



Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Environmental Statement

Volume 3

Appendix 8.4 - SEP Benthic Habitat Report

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Sheringham Shoal Extension Habitat Report

Sheringham Extension Project

Offshore Norfolk

Volume 2 Habitat Assessment Report

Survey Period: 10 to 19 August 2020

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Equinor New Energy Limited



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Client	Equinor New Energy Limited
Client Address	1 Kingdom St, London W2 6BD
Client Contact	Erwin Oosterhoff

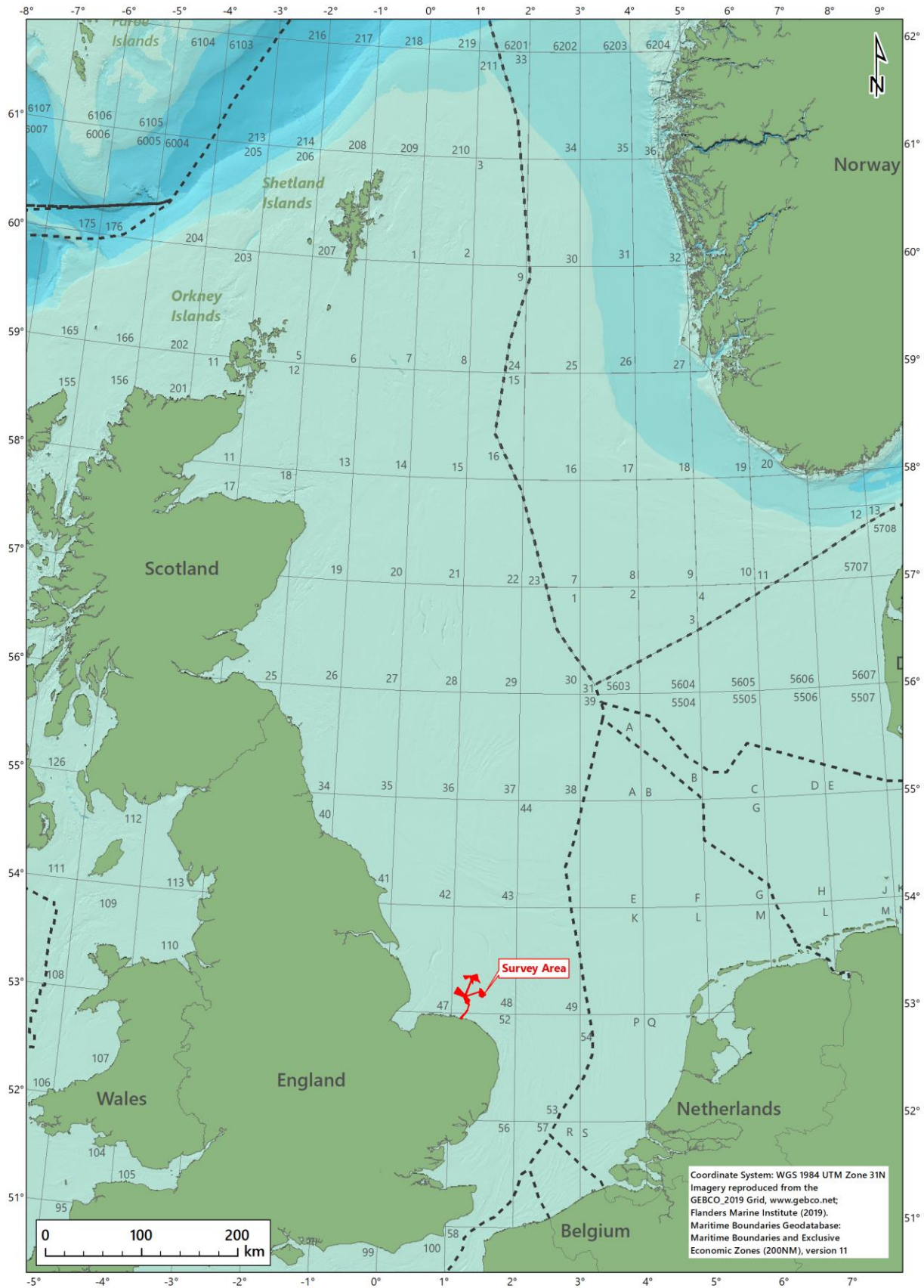
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Project Team

Initials	Name	Role
PMF	Peter Falkner	Project Manager
LEB	Laura E. Bush	Principal Marine Environmental Scientist
SLC	Suzanne Conlon	Marine Environmental Scientist

Frontispiece



Executive Summary

Introduction

On the instruction of Equinor New Energy Limited, Fugro performed a benthic characterisation survey at the at the Dudgeon Extension Project (DEP) and Sheringham Extension Project (SEP) areas. The survey areas were located offshore Norfolk within the southern North Sea (SNS). Operations were conducted onboard the DSV Curtis Marshall during the survey period 10 to 19 August 2020. This report details the results of the habitat assessment for the SEP area, which includes the northern and eastern boundary of the existing Sheringham Shoal (SS) offshore wind farm and the Export Cable (EC) corridor only.

Survey Strategy

Within the SS survey area, photographic stills and video data were successfully acquired at all 26 stations and grab samples were acquired at all 17 predefined stations. A complete suite of samples (single macrofauna and one particle size distribution (PSD) were retained at all stations, except for stations SS_12 and SS_26. At these stations, no macrofaunal samples were acquired due to repeat no samples. Chemistry subsamples were only retained at one of the two predefined stations, also due to repeat no samples.

Along the EC corridor, photographic stills and video data were successfully acquired at all but 4 of the 25 predefined stations. Stations EC_01, EC_20, EC_21 and EC_22 were abandoned due to the presence of fishing gear at the sampling locations. As such, an additional camera station (EC_26) was proposed and photographic data were successfully acquired. Grab samples were acquired at 18 predefined stations within the EC corridor. At five of the stations no macrofaunal samples were acquired due to repeat no samples. Triplicate PSD samples were acquired at all predefined stations except for EC_14 due to low grab volumes. Chemistry subsamples were retained at all three predefined stations.

Bathymetry and Seabed Features

Geophysical data for the SS survey area were acquired by Gardline in 2020. The water depth varied from 14.3 m Lowest Astronomical Tide (LAT) in the north-west of the survey area to 26.7m LAT in the south-eastern corner. Sand waves and ripples were recorded throughout the survey area.

Geophysical data for the EC corridor were acquired by Gardline in 2019. Numerous sonar objects including boulders, debris and wrecks were documented. The EC corridor water depths ranged from 0.0 m LAT to 27.0 m LAT. Areas of megaripples and sand waves were recorded along the EC corridor and the seabed varied from smooth to uneven with an expected predominant sediment type consisting sandy gravel.

Sediment Characteristics

Four sediment classes were identified across the SS survey area and classified as gravelly sand, sandy gravel, gravelly muddy sand and muddy sandy gravel, in line with the Folk (British Geological Survey (BGS) modified) description.

Similarly, four sediment classes were identified across the Export Cable (EC) corridor and classified as gravelly sand, sandy gravel, sand and muddy sandy gravel.

Potentially Sensitive Habitats or Species

A stony reef assessment was carried out at the SS survey area and along the EC corridor. At the SS survey area, all transects were classed as 'Not a reef'. Along the EC corridor, two transects were classed as 'Low reef' due to the higher percentage of cobble coverage and elevation observed, whilst the rest were assigned 'Not a reef'. Neither of these areas fulfil the definition of the Annex I habitat stony reef.

The UK Biodiversity Action Plan (UK BAP) priority habitat 'Subtidal sands and gravels' are present within survey area. However, these habitats are widely distributed in UK waters and already included within UK MPA network. Additionally, along one nearshore transect, there was an area of potential Annex 1 geogenic (soft bedrock) reef, and UK BAP priority habitat 'Subtidal chalk', due to the presence of outcropping chalk observed.

The UK BAP habitat 'Peat and Clay Exposures with Piddocks' which are known to occur on the south and east coasts of England was present in station SS_21A of the SS survey area, which had emergent, burrowed clay.

Herring are considered as a priority species in the UK BAP. At the SS survey area, a total of nine stations considered as 'Preferred' herring spawning grounds, one station was considered 'Marginal' and the remaining seven samples were classed as 'Unsuitable'.

Along the EC corridor a total of 19 samples were considered as 'Preferred' herring spawning grounds, four samples were considered 'Marginal' and the remaining eight samples were classed as 'Unsuitable'.

Sand eels are considered as a priority species in the UK BAP. The sediment composition at stations at the SS survey area indicated the presence of 'Preferred', 'Marginal' and 'Unsuitable' sand eel grounds. Station SS_02 was identified as a 'Preferred' habitat for sand eels due to the high composition of coarse sand and low percentage of fine sand and silt. Nine stations were considered as 'Marginal' habitat.

Similarly, along the EC corridor all three categories 'Preferred', 'Marginal' and 'Unsuitable' were present. Due to the presence of replicate sampling, each replicate was assessed separately. A total of 11 samples were identified as a 'Preferred' habitat for sand eels due to the high composition of coarse sand and 19 samples were considered as 'Marginal' habitat.

Specimens of *Sabellaria spinulosa* were encountered within grab samples and were observed within fifteen of the camera transects across the entirety of the SEP area. The specimens found were either single tubes, encrusting, or very small clumps and therefore did not warrant a full assessment to confirm that the Annex I 'reef' habitat was not present.

Document Arrangement

Volume 1	Dudgeon and Sheringham Shoal Extension Field Report
Volume 2	Sheringham Shoal Extension Habitat Report
Volume 3	Dudgeon Extension Habitat Report
Volume 4	Dudgeon Extension Benthic Characterisation Report
Volume 5	Sheringham Shoal Benthic Characterisation Report

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Abbreviations

BSL	Below sea level
CM	Central meridian
DG	Day grab
DSV	Dive support vessel
EC	Export cable
EMODnet	European Marine Observation and Data Network
EOL	End of line
EUNIS	European Nature Information System
FA/FB/FC	Faunal sample A, B or C
FGBML	Fugro GB Marine Limited
FOCI	Feature of Conservation Interest
JNCC	Joint Nature Conservation Committee
HG	Hamon grab
LAT	Lowest Astronomical Tide
LED	Light emitting diode
MCZ	Marine Conservation Zone
MPA	Marine Protected Area

NMBAQC	National Marine Biological Association Quality Control
NS	No sample
OSPAR	Oslo and Paris Commission
OWF	Offshore wind farm
PC	Chemistry sample
PSA	Particle size analysis
PSDA/PSDB/PSDC	Particle size distribution sample A, B or C
SAC	Special Area of Conservation
SEP	Sheringham Extension Project
SG	Shipek grab
SNS	Southern North Sea
SOL	Start of line
SS	Sheringham Shoal
SSS	Side scan sonar
UK BAP	United Kingdom Biodiversity Action Plan
UTC	Coordinated Universal Time
UTM	Universal Transverse Mercator
WGS84	World Geodetic System 1984

1. Introduction

1.1 General Project Description

On the instruction of Equinor New Energy Limited, Fugro performed a benthic characterisation survey at the Dudgeon Extension Project and Sheringham Extension Project (SEP) areas. In addition, post-construction monitoring was undertaken along the Sheringham Shoal offshore wind farm (OWF) export cable (EC) route. The survey areas were located offshore Norfolk in the southern North Sea (SNS). Operations were conducted onboard the DSV Curtis Marshall during the survey period 10 to 19 August 2020.

The SEP is on the northern and eastern boundary of the existing Sheringham Shoal OWF, 17.5 km north of the Norfolk coast. Offshore export cables will connect the offshore substations situated within the wind farm areas to shore, making landfall at Weybourne.

This report details the environmental survey operations and presents a habitat assessment for the current SEP only. For the purposes of this report, the SEP survey area includes the Sheringham Shoal (SS) survey area and the export cable (EC) corridor only. The interpretation may change following further data analysis from grab samples.

Appendix A outlines the guidelines for the use of this report.

1.2 Scope of Work

1.2.1 Geophysical Survey

The geophysical surveys were conducted by Gardline in 2019 and 2020 for the EC corridor and SS survey areas, respectively. The surveys utilised multi-beam echo sounder, side scan sonar (SSS), magnetometer, sub-bottom profiler and ultra-high resolution equipment.

1.2.2 Environmental Survey

The aims of the benthic characterisation survey were to assess the benthic communities and potentially sensitive habitats, such as Annex I habitats, herring spawning grounds and sand eel habitats. The EC corridor passes through the Cromer Shoal Chalk Beds Marine Conservation Zone (MCZ) and, as such, emphasis was placed on the identification of designated features such as any subtidal chalk habitats.

1.3 Environmental Legislation

This habitat assessment was undertaken to fulfil the requirement of The Conservation of Offshore Marine Habitats and Species Regulations 2017, which transposes into national law the EU Habitats Directive (92/43/EEC) and consolidates the provisions in the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007. The regulations apply to the UKs offshore marine area beyond 12 nautical miles and enables the designation of Special Areas

of Conservation (SACs) for the protection of Annex I habitats and Annex II species to form a network of sites known as Natura 2000.

The Natura 2000 sites are complemented with international and regional level Marine Protected Areas (MPAs) designations under OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic. These also include 16 inshore and 7 offshore Marine Conservation Zones (MCZs) designated around England by the Department Environment, Food and Rural Affairs (DEFRA) in 2016 (JNCC, 2019), in addition to the 22 inshore and 5 offshore MCZs designated in November 2013. The MCZs were selected to protect a range of broadscale habitats, habitat Features of Conservation Importance (FOCI) and species FOCI that incorporate seabed habitats and large scale features of functional importance to England's seas, in addition to threatened, rare, or declining species and habitats (JNCC, 2019a).

1.4 Regional Habitats, Species and Protected Areas

Based on the European Marine Observation and Data Network (EMODnet) seabed habitats map, the SS and EC corridor survey areas lies in an area likely to comprise the European Nature Information System (EUNIS) habitat, 'Circalittoral coarse sediment' (A5.14) or 'Deep circalittoral coarse sediment' (A5.15), with areas of 'Circalittoral fine sand' (A5.25) or 'Circalittoral muddy sand' (A5.26) (EMODnet, 2019). Therefore, the UK Biodiversity Action Plan (UK BAP) priority habitat 'Subtidal sands and gravels' could occur within the survey area.

Table 1.1 lists the nearby protected areas within 30 km of the SS survey area, summarising the sensitive habitats and species for which they were designated to protect.

Table 1.1: Summary of nearby protected areas, Sheringham Extension Project

Protected Area	Status	Distance* [km]	Direction*	Protected Habitats/Species†
North Norfolk Sandbanks and Saturn Reef	Special Area of Conservation	29.6	NE	Annex I habitats 'reefs' Annex I habitat 'sandbanks which are slightly covered by seawater all of the time'
Haisborough, Hammond and Winterton	Special Area of Conservation	18.3	SE	Annex I habitats 'reefs' Annex I habitat 'sandbanks which are slightly covered by seawater all of the time'
The Wash and North Norfolk Coast	Special Area of Conservation	1.5	SW	Annex I habitats 'reefs' Annex I habitat 'sandbanks which are slightly covered by seawater all of the time'
Inner Dowsing, Race Bank and North Ridge	Special Area of Conservation	2.3	W	Annex I habitats 'reefs' Annex I habitat 'sandbanks which are slightly covered by seawater all of the time'

Protected Area	Status	Distance* [km]	Direction*	Protected Habitats/Species†
Cromer Shoal Chalk Beds	Marine Conservation Zone	6.7	S	UK BAP priority habitat and FOCI 'subtidal chalk' UK BAP priority habitat 'peat and clay exposures with piddocks' FOCI 'peat and clay exposures'
Notes UK BAP = United Kingdom Biodiversity Action Plan FOCI = Feature of Conservation Interest * = Distance and direction from the nearest point of the Sheringham Shoal survey area † = Protected habitats and/or species that are relevant to the current survey				

The Annex I habitat 'reefs' may be present within the survey area, as both biogenic and geogenic reef. Biogenic reefs formed by *S. spinulosa* were included within the rationale for the designation of the North Norfolk Sandbanks and Saturn Reef SAC, the Haisborough, Hamond and Winterton SAC, the Wash and North Norfolk SAC and the Inner Dowsing, Race Bank and North Ridge SAC. These four SACs are also designated to protect the Annex I habitat 'sandbanks which are slightly covered in seawater all the time'. Geogenic reefs may also be present in the survey area due to the EC corridor passing through the Cromer Shoal Chalk Beds MCZ, which is designated due to the relatively high abundance of subtidal chalk as well as peat and clay exposures.

Figure 1.1 spatially displays the protected areas in relation to the SS survey area and EC corridor.

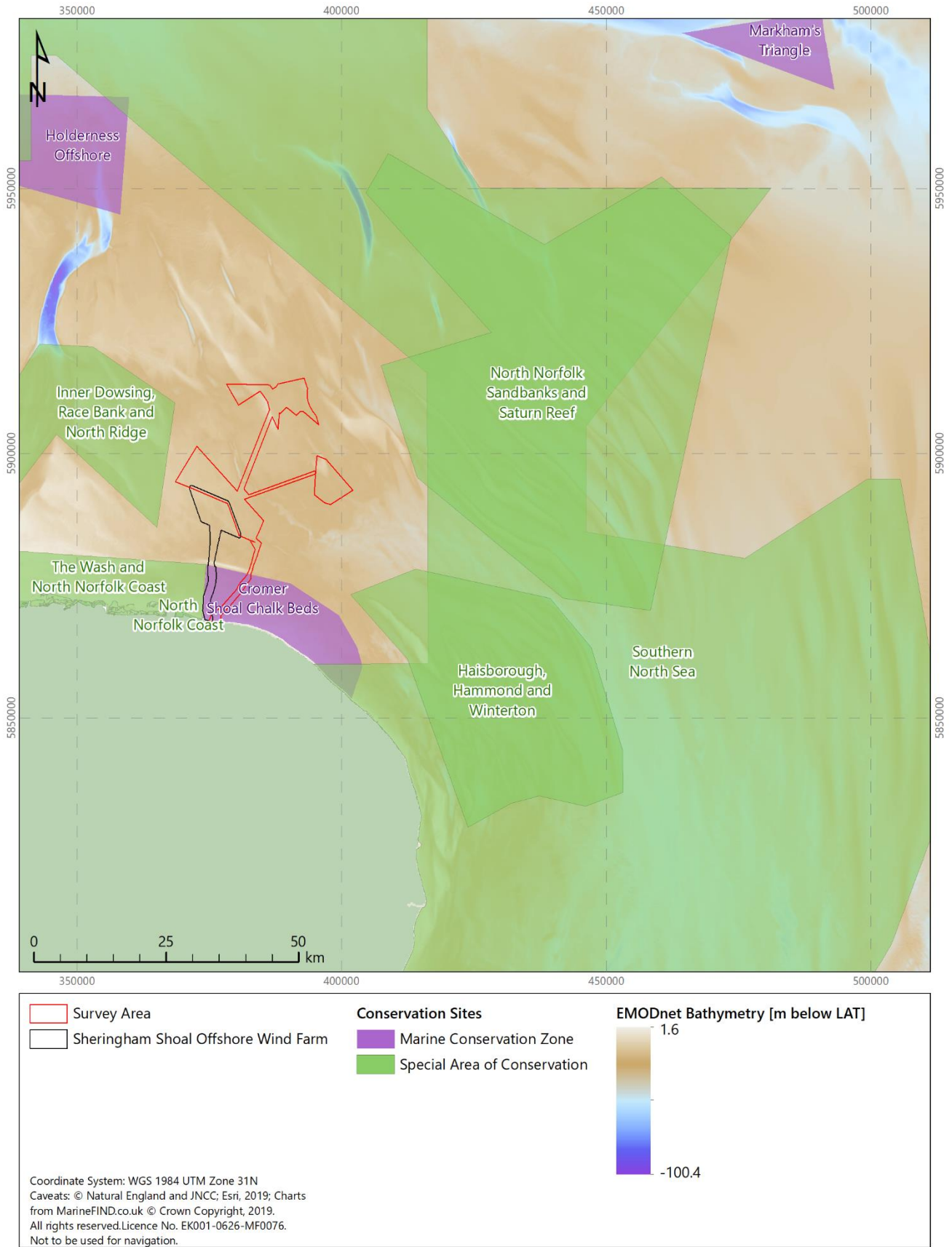


Figure 1.1: Protected areas (overlain on bathymetry data) relevant to the Sheringham Extension Project survey area

1.4.1.1 Herring (*Clupea harengus*)

Herring is a widespread and abundant pelagic fish species in the North Sea where breeding takes place in areas of gravel and similar habitats, such as coarse sand, maerl, shell, characterised by low proportion of fine sediment and in well oxygenated water (Ellis et al., 2012). They lay their eggs in well oxygenated water with low levels of suspended sediments. Their eggs, which have adhesive qualities, sink through the water column and onto the benthos. Herring have historically been reported to exhibit natal spawning site fidelity in discrete groups that results in predictable patterns of migration to and from spawning grounds (McPherson et al., 2001). Four major spawning groups defined by specific spawning times and sites have been identified within the North Sea; however natural variability in the timing of spawning is to be expected (Payne, 2010). Herring is listed in the UK BAP List as important (priority) species for the protection of the UK's biological resources (UK BAP, 2007).

1.4.1.2 Sand Eel (*Ammodytidae*)

Sand eel are amongst the major zooplankton predators and the principal prey of many top predators including marine mammals and birds, playing a key role in the North Sea food-web (Frederiksen, 2006). Sand eel are also the target of a large-scale industrial fishery in the North Sea (Frederiksen, 2006) and are known to prefer depths of 30 m to 70 m, although they may occur between depths of 15 m and 120 m (Holland et al., 2005). Sand eel are most active in late spring/early summer, when they move freely, on a diurnal basis, between the seabed and the water column; in autumn and winter, sand eel lie dormant in the sediment except for a brief midwinter emergence to spawn (Greenstreet et al., 2010). The lesser sand eel (*Ammodytes marinus*) is listed in the UK BAP List as an important (priority) species for the protection of the UK's biological resources (UK BAP, 2007).

1.5 Coordinate Reference System

All coordinates detailed in this report are referenced to World Geodetic System 1984 (WGS84) Universal Transverse Mercator (UTM) projection Zone 31N central meridian (CM) 3° East. Table 1.2 provides the detailed geodetic and projection parameters.

Table 1.2: Project geodetic and projection parameters

Global Positioning System Geodetic Parameters	
Datum:	World Geodetic System 1984 (WGS84)
Spheroid:	World Geodetic System 1984
Semi major axis:	a = 6 378 137.000 m
Reciprocal flattening:	1/f = 298.257 223 563
Project Projection Parameters	
Grid Projection:	Universal Transverse Mercator (UTM)
UTM Zone:	31N
Central Meridian:	3° 00' 00" East
Latitude of Origin:	00° 00' 00" North
False Easting:	500 000 m
False Northing:	0 m
Scale factor on Central Meridian:	0.9996
Units:	metre

2. Survey Strategy

A total of 26 environmental sampling stations were predefined by the client within the SS survey area. At each station, video and stills photographic data were to be acquired. At 17 of the sampling stations, a subsequent macrofaunal and particle size distribution (PSD) sample were also to be acquired, and at 2 of these stations a further suite of chemistry subsamples were to be acquired.

A total of 25 environmental sampling stations were predefined by the client within the EC corridor survey area. At each station, video and stills photographic data were to be acquired. At 18 of the sampling stations, a subsequent macrofaunal and PSD sample were also to be acquired. At three of these stations within the Cromer Shoal Chalk Beds MCZ, a further suite of chemistry subsamples were to be acquired using a Shipek grab in order to reduce environmental disturbance. Seven of the eighteen sampling stations within the EC corridor required triplicate macrofaunal and PSD sampling.

Table 2.1 provides the coordinates, data to be acquired and rationale for each predefined sampling station. Figure 2.1 provides a spatial display of the proposed locations overlaid on a SSS mosaic.

