
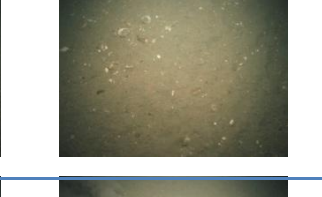



Net Gain. 2011. Final Recommendations. Submission to Natural England and JNCC, Version 1.1. 880pp

Ware, S. 2013. Swallow Sand rMCZ survey report.












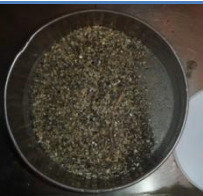








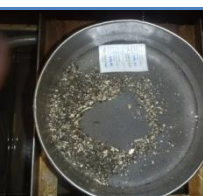
6 Annexes









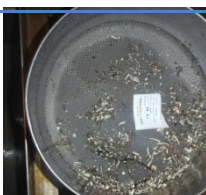
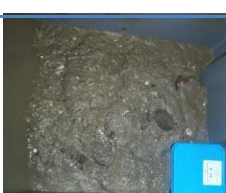

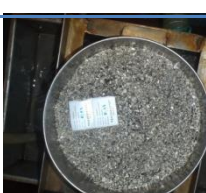



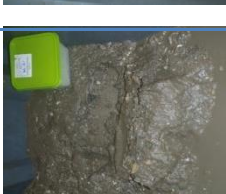


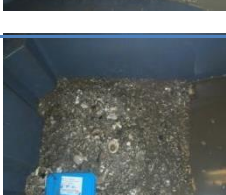

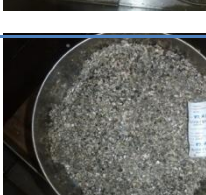
6.1 Representative images from drop camera deployments






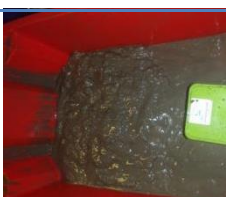






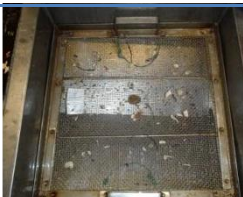





| Station Code | Sea pens | Representative image 1 | Representative image 2 | Representative image 3 |
|------------------------------------|----------|---|---|---|
| SWSD_CEND0514_ P SWSD47_STN_174 | |  |  |  |
| SWSD_CEND0514_ P SWSD29_STN_175 | |  |  |  |
| SWSD_CEND0514_ P SWSD19_STN_176 | |  |  |  |
| SWSD_CEND0514_ P SWSD07_STN_177 | |  |  |  |
| SWSD_CEND0514_ P SWSD17_STN_178 | |  |  |  |
| SWSD_CEND0514_ P SWSD27_STN_179 | |  |  |  |
| SWSD_CEND0514_ P SWSD39_STN_180 | |  |  |  |
| SWSD_CEND0514_ P SWSD49_STN_181 | |  |  |  |


















| Station Code | Sea pens | Representative image 1 | Representative image 2 | Representative image 3 |
|---|----------|---|--|---|
| SWSD_CEND0514_ P SWSD25_STN_182 | |  |  |  |
| SWSD_CEND0514_ P SWSD15_STN_183 | |  |  |  |
| SWSD_CEND0514_ P SWSD05_STN_184 | |  |  |  |
| SWSD_CEND0514_ SWSD17_STN_204 | |  |  |  |
| SWSD_CEND0514 P - ADDGT15_STN_2 06 | |  |  |  |
| SWSD_CEND0514_ SWSD26_STN_208 | |  |  |  |
| SWSD_CEND0514_ SWSD21_STN_210 | |  |  |  |

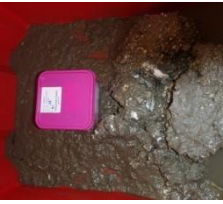


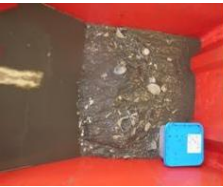







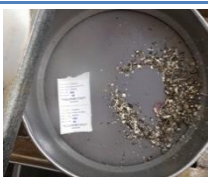












6.2 Images taken during deck processing of sediment samples













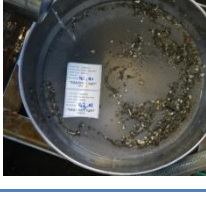


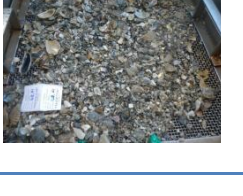
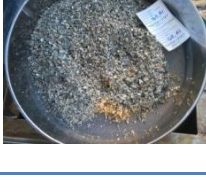
| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|-------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD11_STN_061_A1 |  |  |  | Coarse |
| SWSD_CEND0514_S WSD08_STN_063_A3 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD19_STN_065_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD30_STN_067_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD43_STN_069_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD36_STN_071_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD24_STN_073_A1 |  |  |  | Mud |

























| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|-------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD13_STN_075_A2 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD03_STN_077_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD07_STN_079_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD18_STN_081_A3 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD29_STN_083_A2 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD42_STN_085_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD48_STN_087_A1 |  |  |  | Mixed |

























| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|-------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD35_STN_089_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD23_STN_091_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD12_STN_093_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD02_STN_095_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD06_STN_097_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD17_STN_099_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD28_STN_101_A1 |  |  |  | Mud/Sand |