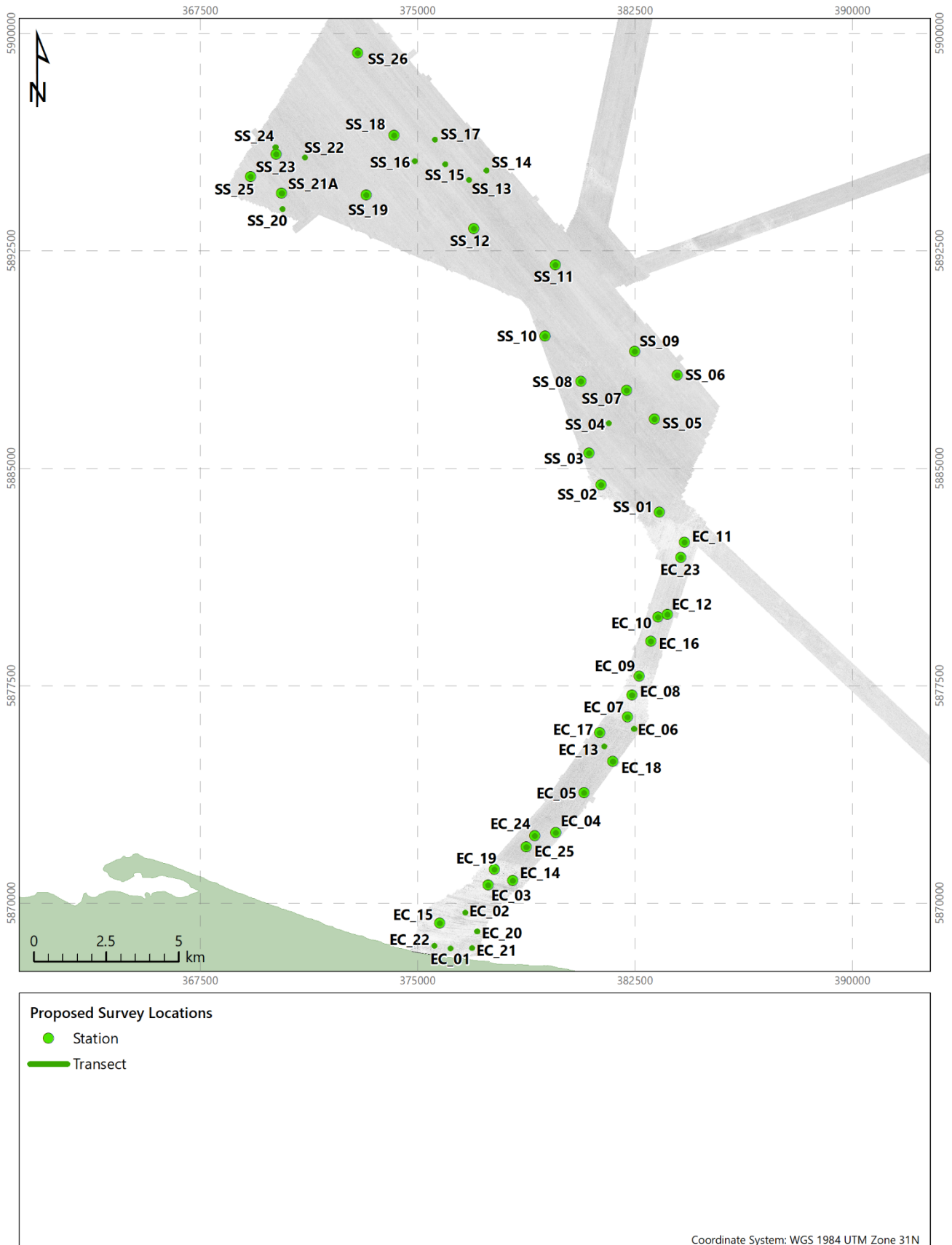
Table 2.1: Predefined sampling stations, Sheringham Extension Project

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Rationale	Data and Sample Acquisition
Sheringham Shoal				
SS_01	383 335.3	5 883 478.9	Assess area of mixed sediment from MCZ map	Video, stills, FA, PSDA
SS_02	381 333.6	5 884 416.0	Sand waves and ripples	Video, stills, FA, PSDA
SS_03	380 912.9	5 885 511.5	Low variability seabed	Video, stills, FA, PSDA, PC
SS_04	381 597.3	5 886 556.1	Low variability seabed with possible <i>Sabellaria spinulosa</i>	Video, stills
SS_05	383 166.3	5 886 689.7	Targeting seabed feature, small area of rippled seabed	Video, stills, FA, PSDA
SS_06	383 951.8	5 888 205.5	Targeting seabed feature of a sand wave	Video, stills, FA, PSDA
SS_07	382 209.7	5 887 684.8	Variable seabed with little showing on side scan and previously sampled	Video, stills, FA, PSDA
SS_08	380 636.8	5 887 985.0	Targeting seabed feature of a sand wave	Video, stills, FA, PSDA
SS_09	382 485.9	5 889 029.6	Low variability seabed close to wreck	Video, stills, FA, PSDA

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Rationale	Data and Sample Acquisition
SS_10	379 388.0	5 889 557.9	Low variability seabed & previously sampled	Video, stills, FA, PSDA
SS_11	379 743.5	5 892 004.3	Low variability seabed	Video, stills, FA, PSDA
SS_12	376 938.5	5 893 256.2	Targeting seabed feature, patchy and variable	Video, stills, FA, PSDA
SS_13	376 770.4	5 894 949.2	Potential <i>Sabellaria spinulosa</i> area with existing records	Video, stills
SS_14	377 370.8	5 895 273.4	Low variability but variable previously sampled and adjacent to recorded <i>Sabellaria spinulosa</i>	Video, stills
SS_15	375 953.9	5 895 489.5	Low variability but variable previously sampled and recorded <i>Sabellaria spinulosa</i>	Video, stills
SS_16	374 897.3	5 895 597.6	Low variability but variable previously sampled and recorded <i>Sabellaria spinulosa</i>	Video, stills
SS_17	375 593.7	5 896 342.1	Low variability but variable previously sampled and recorded <i>Sabellaria spinulosa</i>	Video, stills
SS_18	374 188.9	5 896 486.1	Low variability seabed	Video, stills, FA, PSDA, PC
SS_19	373 222.9	5 894 426.3	Low variability seabed	Video, stills, FA, PSDA
SS_20	370 334.5	5 893 940.6	Targeting seabed feature, possible <i>Sabellaria spinulosa</i> and previous sample show <i>Sabellaria spinulosa</i>	Video, stills
SS_21	370 310.5	5 894 480.9	Targeting seabed feature	Video, stills, FA, PSDA
SS_22	371 103.0	5 895 717.7	Low variability seabed, adjacent to linear feature and adjacent to recorded <i>Sabellaria spinulosa</i>	Video, stills
SS_23	370 118.4	5 895 825.7	Targeting seabed feature, possible <i>Sabellaria spinulosa</i>	Video, stills, FA, PSDA
SS_24	370 094.4	5 896 077.9	Targeting seabed feature, possible <i>Sabellaria spinulosa</i>	Video, stills
SS_25	369 229.9	5 895 057.3	Low variability seabed, adjacent to linear feature	Video, stills, FA, PSDA
SS_26	372 927.8	5 899 325.9	Low variability seabed	Video, stills, FA, PSDA
Export Cable Corridor				
EC_01	376 137.5	5 868 430.4	Potential area for chalk reef with no existing records	Video, stills
EC_02	376 639.3	5 869 674.2	Targeting variable area with adjacent samples indicated cobbles	Video, stills
EC_03	378 283.7	5 870 765.3	Variable seabed and at transition to a more consistent area	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Rationale	Data and Sample Acquisition
EC_04	379 042.9	5 872 313.8	Low variability seabed	Video, stills, FA, PSDA, PC
EC_05	380 734.6	5 873 797.0	Low variability seabed with adjacent samples of mixed sediment	Video, stills, FA, PSDA
EC_06	382 464.5	5 876 008.3	Existing sample location, mixed sediments and <i>Sabellaria spinulosa</i>	Video, stills
EC_07	382 237.7	5 876 411.4	Targeting an area which has multiple seabed types and an edge is indicated (side of shoal)	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC, PC
EC_08	382 390.2	5 877 158.9	Targeting feature, top of shoal	Video, stills, FA, PSDA
EC_09	382 642.0	5 877 808.2	Targeting an area which has multiple seabed types and an edge is indicated (side of shoal)	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC
EC_10	383 290.2	5 879 858.9	Low variability seabed adjacent to feature	Video, stills, FA, PSDA
EC_11	384 200.7	5 882 432.2	Consistent area of seabed at junction of cable corridors	Video, stills, FA, PSDA
EC_12	383 617.8	5 879 951.0	Targeting feature	Video, stills, FA, PSDA
EC_13	381 442.7	5 875 396.8	Targeting linear feature	Video, stills
EC_14	377 437.7	5 870 611.4	Variable seabed yet adjacent samples suggest sand	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC
EC_15	375 756.3	5 869 290.6	Consistent seabed with no existing samples	Video, stills, FA, PSDA, PC
EC_16	383 039.3	5 879 023.8	Low variability seabed	Video, stills, FA, PSDA
EC_17	381 287.8	5 875 866.8	Low variability seabed with adjacent samples of mixed sediment	Video, stills, FA, PSDA
EC_18	381 737.9	5 874 884.4	Low variability seabed with adjacent samples of coarse sediment	Video, stills, FA, PSDA
EC_19	377 640.8	5 871 151.5	Targeting variable area and an edge/transition is indicated	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC
EC_20	377 051.9	5 869 015.0	Targeting variable area with cobbles indicated from previous samples	Video, stills
EC_21	376 876.0	5 868 439.3	Targeting variable area with reef indicated from previous samples	Video, stills
EC_22	375 573.2	5 868 523.4	Targeting variable area with reef indicated from previous samples	Video, stills
EC_23	384 081.8	5 881 917.6	Targeting variable area and an edge/transition is indicated	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Rationale	Data and Sample Acquisition
EC_24	379 764.0	5 872 417.2	Assess area of mixed sediment from MCZ map	Video, stills, FA, FB, FC, PSDA, PSDB, PSDC
EC_25	378 753.7	5 871 926.7	Assess area of mixed sediment from MCZ map	Video, stills, FA, PSDA
<p>Notes</p> <p>MCZ = Marine conservation zone PC = Chemistry sample FA/FB/FC = Faunal sample A, B or C PSDA/PSDB/PSDC = Particle size distribution sample A, B or C</p>				



Map Document: [S:\430-MGC-IT\Charting\E200270_Equinor_Dudgeon_and_Sheringham\3_Plots\2_Draft\Sheringham\Q200270_03_ProposedArray.mxd]
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Figure 2.1: Proposed environmental survey locations overlaid on a side scan sonar mosaic, Sheringham Extension Project

3. Methods

3.1 Survey Methods

3.1.1 Seabed Photography

Seabed photography was acquired using a Subsea Technology and Rentals Limited SeaSpyder Telemetry camera system mounted within a purpose built camera frame, complete with a Mini IP 720-1080p high definition video camera, a Canon EOS 200D DSLR high resolution stills camera (24 megapixel), a separate high power camera strobe and four high intensity SeaLight LED-1-DC lamps. Four lasers were set up 18.5 cm by 16.5 cm (width and height, respectively) apart to provide a scale. Manual position fixes were recorded for every photograph captured and positional data were overlain on the recorded video, along with date, time, project and station information.

3.1.2 Sediment Grab Sampling

Seabed fauna and PSD samples were acquired using a 0.1 m² Hamon grab. Chemistry samples were acquired with a 0.1 m² Day grab, with the exception of samples acquired in the Cromer Shoal Chalk Beds MCZ (those on the EC corridor), where a 0.04 m² Shipek grab was used in order to reduce environmental disturbance. For further details on deployment and processing methods, refer to the Field Report (200270-R-001).

3.2 Laboratory Methods

3.2.1 Sediment Particle Size Distribution

3.2.1.1 Dry Sieve Analysis

PSD analysis was undertaken in accordance with Fugro in-house methods based on the National Marine Biological Association Quality Control (NMBAQC) scheme's best practice guidance document – Particle Size Analysis (PSA) for Supporting Biological Analysis, and BS1377: Parts 1: 2016 and 2: 1990.

Representative material > 1 mm was split from the bulk subsample and oven dried before sieving through a series of sieves with apertures corresponding to 0.5 phi intervals between 63 mm and 1 mm as described by the Wentworth scale (Wentworth, 1922). The weight of the sediment fraction retained on each mesh was subsequently measured and recorded.

3.2.1.2 Laser Diffraction

PSD analysis was undertaken in accordance with Fugro in-house methods based on the NMBAQC best practice guidance document – Particle Size Analysis (PSA) for Supporting Biological Analysis, and BS ISO 13320: 2009.

Representative material < 1 mm was removed from the bulk subsample for laser analysis, a minimum of three triplicate analyses were analysed using the laser sizer at 0.5 phi intervals

between < 1 mm to < 3.9 μ m. Laser diffraction was carried out using a Malvern Mastersizer 2000 with a Hydro 2000G dispersion unit.

3.2.1.3 Outputs and Deliverables

Sieve and laser data are merged and input into GRADISTAT to derive statistics including mass and percentage retained within each size fraction, mean and median grain size, bulk sediment classes (percentage gravel, sand and silt/clay), skewness, sorting coefficients and Folk classification.

3.3 Interpretation Methods

3.3.1 Seabed Habitats/Biotopes Classification

To assess the habitats present within the survey area, detailed analysis of video and still photographic data was undertaken noting the locations of any observed changes in sediment type and/or associated faunal community.

Taxa were recorded to the lowest possible taxonomic level. It should be noted that many species cannot be identified from photographic data alone and, as such, higher taxonomic levels were used.

Descriptions of the substrate composition, corresponding to sediment changes, were undertaken for each video segment. These descriptions were based on a reclassification of the Folk (1954) sediment classes and were developed to support the EUNIS habitat identification (Long, 2006) in conjunction with the Wentworth (1922) classification, the latter differentiating between pebbles, cobbles and boulders based on their dimensions. The Folk (1954) sediment classification was reclassified into four categories, namely 'coarse sediment', 'mixed sediment', 'mud and sandy mud' and 'sand and muddy sand' (Long, 2006). These categories are defined by the proportions of 'mud', 'sand' and 'gravel'. As the majority of differences within sediment classification are related to differences from sands to muddy sand, further sub-categories, namely 'mud', 'sandy mud' and 'muddy sand' are utilised (Kaskela et al., 2019). For example, a description of 'muddy sand' defines sediments that have sand as the principle component (50 % to 90 %) with a secondary component of mud (10 % to 50 %) and < 5 % gravel (Kaskela et al., 2019). The EMODnet Geology Consortium further revised these categories to include a further category 'Rock and Boulders' (Kaskela et al., 2019), which include the Wentworth (1922) categories 'boulders' and 'cobbles'. The presence of shells and evident anthropogenic features were also noted.

Table 3.1 presents a summary of the sediment particle sizes and corresponding classifications.

Table 3.1: Sediment particle size and classification terms

Particle Size	Wentworth (1922)	Folk (1954)	Folk, 5 classes (Kaskela et al., 2019)			
> 256 mm	Boulder	Gravel	Rock & Boulders			
64 mm to 256 mm	Cobble					
32 mm to < 64 mm	Pebbles		Coarse sediment: (Gravel ≥ 80 %, or Gravel ≥ 5 % and Sand ≥ 90 %)	Mixed sediment: (Mud ≥ 10 %-95 % Sand < 90 % Gravel ≥ 5%)	Mud to sandy mud*: (Mud 10 %-5 % Sand < 90 % Gravel < 5 %)	Sand: (Mud < 10 % Sand ≥ 90 % Gravel < 5%)
16 mm to < 32 mm						
8 mm to < 16 mm						
4 mm to < 8 mm	Sand					
2 mm to < 4 mm		Granules				
1 mm to < 2 mm		Very coarse sand				
0.5 mm to < 1 mm		Coarse sand				
0.25 mm to < 0.5 mm		Medium sand				
0.125 mm to < 0.25 mm	Fine sand	Mud	-			
62.5 µm to 0.125 mm	Very fine sand					
> 4 µm to 62.5 µm	Silt					
> 1 µm to 4 µm	Clay					
Notes						
* = Mud to sandy mud includes: Mud (Mud ≥ 90 %, Sand < 10 %, Gravel < 5%); Sandy mud (Mud 50 % to 90 %, Sand 10 % to 50 %, Gravel < 5%); Muddy sand (Mud 10 % to 50 %, Sand 50 % to 90 %, Gravel < 5%) (Kaskela et al., 2019)						

Habitats within the survey area have been classified in accordance with the European Nature Information Service (EUNIS) habitat classification (EEA, 2019a). Table 3.2 summarises the EUNIS hierarchy, with an example of the coding system. The EUNIS classification system is designed to incorporate small-scale temporal variations (e.g. seasonal) into the biotope/habitat categories. However, biological communities and marine environments can be highly dynamic and temporally variable, therefore the biotopes and habitats identified by the current assessment are representative of the survey area at the time of sampling only.

EUNIS classifications were coded for each habitat type observed from video data. Although, theoretically, a biotope can be assigned to any sized area of seabed, for the purposes of this assessment the commonly accepted minimum habitat size of 25 m² (Connor et al., 2004) was adopted.

Table 3.2: EUNIS (EEA, 2019a) biotope classification hierarchy example

Level	Example Classification Name	Example Classification Code
1. Environment	Marine habitats	A
2. Broad habitat types	Sublittoral sediments	A5
3. Main habitats	Sublittoral sand	A5.2
4. Biotope complexes	Circalittoral muddy sand	A5.26
5 & 6. Biotopes and sub-biotopes	<i>Amphiura brachiata</i> with <i>Astropecten irregularis</i> and other echinoderms in circalittoral muddy sand	A5.262

3.3.2 Sensitive Habitats and Species

Following an initial review of video and photography data the presence of any sensitive habitat and species were assessed using the methods outlined below.

3.3.2.1 Geogenic and Biogenic Reefs

Annex I habitat 'reefs' are clearly defined in the Interpretation Manual of the European Union Habitats (European Commission, 2013) as:

"Reefs can be either biogenic concretions or of geogenic origin. They are hard compact substrata on solid and soft bottoms, which arise from the sea floor in the sublittoral and littoral zone. Reefs may support a zonation of benthic communities of algae and animal species as well as concretions and corallogenic concretions."

Hard compact substrata includes rocks (including soft rock such as chalk), boulders and cobbles (Golding et al., 2020). Within UK waters, three types of Annex I reef have been identified; biogenic, bedrock and stony (Duncan & Pinder, 2019).

No specific assessment criteria have been defined for identifying 'bedrock reef' habitats. Therefore, the video and photographic data were reviewed, alongside geophysical data, to identify the potential presence of the habitat. However, stony reefs and biogenic reefs created by *Sabellaria spinulosa* do have detailed assessment criteria that are outlined below.

Stony Reef

When considering the potential of an area as the Annex I habitats stony reef, the composition of the substrate is an important characteristic. Stony reef is defined as comprising coarse sediments with a diameter greater than 64 mm (cobbles and boulders) that provide a hard substratum. The relationship between the coarse material and sediment in which it lies is integral in determining 'reefiness'. Matrix (soft sediment) supported material is likely to have a patchier distribution than clast (coarse sediment) supported and so have lower 'reefiness', additionally matrix supported material is likely to have a larger infaunal component which again reduces its 'reefiness' (Irving, 2009). Reefs are also defined as having relief from the seafloor, and as such relief is used as another criterion for assessment. The epifaunal community of potential reef habitat is also a key determinant of its 'reefiness' and proportion of epifauna species to infaunal species' is therefore included as an assessment criterion.

Within the Irving (2009) scheme, potential stony reef habitat must have an area of greater than 25 m² to be classified as reef; this report also adopts this minimum area.

The criteria for stony reef assessment were based on the Irving (2009) methodologies. Table 3.3 presents the Irving (2009) criteria of 'reefiness' for stony reef habitat assessments.

Table 3.3 Measures of 'Reefiness' for stony reef habitat

Characteristic	Resemblance to a 'Stony Reef'			
	Not a Reef	Low	Medium	High
Composition Diameter of cobbles/boulders being greater than 64 mm. Percentage cover relates to a minimum area of 25 m ² . The 'composition' characteristic also includes 'patchiness'.	< 10 %	10 % – 40 %	40 % – 95 %	> 95 %
Elevation Minimum height (64 mm) relates to minimum size constituent cobbles. This characteristic could also include 'distinctness' from the surrounding seabed. Note that two units (mm and m) are used.	Flat seabed	< 64 mm	64 mm – 5 m	> 5 m
Extent	< 25 m ²		> 25 m ²	
Biota	Dominated by infaunal species	-	-	> 80 % of species present composed of epifaunal species
Notes Adapted from Irving (2009)				

Sabellaria spinulosa Reef

Areas where *Sabellaria spinulosa* was observed were analysed in detail for potential classification as a biogenic reef. Video and geophysical data were reviewed according to Joint Nature Conservation Committee (JNCC) guidelines that propose criteria for assessment of 'reefiness' of *S. spinulosa* aggregations (Table 3.4; Gubbay, 2007). Within this report it was decided that the simplest definition of a *S. spinulosa* reef was an area of *S. spinulosa* that is elevated from the seabed and has a large spatial extent (> 25 m²). Colonies may be patchy within an area defined as reef and represent a range of elevations. It should be noted that these criteria are not fully accepted/agreed thresholds for *S. spinulosa* reef identification and should be used as a guide only.

Table 3.4: Measures of 'Reefiness' of *Sabellaria spinulosa* aggregations

Measure of 'Reefiness' (Gubbay, 2007)	Not a Reef	Low	Medium	High
Elevation [cm] (mean tube height)	< 2	2 - 5	5 - 10	> 10
Area [m ²]	< 25	25 - 10000	10000 - 1000000	> 1000000
Patchiness [% cover]	< 10%	10 - 20%	20 - 30%	> 30%
Key	Not a Reef	Low	Medium	High

The JNCC guidelines (Gubbay, 2007) do not provide a method for combining the three *S. spinulosa* reefiness measures in Table 3.4 to provide a single overall reefiness of a potential reef. As such, the method used in the JNCC/Cefas report (Jenkins et al, 2015) has been utilised to create a measure of reef structure. As summarised in Table 3.5, elevation and patchiness have been combined to categorise 'reefiness'.

Table 3.5: *Sabellaria spinulosa* reef structure matrix

Reef Structure (Jenkins et al., 2015)			Elevation [cm]			
			< 2	2 - 5	5 - 10	> 10
			Not a Reef	Low	Medium	High
Patchiness	< 10%	Not a Reef				
	10 - 20%	Low				
	20 - 30%	Medium				
	> 30%	High				
Key	Not a Reef		Low 'Reefiness'	Medium 'Reefiness'	High 'Reefiness'	

3.3.2.2 Subtidal Sands and Gravels

'Subtidal sands and gravels' are classified as a UK BAP listed priority habitat and a MCZ Habitat FOCI. However, this habitat is the most common subtidal habitat around the coast of the UK (UK BAP, 2008a). Sand and gravel seabeds are widespread and occur in a range of environmental conditions, with gravels often present in higher concentrations in the troughs between sandbanks, as reported within the nearby Haisborough, Hammond and Winterton SAC (Figure 1.1). The mix of sand or gravel, and any sand waves or ripples present on the surface of the seabed, depend on factors such as the strength of the waves and tides, as do the faunal communities (JNCC, 2011). These habitats can be important for supporting internationally valuable fish and shellfish communities (JNCC, 2011).

Seabed photographic data were reviewed in detail to characterise the sediments within the survey area and broad habitat types were selected, which are comparable to the priority habitats. Associated epifaunal assemblages were identified to determine whether they constituted component habitats.

3.3.2.3 Peat and Clay Exposures

Peat and clay exposures with piddocks are classified as a UK BAP listed priority habitat 'Peat and clay exposures with piddocks' (UK BAP, 2008b) and a MCZ Habitat FOCI ('Peat and clay

exposures'). Piddocks are elongated burrowing bivalves and include *Pholas dactylus*, *Barnea candida* and *Barnea parva*. These are capable of boring into the soft peat and clay, creating a unique and fragile habitat (UK BAP, 2008b). Peat and clay exposures with either existing or historical evidence of piddock activity are unusual communities of limited extent. This habitat has been reported intertidally on southern coasts of the UK, from the north-west coast to the south and east coasts of England. The distribution of the subtidal element of this habitat relatively unknown. However, they are likely to occur near intertidal occurrences and piddocks, peat and clay exposures have been reported within the nearby Cromer Shoals Chalk Beds MCZ. Both intertidally and subtidally, this habitat is reported to increase substrate heterogeneity and thus biodiversity (UK BAP, 2008b).

No specific assessment criteria have been defined for this habitat. However, when reviewing the geophysical and video data, identification of peat and/or clay seabed sediments would be further investigated for presence of piddocks and potentially the sponges *Dysidea fragilis* and *Suberites carnosus*, foliose red algae and the crabs *Necora puber* and *Cancer pagurus*, which are often associated with this habitat.

3.3.2.4 Subtidal Chalk

Subtidal chalk is classified as both a UK BAP priority habitat 'Subtidal chalk' and an Annex I habitat 'reef' (UK BAPc, 2008). Along the south-east coasts of England, shallow subtidal (up to 5 m) communities are limited or absent due to the easily eroded nature of chalk and the prevailing harsh environment that the coastline is exposed to (UK BAPc, 2008). These conditions often make it difficult to undertake subtidal surveys to determine the extent of this habitat and its associated communities and therefore, are not well documented (Tittley et al, 1998). Less robust species (e.g. large seaweeds) that are more prone to scouring are replaced by more opportunistic species, resulting in communities that are low in species richness reflecting the hostile environment (UK BAPc, 2008).

No specific assessment criteria have been defined for this habitat. However, when reviewing the geophysical and video data, any outcropping chalk will be noted.

3.3.2.5 Herring Spawning Preferable Grounds

Assessment of the presence of preferable grounds for herring (*Clupea harengus*) spawning was based on methods outlined in MarineSpace et al. (2013).

The presence of preferable grounds for herring spawning was assessed using the distribution of sediment particle sizes detailed in the Folk sediment triangle (Folk, 1954). The sediments were classified according to the 'preference' reported for herring, documented in Reach et al. (2013), based on similar work on sand eel habitat preference (Section 3.3.2.6). Table 3.6 presents the herring spawning categories defined by MarineSpace et al. (2013) and Reach et al. (2013). The methodology outlined by MarineSpace et al. (2013) considers the recommendations of Reach et al. (2013), aligned with the Folk (1954) sediment classification. The herring spawning preference classifications of MarineSpace et al. (2013) range from

'Preferred' (sediment structure with highest percentage of gravel and very little mud content) through 'Marginal' (adequate sediment structure with reduced gravel content) to 'Unsuitable' (inadequate sediment structure with lowest gravel content and/or higher percentage of muds).

Reach et al., (2013) considered herring to favour sediments comprising < 5 % mud and > 10 % gravel. The Folk (1954) sediment classification considers mud contents of more than 10 % and 10 % or less, and gravel contents of between 5 % and 30 %. Therefore, using this classification, there is an inability to divide mud at the 5 % level and gravel at the 10 % level. The Folk (1954) classes therefore overestimate the sediment habitat utilised by herring for spawning events.

Table 3.6: Sediment types indicating 'preferred' spawning habitat

Reach et al., 2013			MarineSpace et al., 2013		
Fractional Composition	Folk (1954) Description	Herring Preference	Fractional Composition	Folk (1954) Description	Herring Preference
< 5 % muds and > 50 % gravel	Gravel (G) and part of sandy gravel (sG)	Prime	≤ 10 % muds and > 30 % gravel	Gravel (G) and sandy gravel (sG)	Preferred
< 5 % muds and > 25 % gravel	Part of sandy gravel (sG) and part of gravelly sand (gS)	Sub-prime			
< 5 % muds and > 10 % gravel	Part of gravelly sand (gS)	Suitable	≤ 10 % muds and 5 % to 30 % gravel	Gravelly sand	Marginal
> 5 % muds or < 10 % gravel	All other sediment types*	Unsuitable	> 10 % muds or ≤ 10 % gravel	All other sediment types*	Unsuitable
<p>Notes Adapted from MarineSpace et al., 2013 * = Other sediment types include mud (M), sandy mud (sM), muddy sand (mS), sand (S), slightly gravelly mud ((g)M), slightly gravelly sandy mud ((g)sM), slightly gravelly sandy mud ((g)mS), gravelly mud (gM), gravelly muddy sand ((g)mS), muddy gravel (mG) and muddy sandy gravel (msG) (and for Reach et al., 2013 part of sand gravel (sG) and gravelly sand (gS))</p>					

3.3.2.6 Sand Eel (Ammodytidae) Preferred Grounds

PSD data can be used to determine sediment type preferences of sand eels (Ammodytidae) in relation to particle size. An increase of the percentage of fine sand, coarse silt, medium silt, and fine silt (sediments with a diameter less than 0.25 mm) is associated with sand eels increasingly avoiding the habitat, while an increase of the percentage of medium sand and coarse sand (sediments with a diameter ranging from 0.25 mm to 2.0 mm) is associated with sand eels increasingly preferring the habitat (Holland et al., 2005; Greenstreet et al., 2010).

Latto et al. (2013) reviewed the interpretations of Holland et al., (2005) and Greenstreet et al., (2010) for preferred sediments for sand eels, aligned with the Folk (1954) classification.

Table 3.7 summarises the resultant sediment type preferences of sand eel (Ammodytidae).

Following the recommendation of Holland et al., (2005), a mud content of less than or equal to 10 % was considered as 'Unsuitable' sand eel habitat, with 'sand', 'slightly gravelly sand' and 'gravelly sand' representing 'Preferred' sand eel habitat.

Both Holland et al. (2005) and Greenstreet et al. (2010) concluded that suitable sand eel habitat can include a gravel component. However, there were discrepancies between the proportions of gravel considered. Greenstreet et al. (2010) identified 'Prime' habitat as less than 30 % gravel and 'Sub-prime' habitat as less than 50 %, with the boundary between 'Suitable' and 'Unsuitable' at 80 %. Holland et al. (2005) identified the boundary for 'Sub-prime' as 25 % or less gravel and for 'Unsuitable' as more than 35 %. The Folk (1954) sediment classification considers gravel contents of between 30 % and 80 %. Therefore, using this classification, there is an inability to divide at the 35 % or 50 % level. Inclusion of sandy gravel may overrepresent sand eel habitat. However, a precautionary approach was adopted by Latto et al., (2013), with sandy gravel considered to be 'Marginal' habitat with adequate sediment structure to support low numbers of sand eels.

Table 3.7: Sediment classifications indicating 'preferred' sand eel ground

Fractional Composition	Folk (1954) Description	Sand Eel Preference (Latto et al, 2013)
≤ 10 % mud and ≤ 30 % gravel	Sand (S), slightly gravelly sand ((g)S) and gravelly sand (gS)	Preferred
≤ 10 % mud and > 30 % to < 80 % gravel	Sandy gravel (sG)	Marginal
> 10 % mud or ≥ 80 % gravel	All other sediment types*	Unsuitable
<p>Notes</p> <p>* = Other sediment types include mud (M), sandy mud (sM), muddy sand (mS), slightly gravelly mud ((g)M), slightly gravelly sandy mud ((g)sM), slightly gravelly sandy mud (g)mS, gravelly mud (gM), gravelly muddy sand ((g)mS), muddy gravel (mG), muddy sandy gravel (msG) and gravel (G)</p>		

4. Results

4.1 Field Operations

4.1.1 Seabed Photography

Within the SS survey area, photographic stills and video data were successfully acquired over all predefined stations, although data acquisition at station SS_21 was re-run (as SS_21A) due to tidal conditions.

Along the EC corridor, photographic stills and video data were successfully acquired over all but four of the predefined stations. Predefined stations EC_01, EC_20, EC_21 and EC_22 were abandoned due to the presence of fishing gear at the sampling locations. As such, an additional camera station (EC_26) was proposed and undertaken after approval from the client representative.

Table 4.1 details the photographic data acquired at each station. Appendix B provides detailed survey logs.

Table 4.1: Completed transects, Sheringham Extension Project

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]					
Station		Easting	Northing	Length [m]	Data Acquisition
Sheringham Shoal					
SS_01	SOL	383 362.5	5 883 468.8	57	1 min 37 sec
	EOL	383 318.6	5 883 504.8		7 stills
SS_02	SOL	381 343.9	5 884 387.1	57	1 min 19 sec
	EOL	381 354.7	5 884 442.8		5 stills
SS_03	SOL	380 932.9	5 885 483.6	61	1 min 54 sec
	EOL	380 894.8	5 885 530.6		8 stills
SS_04	SOL	381 611.3	5 886 520.5	68	1 min 36 sec
	EOL	381 587.2	5 886 584.6		6 stills
SS_05	SOL	383 164.6	5 886 657.5	64	1 min 21 sec
	EOL	383 163.0	5 886 721.3		7 stills
SS_06	SOL	383 926.3	5 888 184.6	63	1 min 41 sec
	EOL	383 983.0	5 888 211.6		7 stills
SS_07	SOL	382 206.0	5 887 662.6	58	1 min 15 sec
	EOL	382 202.3	5 887 720.4		6 stills
SS_08	SOL	380 612.9	5 887 975.4	54	1 min 32 sec
	EOL	380 663.8	5 887 993.5		7 stills

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]					
Station		Easting	Northing	Length [m]	Data Acquisition
SS_09	SOL	382 462.6	5 889 024.1	49	0 min 55 sec 6 stills
	EOL	382 506.2	5 889 002.2		
SS_10	SOL	379 356.3	5 889 546.3	64	1 min 15 sec 6 stills
	EOL	379 419.2	5 889 558.6		
SS_11	SOL	379 717.0	5 891 968.6	73	2 min 10 sec 11 stills
	EOL	379 763.3	5 892 024.8		
SS_12	SOL	376 921.2	5 893 258.3	44	1 min 16 sec 8 stills
	EOL	376 962.1	5 893 273.5		
SS_13	SOL	376 737.3	5 894 939.0	56	1 min 24 sec 8 stills
	EOL	376 782.0	5 894 971.9		
SS_14	SOL	377 357.1	5 895 267.6	30	1 min 9 sec 6 stills
	EOL	377 386.0	5 895 260.5		
SS_15	SOL	375 952.2	5 895 448.5	62	1 min 52 sec 8 stills
	EOL	375 937.1	5 895 508.6		
SS_16	SOL	374 888.4	5 895 576.2	39	1 min 32 sec 9 stills
	EOL	374 890.1	5 895 615.5		
SS_17	SOL	375 572.4	5 896 318.2	55	1 min 30 sec 9 stills
	EOL	375 609.9	5 896 358.1		
SS_18	SOL	374 197.5	5 896 457.9	60	1 min 15 sec 8 stills
	EOL	374 177.9	5 896 514.7		
SS_19	SOL	373 219.6	5 894 394.3	47	1 min 2 sec 8 stills
	EOL	373 208.3	5 894 440.4		
SS_20	SOL	370 338.6	5 893 917.1	46	1 min 38 sec 8 stills
	EOL	370 328.7	5 893 962.2		
SS_21A	SOL	370 325.3	5 894 438.1	72	1 min 49 sec 10 stills
	EOL	370 314.8	5 894 509.0		
SS_22	SOL	371 129.5	5 895 697.4	39	1 min 25 sec 9 stills
	EOL	371 107.5	5 895 729.5		
SS_23	SOL	370 141.6	5 895 802.2	57	1 min 13 sec 8 stills
	EOL	370 097.4	5 895 838.5		
SS_24	SOL	370 115.3	5 896 034.5	65	1 min 20 sec 7 stills
	EOL	370 093.0	5 896 095.2		
SS_25	SOL	369 260.3	5 895 022.6	70	1 min 56 sec 8 stills
	EOL	369 205.9	5 895 066.5		

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]					
Station		Easting	Northing	Length [m]	Data Acquisition
SS_26	SOL	372 944.7	5 899 297.4	66	1 min 26 sec 8 stills
	EOL	372 908.0	5 899 352.3		
Export Cable Corridor					
EC_02	SOL	376 649.2	5 869 674.6	41	1 min 18 sec 10 stills
	EOL	376 612.9	5 869 693.2		
EC_03	SOL	378 242.7	5 870 764.4	61	2 min 32 sec 13 stills
	EOL	378 303.8	5 870 767.3		
EC_04	SOL	379 070.5	5 872 311.4	57	1 min 38 sec 6 stills
	EOL	379 014.6	5 872 302.9		
EC_05	SOL	380 755.2	5 873 777.7	41	2 min 04 sec 9 stills
	EOL	380 751.2	5 873 818.8		
EC_06	SOL	382 440.8	5 876 011.3	56	2 min 27 sec 7 stills
	EOL	382 496.4	5 876 004.7		
EC_07	SOL	382 215.1	5 876 420.1	59	2 min 07 sec 10 stills
	EOL	382 269.4	5 876 397.2		
EC_08	SOL	382 373.5	5 877 156.6	47	1 min 39 sec 8 stills
	EOL	382 419.7	5 877 163.2		
EC_09	SOL	382 617.8	5 877 813.4	22	1 min 1 sec 5 stills
	EOL	382 628.7	5 877 832.2		
EC_10	SOL	383 244.1	5 879 866.8	71	2 min 25 sec 10 stills
	EOL	383 312.4	5 879 847.4		
EC_11	SOL	384 209.5	5 882 423.1	42	1 min 19 sec 6 stills
	EOL	384 172.0	5 882 441.6		
EC_12	SOL	383 599.1	5 879 948.6	45	1 min 17 sec 11 stills
	EOL	383 644.1	5 879 953.6		
EC_13	SOL	381 471.7	5 875 397.7	59	2 min 24 sec 9 stills
	EOL	381 413.2	5 875 401.8		
EC_14	SOL	377 336.3	5 870 616.4	139	3 min 53 sec 11 stills
	EOL	377 474.2	5 870 635.0		
EC_15	SOL	375 779.5	5 869 281.5	56	1 min 25 sec 8 stills
	EOL	375 725.7	5 869 295.9		
EC_16	SOL	383 035.3	5 879 019.9	21	0 min 47 sec 8 stills
	EOL	383 056.1	5 879 021.3		
EC_17	SOL	381 322.4	5 875 847.2	74	1 min 53 sec 7 stills
	EOL	381 266.4	5 875 895.7		

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]					
Station		Easting	Northing	Length [m]	Data Acquisition
EC_18	SOL	381 772.9	5 874 880.4	66	2 min 19 sec 9 stills
	EOL	381 707.4	5 874 881.8		
EC_19	SOL	377 661.7	5 871 139.9	43	1 min 24 sec 7 stills
	EOL	377 626.0	5 871 163.8		
EC_23	SOL	384 078.5	5 881 909.2	40	0 min 57 sec 6 stills
	EOL	384 104.8	5 881 939.3		
EC_24	SOL	379 790.3	5 872 412.4	55	2 min 1 sec 8 stills
	EOL	379 734.9	5 872 411.2		
EC_25	SOL	378 783.9	5 871 921.1	47	1 min 57 sec 6 stills
	EOL	378 736.6	5 871 920.0		
EC_26	SOL	375 233.3	5 868 469.0	206	3 min 56 sec 18 stills
	EOL	375 245.1	5 868 675.1		
	EOL	374 675.9	5 868 795.1		
Notes SOL = Start of line EOL = End of line					

4.1.2 Grab Sampling

Within the SS survey area, grab samples were acquired at all 17 predefined stations. A complete suite of samples (as detailed in survey strategy) were retained at the majority of stations. However, at stations SS_12 and SS_26 no macrofaunal samples were retained and at station SS_18 no chemistry subsamples were retained due to repeat no samples.

Along the EC corridor, grab samples were acquired at 18 predefined stations. A complete suite of samples were retained at 13 of these 18 stations. At five predefined stations no macrofaunal samples were acquired due to repeat no samples. Triplicate PSD samples were acquired at all predefined stations, except for EC_14 due to low grab volumes. Chemistry subsamples were retained at all three predefined stations.

Table 4.2 details the positions and samples acquired at each station. Appendix B provides detailed survey logs.

Table 4.2: Completed stations, Sheringham Extension Project

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Depth [m BSL]	Sample Acquisition
Sheringham Shoal				
SS_01	383 344.7	5 883 480.8	23.0	FA, PSDA
SS_02	381 353.3	5 884 415.8	18.0	FA, PSDA
SS_03	380 914.0	5 885 494.2	18.2	FA, PSDA, PC
SS_05	383 166.9	5 886 689.2	17.3	FA, PSDA
SS_06	383 944.3	5 888 219.8	18.3	FA, PSDA
SS_07	382 200.4	5 887 694.4	17.6	FA, PSDA
SS_08	380 632.9	5 887 980.4	16.7	FA, PSDA
SS_09	382 485.9	5 889 027.7	17.7	FA, PSDA
SS_10	379 389.5	5 889 556.1	16.2	FA, PSDA
SS_11	379 732.1	5 891 995.3	17.6	FA, PSDA
SS_12	376 923.4	5 893 273.1	-	PSDA
SS_18	374 186.4	5 896 505.5	-	FA, PSDA
SS_19	373 217.2	5 894 429.3	-	FA, PSDA
SS_21	370 323.2	5 894 486.8	-	FA, PSDA
SS_23	370 122.6	5 895 821.5	-	FA, PSDA
SS_25	369 216.4	5 895 048.3	-	FA, PSDA
SS_26	372 922.3	5 899 326.6	-	PSDA
Export Cable Corridor				
EC_03	378 274.6	5 870 746.9	9.4	PSDA, PSDB, PSDC
EC_04	379 053.6	5 872 309.6	13.0	PSDA, PC
EC_05	380 741.4	5 873 793.5	15.7	FA, PSDA, PC
EC_07	382 233.7	5 876 410.7	19.5	FA, FB, FC, PSDA, PSDB, PSDC
EC_08	382 374.1	5 877 164.5	17.7	FA, PSDA
EC_09	382 648.5	5 877 828.2	16.9	FA, FB, FC, PSDA, PSDB, PSDC
EC_10	383 284.5	5 879 879.4	20.2	FA, PSDA
EC_11	384 200.9	5 882 429.5	22.0	FA, PSDA
EC_12	383 611.4	5 879 937.8	19.5	FA, PSDA
EC_14	377 414.5	5 870 612.0	8.2	FA, PSDA, PSDB
EC_15	375 757.7	5 869 284.6	8.1	FA, PSDA, PC
EC_16	383 032.4	5 879 027.5	19.5	FA, PSDA
EC_17	381 267.3	5 875 855.3	19.1	FA, PSDA
EC_18	381 736.1	5 874 877.2	16.6	PSDA
EC_19	377 645.1	5 871 138.5	11.5	FA, FB, FC, PSDA, PSDB, PSDC
EC_23	384 088.9	5 881 917.1	20.0	FA, FB, FC, PSDA, PSDB, PSDC

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]				
Station	Easting	Northing	Depth [m BSL]	Sample Acquisition
EC_24	379 768.0	5 872 403.2	13.5	PSDA, PSDB, PSDC
EC_25	378 764.4	5 871 922.8	13.0	PSDA
Notes BSL = Below sea level PC = Chemistry sample FA/FB/FC = Faunal sample A, B or C PSDA, PSDB, PSDC = Particle size distribution sample A, B or C				

4.2 Bathymetry and Seabed Features

Geophysical data for the SS survey area were acquired by Gardline in 2020. The water depth varied from 14.3 m Lowest Astronomical Tide (LAT) in the north-west of the survey area to 26.7 m LAT in the south-eastern corner. North-east to south-west trending sand waves were observed and were limited to the south-east of the survey area, exhibiting heights of approximately 1.5 m (Gardline, 2020a). Surrounding the sand waves, ripples up to 0.8 m were prevalent, with further minor ripples (< 0.5 m) occurring sparsely across the survey area (Gardline, 2020a). At the south of the SS survey area, there were isolated sand waves with maximum heights of 2.0 m. Elsewhere the seabed was described as typically featureless (Gardline, 2020a). In the north-west of the survey area, the seabed exhibited a patchy texture of raised sonar reflectivity with low (0.2 m) measurable heights that were identified as a potential *Sabellaria spinulosa* reef area by Gardline (2020a).

Geophysical data for the EC corridor were acquired by Gardline in 2019. Numerous sonar objects including boulders, debris and wrecks were reported (Gardline, 2020b). The EC corridor water depths ranged from 0.0 m LAT to 27.0 m LAT. The seabed along the EC corridor transitioned from mega ripples and sand waves closest to the SS survey area to being relatively smooth and featureless along the EC corridor (Gardline, 2020b). This further transitioned to being uneven and hosting numerous megaripples at the nearshore section, and extended to an area where the seabed was dominated by outcropping chalk with a veneer of sandy gravel and sand (Gardline, 2020b).

Figure 4.1 displays available SSS within the SEP survey area, overlain with the completed stations and transects.

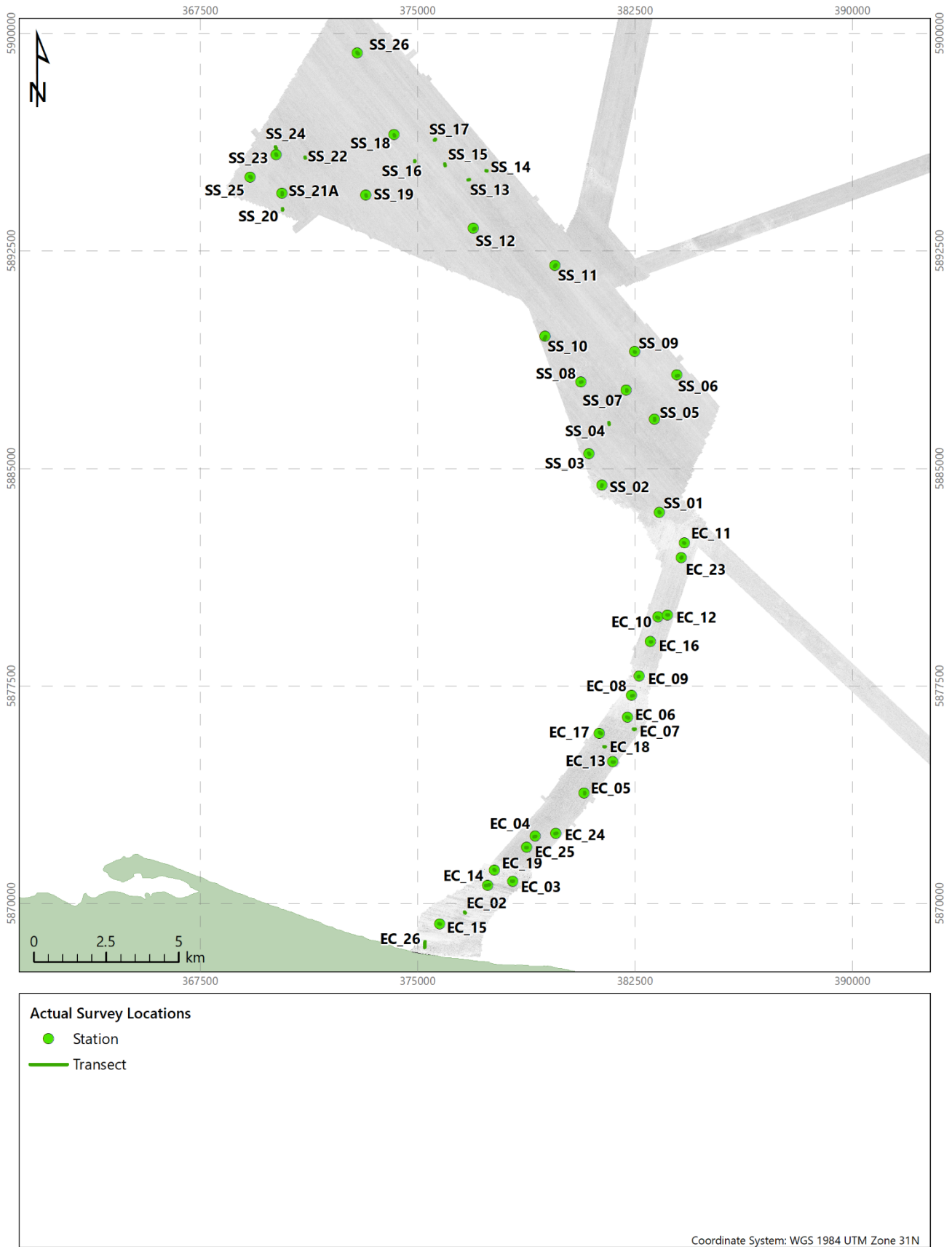


Figure 4.1: Completed environmental survey locations overlaid on a side scan sonar mosaic, Sheringham Extension Project

4.3 Sediment Particle Size Characterisation

Appendix B.3 presents the sediment fractional composition, in addition to the Folk (1954) and Folk (BGS modified) descriptions, from grab samples collected across the SEP survey area.

The dominant sediment fraction for the SS survey area was sand, ranging from 34.19 % at station SS_26 to 80.48 % at station SS_02. All stations had a gravel component ranging from 19.52 % at station SS_02 to 60.51 % at station SS_08. Fines were the least dominant sediment fraction with percentage contribution ranging from 0.00 % at SS_02 to 16.94 % at station SS_19. Four Folk (BGS modified) sediment classes were identified in the SS survey area, of which sandy gravel was the most predominant classification, occurring at nine of the stations and muddy sandy gravel being the second most common classification at six of the stations. Sandy gravel was distributed throughout the SS survey area and samples containing a mud component (i.e. muddy sandy gravel) occurred towards the west of the SS survey area.

The dominant sediment fraction along the EC corridor was also sand, ranging from 36.8 % at EC_24-PSDA to 100.0 % at EC_09-PSDC, EC_19-PSDA and EC_19_PSDC. Gravel was the second most dominant sediment fraction ranging from 0.0 % at the previously mentioned samples that had 100.0 % sand to 60.33 % at sample EC_24_PSDA. Fines were the least dominant sediment fraction with percentage contribution ranging from 0.0 % at 15 samples to 22.1 % at sample EC_16_PSDA. Four Folk (BGS modified) sediment classes were identified along the EC corridor, of which sandy gravel was the most predominant classification occurring at 19 of the sampling locations distributed throughout the length of the EC corridor.

Figure 4.2 presents the spatial distribution of the major sediment fractions, namely sand, gravel and fines.