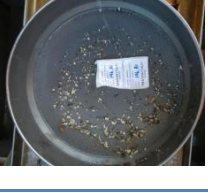
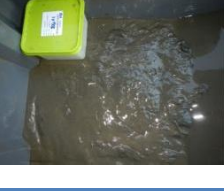

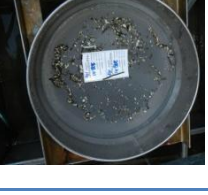






| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
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| SWSD_CEND0514_S WSD47_STN_105_A1 |  |  |  | Coarse |
| SWSD_CEND0514_S WSD34_STN_107_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD22_STN_109_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD01_STN_111_A1 |  | No photo available | No photo available | Mud |
| SWSD_CEND0514_S WSD05_STN_113_A1 |  | No photo available | No photo available | Mud |
| SWSD_CEND0514_S WSD16_STN_115_A1 |  |  |  | Mud |

| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|-------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD27_STN_117_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD40_STN_119_A3 |  |  |  | Coarse |
| SWSD_CEND0514_S WSD46_STN_121_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD33_STN_123_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD21_STN_125_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD10_STN_127_A1 |  |  |  | Coarse |
| SWSD_CEND0514_S WSD04_STN_129_A1 |  |  |  | Mud/Sand |
| SWSD_CEND0514_S WSD15_STN_131_A1 |  |  |  | Mud |

| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|-------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD26_STN_133_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD39_STN_135_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD50_STN_137_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD45_STN_139_A1 |  |  |  | Mixed |
| SWSD_CEND0514_S WSD32_STN_141_A5 |  |  |  | Coarse |
| SWSD_CEND0514_S WSD20_STN_143_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD09_STN_146_A3 |  |  |  | Sand |
| SWSD_CEND0514_S WSD14_STN_148_A1 |  |  |  | Mud |

| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|--------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_S WSD25_STN_150_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD38_STN_152_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD49_STN_154_A1 |  |  |  | Sand |
| SWSD_CEND0514_S WSD44_STN_156_A2 |  |  |  | Sand |
| SWSD_CEND0514_S WSD31_STN_158_A2 |  |  |  | Coarse |
| SWSD_CEND0514_AD DGT07_STN_160_A1 |  |  |  | Mud |
| SWSD_CEND0514_S WSD37_STN_162_A2 |  |  |  | Coarse |
| SWSD_CEND0514_AD DGT09_STN_164_A1 |  |  |  | Sand |

| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|--------------------------------------|---|---|--|-----------------------------|
| SWSD_CEND0514_AD DGT05_STN_166_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT06_STN_168_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT02_STN_170_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT01_STN_172_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT14_STN_186_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT13_STN_188_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT15_STN_190_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DG18_STN_192_A1 |  |  |  | Sand |

| Station Code | PSA | 5mm | 1mm | Preliminary BSH Description |
|--|---|---|--|--------------------------------|
| SWSD_CEND0514_AD DGT08_STN_194_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT17_STN_196_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT18_STN_198_A1 |  |  |  | Sand |
| SWSD_CEND0514_AD DGT19_STN_200 |  |  |  | |
| SWSD_CEND0514_AD DGT19_STN_202 |  |  |  | |

6.3 *RV Cefas Endeavour*



| | |
|------------------------------|---|
| Port of registry | Lowestoft |
| Length OA | 73.00 m (excluding stern roller) |
| Length extreme | 73.916 m |
| Breadth (MLD) | 15.80 m |
| Depth (MLD) | 8.20 m |
| Design draft | 5.00 m |
| Deep draught | 5.50 m |
| LBP | 66.50 m |
| Gross tonnage | 2983 tonnes |
| Net register tonnage | 894 tonnes |
| Net lightship | 2436 tonnes |
| Deadweight @ 5.00 m | 784 tonnes |
| Deadweight @ 5.50 m | 1244 tonnes |
| Displacement @ 5.00 m | 3210 tonnes |
| Displacement @ 5.50 m | 3680 tonnes |
| Builder | Ferguson Shipbuilders Limited, Port Glasgow |
| Commissioned | 2003 |
| Communications | In port BT Tel. Cellphone Voice/Fax/Data Radio TELEX Inmarsat C Fleet 77 (Inmarsat F) and VSAT (eutelsat) internet access |
| Endurance | 42 days |
| Complement | En-suite accommodation for 16 crew and 19 scientists with dedicated hospital facility |
| Propulsion System | AC/DC Diesel Electric 3 x diesel electric AC generators, individually raft mounted 2 x tandem electric DC motors Single screw |
| Power generation | 3240 Kw |
| Power propulsion | 2230 Kw |
| Thrusters | Bow thruster (flush mounted azimuthing) Stern thruster (tunnel) |
| Trial speed | 14.4 knots |
| Bollard pull | 29 tonnes |
| Call sign | VQHF3 |
| Official number | 906938 |
| MMSI | 235005270 |
| Lloyds/IMO number | 9251107 |
| Side Gantry | 7.5 tonne articulated side A-frame |
| Stern Gantry | 25 tonne stern A-frame |