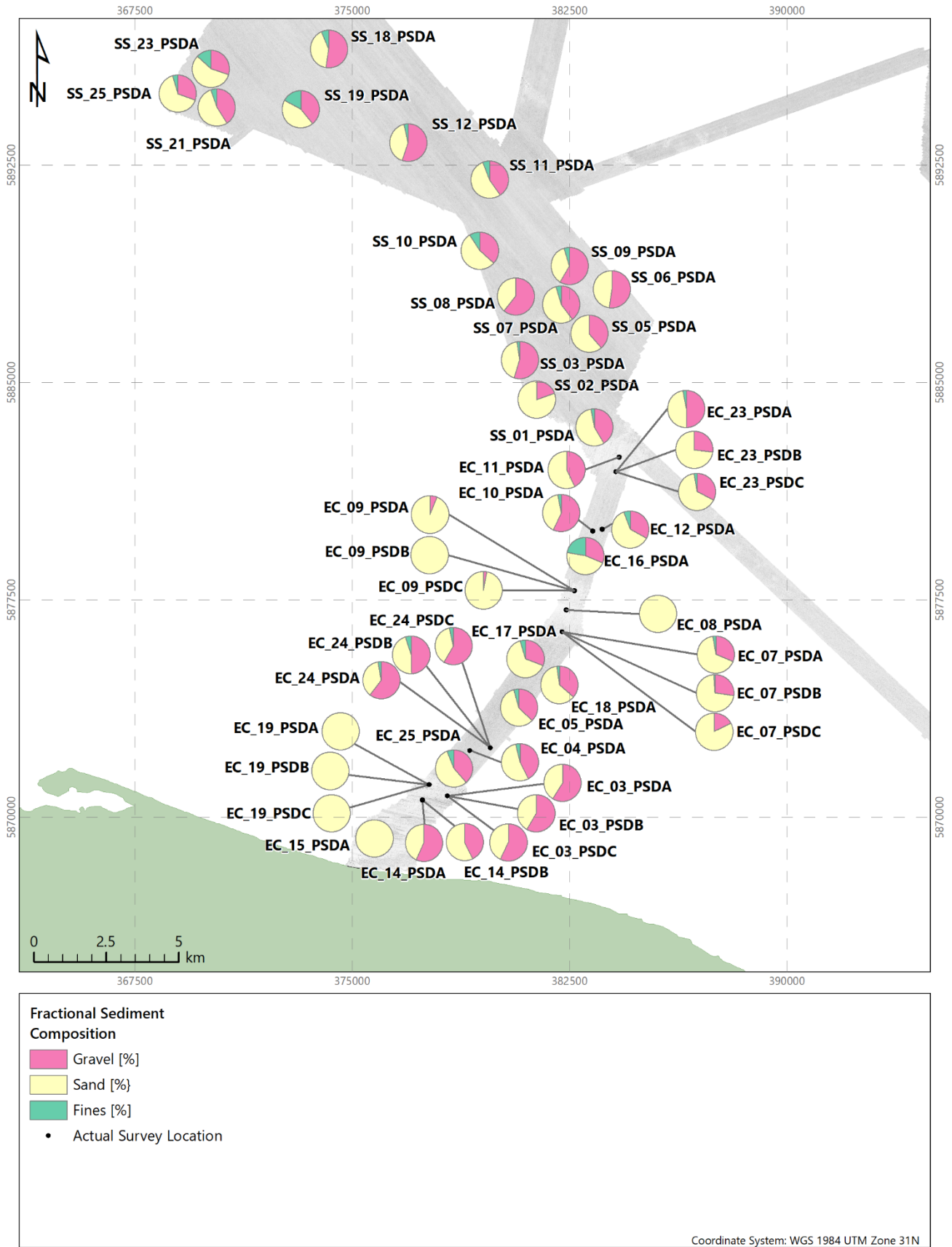


Figure 4.2: Spatial distribution of major sediment fractions, Sheringham Extension Project

4.4 Seabed Habitats and Fauna

Sediment type across the SEP area (including the EC corridor) varied from rippled sand to areas of mixed sediment (mud, sand and gravel including pebbles and cobbles.). Three main EUNIS habitats were defined within the survey area; the habitat complexes 'Sublittoral coarse sediment' (A5.1), 'Sublittoral sand' (A5.2) and the biotope complex 'Circalittoral mixed sediment' (A5.44). One further biotope 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay' (A4.231) was assigned to transect SS_21A.

The areas of 'Sublittoral sand' within the SS survey area were reflective of the findings reported by Gardline (2020a), which detailed the presence of sand waves and ripples. The seabed elsewhere consisted predominantly of coarse or mixed sediments.

Gardline (2020b) reported the seabed along the EC corridor transitioned from mega ripples and sand waves closest to the SS survey area to being relatively smooth and featureless. This further transitioned to being uneven and hosting numerous megaripples at the nearshore section, where it extended to an area where the seabed is dominated by outcropping chalk with a veneer of sandy gravel and sand (Gardline, 2020b). This is reflective of the photographic data, which revealed a variable seabed with areas of both rippled sand and areas of coarse and mixed sediment throughout the EC corridor.

The predominant sediment type classified from the PSD data within the SEP area was sandy gravel, which also reflects the data obtained by Gardline (2020a; 2020b).

Table 4.3 presents the classification hierarchy for the habitats observed within the SEP survey area. Figure 4.8 and Figure 4.9 spatially present the habitats observed. EUNIS classifications for each transect are detailed in the video and photographic logs (Appendix B.4).

Table 4.3: Habitat classifications, Sheringham Extension Project

EUNIS (EEA, 2019) Habitat Classification					Equivalent JNCC (2015) Classification	
Environment Level 1	Broad Habitat Level 2	Habitat Complex Level 3	Biotope Complex Level 4	Biotope Level 5		
A	A3 Infralittoral rock and other hard substrata	-	-	-	IR Infralittoral rock (and other hard substrata)	
	A4 Circalittoral rock and other hard substrata	A4.2 Atlantic and Mediterranean moderate energy circalittoral rock	A4.23 Communities on soft circalittoral rock	A4.231 Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay	CR.MCR.SfR.Pid Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay	
	A5 Sublittoral sediment	A5.1 Sublittoral coarse sediment	-	-	-	SS.SCS Sublittoral coarse sediment (unstable cobbles and pebbles, gravels and coarse sands)
		A5.2 Sublittoral sand	-	-	-	SS.SSa Circalittoral fine sand
		A5.4 Sublittoral mixed sediment	A5.44 Circalittoral mixed sediments	-	-	SS.SMx.CMx Circalittoral mixed sediment
Notes EEA = European Environment Agency EUNIS = European Nature Information System JNCC = Joint Nature Conservation Committee						

4.4.1 Infralittoral Rock and Other Hard Substrata

The habitat 'Infralittoral rock and other hard substrata' (A3/IR) includes bedrock, boulders and cobbles in the subtidal zone which support seaweed communities such as kelp species (EEA, 2020b).

This particular habitat was only observed at a nearshore transect (EC_26) along the EC corridor. Water depth ranged from 2.8 m to 5.5 m below sea level (BSL). Amongst sandy gravel, there were areas of exposed chalk at the area closest to the shore. The transect was dominated by red algae (Rhodophyta) and brown algae (Phaeophyceae). Epifauna present included starfish (*Asterias rubens*), anemones (*Sagartia* sp., Sagartiidae and *Urticina* sp.).

Figure 4.3 presents example seabed photographs of this biotope.

4.4.2 Piddocks with a Sparse Associated Fauna in Sublittoral Very Soft Chalk or Clay (A4.231)

The biotope 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay' (A4.231/CR.MCR.SfR.Pid) is typically reported to occur in moderately exposed tide-swept

conditions. Boring bivalves, in particular *Pholas dactylus*, may be abundant owing to the soft sediments present (EEA, 2019c). Other species present may include the sponges *Dysidea fragilis* and *Suberites carnosus* and the polychaete *Bispira voluticornis*. Mobile fauna often includes the crabs *Necora puber* and *Cancer pagurus* (EEA, 2019c).

Within the SEP survey area, this biotope was only observed within the transect over station SS_21A at a depth of 14.2 m (BSL) where soft clay was emergent amongst sandy gravel and evidently bored by bivalves. Other fauna observed included motile species such as the crabs *C. pagurus*, *N. puber* and *Liocarcinus* sp..

Figure 4.4 presents example seabed photographs of this biotope.

4.4.3 Sublittoral Coarse Sediment (A5.1)

The habitat complex 'Sublittoral coarse sediment' (A5.1/SS.SCS) includes coarse sand and gravel (including pebbles, shingle and cobbles) that are often unstable due to tidal currents and/or wave action (EEA, 2019d). These habitats typically have a low silt content and a lack of a significant seaweed component. They are characterised by a robust fauna including venerid bivalves (EEA, 2019d).

Within the SS survey area, this habitat was observed within 14 transects. The sediment was characterised as coarse (sand, shingle, gravel, pebbles and cobbles) with a low fine sediment content. The typical sessile fauna observed within this habitat were diverse and included bryozoans (Flustridae), hydroids (Hydrozoa including *Nemertesia antennina* and *Hydrallmania falcata*), slipper limpets (*Crepidula fornicata*) and sea squirts (Ascidiacea including *Dendrodoa grossularia*). Mobile epifauna included hermit crabs (Paguridae), nut crabs (*Ebalia* sp.), squat lobsters (Galatheoidea) and starfish (*Asterias rubens* and *Crossaster papposus*).

Along the EC corridor, this habitat was observed within nine transects distributed across the entire length of the corridor. The sediment was typically sandy gravel with some areas of gravelly sand. Similar to the SS survey area, the typical sessile fauna observed included bryozoans (Flustridae, *Vesicularia spinosa* and *Alcyonidium diaphanum*), hydroids (Hydrozoa including *Nemertesia antennina*), anemones (*Urticina* sp. and *Sagartia* sp.) and sea squirts (Ascidiacea). Mobile epifauna included crabs (*Cancer pagurus* and *Necora puber*) and starfish (*Asterias rubens* and *Crossaster papposus*). Red algae (Rhodophyta) and coralline algae (Corallinaceae) were also observed.

Figure 4.5 presents example seabed photographs of this habitat.

4.4.4 Sublittoral Sand (A5.2)

The habitat complex 'Sublittoral sand' (A5.2/SS.SSa) is described as clean medium to fine sands or non-cohesive slightly muddy sands on open coasts, offshore or in estuaries and marine inlets (EEA, 2019e). The silt and clay content of the sediment is restricted to less than 15 %. This habitat is characterised by polychaetes, bivalves and amphipods (EEA, 2019e).

Within the SS survey area, this habitat was observed on the south-eastern extent within four transects. The sediment was characterised as sand with infrequent gravel, and fauna were sparse. Fauna that were present included bryozoans (Flustridae), dragonet (*Callionymus* sp.) and slipper limpets (*Crepidula fornicata*) where hard substrates were available for attachment.

Along the EC corridor, this habitat was observed within five transects. Sand was predominant with small areas of gravel. Fauna observed on sand were sparse and included starfish (*A. rubens*). However, on the hard substrates, sessile fauna such as barnacles (Sessilia), anemones (Sagartiidae) and tube worms (Serpulidae) were present.

Figure 4.6 presents example seabed photographs of this habitat.

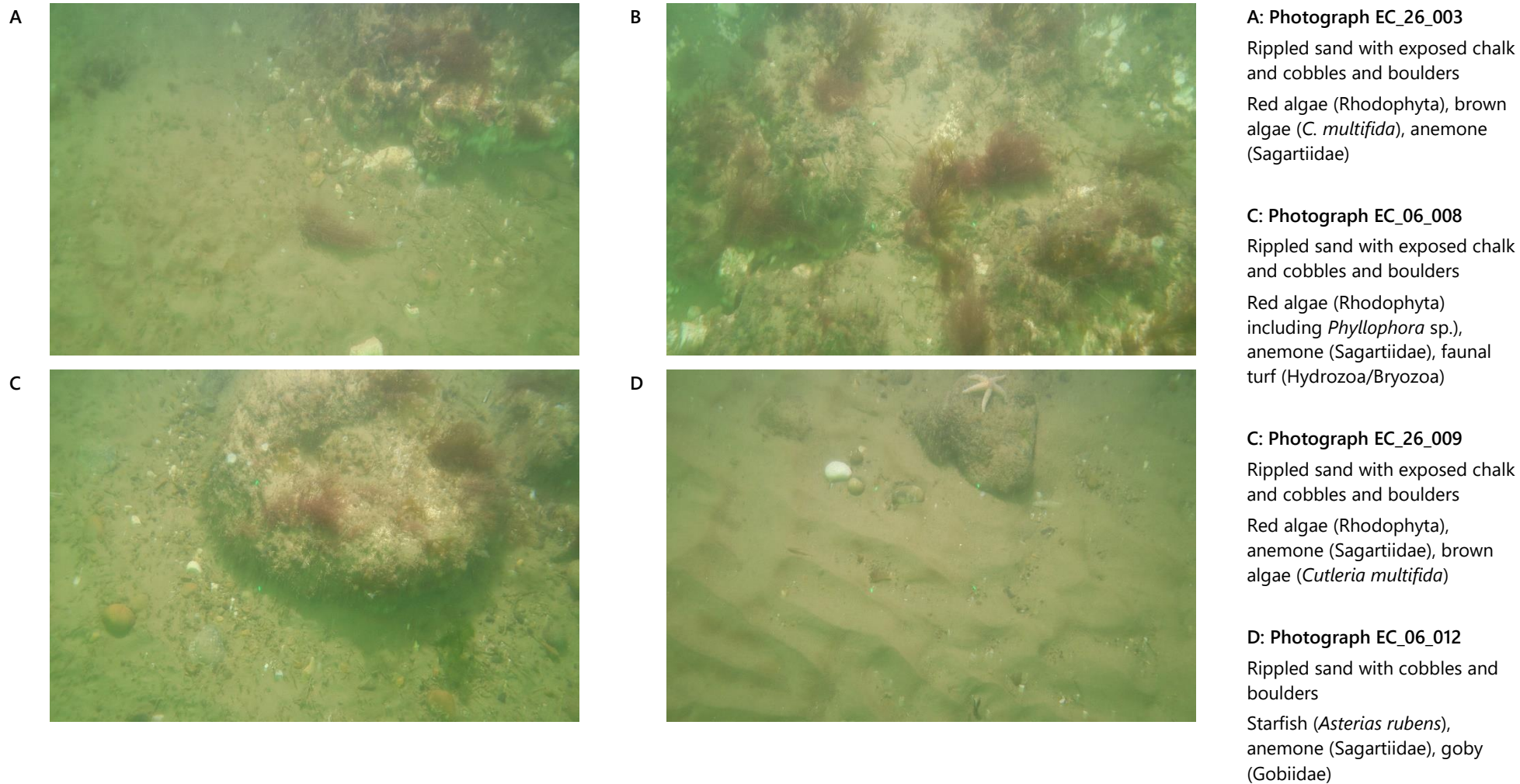
4.4.5 Circalittoral Mixed Sediments (A5.44)

The biotope complex 'Circalittoral mixed sediments' (A5.44/ SS.SMx.CMx) is described as having mixed sediments within the circalittoral zone (generally below 20 m). It typically consists of well mixed muddy gravelly sands or very poorly sorted mosaics of shell, cobbles and pebbles embedded in or overlying mud, sand or gravel (EEA, 2019f). The communities present are often very diverse including infaunal polychaetes, bivalves, echinoderms and burrowing anemones (e.g. *Cerianthus lloydii*) and hydroids (e.g. *Nemertesia* spp. and *Hydrallmania falcata*) (EEA, 2019f).

Within the SS survey area, this biotope complex was observed within nine spatially disparate transects. The sediment consisted of mud, sand and gravel (including pebbles and cobbles). Such a heterogeneous seabed supported a wide range of epifauna including bryozoan (Flustridae), hydroids (*Nemertesia* sp. and *Hydrallmania falcata*), barnacles (Sessilia), sea squirts (Asciacea inc. *Clavelina lepadiformis*), topshells (Trochoidea including *Calliostoma zizyphinum*), sponges (Polymastiidae), anemones (*Urticina* sp. and Sagartiidae), nut crabs (*Ebalia* sp.), starfish (*C. papposus* and *A. rubens*) and brittlestars (*Ophiura* sp.).

Along the EC corridor, this biotope complex was observed within nine transects. The sediment was classed as mixed and muddy sandy gravel (including pebbles and cobbles). Transects EC_05 and EC_06 also had small patchy areas of clay and EC_24 had lumps of peat. Sessile fauna present included bryozoans (*Flustra foliacea*), hydroids (*H. falcata* and *N. antennina*), ross worm (*S. spinulosa*), slipper limpets (*C. fornicata*), sea squirts (Asciacea) and anemones (*Urticina* sp. and Sagartiidae). Mobile epifauna included brittlestars (Ophiuroidea), starfish (*A. rubens*), crabs (*Liocarcinus depurator*) and goby (Gobiidae).

Figure 4.7 presents example seabed photographs of this biotope complex.



Notes Laser distance (green) is 18.5 cm by 16.5 cm (width and height respectively)

Figure 4.3: Example seabed photographs of ‘Infralittoral rock and other hard substrata’ (A3), Sheringham Extension Project



A: Photograph SS_21A_002

Sand, gravel and shell fragments with emergent clay and possible piddock burrows

Swimming crab (*Necora puber*), bryozoan (Flustridae), edible crab (*Cancer pagurus*)

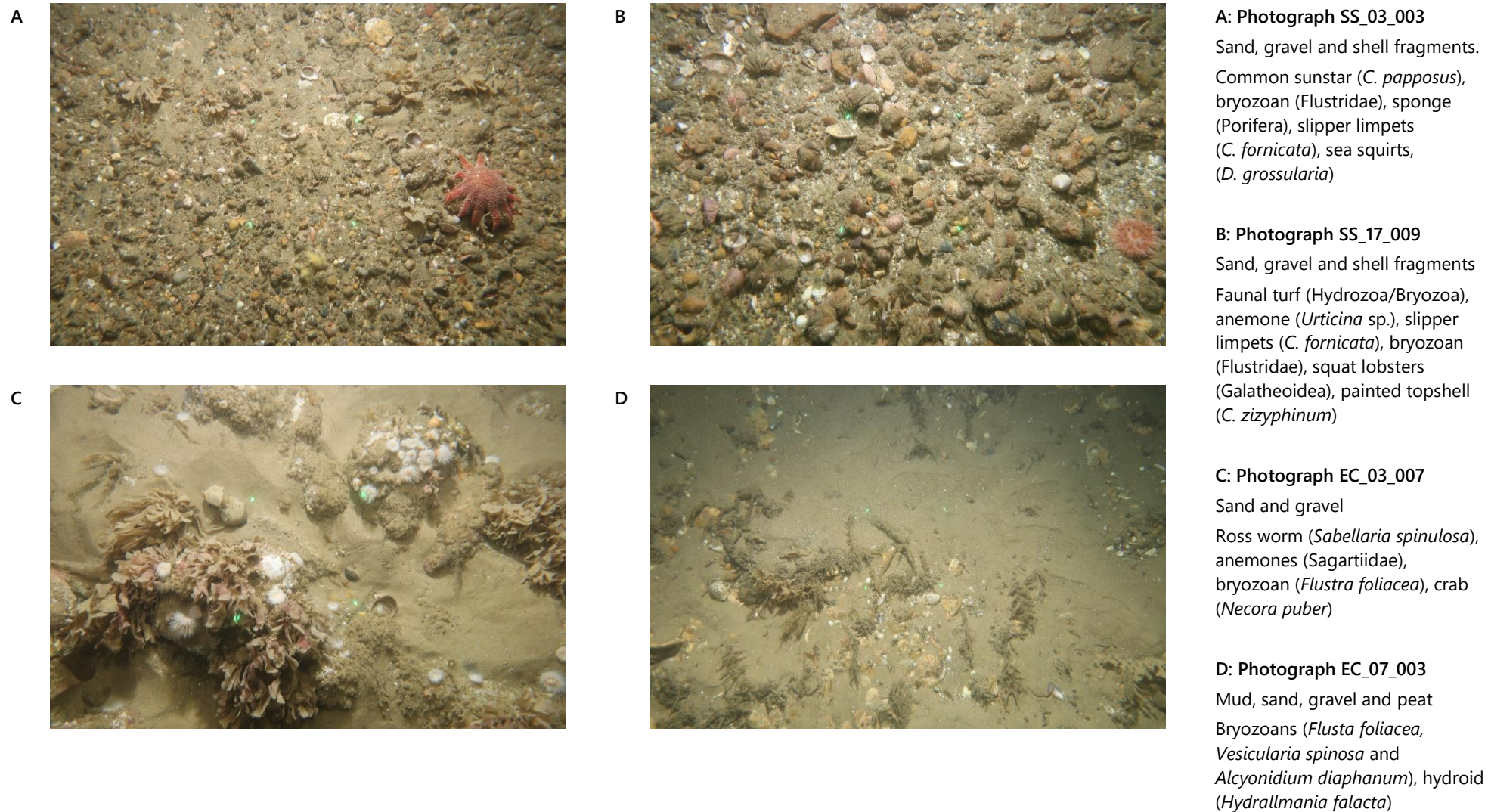
B: Photograph SS_21A_003

Sand, gravel and shell fragments with emergent clay and possible piddock burrows

Bryozoan (*Alyconidium diaphanum*), edible crab (*Cancer pagurus*)

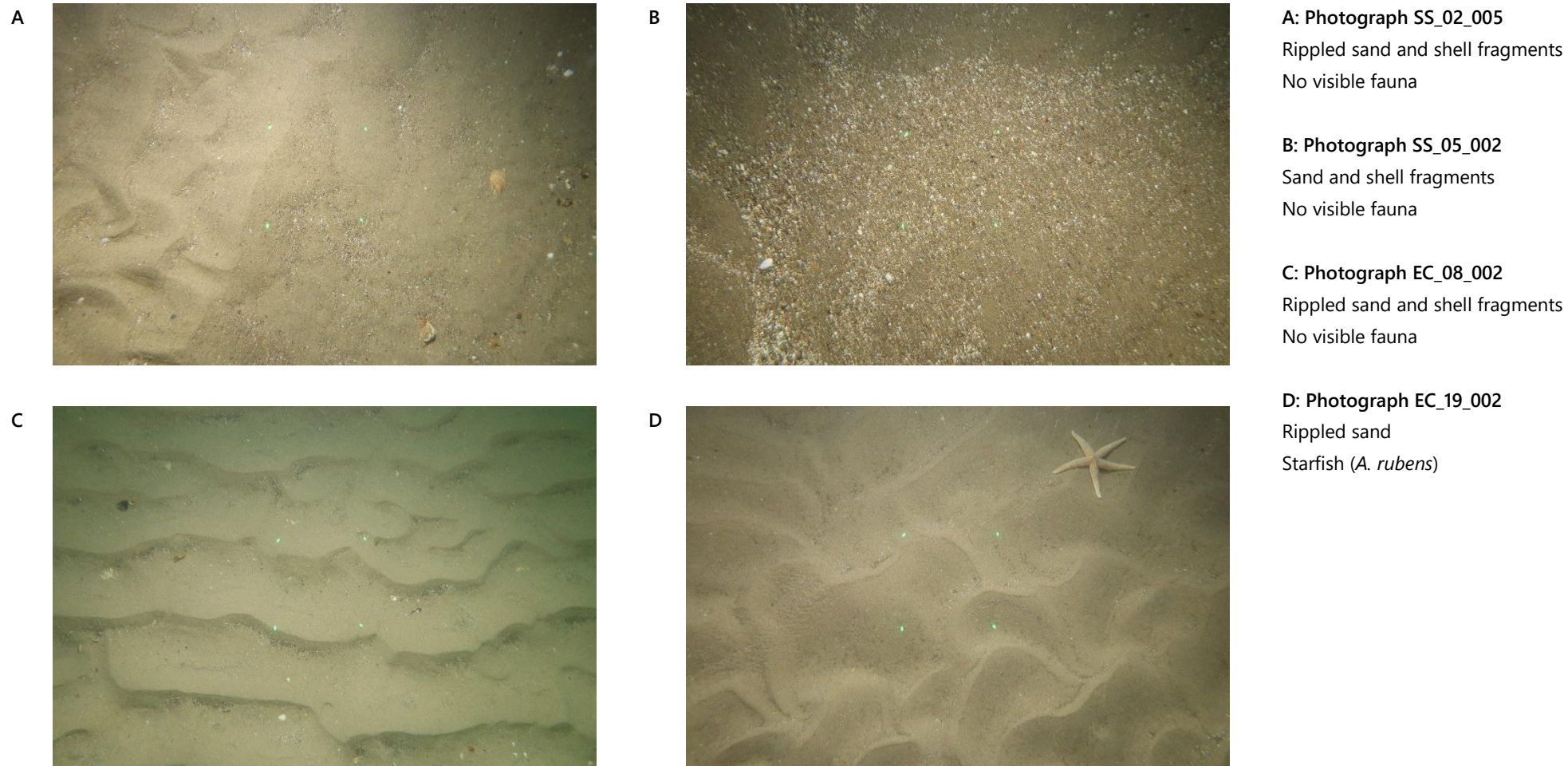
Notes Laser distance (green) is 18.5 cm by 16.5 cm (width and height respectively)

Figure 4.4: Example seabed photographs of 'Piddocks with sparse associated fauna in sublittoral very soft chalk or clay' (A5.231), Sheringham Extension Project



Notes Laser distance (green) is 18.5 cm by 16.5 cm (width and height respectively)

Figure 4.5: Example seabed photographs of 'Sublittoral coarse sediment' (A5.1), Sheringham Extension Project



Notes Laser distance (green) is 18.5 cm by 16.5 cm (width and height respectively)

Figure 4.6: Example seabed photographs of 'Sublittoral sand' (A5.2), Sheringham Extension Project

A



B

**A: Photograph SS_09_002**

Mud, sand, gravel and pebbles
Bryozoan (Flustridae), faunal tubes (Serpulidae), faunal turf (Hydrozoa/Bryozoa)

B: Photograph SS_10_004

Mud, sand, gravel and pebbles and small faunal burrows
Bryozoan (Flustridae), slipper limpets (*C. fornicata*), faunal turf (Hydrozoa/Bryozoa)