| | |
|-----------------------------|--|
| Winches | 3 x cranes 35 tM, heave compensated 2 x trawl winches 2 x drum winches, (1 double) Double barrel survey winch with motion compensation and slip rings Double barrel survey winch with slip rings Double barrel towing winch with slip rings Side-scan sonar winch with slip rings 3 x Gilson winches (one fitted to stern A-frame) |
| Transducers/Sea tube | Drop keel to deploy transducers outside the hull boundary layer in addition to hull mounted transducers 1.2 m diameter sea tube/moon-pool |
| Acoustic equipment | Kongsberg Simrad: HiPAP 500 positioning sonar EK60, 38/120 kHz scientific sounder EA 600, 50/200 kHz scientific sounder Scanmar net mensuration system SH80 high frequency omni- directional sonar EM3002 swathe bathymetry sounder Hull mounted Scanmar fishing computer transducers |
| Boats | 2 x 8 m rigid work and rescue boats with suite of navigational equipment deployed on heave-compensated davits |
| Laboratories | 8 networked laboratories designed for optimum flexibility of purpose 4 serviced deck locations for containerised laboratories |
| Special features | Dynamic positioning system Interling anti-roll system Local Area Network with scientific data management system Ship-wide general information system CCTV |
| Class | LRS 100A1+LMC UMS SCM CCS ICC IP ES(2) DP(CM) ICE class 2 |

6.4 Camera Sledge

Camera model: Kongsberg 208

Flash model: Kongsberg s/n- 0105

Underwater lights 2 x Seatronics LED

Video and stills camera settings variable depending on underwater visibility and ambient light levels. flash- on, long line drive- 400m, mode- aperture priority, aperture- 5.6, focus- manual 1m, review- 2 seconds, picture size- large, quality- superfine.ISO speed- 100.

6.5 Positioning Software-Tower

Vessel offsets are defined from the pitch roll centre of the vessel – the Common Reference Point (CRP) used by the Tower CEMAP software to calculate offsets.

6.6 Multibeam Bathymetry

Model: Kongsberg EM2040

Frequency: 300kHz; swathe width variable running in hi res equidistant mode

Latency correction not determined – 1pps synchronised time system utilised on vessel.

6.7 Metadata

Station metadata for the Swallow Sand MCZ survey on cruise CEND0514 are provided below. NB. 'Station Number' is a sequential event number for the cruise which changes each time a new gear is used or a new location is sampled. 'Station Code' is used to identify the location of the sampling station. 'CTD' = Conductivity, Temperature, Depth micrologger, 'HC' = mini Hamon grab fitted with camera, 'MB2' = MBES Simrad EM2040 and 'CS' = Camera sledge. An electronic version of the cruise metadata is available.

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 16/03/2014 | 60 | CTD01 | CTD | 127 | A1 | 14:01 | | 1 | 55.89082 | 0.01720 | | |
| 16/03/2014 | 61 | SWSD11 | HC | 127 | A1 | 14:27 | | 2 | 55.89085 | 0.01714 | 81204 | 81205 |
| 16/03/2014 | 62 | Transit SWSD11 to SWSD08 | MB2 | | A1 | 14:40 | 15:16 | EOL | 55.94051 | -0.00783 | | |
| 16/03/2014 | 63 | SWSD08 | HC | 95 | A1 | 15:47 | | 3 | 55.94755 | -0.00948 | | |
| 16/03/2014 | 63 | SWSD08 | HC | 95 | A2 | 15:51 | | 4 | 55.94754 | -0.00945 | | |
| 16/03/2014 | 63 | SWSD08 | HC | 95 | A3 | 15:57 | | 5 | 55.94756 | -0.00950 | 81192 | 81193 |
| 16/03/2014 | 64 | Transit SWSD08 to SWSD19 | MB2 | | A1 | 16:07 | 16:14 | EOL | 55.94955 | 0.01710 | | |
| 16/03/2014 | 65 | SWSD19 | HC | 97 | A1 | 16:27 | | 6 | 55.94946 | 0.01523 | 81236 | 81237 |
| 16/03/2014 | 66 | Transit SWSD19 to SWSD30 | MB2 | | A1 | 16:35 | 16:43 | SOL | 55.95100 | 0.01687 | | |
| 16/03/2014 | 67 | SWSD30 | HC | 84 | A1 | 16:52 | | 7 | 55.95135 | 0.03812 | 81280 | 81281 |
| 16/03/2014 | 68 | Transit SWSD30 to SWSD43 | MB2 | | A1 | 17:29 | 17:35 | SOL | 55.95583 | 0.04466 | | |
| 16/03/2014 | 69 | SWSD43 | HC | 86 | A1 | 17:48 | | 8 | 55.95316 | 0.06206 | 81332 | 81333 |
| 16/03/2014 | 70 | Transit SWSD43 to SWSD36 | MB2 | | A1 | 17:56 | 18:05 | SOL | 55.95240 | 0.06211 | | |
| 16/03/2014 | 71 | SWSD36 | HC | | A1 | 18:21 | | 9 | 55.94088 | 0.05312 | 81304 | 81305 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 16/03/2014 | 72 | Transit SWSD36 to SWSD24 | MB2 | | A1 | 18:28 | 18:40 | EOL | 55.93858 | 0.02677 | | |
| 16/03/2014 | 73 | SWSD24 | HC | 88 | A1 | 18:53 | | 10 | 55.93895 | 0.02953 | 81256 | 81257 |
| 16/03/2014 | 74 | Transit SWSD24 to SWSD13 | MB2 | | A1 | 19:06 | 19:10 | SOL | 55.93760 | 0.01263 | | |
| 16/03/2014 | 75 | SWSD13 | HC | 104 | A1 | 19:34 | | 11 | 55.93734 | 0.00560 | | |
| 16/03/2014 | 75 | SWSD13 | HC | 104 | A2 | 19:46 | | 12 | 55.93726 | 0.00559 | 81212 | 81213 |
| 16/03/2014 | 76 | Transit SWSD13 to SWSD03 | MB2 | | A1 | 19:55 | 20:04 | EOL | 55.93563 | -0.02157 | | |
| 16/03/2014 | 77 | SWSD03 | HC | | A1 | 20:18 | | 13 | 55.93533 | -0.01811 | 81172 | 81173 |
| 16/03/2014 | 78 | Transit SWSD03 to SWSD07 | MB2 | | A1 | 20:28 | 20:35 | EOL | 55.92278 | -0.00450 | | |
| 16/03/2014 | 79 | SWSD07 | HC | 111 | A1 | 20:51 | | 14 | 55.92443 | -0.00332 | 81188 | 81189 |
| 16/03/2014 | 80 | Transit SWSD07 to SWSD18 | MB2 | | A1 | 21:01 | 21:08 | SOL | 55.92000 | 0.00000 | | |
| 16/03/2014 | 81 | SWSD18 | HC | 82 | A1 | 21:24 | | 15 | 55.92633 | 0.02026 | | |
| 16/03/2014 | 81 | SWSD18 | HC | 82 | A2 | 21:31 | | 16 | 55.92630 | 0.02017 | | |
| 16/03/2014 | 81 | SWSD18 | HC | 82 | A3 | 21:34 | | 17 | 55.92628 | 0.02017 | 81232 | 81233 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 16/03/2014 | 82 | Transit SWSD18 to SWSD29 | MB2 | | A1 | 21:42 | 22:40 | SOL | 55.92629 | 0.02130 | | |
| 16/03/2014 | 83 | SWSD29 | HC | 89 | A1 | 22:07 | | 18 | 55.92827 | 0.04396 | | |
| 16/03/2014 | 83 | SWSD29 | HC | 89 | A2 | 22:33 | | 19 | 55.92825 | 0.04385 | 81276 | 81277 |
| 16/03/2014 | 84 | Transit SWSD29 to SWSD42 | MB2 | | A1 | 22:41 | 22:49 | EOL | 55.93061 | 0.07028 | | |
| 16/03/2014 | 85 | SWSD42 | HC | 83 | A1 | 23:05 | | 20 | 55.93013 | 0.06793 | 81328 | 81329 |
| 16/03/2014 | 86 | Transit SWSD42 to SWSD48 | MB2 | | A1 | 23:12 | 23:22 | EOL | 55.91844 | 0.08520 | | |
| 16/03/2014 | 87 | SWSD48 | HC | 85 | A1 | 23:35 | | 21 | 55.91952 | 0.08277 | 81352 | 81353 |
| 16/03/2014 | 88 | Transit SWSD48 to SWSD45 | MB2 | | A1 | 23:43 | 23:54 | SOL | 55.91940 | 0.08296 | | |
| 17/03/2014 | 89 | SWSD35 | HC | 87 | A1 | 00:17 | | 22 | 55.91759 | 0.05893 | | |
| 17/03/2014 | 89 | SWSD35 | HC | 87 | A2 | 00:24 | | 23 | 55.91761 | 0.05890 | 81300 | 81301 |
| 17/03/2014 | 90 | Transit SWSD35 to SWSD23 | MB2 | | A1 | 00:32 | 00:47 | SOL | 55.91757 | 0.05858 | | |
| 17/03/2014 | 91 | SWSD23 | HC | 86 | A1 | 01:13 | | 24 | 55.91568 | 0.03556 | 81252 | 81253 |
| 17/03/2014 | 92 | Transit SWSD23 to SWSD12 | MB2 | | A1 | 01:08 | 01:22 | EOL | 55.91367 | 0.00850 | | |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 93 | SWSD12 | HC | 129 | A1 | 01:42 | | 25 | 55.91376 | 0.01157 | 81208 | 81209 |
| 17/03/2014 | 94 | Transit SWSD12 to SWSD02 | MB2 | | A1 | 01:46 | 01:56 | EOL | 55.91150 | -0.01536 | | |