C



D

**C: Photograph EC_16_004**

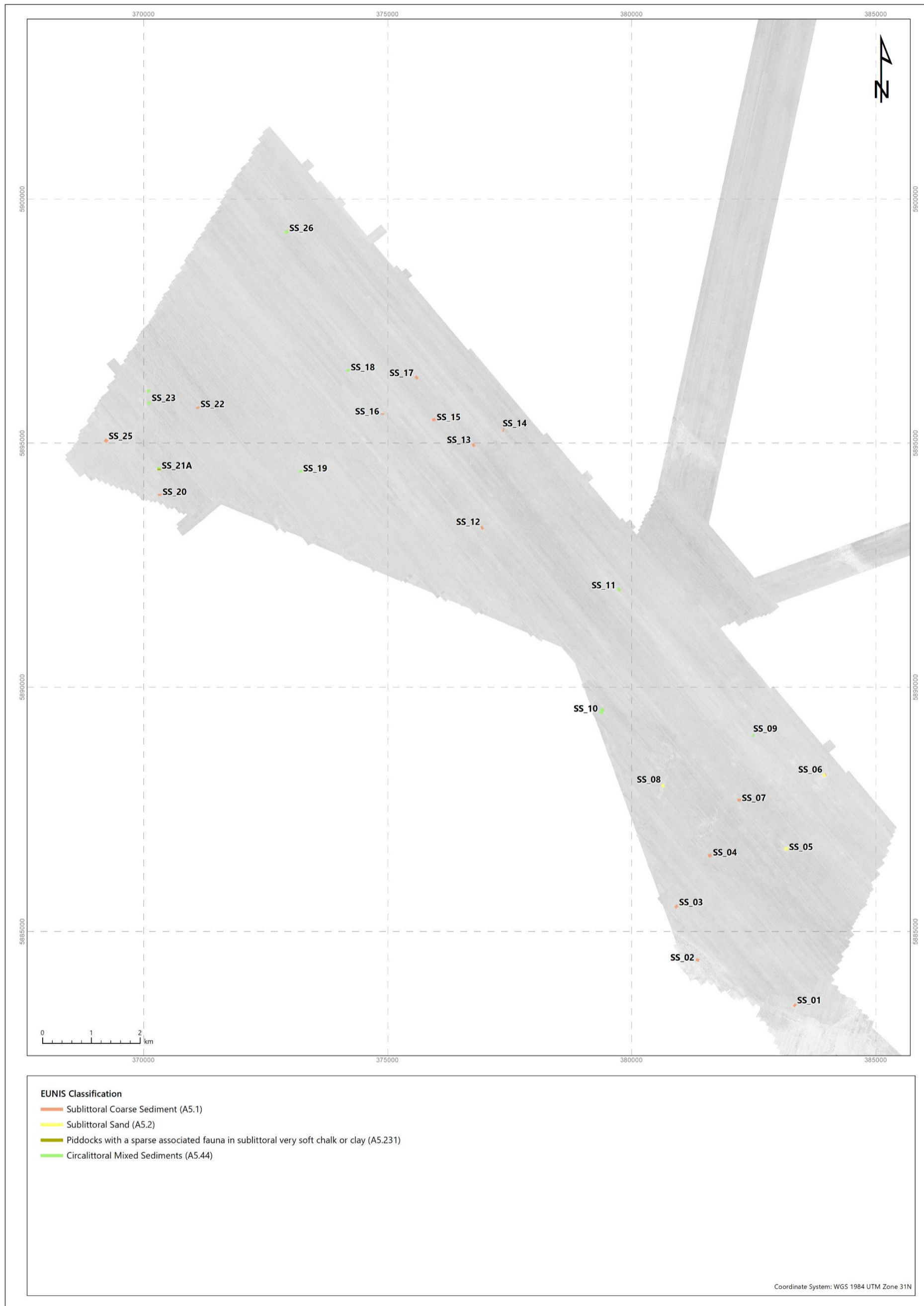
Mud, sand, gravel and pebbles
Bryozoan (Flustridae), slipper limpets (*C. fornicata*), faunal turf (Hydrozoa/Bryozoa), shrimp (Caridea), barnacles (Sessilia), sea squirts (*D. grossularia*), anemone (*U. felina*)

D: Photograph EC_24_006

Mud, sand, gravel and peat
Bryozoan (Flustridae), anemone (*Urticina* sp.), squat lobsters (Galatheoidea), faunal turf (Hydrozoa/Bryozoa), tube worms (Serpulidae), barnacles (Sessilia)

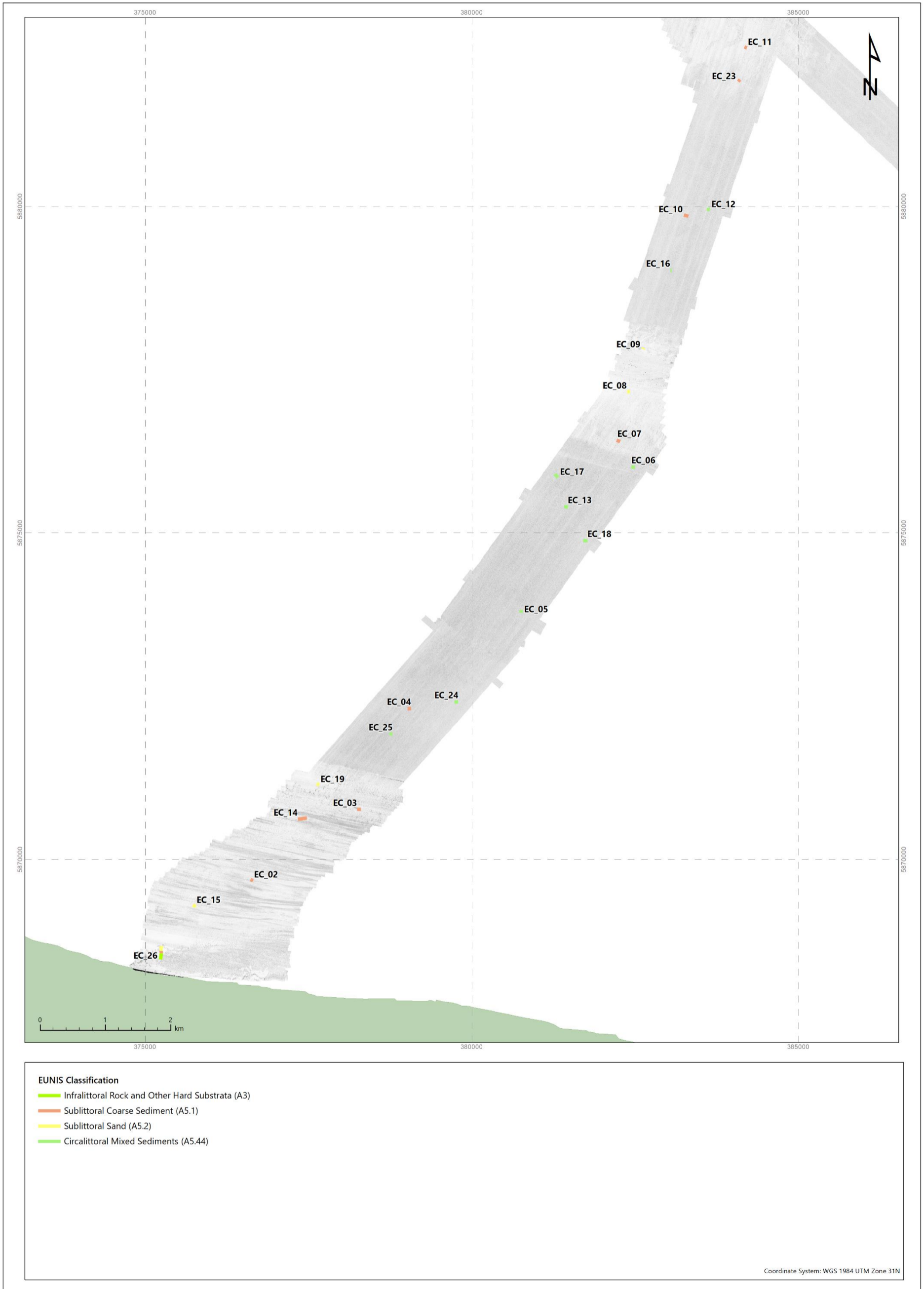
Notes Laser distance (green) is 18.5 cm by 16.5 cm (width and height respectively)

Figure 4.7: Example seabed photographs of 'Circalittoral mixed sediments' (A5.44), Sheringham Extension Project



Map Document: (S:\430 MGC-IT\Charting\200270_Equinor_Dudgeon_and_Sheringham\3_Plots\2_Draft\Sheringham\200270_07_EUNIS_SS.mxd)
14/10/2020 - 10:31:22

Figure 4.8: Completed environmental transects and EUNIS (EEA, 2019a) habitat classifications for Sheringham Shoal, Sheringham Extension Project



Map Document: (S:\430-MGC-IT\Charting\200270_Equinor_Dudgeon_and_Sheringham\3_Plots\2_Draft\Sheringham\Q200270_08_EUNIS_EC.mxd)
15/10/2020 - 08:12:32

Figure 4.9: Completed environmental transects and EUNIS (EEA, 2019a) habitat classifications for Export Cable Corridor, Sheringham Extension Project

4.5 Potential Sensitive Habitats and Species

4.5.1 Geogenic Reefs

Transect EC_26 in the nearshore area of the EC corridor featured hard compacted substrate (soft rock, likely chalk) emerging from the surrounding sediment, which corresponded to high reflectivity in the geophysical data. Following the definition for 'reef', there is the potential for the Annex I habitat 'reef', specifically geogenic reef to occur on this transect.

To qualify as a 'Stony reef' there should be a minimum elevation of 64 mm above the seabed, a coverage of at least 10 % cobbles and boulders and a minimum area extent of 25 m². However, if 'low' is scored in any of the categories, a strong justification would be required to consider the reef as contributing to the Marine Natura site network of qualifying reefs in terms of the EU Habitats Directive (Irving, 2009).

Within the SS survey area, seabed was classed as 'Not a reef' at all stations due to the elevation of cobbles being < 64 mm, percentage of cobble and boulder coverage ranging from 0 % to 9 % and epifaunal species composition being less than < 80 %. There were two small patches on transects SS_15 and SS_16, which were classed as 'Low reef' in terms of elevation and percentage cover of cobbles and/or boulders, but did not cover an area of 25 m², and were not considered to fulfil the definition of the Annex I habitat.

Along the EC corridor, the majority of the transects were classed as 'Not a reef', except for transects EC_03 and EC_24, which were classed as 'Low reef'. These two transects were located within close proximity of each other towards the nearshore end of the EC corridor. This was due to the higher percentage of cobble coverage (10 % to 40 %) and elevation observed.

Potential bedrock reef was observed within transect EC_26 however, due to the lack of defined assessment criteria for this habitat, it is not possible to confirm whether this falls within the Annex I 'Reefs' definition, therefore an area of 'Potential reef' was assigned.

Table 4.4 presents the overall results for the stony reef assessment and Table 4.5 details the extent of the potential bedrock reef with example stills.

Figure 4.10 spatially displays an example of where 'low reef' was found along transect EC_03 overlain on a SSS mosaic. Figure 4.11 shows the location of the potential geogenic reef along transect EC_26 overlain on a SSS mosaic.

Appendix B.5 details the full results of the stony reef assessments for the SEP survey area.



Table 4.4: Stony reef assessment results for transects assessed, Sheringham Extension Project

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]						
Station	Video Coordinates		Stony Reef Characteristic			Overall Assessment
	Easting [m]	Northing [m]	Elevation [mm]	Cover Cobbles and Boulders [%]	Epifauna Coverage [%]	
Sheringham Extension Project						
SS_01	383 361.4	5 883 469.2	Flat seabed	0	< 80	Not a reef
	383 319.4	5 883 504.3				
SS_03	380 931.9	5 885 485.5	Flat seabed	0	< 80	Not a reef
	380 895.1	5 885 530.5				
SS_04	381 610.8	5 886 522.6	Flat seabed	0	< 80	Not a reef
	381 588.0	5 886 583.6				
SS_06	383 165.6	5 886 659.0	Flat seabed	< 10	< 80	Not a reef
	383 163.0	5 886 720.8				
SS_07	382 203.2	5 887 666.1	Flat seabed	0	< 80	Not a reef
	382 203.1	5 887 719.0				
SS_09	382 471.8	5 889 019.8	Flat seabed	< 10	< 80	Not a reef
	382 505.6	5 889 003.4				
SS_10	379 358.8	5 889 456.9	Flat seabed	< 10	< 80	Not a reef
	379 418.3	5 889 558.7				
SS_11	379 716.7	5 891 971.4	Flat seabed	< 10	< 80	Not a reef
	379 762.4	5 892 024.1				
SS_12	376 914.3	5 893 253.0	Flat seabed	< 10	< 80	Not a reef
	376 960.7	5 893 273.4				
SS_13	376 738.7	5 894 941.7	Flat seabed	< 10	< 80	Not a reef
	376 781.3	5 894 970.4				
SS_14	377 357.7	5 895 268.4	Flat seabed	0	< 80	Not a reef
	377 385.0	5 895 261.4				
SS_15	375 953.1	5 895 448.1	Flat seabed	< 10	< 80	Not a reef
	375 937.9	5 895 507.8				
SS_16	374 888.7	5 895 577.4	Flat seabed	< 10	< 80	Not a reef
	374 890.5	5 895 613.7				
SS_17	375 574.3	5 896 320.3	Flat seabed	< 10	< 80	Not a reef
	375 609.0	5 896 358.0				
SS_18	374 196.8	5 896 459.2	Flat seabed	< 10	< 80	Not a reef
	374 177.8	5 896 513.1				
SS_19	373 218.8	5 894 396.3	Flat seabed	< 10	< 80	Not a reef
	373 208.5	5 894 440.0				
SS_20	370 338.6	5 893 918.6	Flat seabed	0	< 80	Not a reef
	370 328.4	5 893 961.6				

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]						
Station	Video Coordinates		Stony Reef Characteristic			Overall Assessment
	Easting [m]	Northing [m]	Elevation [mm]	Cover Cobbles and Boulders [%]	Epifauna Coverage [%]	
SS_21A	370 325.7	5 894 439.8	Flat seabed	0	< 80	Not a reef
	370 315.9	5 894 507.6				
SS_22	371 118.7	5 895 701.2	Flat seabed	< 10	< 80	Not a reef
	371 101.7	5 895 737.9				
SS_23	370 138.4	5 895 803.0	Flat seabed	< 10	< 80	Not a reef
	370 098.5	5 895 838.1				
SS_24	370 115.2	5 896 036.0	Flat seabed	0	< 80	Not a reef
	370 093.0	5 896 094.3				
SS_25	369 259.0	5 895 023.5	Flat seabed	< 10	< 80	Not a reef
	369 206.4	5 895 066.8				
SS_26	372 943.6	5 899 298.8	Flat seabed	< 10	< 80	Not a reef
	372 908.5	5 899 352.0				
Export Cable Corridor						
EC_02	376 649.2	5 869 674.6	Flat seabed	< 10	< 80	Not a reef
	376 612.9	5 869 693.2				
EC_03	378 242.7	5 870 764.4	< 64	10 - 40	< 80	Low reef
	378 303.8	5 870 767.3				
EC_04	379 070.5	5 872 311.4	< 64	< 10	< 80	Not a reef
	379 014.6	5 872 302.9				
EC_05	380 755.2	5 873 777.7	< 64	< 10	< 80	Not a reef
	380 751.2	5 873 818.8				
EC_06	382 440.8	5 876 011.3	< 64	< 10	< 80	Not a reef
	382 496.4	5 876 004.7				
EC_07	382 215.1	5 876 420.1	< 64	< 10	< 80	Not a reef
	382 269.4	5 876 397.2				
EC_08	382 373.5	5 877 156.6	0	< 10	< 80	Not a reef
	382 419.7	5 877 163.2				
EC_09	382 617.8	5 877 813.4	0	< 10	< 80	Not a reef
	382 628.7	5 877 832.2				
EC_10	383 244.1	5 879 866.8	< 64	< 10	< 80	Not a reef
	383 312.4	5 879 847.4				
EC_11	384 209.5	5 882 423.1	< 64	< 10	< 80	Not a reef
	384 172.0	5 882 441.6				
EC_12	383 599.1	5 879 948.6	< 64	< 10	< 80	Not a reef
	383 644.1	5 879 953.6				
EC_13	381 471.7	5 875 397.7	< 64	< 10	< 80	Not a reef
	381 413.2	5 875 401.8				

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]						
Station	Video Coordinates		Stony Reef Characteristic			Overall Assessment
	Easting [m]	Northing [m]	Elevation [mm]	Cover Cobbles and Boulders [%]	Epifauna Coverage [%]	
EC_14	377 336.3	5 870 616.4	< 64	< 10 %	< 80	Not a reef
	377 474.2	5 870 635.0				
EC_15	375 779.5	5 869 281.5	< 64	< 10	< 80	Not a reef
	375 725.7	5 869 295.9				
EC_16	383 035.3	5 879 019.9	< 64	< 10	< 80	Not a reef
	383 056.1	5 879 021.3				
EC_17	381 322.4	5 875 847.2	0	< 10	< 80	Not a reef
	381 266.4	5 875 895.7				
EC_18	381 772.9	5 874 880.4	< 64	< 10	< 80	Not a reef
	381 707.4	5 874 881.8				
EC_19	377 661.7	5 871 139.9	0	< 10	< 80	Not a reef
	377 626.0	5 871 163.8				
EC_23	384 078.5	5 881 909.2	< 64	< 10	< 80	Not a reef
	384 104.8	5 881 939.3				
EC_24	379 790.3	5 872 412.4	< 64	10 - 40	< 80	Low reef
	379 734.9	5 872 411.2				
EC_25	378 783.9	5 871 921.1	< 64	< 10	< 80	Not a reef
	378 736.6	5 871 920.0				
Key	Not a reef			Low		

Table 4.5: Geogenic reef assessment for potential chalk bedrock reef, Sheringham Extension Project

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]					
Station	Video Coordinates		Length [m]	Representative Still	Overall Assessment
	Easting [m]	Northing [m]			
EC_26	375 233.3	5 868 469.0	96.1		Potential reef
	375 247.4	5 868 564.1			
	375 247.4	5 868 564.1	111.0		Not a reef
	375 245.1	5 868 675.1			
Key:	Not a reef			Potential reef	

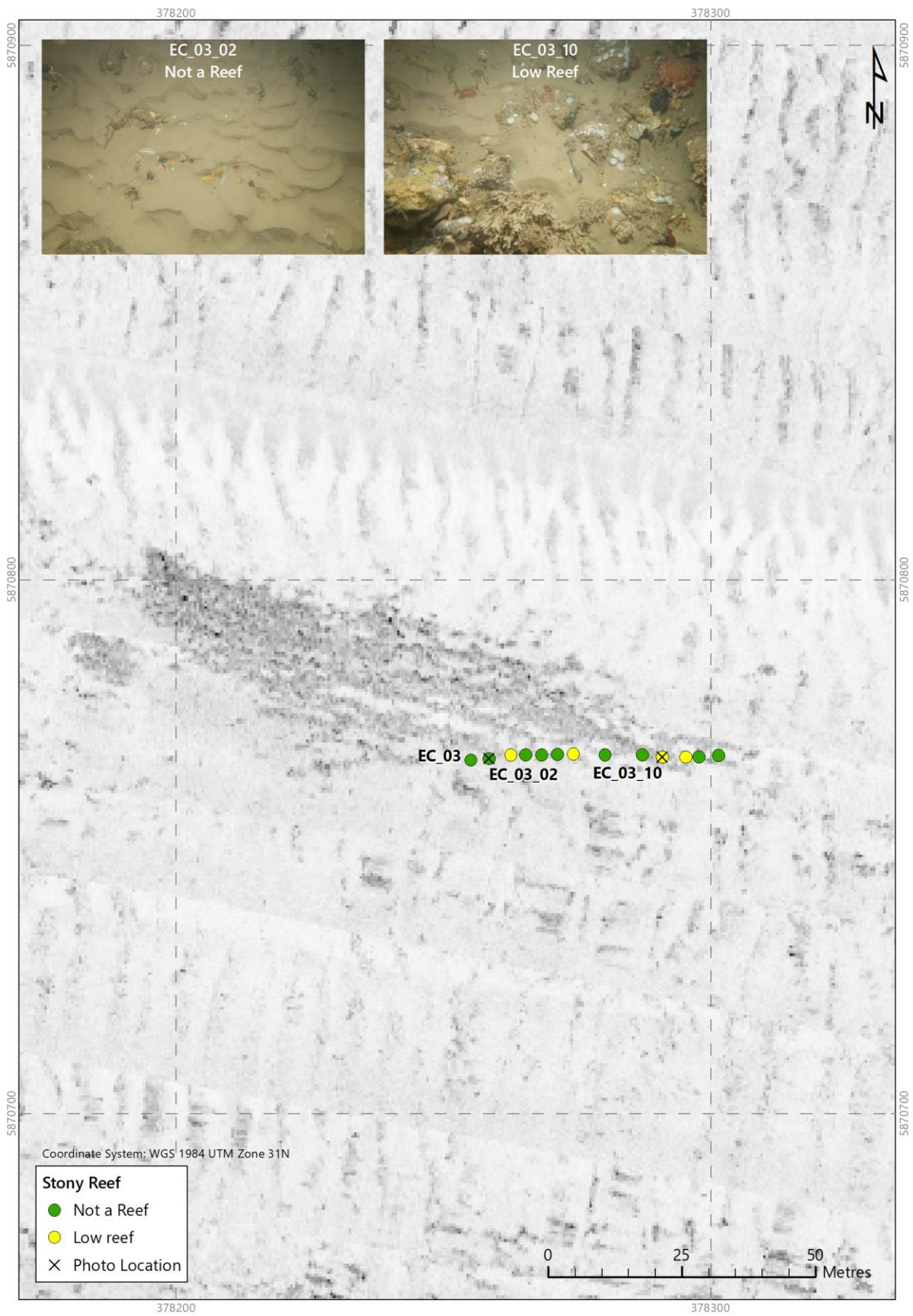


Figure 4.10: Example of geogenic reef (stony reef), transect EC_03



Figure 4.11: Potential geogenic reef (chalk) overlain on side scan sonar mosaic, transect EC_26

4.5.2 Subtidal Sands and Gravels

The majority of the SS survey area and the EC corridor were classified within three EUNIS habitats, 'Sublittoral coarse sediment' (A5.1), 'Sublittoral sand' (A5.2) and 'Circalittoral mixed sediments' (A5.44). These habitats are not illustrative biotopes of the broad habitat 'subtidal sands and gravels' defined by UK BAP (UK BAP, 2008a). However, they share some similarities in terms of sediment and fauna present for example; coarse sediment (sand, gravel, pebbles, cobbles) and fauna including hydroids and bryozoans. Although subtidal sands and gravels are identified as a priority habitat and thought to be of conservation importance, this habitat is widespread within UK waters.

4.5.3 Peat and Clay Exposures

A section of transect SS_21A represented the biotope A4.231 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay', which is classed as an illustrative biotope of the UK BAP habitat 'Peat and Clay Exposures with Piddocks', which are known to occur on the south and east coasts of England (UK BAP, 2008b). Although piddocks could not be confirmed to have been responsible for the burrows present along SS_21A, the definition of the UK BAP habitat also encompasses occurrences of peat and clay exposures with no evidence of either past or present piddock activity, but which have the potential for this community to develop on the basis of environmental conditions and presence of similar beds locally (UK BAP, 2008b). Peat and clay exposures have been reported within the nearby Cromer Shoals Chalk Beds MCZ.

4.5.4 Subtidal Chalk

A nearshore transect (EC_26) had areas of outcropping chalk bedrock that had the potential to form the UK BAP priority habitat 'Subtidal chalk' (UK BAP, 2008c). The habitat 'Subtidal chalk' occurs within the Cromer Shoals and Chalk Beds MCZ, which the EC corridor passes through. The area of chalk within the EC_26 transect was not speciose and was characterised by red algae (Rhodophyta), starfish (*A. rubens*) and anemones (Sagartiidae). The lack of species diversity was expected due to the 'hostility' of the environment that subtidal chalk habitats occur in (UK BAP, 2008c).

4.5.5 Herring Spawning Preferable Grounds

Appendix B.3 details the Folk (1954) and Folk BGS modified classifications alongside the MarineSpace et al. (2013) habitat preference for each sample. Figure 4.12 spatially displays the results of the herring spawning ground assessment for the SEP area.

No specimens of herring were recorded within the SEP survey area.

Table 4.6 summarises the number of samples in the SS survey area within each herring spawning preference category, when the Folk (1954) original sediment classification (and associated fractional composition) was considered, as outlined in MarineSpace et al. (2013).

Within the SS survey area, a total of nine samples were considered as 'Preferred' herring spawning grounds. One sample was considered 'Marginal' (SS_02_PSDA) and the remaining seven samples were classed as 'Unsuitable'. Figure 4.12 spatially displays the results of the herring spawning ground assessment for the SEP area.

Table 4.6: Herring preference sediment categories, Sheringham Shoal

Fractional Composition	Folk (1954) Description	Folk (BGS Modified) Description	Herring Preference (MarineSpace et al., 2013)	Number of Samples
≤ 10 % muds and > 30 % gravel	Gravel (G) and sandy gravel (sG)	Gravel (G) and sandy gravel (sG)	Preferred	9
≤ 10 % muds and 5 % to 30 % gravel	Gravelly sand	Gravelly sand	Marginal	1
> 10 % muds or ≤ 10 % gravel	All other sediment types	All other sediment types	Unsuitable	7

Table 4.7 summarises the number of stations along the EC corridor within each herring spawning preference category, when the Folk (1954) original sediment classification (and associated fractional composition) was considered, as outlined in MarineSpace et al. (2013). Note that in some instances there was duplicate or triplicate sampling. Each sample was assessed separately due to variation in samples acquired at some stations.

A total of 19 samples were considered as 'Preferred' herring spawning grounds. Four samples were considered 'Marginal' and the remaining eight samples were classed as 'Unsuitable'.