| 17/03/2014 | 95 | SWSD02 | HC | 86 | A1 | 02:08 | | 26 | 55.91187 | -0.01212 | 81168 | 81169 |
| 17/03/2014 | 96 | Transit SWSD02 to SWSD06 | MB2 | | A1 | 02:16 | 02:26 | EOL | 55.90015 | 0.00564 | | |
| 17/03/2014 | 97 | SWSD06 | HC | 110 | A1 | 02:39 | | 27 | 55.90130 | 0.00242 | 81184 | 81185 |
| 17/03/2014 | 98 | Transit SWSD06 to SWSD17 | MB2 | | A1 | 02:48 | 02:57 | SOL | 55.90245 | 0.00424 | | |
| 17/03/2014 | 99 | SWSD17 | HC | 140 | A1 | 03:12 | | 28 | 55.90328 | 0.02671 | 81228 | 81229 |
| 17/03/2014 | 100 | Transit SWSD17 to SWSD28 | MB2 | | A1 | 03:21 | 03:31 | SOL | 55.90543 | 0.02798 | | |
| 17/03/2014 | 101 | SWSD28 | HC | 105 | A1 | 03:43 | | 29 | 55.90499 | 0.05029 | 81272 | 81273 |
| 17/03/2014 | 102 | Transit SWSD28 to SWSD41 | MB2 | | A1 | 03:54 | 04:08 | SOL | 55.90519 | 0.05303 | | |
| 17/03/2014 | 103 | SWSD41 | HC | 100 | A1 | 04:28 | | 30 | 55.90704 | 0.07382 | 81324 | 81325 |
| 17/03/2014 | 104 | Transit SWSD41 to SWSD47 | MB2 | | A1 | 04:35 | 04:43 | SOL | 55.90550 | 0.07414 | | |
| 17/03/2014 | 105 | SWSD47 | HC | 90 | A1 | 04:53 | | 31 | 55.89636 | 0.08876 | 81348 | 81349 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 106 | Transit SWSD47 to SWSD34 | MB2 | | A1 | 04:58 | 05:07 | SOL | 55.89641 | 0.08787 | | |
| 17/03/2014 | 107 | SWSD34 | HC | 100 | A1 | 05:20 | | 32 | 55.89463 | 0.06508 | 81296 | 81297 |
| 17/03/2014 | 108 | Transit SWSD34 to SWSD22 | MB2 | | A1 | 05:24 | 05:31 | SOL | 55.89437 | 0.06015 | | |
| 17/03/2014 | 109 | SWSD22 | HC | 110 | A1 | 05:40 | | 33 | 55.89266 | 0.04120 | 81248 | 81249 |
| 17/03/2014 | 110 | Transit SWSD22 to SWSD01 | MB2 | | A1 | 05:45 | 06:01 | EOL | 55.88777 | -0.00985 | | |
| 17/03/2014 | 111 | SWSD01 | HC | 89 | A1 | 06:10 | | 34 | 55.88889 | -0.00642 | 81164 | 81165 |
| 17/03/2014 | 112 | Transit SWSD01 to SWSD05 | MB2 | | A1 | 06:17 | 06:25 | EOL | 55.87697 | 0.01037 | | |
| 17/03/2014 | 113 | SWSD05 | HC | 89 | A1 | 06:33 | | 35 | 55.87826 | 0.00807 | 81180 | 81181 |
| 17/03/2014 | 114 | Transit SWSD05 to SWSD16 | MB2 | | A1 | 06:40 | 06:47 | EOL | 55.88027 | 0.03555 | | |
| 17/03/2014 | 115 | SWSD16 | HC | 151 | A1 | 06:56 | | 36 | 55.88016 | 0.03232 | 81224 | 81225 |
| 17/03/2014 | 116 | Transit SWSD16 to SWSD27 | MB2 | | A1 | 07:03 | 07:11 | EOL | 55.88214 | 0.05811 | | |
| 17/03/2014 | 117 | SWSD27 | HC | 92 | A1 | 07:20 | | 37 | 55.88203 | 0.05591 | 81268 | 81269 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 118 | Transit SWSD27 to SWSD40 | MB2 | | A1 | 07:27 | 07:35 | SOL | 55.88371 | 0.05656 | | |
| 17/03/2014 | 119 | SWSD40 | HC | 90 | A1 | 08:05 | | 38 | 55.88396 | 0.07940 | | |
| 17/03/2014 | 119 | SWSD40 | HC | 90 | A2 | 08:09 | | 39 | 55.88396 | 0.07943 | | |
| 17/03/2014 | 119 | SWSD40 | HC | 90 | A3 | 08:15 | | 40 | 55.88394 | 0.07942 | 81320 | 81321 |
| 17/03/2014 | 120 | Transit SWSD40 to SWSD46 | MB2 | | A1 | 08:21 | 08:30 | EOL | 55.87255 | 0.09610 | | |
| 17/03/2014 | 121 | SWSD46 | HC | 92 | A1 | 08:41 | | 41 | 55.87324 | 0.09435 | 81344 | 81345 |
| 17/03/2014 | 122 | Transit SWSD46 to SWSD33 | MB2 | | A1 | 08:48 | 08:56 | SOL | 55.87288 | 0.09100 | | |
| 17/03/2014 | 123 | SWSD33 | HC | 92 | A1 | 09:06 | | 42 | 55.87145 | 0.07049 | 81292 | 81293 |
| 17/03/2014 | 124 | Transit SWSD33 to SWSD21 | MB2 | | A1 | 09:11 | 09:21 | SOL | 55.87123 | 0.06987 | | |
| 17/03/2014 | 125 | SWSD21 | HC | 87 | A1 | 09:32 | | 43 | 55.86958 | 0.04677 | 81244 | 81245 |
| 17/03/2014 | 126 | Transit SWSD21 to SWSD10 | MB2 | | A1 | 09:39 | 09:48 | EOL | 55.86805 | 0.02051 | | |
| 17/03/2014 | 127 | SWSD10 | HC | 83 | A1 | 09:57 | | 44 | 55.86768 | 0.02311 | 81200 | 81201 |
| 17/03/2014 | 128 | Transit SWSD10 to SWSD04 | MB2 | | A1 | 10:03 | 10:12 | EOL | 55.85416 | 0.01348 | | |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 129 | SWSD04 | HC | 82 | A1 | 10:23 | | 45 | 55.85522 | 0.01416 | 81176 | 8177 |
| 17/03/2014 | 130 | Transit SWSD04 to SWSD15 | MB2 | | A1 | 10:31 | 10:37 | SOL | 55.85472 | 0.02078 | | |
| 17/03/2014 | 131 | SWSD15 | HC | 92 | A1 | 10:48 | | 46 | 55.85713 | 0.03783 | 81220 | 81221 |
| 17/03/2014 | 132 | Transit SWSD15 to SWSD26 | MB2 | | A1 | 10:57 | 11:05 | SOL | 55.85615 | 0.03970 | | |
| 17/03/2014 | 133 | SWSD26 | HC | 120 | A1 | 11:18 | | 47 | 55.85896 | 0.06163 | 81264 | 81265 |
| 17/03/2014 | 134 | Transit SWSD26 to SWSD39 | MB2 | | A1 | 11:25 | 11:34 | SOL | 55.85792 | 0.06240 | | |
| 17/03/2014 | 135 | SWSD39 | HC | 86 | A1 | 11:48 | | 48 | 55.86087 | 0.08529 | 81316 | 81317 |
| 17/03/2014 | 136 | Transit SWSD39 to SWSD50 | MB2 | | A1 | 11:55 | 12:16 | EOL | 55.86254 | 0.10946 | | |
| 17/03/2014 | 137 | SWSD50 | HC | 82 | A1 | 12:33 | | 49 | 55.86265 | 0.10951 | 81360 | 81361 |
| 17/03/2014 | 138 | Transit SWSD50 to SWSD45 | MB2 | | A1 | 12:40 | 12:49 | SOL | 55.86234 | 0.10775 | | |
| 17/03/2014 | 139 | SWSD45 | HC | 85 | A1 | 13:05 | | 50 | 55.85005 | 0.10036 | 81340 | 81341 |
| 17/03/2020 | 140 | Transit SWSD45 to SWSD32 | MB2 | | A1 | 13:11 | 13:21 | SOL | 55.84995 | 0.09983 | | |
| 17/03/2014 | 141 | SWSD32 | HC | 93 | A1 | 13:36 | | 51 | 55.84822 | 0.07667 | | |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|--------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 141 | SWSD32 | HC | 93 | A2 | 13:40 | | 52 | 55.84822 | 0.07666 | | |
| 17/03/2014 | 141 | SWSD32 | HC | 93 | A3 | 13:48 | | 53 | 55.84821 | 0.07666 | | |
| 17/03/2014 | 141 | SWSD32 | HC | 93 | A4 | 13:58 | | 55 | 55.84822 | 0.07656 | | |
| 17/03/2014 | 141 | SWSD32 | HC | 93 | A5 | 14:12 | | 56 | 55.84821 | 0.07652 | 81288 | 81289 |
| 17/03/2014 | 142 | Transit SWSD32 to SWSD20 | MB2 | | A1 | 14:17 | 14:27 | EOL | 55.84630 | 0.05031 | | |
| 17/03/2014 | 143 | SWSD20 | HC | 135 | A1 | 14:40 | | 57 | 55.84631 | 0.05298 | 81240 | 81241 |
| 17/03/2014 | 144 | CTD02 | CTD | 136 | A1 | 15:02 | | 58 | 55.84632 | 0.05296 | | |
| 17/03/2014 | 145 | Transit SWSD20 to SWSD09 | MB2 | | A1 | 15:08 | 15:19 | SOL | 55.84620 | 0.05275 | | |
| 17/03/2014 | 146 | SWSD09 | HC | 79 | A1 | 15:32 | | 59 | 55.84440 | 0.02924 | | |
| 17/03/2014 | 146 | SWSD09 | HC | 79 | A2 | 15:37 | | 60 | 55.84439 | 0.02924 | | |
| 17/03/2014 | 146 | SWSD09 | HC | 79 | A3 | 15:58 | | 61 | 55.84439 | 0.02922 | 81196 | 81197 |
| 17/03/2020 | 147 | Transit SWSD09 to SWSD14 | MB2 | | A1 | 16:07 | 16:15 | SOL | 55.84376 | 0.02717 | | |
| 17/03/2014 | 148 | SWSD14 | HC | 84 | A1 | 16:25 | | 62 | 55.83396 | 0.04385 | 81216 | 81217 |
| 17/03/2020 | 149 | Transit SWSD14 to SWSD25 | MB2 | | A1 | 16:31 | 16:39 | EOL | 55.84000 | 0.07000 | | |
| 17/03/2014 | 150 | SWSD25 | HC | 84 | A1 | 16:47 | | 63 | 55.83600 | 0.06785 | 81260 | 81261 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|---------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2020 | 151 | Transit SWSD25 to SWSD38 | MB2 | | A1 | 16:56 | 17:03 | EOL | 55.83784 | 0.09350 | | |
| 17/03/2014 | 152 | SWSD38 | HC | 83 | A1 | 17:39 | | 64 | 55.83787 | 0.09130 | 81312 | 81313 |
| 17/03/2014 | 153 | Transit SWSD38 to SWSD49 | MB2 | | A1 | 17:46 | 17:53 | EOL | 55.83987 | 0.11798 | | |
| 17/03/2014 | 154 | SWSD49 | HC | 84 | A1 | 18:04 | | 65 | 55.83956 | 0.11513 | 81356 | 81357 |
| 17/03/2014 | 155 | Transit SWSD49 to SWSD44 | MB2 | | A1 | 18:14 | 18:19 | EOL | 55.82568 | 0.10491 | | |
| 17/03/2014 | 156 | SWSD44 | HC | 83 | A1 | 18:29 | | 66 | 55.82707 | 0.10609 | | |
| 17/03/2014 | 156 | SWSD44 | HC | 83 | A2 | 18:32 | | 67 | 55.82706 | 0.10611 | 81336 | 81337 |
| 17/03/2014 | 157 | Transit SWSD31 to SWSD44 | MB2 | | A1 | 18:37 | 18:45 | EOL | 55.82532 | 0.07912 | | |
| 17/03/2014 | 158 | SWSD31 | HC | 88 | A1 | 18:57 | | 68 | 55.82526 | 0.08237 | | |
| 17/03/2014 | 158 | SWSD31 | HC | 88 | A2 | 19:02 | | 69 | 55.82529 | 0.08240 | 81284 | 81285 |
| 17/03/2014 | 159 | Transit SWSD31 to ADDGT07 | MB2 | | A1 | 19:07 | 19:16 | EOL | 55.81158 | 0.07264 | | |
| 17/03/2014 | 160 | ADDGT07 | HC | 90 | A1 | 19:25 | | 70 | 55.81288 | 0.07361 | 82262 | 82263 |
| 17/03/2014 | 161 | Transit ADDGT07 to SWSD37 | MB2 | | A1 | 19:32 | 19:40 | SOL | 55.81213 | 0.07394 | | |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|----------------------------------|-----------|-----------------|---------|--------------------|--------------|-----|-------------|--------------|---------------|------------------|
| 17/03/2014 | 162 | SWSD37 | HC | 87 | A1 | 19:49 | | 71 | 55.81458 | 0.09707 | | |
| 17/03/2014 | 162 | SWSD37 | HC | 87 | A2 | 19:53 | | 72 | 55.81457 | 0.09706 | 81308 | 81309 |
| 17/03/2014 | 163 | Transit SWSD37 to ADDGT09 | MB2 | | A1 | 20:00 | 20:08 | EOL | 55.81688 | 0.12312 | | |
| 17/03/2014 | 164 | ADDGT09 | HC | 79 | A1 | 20:22 | | 73 | 55.81645 | 0.12074 | 82266 | 82267 |
| 17/03/2014 | 165 | Transit ADDGT09 to ADDGT05 | MB2 | | A1 | 20:32 | 20:45 | EOL | 55.83150 | 0.15501 | | |