Table 4.7: Herring preference sediment categories, Export Cable Corridor

Fractional Composition	Folk (1954) Description	Folk (BGS Modified) Description	Herring Preference (MarineSpace et al., 2013)	Number of Samples
≤ 10 % muds and > 30 % gravel	Gravel (G) and sandy gravel (sG)	Gravel (G) and sandy gravel (sG)	Preferred	19
≤ 10 % muds and 5 % to 30 % gravel	Gravelly sand	Gravelly sand	Marginal	4
> 10 % muds or ≤ 10 % gravel	All other sediment types	All other sediment types	Unsuitable	8

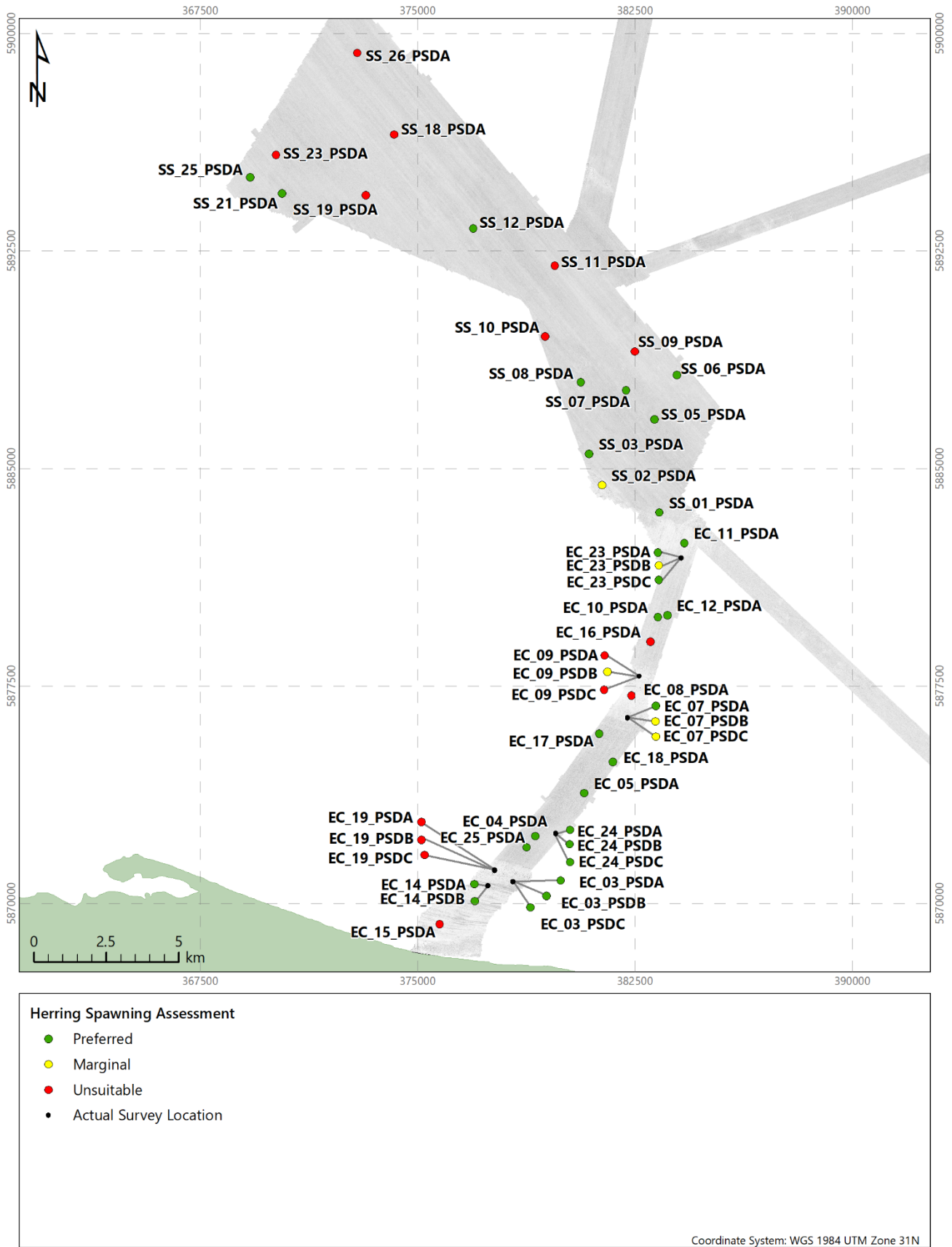


Figure 4.12: Herring spawning preferred grounds overlaid on a side scan sonar mosaic, Sheringham Extension Project

4.5.6 Sand Eel (Ammodytidae) Preferred Grounds

Appendix B.3 details the Folk (1954) and Folk BGS modified classifications alongside the Latto et al. (2013) habitat preference for each sample.. Figure 4.13 spatially displays the preferred sand eel habitats overlain on SSS for the SEP area.

Table 4.8 summarises the number of samples in the SS survey area within each sand eel preference category, when the Folk (1954) original sediment classification (and associated fractional composition) were considered.

The sediment composition at for SS samples indicated the presence of 'Preferred', 'Marginal' and 'Unsuitable' sand eel grounds. Sample SS_02_PSDA was identified as a 'Preferred' habitat for sand eels due to the high composition of coarse sand (80.3 %) and low percentage of fine sand and silt (0.17 %). Nine samples were considered as 'Marginal' and the remaining seven classed as 'Unsuitable'.

Table 4.8: Sand eel preference sediment categories, Sheringham Shoal

Fractional Composition	Folk (1954) Description	Folk (BGS Modified) Description	Sand Eel Preference (Latto et al, 2013)	Number of Samples
≤ 10 % mud and ≤ 30 % gravel	Sand (S), slightly gravelly sand ((g)S) and gravelly sand (gS)	Sand (S) and gravelly sand (gS)	Preferred	1
≤ 10 % mud and > 30 % to < 80 % gravel	Sandy gravel (sG)	Sandy gravel (sG)	Marginal	9
> 10 % mud or ≥ 80 % gravel	All other sediment types	All other sediment types	Unsuitable	7

Table 4.9 summarises the number of samples in the EC survey area within each sand eel preference category, when the Folk (1954) original sediment classification (and associated fractional composition) were considered.

Along the EC corridor all three categories from 'Preferred' to 'Unsuitable' were present. Due to the presence of replicate sampling, each replicate was assessed separately. A total of eleven samples were identified as a 'Preferred' habitat for sand eels due to the high composition of coarse sand. Nineteen samples were considered as 'Marginal' and the remaining sample (EC_16_PSDA) was classed as 'Unsuitable'. As mentioned, some stations had duplicate or triplicate sampling that represented multiple habitats for example EC_07_PSDA was classed as 'Marginal', whereas EC_07_PSDB and EC_07_PSDC were classed as 'Preferred' habitat.

Sand eels were only observed within transect EC_18, an area which has been classed as 'Marginal' from PSD analysis of sample EC_18_PSDA.

Table 4.9: Sand eel preference sediment categories, Export Cable Corridor

Fractional Composition	Folk (1954) Description	Folk (BGS Modified) Description	Sand Eel Preference (Latto et al, 2013)	Number of Samples
$\leq 10\%$ mud and $\leq 30\%$ gravel	Sand (S), slightly gravelly sand ((g)S) and gravelly sand (gS)	Sand (S) and gravelly sand (gS)	Preferred	11
$\leq 10\%$ mud and $> 30\%$ to $< 80\%$ gravel	Sandy gravel (sG)	Sandy gravel (sG)	Marginal	19
$> 10\%$ mud or $\geq 80\%$ gravel	All other sediment types	All other sediment types	Unsuitable	1

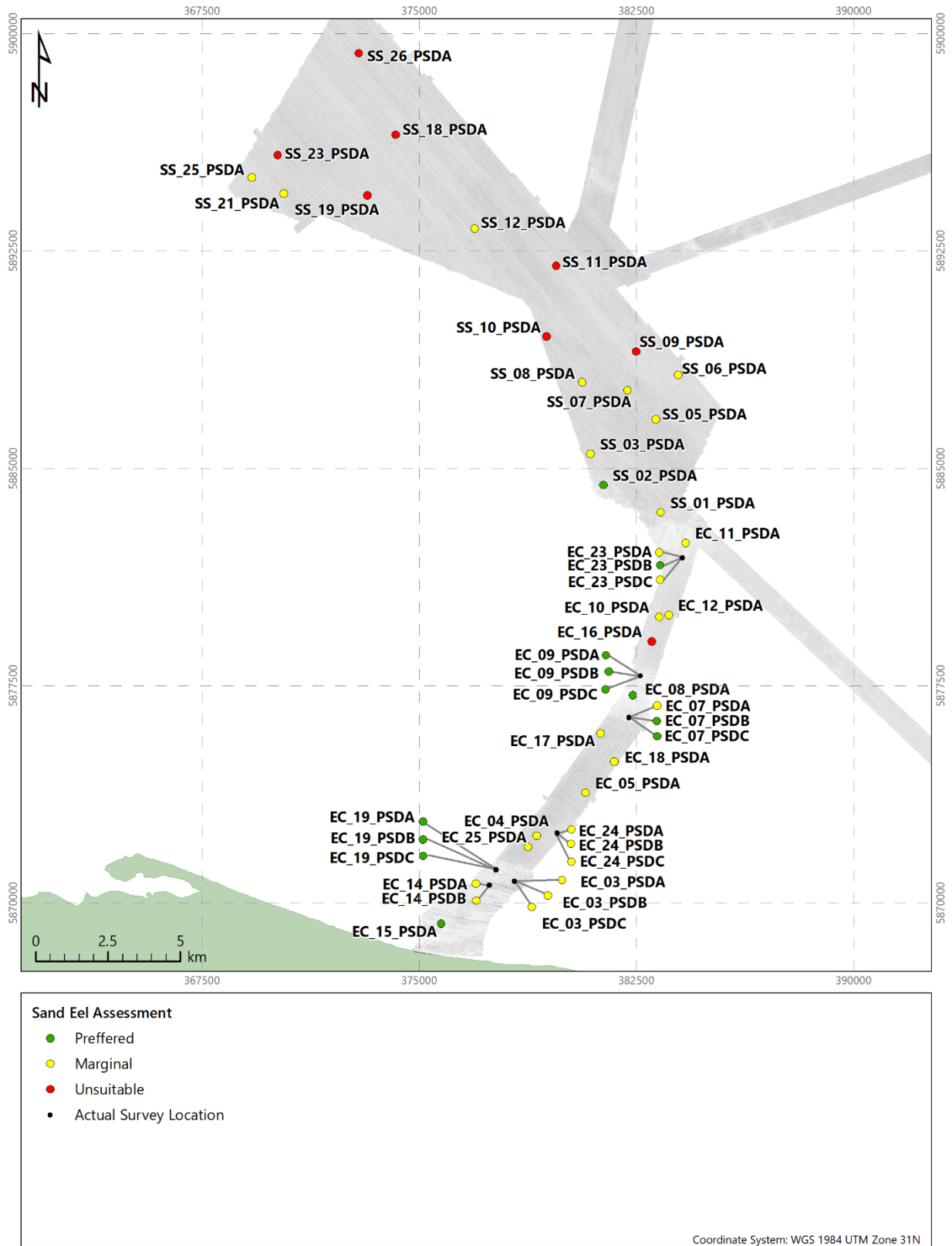


Figure 4.13: Preferred sand eel habitats overlain on side scan sonar, Sheringham Extension Project

4.5.7 Other Potentially Sensitive Habitats and Species

Gardline (2020a) highlighted an area of potential *S. spinulosa* reefs in the north-west of the SS survey area. Specimens of *Sabellaria spinulosa* were encountered within grab samples and were observed within nine of the camera transects at the SS survey area, predominantly in the middle and south-eastern regions, not within the area pointed out by Gardline (2020a). Additionally, *S. spinulosa* was observed within six transects and two grab samples along the entire length EC corridor. *Sabellaria spinulosa* reefs are classified as a UK Biodiversity Action Plan (UK BAP) listed priority habitat ('*Sabellaria spinulosa* reefs'), an OSPAR threatened and/or declining habitat ('*Sabellaria spinulosa* reefs') and included within the Annex I habitat ('Reefs'). However, the specimens found were either single tubes, encrusting, or very small clumps and therefore did not warrant a full assessment to confirm that the Annex I reef habitat was not present.

5. Discussion

From integrated analysis of photographic data, sediment particle size characterisation and geophysical data, two main EUNIS habitats and one biotope complex were identified within the SS survey area and EC corridor, where the predominant Folk sediment classification was sandy gravel. The habitat 'Sublittoral coarse sediment' (A5.1) was prevalent in the SEP survey area owing to the coarse sediments (sand, shingle, gravel, pebbles and cobbles) with a low fine sediment content and the associated epifaunal communities present. The habitat 'Sublittoral sand' (A5.1) was also distributed throughout the SEP survey area and typically consisted of rippled sand and sparse epifauna. Where sediments had a proportion of mud content amongst the coarse material, identified either by the PSD analysis or the photographic data, they were classed as the EUNIS biotope complex 'Circalittoral mixed sediments' (A5.44). This biotope was also widely distributed across the SEP survey area and the heterogeneity of the sediments was reflective of the diverse array of epifauna observed.

These habitat classifications are broadly in agreement with those presented by EMODnet (2019) for the survey area which listed the presence of 'Circalittoral coarse sediment' (A5.14) and 'Circalittoral fine sand' (A5.25) or 'Circalittoral muddy sand' (A5.26). Additionally, the habitats and biotopes defined are reflective of the geophysical findings by Gardline, which characterised the SS survey area as having prevalent sand waves and ripples with sandy gravel the expected sediment type. Along the EC corridor, the sediment alternated between areas of sand waves and ripples to areas of mixed and coarse sediments from photographic data, which is reflective of the Gardline (2020b) descriptions. Sand waves and ripples were expected in the survey area owing to the close proximity of several SACs that are designated to protect the Annex I habitat 'sandbanks which are slightly covered by seawater all of the time'.

The sediments observed throughout the survey area were identified as comprising the broadscale priority habitat 'subtidal sands and gravels'. However, this habitat is widely distributed and represented elsewhere in the MPA network.

Within the SS survey area, an additional EUNIS biotope was present, 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay' (A4.231). Within one camera transect (SS_21A) there were areas of emergent clay with boreholes potentially created by piddocks. This habitat was expected owing to the presence of the nearby Cromer Shoals and Chalk Beds MCZ which hosts peat and clay exposures. Although no piddocks were observed in the photographic data, the UK BAP habitat also encompasses peat and clay exposures that have no evidence of either past or present piddock activity, but which have the potential for this community to develop on the basis of environmental conditions and presence of similar beds locally (UK BAP, 2008b).

Along the EC corridor, there was also an additional EUNIS habitat present, 'Infralittoral rock and other hard substrata' (A3) classified within transect EC_26. Within this transect there

where areas of exposed chalk bedrock amongst the sandy gravel featuring red algae and sparse fauna. This habitat was expected as EMODnet (2019) noted the presence of the habitat 'Atlantic and Mediterranean high energy infralittoral rock' (A3.1) along the Norfolk coastline.

Benthic epifauna were diverse across the SS survey area, particularly in areas associated with mixed and coarse sediments. The dominant epifauna in such areas included bryozoans (Flustridae), hydroids (Hydrozoa including *N. antennina* and *H. falcata*), hermit crabs (Paguridae), nut crabs (*Ebalia* sp.), squat lobsters (Galatheaidea), barnacles (Sessilia), starfish (*A. rubens* and *C. papposus*), sea squirts (Ascidiacea including *D. grossularia*) and anemones (*Urticina* sp. and Sagartiidae). In areas dominated by sands the epifauna were sparsely distributed and included bryozoans (Flustridae), dragonet (*Callionymus* sp.) and slipper limpets (*C. fornicata*). Overall, the epifauna observed was typical of background conditions for the SNS (Reiss et al., 2009).

Similarly, benthic epifauna were diverse along the EC corridor, except there was also the presence of algal species, particularly closer to the shore. Fauna associated with mixed and coarse sediments included bryozoans (*F. foliacea*, *V. spinosa* and *A. diaphanum*), hydroids (*N. antennina*), anemones (*Urticina* sp. and Sagartiidae), crabs (*C. pagurus*, *N. puber* and *L. depurator*), topshells (Trochoidea including *C. zizyphinum*) and starfish (*Henrica* sp. and *C. papposus*). In areas dominated by sands the epifauna were sparse and included starfish (*A. rubens*) and gobies (Gobiidae).

The Annex I habitat 'Stony reef' was not expected in the survey area. However, due to the presence of cobbles, a stony reef assessment was carried out to confirm the absence of the Annex I habitat. Within the SS survey area, seabed was classed as 'Not a reef' due to the elevation of cobbles being < 64 mm, percentage of cobble and boulder coverage ranging from 0 % to 9 % and epifaunal species composition being less than < 80 %. There were two small patches on transects SS_15 and SS_16 which classed as 'Low reef' in terms of percentage cover of cobbles and/or boulders however, do not fulfil the definition of the Annex I habitat. Along the EC corridor, the majority of the transects were classed as 'Not a reef', except for two transects (EC_03 and EC_24), which were classed as 'Low reef' due to the higher percentage of cobble coverage observed (10 % to 40 %). These also do not fulfil the criteria of the Annex I 'Stony reef' habitat as detailed by Golding et al. (2020); it takes strong justification for a habitat to qualify as a reef if a 'low' is scored in any of the four characteristics (composition, elevation, extent or biota).

At the nearshore end of the EC corridor, one transect (EC_26) highlighted the potential presence of the Annex I habitat 'bedrock reef'. Due to the lack of defined assessment criteria for this habitat, it is not possible to confirm whether this falls within the Annex I 'Reefs' definition, therefore it has been designated as an area of 'Potential reef'. This coincided with the SSS, which showed a distinct boundary between rippled sandy sediments, to coarse sediments with mottled reflectivity. The transect was characterised by red algae (Rhodophyta), anemones (Sagartiidae) and starfish (*A. rubens*). This particular habitat was expected not only due to the EC corridor passing through the Cromer Chalk Beds MCZ which

is designated primarily due to subtidal chalk, but also because Gardline (2020b) described the presence of outcropping chalk bedrock nearshore with a veneer of sandy gravel and sand.

Herring (*C. harengus*) and sand eels (Ammodytidae) are listed in the UK BAP List as important (priority) species for the protection of the UK's biological resources (UK BAP, 2007). Waters off East Anglia coasts, where the survey area is situated, are known to host habitats for the priority fish taxon sand eel (Ammodytidae) and suitable spawning grounds for the priority fish species herring (*C. harengus*) (Ellis et al., 2012). Sediment composition for preferred herring spawning grounds was investigated based on gravel and mud proportions, following the assessment criteria defined by MarineSpace et al. (2013). For determining potential sand eel spawning grounds, criteria outlined by Latto et al. (2013) were followed.

Herring spawn on gravel and other coarse sediments and substrate including coarse sand, maerl and shell where there is a low proportion of fine sediment and well-oxygenated water (e.g. Bowers, 1980; de Groot, 1980; Rankine, 1986; Aneer, 1989; Stratoudakis et al., 1998; Maravelias et al., 2000). According to the heat maps presented in MarineSpace et al., (2013), the SEP area overlaps low to medium 'heat' areas of the seabed. Within the SS survey area, the majority of the sediments towards the north-west were considered 'Unsuitable' as herring spawning ground. However, at the south-east end of the SS survey area towards the EC corridor, there were areas of both 'Preferred' and 'Marginal' areas of herring spawning. At these preferential spawning areas, there was a large gravel component and very little or no mud content. Along the EC corridor the areas of 'Preferred', 'Marginal' and 'Unsuitable' spawning habitats followed the pattern of alternating coarse/mixed sediments and sand observed. Where the sediment was predominantly sand, the habitat was classed as 'Unsuitable', however where the sediment was coarse or mixed with a large gravel component, the habitats were classed as 'Preferred' or 'Marginal'.

There are five species of sand eel found in UK waters (Ellis et al., 2012), of which *Ammodytes marinus* is listed as a UK BAP priority species (UK BAP, 2007). As the proportions of silt decreased and coarse sand and medium sand in the sediment increases, so does the increased selection of sand eels for the habitat (Holland et al., 2005). According to the heat maps presented within Latto et al. (2013), the SEP area overlaps low to medium 'heat' areas of the seabed. At the SS survey area, the majority of the areas classed as 'Unsuitable' were in the centre and the north-west of the survey area. Progressing towards the south-east, there were more 'Marginal' habitats and at the south-east corner of the SS survey area, there was one area classed as 'Preferred' owing to the greater proportion of sand content and little or no mud content in the sediment. Along the EC corridor there were more 'Preferred' and 'Marginal' habitats due to the increased sand content of the sediments present. Similar to herring spawning grounds, the sand eel preferred habitat also generally followed the pattern of alternating sand and coarse/mixed sediments. Sand eel habitats that were classed as 'Preferred', whereby the sand content of the sediment composition was greatest, were in areas of documented rippled sand.

Multiple SACs within close proximity to the survey area are designated to protect the Annex I habitat 'biogenic reefs' owing to the presence of the reefs created by *Sabellaria spinulosa*. Several areas of the seabed, displaying patchy areas of higher sonar reflectivity, were suggested to be indicative of potential *S. spinulosa* reefs within the north-west of the SS survey area (Gardline, 2020a). However, photographic data analysed in combination with ground-truthing data revealed the lack of potential *Sabellaria* reefs. Nonetheless, specimens of *S. spinulosa* were encountered within grab samples and were observed within fifteen of the camera transects patchily distributed across the SEP survey area. However, the specimens recorded were either in the forms of single tubes, veneer, or very small clumps and therefore do not fulfil the definition of Annex I habitat. Similarly, surveys conducted by EMU Limited in 2009 (EMU, 2010) and by Fugro EMU Limited in 2012 within the Sheringham Shoal wind farm area and EC corridor (Fugro EMU, 2013) recorded *S. spinulosa* as thin crusts on pebbles and no reef formations were observed, which is conducive to other studies conducted in the area (Fugro EMU, 2013).

No other potentially sensitive habitats were identified from either the geophysical or photographic data.

Based on the sediments, epifauna and habitats observed, six sensitive habitats are thought to be present or potentially present within the survey area. Table 5.1 lists the status of each of the sensitive habitats and species along with their component features.

Table 5.1: Summary of sensitive habitats potentially present, Sheringham Extension Project

Listed Feature		Relationship	Related Feature	
Description	Designation/Status		Description	Designation/Status
Geogenic reef	Annex I habitat; habitat FOCI	May occur	Bedrock reef	Annex I habitat; Subtidal chalk
	Annex I habitat	May occur	Stony reef	Annex I habitat
Subtidal sands and gravels	Priority habitat; habitat FOCI	Contains	Offshore subtidal sands and gravels	UK BAP priority habitat; MPA search feature
	Annex I habitat	May occur	Sandbanks which are slightly covered by sea water all the time	Annex I habitat
Peat and Clay Exposures with Piddocks	Priority habitat	Contains	Peat and Clay Exposures with Piddocks	UK BAP priority habitat
Subtidal chalk	Priority habitat	May occur	Subtidal Chalk	UK BAP priority habitat

Listed Feature		Relationship	Related Feature	
Description	Designation/Status		Description	Designation/Status
	Annex I habitat	May occur	Reefs	Annex I habitat
<i>Sabellaria spinulosa</i> reef	OSPAR threatened and/or declining habitat; English priority habitat; habitat FOCI	May occur	Reefs	Annex I habitat
Herring spawning grounds	Priority species	Contains	Herring spawning grounds	UK BAP priority species
Sand eel preferred habitat	Priority species	Contains	Sand eel preferred habitat	UK BAP priority species
<p>Notes</p> <p>FOCI = Feature of Conservation Interest</p> <p>UK BAP = United Kingdom Biodiversity Action Plan</p> <p>MPA = Marine Protected Area</p> <p>OSPAR = Oslo and Paris Commission</p>				

6. Conclusions

Three main habitats were identified habitat the survey areas and described as the EUNIS habitats 'Sublittoral coarse sediment' (A5.1), 'Sublittoral sand' (A5.2) and 'Circalittoral mixed sediments' (A5.44). 'Deep circalittoral mud' (A5.37). This is broadly consistent with the European Marine Observation and Data Network (EMODnet) seabed habitats map. An additional biotope was defined along one of the SS transects, 'Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay' (A4.231).

A stony reef assessment was carried out to determine the presence of the Annex I habitat 'Reefs' however, both the SS survey area and the EC corridor did not fulfil the criteria of the 'Reef' habitat. Two EC transects were classified as having 'low reef', however it takes strong justification for an area classified as 'low reef' to qualify as the Annex I reef habitat.

At the nearshore end of the EC corridor, one transect had possible chalk bedrock outcropping the surrounding sediment indicating the potential presence of the Annex I habitat 'bedrock reef'.

The UK BAP priority habitat 'Subtidal sands and gravels' are present within survey area. However, these habitats are widely distributed in UK waters and already included within UK MPA network.

A section of transect SS_21A featured aspects of the UK BAP habitat 'Peat and Clay Exposures with Piddocks'. Peat and clay exposures have been reported within the nearby Cromer Shoals Chalk Beds MCZ.

The nearshore transect (EC_26) that lies within the Cromer Shoal Chalk Beds MCZ had areas of outcropping chalk bedrock and therefore has the potential to contain the UK BAP priority habitat 'Subtidal chalk'.

Within the SS survey area and along the EC corridor, there were several areas considered 'Preferred' or 'Marginal' herring spawning grounds.

Within the SS survey area and particularly along the EC corridor, there were several areas considered 'Preferred' and 'Marginal' sand eel habitats.

Specimens of *Sabellaria spinulosa* were encountered within grab samples and were observed within camera transects throughout the SEP survey area. However, the specimens found were either single tubes, encrusting, or very small clumps and therefore do not fulfil the criteria of the Annex I 'Reefs' habitat.

No other sensitive habitats or species were observed within the survey area.

No Annex I habitats were present in the survey area.

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Appendix A

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Appendix B

Logs

B.1 Survey Log

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
11/08/2020	16:28:03	EC_14	Vid	SOL	12	8.6	377 437.7	5 870 611.4	377 336.3	5 870 616.4	101.5	
11/08/2020	16:30:31	EC_14	Still	200270_EC_14_01	13		377 437.7	5 870 611.4	377 418.1	5 870 616.7	20.4	
11/08/2020	16:30:38	EC_14	Still	200270_EC_14_02	14		377 437.7	5 870 611.4	377 421.9	5 870 615.6	16.4	
11/08/2020	16:30:45	EC_14	Still	200270_EC_14_03	15		377 437.7	5 870 611.4	377 426.5	5 870 614.4	11.6	
11/08/2020	16:30:52	EC_14	Still	200270_EC_14_04	16		377 437.7	5 870 611.4	377 431.1	5 870 615.1	7.5	
11/08/2020	16:31:00	EC_14	Still	200270_EC_14_05	17		377 437.7	5 870 611.4	377 436.7	5 870 616.9	5.6	
11/08/2020	16:31:08	EC_14	Still	200270_EC_14_06	18		377 437.7	5 870 611.4	377 441.2	5 870 618.1	7.5	
11/08/2020	16:31:20	EC_14	Still	200270_EC_14_07	19		377 437.7	5 870 611.4	377 449.1	5 870 619.0	13.6	
11/08/2020	16:31:27	EC_14	Still	200270_EC_14_08	20		377 437.7	5 870 611.4	377 454.3	5 870 621.6	19.4	
11/08/2020	16:31:32	EC_14	Still	200270_EC_14_09	21		377 437.7	5 870 611.4	377 458.5	5 870 623.7	24.1	
11/08/2020	16:31:41	EC_14	Still	200270_EC_14_10	22		377 437.7	5 870 611.4	377 464.0	5 870 627.0	30.5	
11/08/2020	16:31:51	EC_14	Still	200270_EC_14_11	23		377 437.7	5 870 611.4	377 469.8	5 870 631.7	37.9	
11/08/2020	16:31:59	EC_14	Vid	EOL	24	7.8	377 437.7	5 870 611.4	377 474.2	5 870 635.0	43.4	
11/08/2020	17:31:49	EC_14	HG	FA/PSDA	25	8.2	377 437.7	5 870 611.4	377 414.5	5 870 612.0	23.2	
11/08/2020	17:36:45	EC_14	HG	NS	26	8.2	377 437.7	5 870 611.4	377 419.1	5 870 612.3	18.6	
11/08/2020	17:46:23	EC_14	HG	NS	27	8.0	377 437.7	5 870 611.4	377 423.2	5 870 631.1	24.5	
11/08/2020	18:15:54	EC_14	HG	NS	28	8.2	377 437.7	5 870 611.4	377 434.9	5 870 604.4	7.6	
11/08/2020	18:16:45	EC_14	HG	PSDB	29	8.2	377 437.7	5 870 611.4	377 423.6	5 870 593.6	22.8	
11/08/2020	18:16:45	EC_14	HG	NS	No fix	8.1	377 437.7	5 870 611.4	-	-	-	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
11/08/2020	18:32:50	EC_14	HG	NS	30	8.1	377 437.7	5 870 611.4	377 433.0	5 870 617.9	8.0	
11/08/2020	19:10:42	EC_14	HG	NS	31	8.3	377 437.7	5 870 611.4	377 433.7	5 870 611.8	4.1	
11/08/2020	19:38:49	EC_03	Vid	SOL	32	9.3	378 283.7	5 870 765.3	378 242.7	5 870 764.4	41.1	
11/08/2020	19:39:13	EC_03	Still	200270_EC_03_01	33		378 283.7	5 870 765.3	378 255.2	5 870 766.2	28.6	
11/08/2020	19:39:21	EC_03	Still	200270_EC_03_02	34		378 283.7	5 870 765.3	378 258.5	5 870 766.4	25.2	
11/08/2020	19:39:31	EC_03	Still	200270_EC_03_03	35		378 283.7	5 870 765.3	378 262.7	5 870 767.2	21.2	
11/08/2020	19:39:37	EC_03	Still	200270_EC_03_04	36		378 283.7	5 870 765.3	378 265.4	5 870 767.2	18.4	
11/08/2020	19:39:44	EC_03	Still	200270_EC_03_05	37		378 283.7	5 870 765.3	378 268.4	5 870 767.2	15.5	
11/08/2020	19:39:50	EC_03	Still	200270_EC_03_06	38		378 283.7	5 870 765.3	378 271.3	5 870 767.2	12.5	
11/08/2020	19:39:57	EC_03	Still	200270_EC_03_07	39		378 283.7	5 870 765.3	378 274.3	5 870 767.3	9.6	
11/08/2020	19:40:11	EC_03	Still	200270_EC_03_08	40		378 283.7	5 870 765.3	378 280.3	5 870 767.2	4.0	
11/08/2020	19:40:29	EC_03	Still	200270_EC_03_09	41		378 283.7	5 870 765.3	378 287.3	5 870 767.2	4.0	
11/08/2020	19:40:40	EC_03	Still	200270_EC_03_10	42		378 283.7	5 870 765.3	378 291.0	5 870 766.7	7.4	
11/08/2020	19:40:56	EC_03	Still	200270_EC_03_11	43		378 283.7	5 870 765.3	378 295.4	5 870 766.8	11.7	
11/08/2020	19:41:06	EC_03	Still	200270_EC_03_12	44		378 283.7	5 870 765.3	378 297.8	5 870 766.8	14.2	
11/08/2020	19:41:21	EC_03	Still	200270_EC_03_13	45		378 283.7	5 870 765.3	378 301.5	5 870 767.1	17.8	
11/08/2020	19:41:34	EC_03	Vid	EOL	46	9.8	378 283.7	5 870 765.3	378 303.8	5 870 767.3	20.2	
11/08/2020	19:49:24	EC_03	HG	NS	47	9.5	378 283.7	5 870 765.3	378 272.8	5 870 767.2	11.1	
11/08/2020	19:55:58	EC_03	HG	NS	48	9.5	378 283.7	5 870 765.3	378 270.8	5 870 776.4	17.1	
11/08/2020	20:03:18	EC_03	HG	PSDA	49	9.4	378 283.7	5 870 765.3	378 274.6	5 870 746.9	20.5	
11/08/2020	20:29:26	EC_03	HG	NS	50	10.1	378 283.7	5 870 765.3	378 290.8	5 870 754.8	12.6	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
11/08/2020	20:51:24	EC_03	HG	NS	51	10.0	378 283.7	5 870 765.3	378 297.4	5 870 768.4	14.0	
11/08/2020	20:56:17	EC_03	HG	NS	52	10.1	378 283.7	5 870 765.3	378 266.0	5 870 764.7	17.8	
11/08/2020	21:00:43	EC_03	HG	PSDB	53	10.0	378 283.7	5 870 765.3	378 290.9	5 870 748.4	18.3	
11/08/2020	21:13:20	EC_03	HG	PSDC	54	9.8	378 283.7	5 870 765.3	378 290.7	5 870 757.1	10.7	
11/08/2020	21:31:52	EC_19	Vid	SOL	55	11.4	377 640.8	5 871 151.5	377 661.7	5 871 139.9	24.0	
11/08/2020	21:32:28	EC_19	Still	200270_EC_19_001	56		377 640.8	5 871 151.5	377 645.3	5 871 150.8	4.6	
11/08/2020	21:32:33	EC_19	Still	200270_EC_19_002	57		377 640.8	5 871 151.5	377 642.8	5 871 151.5	2.0	
11/08/2020	21:32:41	EC_19	Still	200270_EC_19_003	58		377 640.8	5 871 151.5	377 640.3	5 871 154.3	2.8	
11/08/2020	21:32:48	EC_19	Still	200270_EC_19_004	59		377 640.8	5 871 151.5	377 637.7	5 871 155.9	5.4	
11/08/2020	21:32:55	EC_19	Still	200270_EC_19_005	60		377 640.8	5 871 151.5	377 635.4	5 871 157.7	8.2	
11/08/2020	21:33:01	EC_19	Still	200270_EC_19_006	61		377 640.8	5 871 151.5	377 633.4	5 871 158.8	10.4	
11/08/2020	21:33:12	EC_19	Still	200270_EC_19_007	62		377 640.8	5 871 151.5	377 629.8	5 871 161.0	14.5	
11/08/2020	21:33:28	EC_19	Vid	EOL	63	11.4	377 640.8	5 871 151.5	377 626.0	5 871 163.8	19.2	
11/08/2020	21:41:51	EC_19	HG	FA/PDSA	64	11.5	377 640.8	5 871 151.5	377 645.1	5 871 138.5	13.7	
11/08/2020	21:59:11	EC_19	HG	FB/PSDB	65	11.4	377 640.8	5 871 151.5	377 651.8	5 871 144.3	13.2	
11/08/2020	22:13:28	EC_19	HG	FC/PSDC	66	11.4	377 640.8	5 871 151.5	377 652.5	5 871 148.2	12.2	
11/08/2020	23:24:03	EC_25	Vid	SOL	67	13.0	378 753.7	5 871 926.7	378 783.9	5 871 921.1	30.7	
11/08/2020	23:24:24	EC_25	Still	200270_EC_25_001	68		378 753.7	5 871 926.7	378 776.0	5 871 921.7	22.9	
11/08/2020	23:24:40	EC_25	Still	200270_EC_25_002	69		378 753.7	5 871 926.7	378 769.2	5 871 923.1	15.9	
11/08/2020	23:24:55	EC_25	Still	200270_EC_25_003	70		378 753.7	5 871 926.7	378 761.9	5 871 924.6	8.5	
11/08/2020	23:25:12	EC_25	Still	200270_EC_25_004	71		378 753.7	5 871 926.7	378 754.1	5 871 924.5	2.2	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
11/08/2020	23:25:30	EC_25	Still	200270_EC_25_005	72		378 753.7	5 871 926.7	378 745.6	5 871 923.6	8.7	
11/08/2020	23:25:57	EC_25	Still	200270_EC_25_006	73		378 753.7	5 871 926.7	378 737.9	5 871 923.1	16.2	
11/08/2020	23:26:13	EC_25	Vid	EOL	74	13.0	378 753.7	5 871 926.7	378 736.6	5 871 920.0	18.4	
11/08/2020	23:38:18	EC_25	HG	PSDA	75	13.0	378 753.7	5 871 926.7	378 764.4	5 871 922.8	11.5	
11/08/2020	23:46:24	EC_25	HG	NS	76	13.0	378 753.7	5 871 926.7	378 754.2	5 871 918.3	8.4	
11/08/2020	23:54:23	EC_25	HG	NS	77	13.0	378 753.7	5 871 926.7	378 763.5	5 871 925.3	10.0	
12/08/2020	00:08:17	EC_25	HG	NS	78	13.0	378 753.7	5 871 926.7	378 771.4	5 871 925.0	17.8	
12/08/2020	00:34:13	EC_04	Vid	SOL	79	13.0	379 042.9	5 872 313.8	379 070.5	5 872 311.4	27.7	
12/08/2020	00:34:33	EC_04	Still	200270_EC_04_001	80		379 042.9	5 872 313.8	379 058.9	5 872 311.4	16.1	
12/08/2020	00:34:45	EC_04	Still	200270_EC_04_002	81		379 042.9	5 872 313.8	379 052.0	5 872 308.8	10.4	
12/08/2020	00:34:57	EC_04	Still	200270_EC_04_003	82		379 042.9	5 872 313.8	379 045.3	5 872 306.2	8.0	
12/08/2020	00:35:12	EC_04	Still	200270_EC_04_004	83		379 042.9	5 872 313.8	379 035.6	5 872 304.3	12.0	
12/08/2020	00:35:27	EC_04	Still	200270_EC_04_005	84		379 042.9	5 872 313.8	379 026.1	5 872 304.5	19.3	
12/08/2020	00:35:37	EC_04	Still	200270_EC_04_006	85		379 042.9	5 872 313.8	379 020.7	5 872 304.1	24.2	
12/08/2020	00:35:52	EC_04	Vid	EOL	86	13.0	379 042.9	5 872 313.8	379 014.6	5 872 302.9	30.3	
12/08/2020	00:47:27	EC_04	HG	PSDA	87	13.0	379 042.9	5 872 313.8	379 053.6	5 872 309.6	11.5	
12/08/2020	00:54:16	EC_04	HG	NS	88	13.0	379 042.9	5 872 313.8	379 056.9	5 872 317.0	14.3	
12/08/2020	01:01:46	EC_04	HG	NS	89	13.0	379 042.9	5 872 313.8	379 041.4	5 872 317.4	3.8	
12/08/2020	01:21:48	EC_24	Vid	SOL	90	13.5	379 764.0	5 872 417.2	379 790.3	5 872 412.4	26.7	
12/08/2020	01:21:59	EC_24	Still	200270_EC_24_001	91		379 764.0	5 872 417.2	379 783.6	5 872 413.3	20.0	
12/08/2020	01:22:14	EC_24	Still	200270_EC_24_002	92		379 764.0	5 872 417.2	379 775.6	5 872 411.6	12.8	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	01:22:23	EC_24	Still	200270_EC_24_003	93		379 764.0	5 872 417.2	379 770.6	5 872 411.5	8.8	
12/08/2020	01:22:33	EC_24	Still	200270_EC_24_004	94		379 764.0	5 872 417.2	379 764.9	5 872 411.1	6.1	
12/08/2020	01:22:41	EC_24	Still	200270_EC_24_005	95		379 764.0	5 872 417.2	379 760.6	5 872 410.9	7.1	
12/08/2020	01:22:53	EC_24	Still	200270_EC_24_006	96		379 764.0	5 872 417.2	379 754.6	5 872 411.6	11.0	
12/08/2020	01:23:05	EC_24	Still	200270_EC_24_007	97		379 764.0	5 872 417.2	379 748.5	5 872 412.0	16.4	
12/08/2020	01:23:18	EC_24	Still	200270_EC_24_008	98		379 764.0	5 872 417.2	379 742.7	5 872 411.9	22.0	
12/08/2020	01:23:47	EC_24	Vid	EOL	99	13.5	379 764.0	5 872 417.2	379 734.9	5 872 411.2	29.7	
12/08/2020	01:31:18	EC_24	HG	PSDA	100	13.5	379 764.0	5 872 417.2	379 768.0	5 872 403.2	14.5	
12/08/2020	01:43:00	EC_24	HG	PSDB	101	13.5	379 764.0	5 872 417.2	379 769.6	5 872 412.3	7.5	
12/08/2020	01:50:07	EC_24	HG	NS	102	13.5	379 764.0	5 872 417.2	379 770.2	5 872 423.6	8.8	
12/08/2020	02:18:13	EC_24	HG	PSDC	103	13.5	379 764.0	5 872 417.2	379 771.0	5 872 413.7	7.8	
12/08/2020	02:45:52	EC_05	Vid	SOL	104	15.7	380 734.6	5 873 797.0	380 755.2	5 873 777.7	28.2	
12/08/2020	02:46:09	EC_05	Still	200270_EC_05_001	105		380 734.6	5 873 797.0	380 750.6	5 873 785.4	19.8	
12/08/2020	02:46:23	EC_05	Still	200270_EC_05_002	106		380 734.6	5 873 797.0	380 747.5	5 873 793.6	13.3	
12/08/2020	02:46:29	EC_05	Still	200270_EC_05_003	107		380 734.6	5 873 797.0	380 744.6	5 873 795.7	10.1	
12/08/2020	02:46:38	EC_05	Still	200270_EC_05_004	108		380 734.6	5 873 797.0	380 741.8	5 873 797.8	7.2	
12/08/2020	02:46:49	EC_05	Still	200270_EC_05_005	109		380 734.6	5 873 797.0	380 739.4	5 873 801.6	6.7	
12/08/2020	02:47:02	EC_05	Still	200270_EC_05_006	110		380 734.6	5 873 797.0	380 739.4	5 873 806.8	11.0	
12/08/2020	02:47:11	EC_05	Still	200270_EC_05_007	111		380 734.6	5 873 797.0	380 740.1	5 873 809.4	13.6	
12/08/2020	02:47:21	EC_05	Still	200270_EC_05_008	112		380 734.6	5 873 797.0	380 741.7	5 873 812.0	16.7	
12/08/2020	02:47:36	EC_05	Still	200270_EC_05_009	113		380 734.6	5 873 797.0	380 747.1	5 873 816.6	23.3	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	02:47:46	EC_05	Vid	EOL	114	15.7	380 734.6	5 873 797.0	380 751.2	5 873 818.8	27.5	
12/08/2020	02:57:27	EC_05	HG	FA/PSDA	115	15.7	380 734.6	5 873 797.0	380 741.4	5 873 793.5	7.6	
12/08/2020	03:24:34	EC_18	Vid	SOL	116	16.6	381 737.9	5 874 884.4	381 772.9	5 874 880.4	35.2	
12/08/2020	03:24:55	EC_18	Still	200270_EC_18_001	117		381 737.9	5 874 884.4	381 760.9	5 874 882.9	23.0	
12/08/2020	03:25:11	EC_18	Still	200270_EC_18_002	118		381 737.9	5 874 884.4	381 750.3	5 874 884.5	12.4	
12/08/2020	03:25:17	EC_18	Still	200270_EC_18_003	119		381 737.9	5 874 884.4	381 745.5	5 874 884.8	7.5	
12/08/2020	03:25:26	EC_18	Still	200270_EC_18_004	120		381 737.9	5 874 884.4	381 740.4	5 874 884.0	2.5	
12/08/2020	03:25:34	EC_18	Still	200270_EC_18_005	121		381 737.9	5 874 884.4	381 735.9	5 874 885.0	2.1	
12/08/2020	03:25:43	EC_18	Still	200270_EC_18_006	122		381 737.9	5 874 884.4	381 730.9	5 874 885.0	7.0	
12/08/2020	03:25:51	EC_18	Still	200270_EC_18_007	123		381 737.9	5 874 884.4	381 726.5	5 874 885.2	11.5	
12/08/2020	03:26:08	EC_18	Still	200270_EC_18_008	124		381 737.9	5 874 884.4	381 718.9	5 874 885.2	19.1	
12/08/2020	03:26:21	EC_18	Still	200270_EC_18_009	125		381 737.9	5 874 884.4	381 714.3	5 874 884.4	23.6	
12/08/2020	03:26:42	EC_18	Vid	EOL	126	16.6	381 737.9	5 874 884.4	381 707.4	5 874 881.8	30.6	
12/08/2020	03:37:11	EC_18	HG	PSDA	127	16.6	381 737.9	5 874 884.4	381 736.1	5 874 877.2	7.4	
12/08/2020	03:44:52	EC_18	HG	NS	128	16.6	381 737.9	5 874 884.4	381 738.2	5 874 876.6	7.8	
12/08/2020	03:53:40	EC_18	HG	NS	130	16.6	381 737.9	5 874 884.4	381 744.1	5 874 890.9	9.0	
12/08/2020	04:17:47	EC_13	Vid	SOL	131	17.6	381 442.7	5 875 396.8	381 471.7	5 875 397.7	29.1	
12/08/2020	04:18:04	EC_13	Still	200270_EC_13_001	132		381 442.7	5 875 396.8	381 459.4	5 875 398.1	16.8	
12/08/2020	04:18:12	EC_13	Still	200270_EC_13_002	133		381 442.7	5 875 396.8	381 454.1	5 875 398.1	11.5	
12/08/2020	04:18:18	EC_13	Still	200270_EC_13_003	134		381 442.7	5 875 396.8	381 449.7	5 875 398.1	7.1	
12/08/2020	04:18:25	EC_13	Still	200270_EC_13_004	135		381 442.7	5 875 396.8	381 444.9	5 875 398.4	2.8	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	04:18:33	EC_13	Still	200270_EC_13_005	136		381 442.7	5 875 396.8	381 440.5	5 875 398.0	2.5	
12/08/2020	04:18:42	EC_13	Still	200270_EC_13_006	137		381 442.7	5 875 396.8	381 435.8	5 875 399.3	7.3	
12/08/2020	04:18:53	EC_13	Still	200270_EC_13_007	138		381 442.7	5 875 396.8	381 429.8	5 875 400.0	13.3	
12/08/2020	04:19:06	EC_13	Still	200270_EC_13_008	139		381 442.7	5 875 396.8	381 422.7	5 875 401.4	20.5	
12/08/2020	04:19:14	EC_13	Still	200270_EC_13_009	140		381 442.7	5 875 396.8	381 418.4	5 875 401.2	24.7	
12/08/2020	04:19:23	EC_13	Vid	EOL	141	17.6	381 442.7	5 875 396.8	381 413.2	5 875 401.8	29.8	
12/08/2020	04:37:44	EC_17	Vid	SOL	142	19.1	381 287.8	5 875 866.8	381 322.4	5 875 847.2	39.8	
12/08/2020	04:38:10	EC_17	Still	200270_EC_17_001	143		381 287.8	5 875 866.8	381 300.8	5 875 850.3	21.0	
12/08/2020	04:38:25	EC_17	Still	200270_EC_17_002	144		381 287.8	5 875 866.8	381 290.5	5 875 857.9	9.3	
12/08/2020	04:38:33	EC_17	Still	200270_EC_17_003	145		381 287.8	5 875 866.8	381 285.9	5 875 862.4	4.8	
12/08/2020	04:38:42	EC_17	Still	200270_EC_17_004	146		381 287.8	5 875 866.8	381 281.9	5 875 868.2	6.1	
12/08/2020	04:38:54	EC_17	Still	200270_EC_17_005	147		381 287.8	5 875 866.8	381 278.1	5 875 877.7	14.6	
12/08/2020	04:39:04	EC_17	Still	200270_EC_17_006	148		381 287.8	5 875 866.8	381 275.2	5 875 884.4	21.7	
12/08/2020	04:39:12	EC_17	Still	200270_EC_17_007	149		381 287.8	5 875 866.8	381 272.1	5 875 889.7	27.8	
12/08/2020	04:39:25	EC_17	Vid	EOL	150	19.1	381 287.8	5 875 866.8	381 266.4	5 875 895.7	36.0	
12/08/2020	04:50:36	EC_17	HG	FA/PSDA	151	19.1	381 287.8	5 875 866.8	381 267.3	5 875 855.3	23.6	
12/08/2020	05:25:17	EC_06	Vid	SOL	152	19.7	382 464.5	5 876 008.3	382 440.8	5 876 011.3	24.0	
12/08/2020	05:26:02	EC_06	Still	200270_EC_06_001	154		382 464.5	5 876 008.3	382 451.4	5 876 009.9	13.3	
12/08/2020	05:26:28	EC_06	Still	200270_EC_06_002	155		382 464.5	5 876 008.3	382 461.0	5 876 008.0	3.5	
12/08/2020	05:26:37	EC_06	Still	200270_EC_06_003	156		382 464.5	5 876 008.3	382 465.0	5 876 007.4	1.0	
12/08/2020	05:26:53	EC_06	Still	200270_EC_06_004	157		382 464.5	5 876 008.3	382 472.9	5 876 007.6	8.4	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	05:27:04	EC_06	Still	200270_EC_06_005	158		382 464.5	5 876 008.3	382 479.0	5 876 006.5	14.5	
12/08/2020	05:27:11	EC_06	Still	200270_EC_06_006	159		382 464.5	5 876 008.3	382 482.6	5 876 006.5	18.1	
12/08/2020	05:27:22	EC_06	Still	200270_EC_06_007	160		382 464.5	5 876 008.3	382 488.7	5 876 006.1	24.2	
12/08/2020	05:27:39	EC_06	Vid	EOL	161	19.7	382 464.5	5 876 008.3	382 496.4	5 876 004.7	32.0	
12/08/2020	05:49:43	EC_07	Vid	SOL	162	19.1	382 237.7	5 876 411.4	382 215.1	5 876 420.1	24.2	
12/08/2020	05:49:56	EC_07	Still	200270_EC_07_001	163		382 237.7	5 876 411.4	382 219.7	5 876 418.6	19.4	
12/08/2020	05:50:04	EC_07	Still	200270_EC_07_002	164		382 237.7	5 876 411.4	382 223.2	5 876 417.2	15.6	
12/08/2020	05:50:18	EC_07	Still	200270_EC_07_003	165		382 237.7	5 876 411.4	382 228.0	5 876 415.6	10.6	
12/08/2020	05:50:23	EC_07	Still	200270_EC_07_004	166		382 237.7	5 876 411.4	382 229.5	5 876 414.9	9.0	
12/08/2020	05:50:32	EC_07	Still	200270_EC_07_005	167		382 237.7	5 876 411.4	382 234.0	5 876 412.6	3.9	
12/08/2020	05:50:42	EC_07	Still	200270_EC_07_006	168		382 237.7	5 876 411.4	382 239.3	5 876 411.0	1.6	
12/08/2020	05:50:51	EC_07	Still	200270_EC_07_007	169		382 237.7	5 876 411.4	382 244.1	5 876 409.4	6.6	
12/08/2020	05:51:06	EC_07	Still	200270_EC_07_008	170		382 237.7	5 876 411.4	382 253.4	5 876 404.4	17.2	
12/08/2020	05:51:11	EC_07	Still	200270_EC_07_009	171		382 237.7	5 876 411.4	382 256.3	5 876 403.0	20.4	
12/08/2020	05:51:21	EC_07	Still	200270_EC_07_010	172		382 237.7	5 876 411.4	382 261.0	5 876 400.4	25.8	
12/08/2020	05:51:39	EC_07	Vid	EOL	173	19.1	382 237.7	5 876 411.4	382 269.4	5 876 397.2	34.8	
12/08/2020	05:58:25	EC_07	HG	NS	174	19.1	382 237.7	5 876 411.4	382 228.2	5 876 433.3	23.8	
12/08/2020	06:05:17	EC_07	HG	PSDA	175	19.5	382 237.7	5 876 411.4	382 233.7	5 876 410.7	4.1	
12/08/2020	06:10:39	EC_07	HG	PSDB	176	19.5	382 237.7	5 876 411.4	382 240.9	5 876 414.5	4.4	
12/08/2020	06:21:37	EC_07	HG	PSDC/FA	177	19.4	382 237.7	5 876 411.4	382 236.9	5 876 395.1	16.4	
12/08/2020	06:35:38	EC_07	HG	FB	178	19.6	382 237.7	5 876 411.4	382 237.1	5 876 397.6	13.9	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	07:26:24	EC_07	HG	FC	179	19.9	382 237.7	5 876 411.4	382 228.5	5 876 394.5	19.4	
12/08/2020	07:32:56	EC_07	HG	NS	180	19.5	382 237.7	5 876 411.4	382 231.2	5 876 401.3	12.0	
12/08/2020	08:05:20	EC_08	Vid	SOL	181	17.3	382 390.2	5 877 158.9	382 373.5	5 877 156.6	16.9	
12/08/2020	08:05:35	EC_08	Still	200270_EC_08_001	182		382 390.2	5 877 158.9	382 382.3	5 877 158.1	8.0	
12/08/2020	08:05:42	EC_08	Still	200270_EC_08_002	183		382 390.2	5 877 158.9	382 385.6	5 877 159.0	4.7	
12/08/2020	08:05:53	EC_08	Still	200270_EC_08_003	184		382 390.2	5 877 158.9	382 390.0	5 877 160.4	1.5	
12/08/2020	08:05:58	EC_08	Still	200270_EC_08_004	185		382 390.2	5 877 158.9	382 391.9	5 877 161.0	2.6	
12/08/2020	08:06:10	EC_08	Still	200270_EC_08_005	186		382 390.2	5 877 158.9	382 398.7	5 877 162.1	9.0	
12/08/2020	08:06:21	EC_08	Still	200270_EC_08_006	187		382 390.2	5 877 158.9	382 405.6	5 877 162.3	15.7	
12/08/2020	08:06:29	EC_08	Still	200270_EC_08_007	188		382 390.2	5 877 158.9	382 409.8	5 877 162.6	19.9	
12/08/2020	08:06:39	EC_08	Still	200270_EC_08_008	189		382 390.2	5 877 158.9	382 414.5	5 877 162.9	24.5	
12/08/2020	08:06:53	EC_08	Vid	EOL	190	17.3	382 390.2	5 877 158.9	382 419.7	5 877 163.2	29.8	
12/08/2020	08:14:16	EC_08	HG	FA/PSDA	191	17.7	382 390.2	5 877 158.9	382 374.1	5 877 164.5	17.1	
12/08/2020	10:27:05	EC_02	Vid	SOL	192	9.5	376 639.3	5 869 674.2	376 649.2	5 869 674.6	9.9	
12/08/2020	10:27:14	EC_02	Still	200270_EC_02_001	193		376 639.3	5 869 674.2	376 643.3	5 869 676.9	4.8	
12/08/2020	10:27:19	EC_02	Still	200270_EC_02_002	194		376 639.3	5 869 674.2	376 640.4	5 869 678.5	4.4	
12/08/2020	10:27:23	EC_02	Still	200270_EC_02_003	195		376 639.3	5 869 674.2	376 638.3	5 869 680.3	6.2	
12/08/2020	10:27:27	EC_02	Still	200270_EC_02_004	196		376 639.3	5 869 674.2	376 634.8	5 869 681.6	8.7	
12/08/2020	10:27:31	EC_02	Still	200270_EC_02_005	197		376 639.3	5 869 674.2	376 633.0	5 869 682.5	10.4	
12/08/2020	10:27:36	EC_02	Still	200270_EC_02_006	198		376 639.3	5 869 674.2	376 630.1	5 869 684.2	13.6	
12/08/2020	10:27:40	EC_02	Still	200270_EC_02_007	199		376 639.3	5 869 674.2	376 627.4	5 869 684.6	15.8	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	10:27:44	EC_02	Still	200270_EC_02_008	200		376 639.3	5 869 674.2	376 624.6	5 869 685.6	18.7	
12/08/2020	10:27:49	EC_02	Still	200270_EC_02_009	201		376 639.3	5 869 674.2	376 622.9	5 869 687.6	21.2	
12/08/2020	10:27:59	EC_02	Still	200270_EC_02_010	203		376 639.3	5 869 674.2	376 618.0	5 869 690.3	26.7	
12/08/2020	10:28:11	EC_02	Vid	EOL	204	9.5	376 639.3	5 869 674.2	376 612.9	5 869 693.2	32.6	
12/08/2020	11:38:31	EC_15	Vid	SOL	205	8.1	375 756.3	5 869 290.6	375 779.5	5 869 281.5	24.9	
12/08/2020	11:38:56	EC_15	Still	200270_EC_15_001	206		375 756.3	5 869 290.6	375 762.3	5 869 286.7	7.1	
12/08/2020	11:39:04	EC_15	Still	200270_EC_15_002	207		375 756.3	5 869 290.6	375 757.3	5 869 287.3	3.5	
12/08/2020	11:39:14	EC_15	Still	200270_EC_15_003	208		375 756.3	5 869 290.6	375 752.0	5 869 287.9	5.1	
12/08/2020	11:39:22	EC_15	Still	200270_EC_15_004	209		375 756.3	5 869 290.6	375 747.9	5 869 288.7	8.7	
12/08/2020	11:39:27	EC_15	Still	200270_EC_15_005	210		375 756.3	5 869 290.6	375 744.7	5 869 289.2	11.8	
12/08/2020	11:39:34	EC_15	Still	200270_EC_15_006	211		375 756.3	5 869 290.6	375 740.4	5 869 291.3	16.0	
12/08/2020	11:39:48	EC_15	Still	200270_EC_15_007	212		375 756.3	5 869 290.6	375 732.4	5 869 293.9	24.2	
12/08/2020	11:39:53	EC_15	Still	200270_EC_15_008	213		375 756.3	5 869 290.6	375 729.9	5 869 294.9	26.8	
12/08/2020	11:40:01	EC_15	Vid	EOL	214	8.1	375 756.3	5 869 290.6	375 725.7	5 869 295.9	31.1	
12/08/2020	11:46:20	EC_15	HG	NS	215	8.1	375 756.3	5 869 290.6	375 754.8	5 869 281.0	9.8	
12/08/2020	11:50:47	EC_15	HG	FA/PSDA	216	8.1	375 756.3	5 869 290.6	375 757.7	5 869 284.6	6.2	
12/08/2020	11:59:28	EC_15	HG	NS	217	8.1	375 756.3	5 869 290.6	375 759.2	5 869 278.9	12.1	
12/08/2020	13:26:54	EC_15	SG	PC	218	7.5	375 756.3	5 869 290.6	375 743.6	5 869 292.7	12.9	
12/08/2020	14:03:26	EC_26	Vid	SOL	219	2.8			375 233.3	5 868 469.0		
12/08/2020	14:04:20	EC_26	Still	200270_EC_26_001	220				375 248.6	5 868 493.4		
12/08/2020	14:04:23	EC_26	Still	200270_EC_26_002	221				375 249.3	5 868 495.4		