| 17/03/2014 | 166 | ADDGT05 | HC | 80 | A1 | 20:57 | | 74 | 55.83084 | 0.15329 | 82258 | 82259 |
| 17/03/2014 | 167 | Transit ADDGT05 to ADDGT06 | MB2 | | A1 | 21:06 | 21:25 | SOL | 55.83008 | 0.15765 | | |
| 17/03/2014 | 168 | ADDGT06 | HC | 78 | A1 | 21:40 | | 75 | 55.85220 | 0.12373 | 82260 | 82261 |
| 17/03/2014 | 169 | Transit ADDGT06 to ADDGT02 | MB2 | | A1 | 21:48 | 22:04 | SOL | 55.85312 | 0.12233 | | |
| 17/03/2014 | 170 | ADDGT02 | HC | 80 | A1 | 22:17 | | 76 | 55.87701 | 0.14169 | 82252 | 82253 |
| 17/03/2014 | 171 | Transit ADDGT02 to ADDGT01 | MB2 | | A1 | 22:26 | 22:43 | EOL | 55.89953 | 0.11062 | | |
| 17/03/2014 | 172 | ADDGT01 | HC | 85 | A1 | 22:55 | | 77 | 55.89830 | 0.11193 | 82250 | 82251 |
| 17/03/2014 | 173 | Transit ADDGT01 to SWSD41 | MB2 | | A1 | 23:02 | 23:18 | SOL | 55.89835 | 0.11047 | | |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|----------------------------------|-----------|-----------------|---------|--------------------|--------------|------|-------------|--------------|---------------|------------------|
| 18/03/2014 | 174 | SWSD41 | CS | 91 | A1 | 01:58 | 02:08 | 173 | 55.90716 | 0.07400 | | |
| 18/03/2014 | 175 | SWSD29 | CS | 87 | A1 | 04:15 | 04:26 | 514 | 55.92833 | 0.04353 | | |
| 18/03/2014 | 176 | SWSD19 | CS | 101 | A1 | 05:03 | 05:14 | 636 | 55.94945 | 0.01410 | | |
| 18/03/2014 | 177 | SWSD07 | CS | 115 | A1 | 05:49 | 05:59 | 701 | 55.92455 | -0.00355 | | |
| 18/03/2014 | 178 | SWSD17 | CS | 126 | A1 | 06:53 | 07:08 | 1399 | 55.90318 | 0.02562 | | |
| 18/03/2014 | 179 | SWSD27 | CS | 93 | A1 | 08:27 | 08:38 | 1572 | 55.88169 | 0.05509 | | |
| 18/03/2014 | 180 | SWSD39 | CS | 85 | A1 | 09:20 | 09:30 | 1659 | 55.86041 | 0.08481 | | |
| 18/03/2014 | 181 | SWSD49 | CS | 82 | A1 | 10:07 | 10:18 | 1748 | 55.83949 | 0.11492 | | |
| 18/03/2014 | 182 | SWSD25 | CS | 100 | A1 | 10:56 | 11:06 | 1984 | 55.83490 | 0.06640 | | |
| 18/03/2014 | 183 | SWSD15 | CS | 96 | A1 | 12:51 | 13:01 | 2000 | 55.85738 | 0.03818 | | |
| 18/03/2014 | 184 | SWSD05 | CS | 90 | A1 | 13:48 | 13:59 | 2296 | 55.87923 | 0.00907 | | |
| 18/03/2014 | 185 | Transit SWSD05 to ADDGT14 | MB2 | | A1 | 14:12 | 14:47 | SOL | 55.87826 | 0.00444 | | |
| 18/03/2014 | 186 | ADDGT14 | HC | 82 | A1 | 14:31 | | 2314 | 55.87638 | -0.01543 | 82276 | 82277 |
| 18/03/2014 | 187 | Transit ADDGT14 to ADDGT13 | MB2 | | A1 | 14:37 | 14:47 | SOL | 55.87613 | -0.01603 | | |
| 18/03/2014 | 188 | ADDGT13 | HC | 87 | A1 | 15:00 | | 2315 | 55.86574 | -0.00073 | 82275 | 82275 |
| 18/03/2014 | 189 | Transit ADDGT13 to ADDGT15 | MB2 | | A1 | 15:07 | 15:06 | SOL | 55.86511 | -0.00206 | | |
| 18/03/2014 | 190 | ADDGT15 | HC | 82 | A1 | 15:25 | | 2316 | 55.85331 | -0.00915 | 82278 | 82279 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|----------------------------------|-----------|-----------------|---------|--------------------|--------------|------|-------------|--------------|---------------|------------------|
| 18/03/2014 | 191 | Transit ADDGT15 to ADDGT16 | MB2 | | A1 | 15:38 | 15:46 | EOL | 55.84164 | 0.00761 | | |
| 18/03/2014 | 192 | ADDGT16 | HC | 80 | A1 | 16:01 | | 2317 | 55.84260 | 0.00581 | 82280 | 82281 |
| 18/03/2014 | 193 | Transit ADDGT16 to ADDGT08 | MB2 | | A1 | 16:05 | 16:12 | SOL | 55.84250 | 0.00425 | | |
| 18/03/2014 | 194 | ADDGT08 | HC | 87 | A1 | 16:21 | | 2318 | 55.83012 | -0.00369 | 82264 | 82265 |
| 18/03/2014 | 195 | Transit ADDGT08 to ADDGT17 | MB2 | | A1 | 16:27 | 16:35 | EOL | 55.83114 | -0.00336 | | |
| 18/03/2014 | 196 | ADDGT17 | HC | 70.4 | A1 | 16:44 | | 2319 | 55.83200 | 0.02027 | 82282 | 82283 |
| 18/03/2014 | 197 | Transit ADDGT17 to ADDGT18 | MB2 | | A1 | 16:51 | 16:59 | EOL | 55.82130 | 0.03504 | | |
| 18/03/2014 | 198 | ADDGT18 | HC | 69 | A1 | 17:31 | | 2320 | 55.82148 | 0.03491 | 82285 | 82284 |
| 18/03/2014 | 199 | Transit ADDGT18 to ADDGT19 | MB2 | | A1 | 17:37 | 17:46 | EOL | 55.80977 | 0.05127 | | |
| 18/03/2014 | 200 | ADDGT19 | HC | 92 | A1 | 17:56 | | 2321 | 55.81106 | 0.04957 | 82286 | 82287 |
| 18/03/2014 | 201 | Transit ADDGT19 to ADDGT20 | MB2 | | A1 | 18:02 | 18:10 | SOL | 55.81217 | 0.04877 | | |
| 18/03/2014 | 202 | ADDGT20 | HC | 86 | A1 | 18:23 | | 2323 | 55.82329 | 0.05931 | | |
| 18/03/2014 | 202 | ADDGT20 | HC | 86 | A1 | 18:23 | | 2322 | 55.82340 | 0.05871 | 82288 | 82289 |

Swallow Sand MCZ Survey Report

| Date | Station Number | Station Code | Gear Code | Water Depth (m) | Attempt | Time Sampled / SOL | Time for EOL | Fix | Latitude DD | Longitude DD | Fauna Barcode | Sediment Barcode |
|------------|----------------|----------------------------------|-----------|-----------------|---------|--------------------|--------------|------|-------------|--------------|---------------|------------------|
| 18/03/2014 | 203 | Transit ADDGT20 to ADDGT17 | MB2 | | A1 | 18:29 | 18:44 | SOL | 55.82338 | 0.05860 | | |
| 18/03/2014 | 204 | ADDGT17 | CS | 71 | A1 | 18:55 | 19:05 | 2418 | 55.83218 | 0.01938 | | |
| 18/03/2014 | 205 | Transit ADDGT17 to ADDGT15 | MB2 | | A1 | 19:12 | 19:27 | SOL | 55.83396 | 0.01592 | | |
| 18/03/2014 | 206 | ADDGT15 | CS | 89 | A1 | 19:52 | 20:03 | 2751 | 55.86926 | 0.04582 | | |
| 18/03/2014 | 207 | Transit ADDGT15 to SWSD26 | MB2 | | A1 | 20:16 | 20:37 | SOL | 55.85577 | -0.00325 | | |
| 18/03/2014 | 208 | SWSD26 | CS | 152 | A1 | 20:55 | 21:06 | 2593 | 55.85883 | 0.06110 | | |
| 18/03/2014 | 209 | Transit SWSD26 to SWSD21 | MB2 | | A1 | 21:11 | 21:27 | EOL | 55.87022 | 0.04925 | | |
| 18/03/2014 | 210 | SWSD21 | CS | 171 | A1 | 21:44 | 21:55 | 2814 | 55.86884 | 0.04473 | | |

6.8 Daily Progress Report

Daily progress reports are available electronically.

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- the European Commission
- the World Bank
- Food and Agriculture Organisation of the United Nations (FAO)
- oil, water, chemical, pharmaceutical, agro-chemical, aggregate and marine industries
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