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	14:04:33	EC_26	Still	200270_EC_26_003	222				375 251.8	5 868 502.6		
12/08/2020	14:04:43	EC_26	Still	200270_EC_26_004	223				375 253.8	5 868 511.1		
12/08/2020	14:04:55	EC_26	Still	200270_EC_26_005	224				375 253.9	5 868 520.6		
12/08/2020	14:05:08	EC_26	Still	200270_EC_26_006	225				375 253.1	5 868 531.6		
12/08/2020	14:05:17	EC_26	Still	200270_EC_26_007	226				375 252.6	5 868 539.7		
12/08/2020	14:05:26	EC_26	Still	200270_EC_26_008	227				375 251.4	5 868 547.2		
12/08/2020	14:05:41	EC_26	Still	200270_EC_26_009	228				375 248.6	5 868 559.2		
12/08/2020	14:05:49	EC_26	Still	200270_EC_26_010	229				375 246.9	5 868 565.6		
12/08/2020	14:05:56	EC_26	Still	200270_EC_26_011	230				375 246.5	5 868 571.4		
12/08/2020	14:06:05	EC_26	Still	200270_EC_26_012	231				375 246.4	5 868 578.8		
12/08/2020	14:06:16	EC_26	Still	200270_EC_26_013	232				375 243.8	5 868 588.3		
12/08/2020	14:06:25	EC_26	Still	200270_EC_26_014	233				375 243.1	5 868 597.0		
12/08/2020	14:06:45	EC_26	Still	200270_EC_26_015	234				375 244.7	5 868 617.2		
12/08/2020	14:06:59	EC_26	Still	200270_EC_26_016	235				375 248.4	5 868 632.5		
12/08/2020	14:07:10	EC_26	Still	200270_EC_26_017	236				375 249.3	5 868 644.1		
12/08/2020	14:07:30	EC_26	Still	200270_EC_26_018	237				375 246.7	5 868 663.1		
12/08/2020	14:07:44	EC_26	Vid	EOL	238	5.5			375 245.1	5 868 675.1		
12/08/2020	14:48:17	EC_04	SG	NS	239	11.2	379 042.9	5 872 313.8	379 061.4	5 872 316.4	18.7	
12/08/2020	14:57:28	EC_04	SG	PC	240	12.3	379 042.9	5 872 313.8	379 048.7	5 872 298.6	16.3	
12/08/2020	15:29:34	EC_05	SG	NS	241	15.6	380 734.6	5 873 797.0	380 742.0	5 873 813.7	18.3	Shipek grab location relocated

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
												from EC_07 to EC_05
12/08/2020	15:36:22	EC_05	SG	PC	242	15.6	380 734.6	5 873 797.0	380 731.4	5 873 796.9	3.1	
12/08/2020	18:12:16	EC_09	Vid	SOL	243	15.8	382 642.0	5 877 808.2	382 617.8	5 877 813.4	24.7	
12/08/2020	18:12:31	EC_09	Still	200270_EC_09_001	244		382 642.0	5 877 808.2	382 626.8	5 877 818.0	18.1	
12/08/2020	18:12:37	EC_09	Still	200270_EC_09_002	245		382 642.0	5 877 808.2	382 629.6	5 877 817.3	15.4	
12/08/2020	18:12:42	EC_09	Still	200270_EC_09_003	246		382 642.0	5 877 808.2	382 631.9	5 877 816.5	13.1	
12/08/2020	18:12:50	EC_09	Still	200270_EC_09_004	247		382 642.0	5 877 808.2	382 634.3	5 877 816.2	11.1	
12/08/2020	18:12:55	EC_09	Still	200270_EC_09_005	248		382 642.0	5 877 808.2	382 635.0	5 877 815.7	10.3	
12/08/2020	18:13:31	EC_09	Vid	EOL	249	15.8	382 642.0	5 877 808.2	382 628.7	5 877 832.2	27.5	
12/08/2020	18:21:53	EC_09	HG	FA/PSDA	250	16.9	382 642.0	5 877 808.2	382 648.5	5 877 828.2	21.1	
12/08/2020	18:51:01	EC_09	HG	FB/PSDB	251	16.9	382 642.0	5 877 808.2	382 639.9	5 877 830.3	22.2	
12/08/2020	19:33:53	EC_09	HG	FC/PSDC	252	16.9	382 642.0	5 877 808.2	382 639.9	5 877 823.9	15.8	
12/08/2020	19:59:26	EC_16	Vid	SOL	253	19.2	383 039.3	5 879 023.8	383 035.3	5 879 019.9	5.6	
12/08/2020	19:59:34	EC_16	Still	200270_EC_16_001	254		383 039.3	5 879 023.8	383 039.4	5 879 020.2	3.6	
12/08/2020	19:59:40	EC_16	Still	200270_EC_16_002	255		383 039.3	5 879 023.8	383 041.9	5 879 020.7	4.0	
12/08/2020	19:59:44	EC_16	Still	200270_EC_16_003	256		383 039.3	5 879 023.8	383 043.4	5 879 021.1	4.9	
12/08/2020	19:59:50	EC_16	Still	200270_EC_16_004	257		383 039.3	5 879 023.8	383 045.4	5 879 021.6	6.5	
12/08/2020	19:59:57	EC_16	Still	200270_EC_16_005	258		383 039.3	5 879 023.8	383 047.2	5 879 022.1	8.1	
12/08/2020	20:00:03	EC_16	Still	200270_EC_16_006	259		383 039.3	5 879 023.8	383 048.6	5 879 022.5	9.4	
12/08/2020	20:00:11	EC_16	Still	200270_EC_16_007	260		383 039.3	5 879 023.8	383 051.0	5 879 022.4	11.8	
12/08/2020	20:00:16	EC_16	Still	200270_EC_16_008	261		383 039.3	5 879 023.8	383 053.2	5 879 022.0	14.1	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	20:00:23	EC_16	Vid	EOL	262	19.5	383 039.3	5 879 023.8	383 056.1	5 879 021.3	17.0	
12/08/2020	20:08:31	EC_16	HG	FA/PSDA	263	19.5	383 039.3	5 879 023.8	383 032.4	5 879 027.5	7.8	
12/08/2020	20:18:39	EC_16	HG	NS	264	19.4	383 039.3	5 879 023.8	383 041.0	5 879 026.2	2.9	
12/08/2020	20:24:50	EC_16	HG	NS	265	19.4	383 039.3	5 879 023.8	383 026.0	5 879 033.6	16.5	
12/08/2020	20:48:38	EC_10	Vid	SOL	266	20.2	383 290.2	5 879 858.9	383 244.1	5 879 866.8	46.8	
12/08/2020	20:49:27	EC_10	Still	200270_EC_10_001	267		383 290.2	5 879 858.9	383 269.6	5 879 870.0	23.4	
12/08/2020	20:49:33	EC_10	Still	200270_EC_10_002	268		383 290.2	5 879 858.9	383 273.1	5 879 868.2	19.5	
12/08/2020	20:49:48	EC_10	Still	200270_EC_10_003	269		383 290.2	5 879 858.9	383 282.2	5 879 862.7	8.9	
12/08/2020	20:49:55	EC_10	Still	200270_EC_10_004	270		383 290.2	5 879 858.9	383 285.6	5 879 860.2	4.8	
12/08/2020	20:50:02	EC_10	Still	200270_EC_10_005	271		383 290.2	5 879 858.9	383 288.6	5 879 858.2	1.8	
12/08/2020	20:50:09	EC_10	Still	200270_EC_10_006	272		383 290.2	5 879 858.9	383 291.3	5 879 856.1	3.0	
12/08/2020	20:50:18	EC_10	Still	200270_EC_10_007	273		383 290.2	5 879 858.9	383 295.8	5 879 854.2	7.3	
12/08/2020	20:50:28	EC_10	Still	200270_EC_10_008	274		383 290.2	5 879 858.9	383 300.1	5 879 852.1	12.0	
12/08/2020	20:50:39	EC_10	Still	200270_EC_10_009	275		383 290.2	5 879 858.9	383 304.8	5 879 850.6	16.8	
12/08/2020	20:50:51	EC_10	Still	200270_EC_10_010	276		383 290.2	5 879 858.9	383 308.7	5 879 849.2	20.9	
12/08/2020	20:51:08	EC_10	Vid	EOL	277	20.2	383 290.2	5 879 858.9	383 312.4	5 879 847.4	25.0	
12/08/2020	20:57:55	EC_10	HG	NS	278	20.2	383 290.2	5 879 858.9	383 284.2	5 879 876.6	18.6	
12/08/2020	21:05:20	EC_10	HG	FA/PSDA	279	20.2	383 290.2	5 879 858.9	383 284.5	5 879 879.4	21.2	
12/08/2020	21:36:30	EC_12	Vid	SOL	280	19.7	383 617.8	5 879 951.0	383 599.1	5 879 948.6	18.8	
12/08/2020	21:36:51	EC_12	Still	200270_EC_12_001	281		383 617.8	5 879 951.0	383 613.2	5 879 949.5	4.9	
12/08/2020	21:36:55	EC_12	Still	200270_EC_12_002	282		383 617.8	5 879 951.0	383 615.6	5 879 949.3	2.8	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	21:37:00	EC_12	Still	200270_EC_12_003	283		383 617.8	5 879 951.0	383 618.6	5 879 949.6	1.6	
12/08/2020	21:37:03	EC_12	Still	200270_EC_12_004	284		383 617.8	5 879 951.0	383 620.2	5 879 950.0	2.6	
12/08/2020	21:37:09	EC_12	Still	200270_EC_12_005	285		383 617.8	5 879 951.0	383 624.1	5 879 950.4	6.3	
12/08/2020	21:37:13	EC_12	Still	200270_EC_12_006	286		383 617.8	5 879 951.0	383 626.7	5 879 950.6	8.9	
12/08/2020	21:37:18	EC_12	Still	200270_EC_12_007	287		383 617.8	5 879 951.0	383 629.4	5 879 951.3	11.7	
12/08/2020	21:37:23	EC_12	Still	200270_EC_12_008	288		383 617.8	5 879 951.0	383 632.1	5 879 951.7	14.3	
12/08/2020	21:37:28	EC_12	Still	200270_EC_12_009	289		383 617.8	5 879 951.0	383 634.8	5 879 951.9	17.0	
12/08/2020	21:37:37	EC_12	Still	200270_EC_12_010	290		383 617.8	5 879 951.0	383 638.9	5 879 952.4	21.1	
12/08/2020	21:37:41	EC_12	Still	200270_EC_12_011	291		383 617.8	5 879 951.0	383 640.5	5 879 952.8	22.8	
12/08/2020	21:37:51	EC_12	Vid	EOL	292	19.7	383 617.8	5 879 951.0	383 644.1	5 879 953.6	26.4	
12/08/2020	21:43:15	EC_12	HG	NS	293	19.5	383 617.8	5 879 951.0	383 618.0	5 879 960.3	9.3	
12/08/2020	21:47:10	EC_12	HG	FA/PSDA	294	19.5	383 617.8	5 879 951.0	383 611.4	5 879 937.8	14.7	
12/08/2020	21:53:43	EC_12	HG	NS	295	19.5	383 617.8	5 879 951.0	383 622.1	5 879 961.1	11.0	
12/08/2020	22:36:45	EC_23	Vid	SOL	296	19.9	384 081.8	5 881 917.6	384 078.5	5 881 909.2	9.0	
12/08/2020	22:37:02	EC_23	Still	200270_EC_23_001	297		384 081.8	5 881 917.6	384 088.4	5 881 917.8	6.5	
12/08/2020	22:37:11	EC_23	Still	200270_EC_23_002	298		384 081.8	5 881 917.6	384 093.5	5 881 923.6	13.1	
12/08/2020	22:37:16	EC_23	Still	200270_EC_23_003	299		384 081.8	5 881 917.6	384 095.6	5 881 927.2	16.8	
12/08/2020	22:37:22	EC_23	Still	200270_EC_23_004	300		384 081.8	5 881 917.6	384 097.7	5 881 931.0	20.8	
12/08/2020	22:37:26	EC_23	Still	200270_EC_23_005	301		384 081.8	5 881 917.6	384 098.9	5 881 932.3	22.5	
12/08/2020	22:37:30	EC_23	Still	200270_EC_23_006	302		384 081.8	5 881 917.6	384 099.9	5 881 934.1	24.5	
12/08/2020	22:37:46	EC_23	Vid	EOL	303	19.9	384 081.8	5 881 917.6	384 104.8	5 881 939.3	31.6	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
12/08/2020	23:55:17	EC_23	HG	FA/PSDA	304	20.0	384 081.8	5 881 917.6	384 088.9	5 881 917.1	7.1	
13/08/2020	00:14:15	EC_23	HG	FB/PSDB	305	20.0	384 081.8	5 881 917.6	384 082.7	5 881 919.0	1.6	
13/08/2020	00:30:33	EC_23	HG	FC/PSDC	306	20.0	384 081.8	5 881 917.6	384 078.8	5 881 918.0	3.0	
13/08/2020	01:06:39	EC_11	Vid	SOL	307	22.0	384 200.7	5 882 432.2	384 209.5	5 882 423.1	12.7	
13/08/2020	01:06:44	EC_11	Still	200270_EC_11_001	308		384 200.7	5 882 432.2	384 207.7	5 882 423.8	11.0	
13/08/2020	01:06:55	EC_11	Still	200270_EC_11_002	309		384 200.7	5 882 432.2	384 202.6	5 882 426.3	6.2	
13/08/2020	01:07:01	EC_11	Still	200270_EC_11_003	310		384 200.7	5 882 432.2	384 199.5	5 882 428.3	4.1	
13/08/2020	01:07:15	EC_11	Still	200270_EC_11_004	311		384 200.7	5 882 432.2	384 190.7	5 882 432.6	10.0	
13/08/2020	01:07:26	EC_11	Still	200270_EC_11_005	312		384 200.7	5 882 432.2	384 184.2	5 882 435.5	16.8	
13/08/2020	01:07:36	EC_11	Still	200270_EC_11_006	313		384 200.7	5 882 432.2	384 179.1	5 882 437.4	22.1	
13/08/2020	01:07:52	EC_11	Vid	EOL	314	22.0	384 200.7	5 882 432.2	384 172.0	5 882 441.6	30.1	
13/08/2020	01:15:57	EC_11	HG	FA/PSDA	315	22.0	384 200.7	5 882 432.2	384 200.9	5 882 429.5	2.7	
13/08/2020	01:23:45	EC_11	HG	NS	316	22.0	384 200.7	5 882 432.2	384 195.0	5 882 415.0	18.2	
13/08/2020	01:28:03	EC_11	HG	NS	317	22.0	384 200.7	5 882 432.2	384 222.0	5 882 426.3	22.2	
13/08/2020	02:00:57	SS_01	Vid	SOL	318	23.0	383 335.3	5 883 478.9	383 362.5	5 883 468.8	29.0	
13/08/2020	02:01:15	SS_01	Still	200270_SS_01_001	319		383 335.3	5 883 478.9	383 353.1	5 883 473.2	18.7	
13/08/2020	02:01:26	SS_01	Still	200270_SS_01_002	320		383 335.3	5 883 478.9	383 348.4	5 883 476.7	13.3	
13/08/2020	02:01:35	SS_01	Still	200270_SS_01_003	321		383 335.3	5 883 478.9	383 344.2	5 883 480.1	9.0	
13/08/2020	02:01:48	SS_01	Still	200270_SS_01_004	322		383 335.3	5 883 478.9	383 338.8	5 883 485.9	7.8	
13/08/2020	02:02:06	SS_01	Still	200270_SS_01_005	323		383 335.3	5 883 478.9	383 330.0	5 883 492.8	14.8	
13/08/2020	02:02:14	SS_01	Still	200270_SS_01_006	324		383 335.3	5 883 478.9	383 327.3	5 883 495.0	17.9	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
13/08/2020	02:02:24	SS_01	Still	200270_SS_01_007	325		383 335.3	5 883 478.9	383 324.4	5 883 498.4	22.3	
13/08/2020	02:02:45	SS_01	Vid	EOL	326	23.0	383 335.3	5 883 478.9	383 318.6	5 883 504.8	30.7	
13/08/2020	02:10:07	SS_01	HG	FA/PSDA	327	23.0	383 335.3	5 883 478.9	383 344.7	5 883 480.8	9.6	
13/08/2020	02:38:23	SS_02	Vid	SOL	328	18.0	381 333.6	5 884 416.0	381 343.9	5 884 387.1	30.7	
13/08/2020	02:38:49	SS_02	Still	200270_SS_02_001	329		381 333.6	5 884 416.0	381 330.1	5 884 399.6	16.8	
13/08/2020	02:39:04	SS_02	Still	200270_SS_02_002	330		381 333.6	5 884 416.0	381 338.4	5 884 411.0	7.0	
13/08/2020	02:39:14	SS_02	Still	200270_SS_02_003	331		381 333.6	5 884 416.0	381 342.3	5 884 418.9	9.1	
13/08/2020	02:39:25	SS_02	Still	200270_SS_02_004	332		381 333.6	5 884 416.0	381 344.0	5 884 428.4	16.2	
13/08/2020	02:39:33	SS_02	Still	200270_SS_02_005	333		381 333.6	5 884 416.0	381 347.0	5 884 435.0	23.2	
13/08/2020	02:39:46	SS_02	Vid	EOL	334	18.0	381 333.6	5 884 416.0	381 354.7	5 884 442.8	34.0	
13/08/2020	02:52:17	SS_02	HG	FA/PSDA	335	18.0	381 333.6	5 884 416.0	381 353.3	5 884 415.8	19.7	
13/08/2020	03:30:21	SS_03	Vid	SOL	336	18.2	380 912.9	5 885 511.5	380 932.9	5 885 483.6	34.3	
13/08/2020	03:30:40	SS_03	Still	200270_SS_03_001	337		380 912.9	5 885 511.5	380 925.7	5 885 495.0	20.9	
13/08/2020	03:30:49	SS_03	Still	200270_SS_03_002	338		380 912.9	5 885 511.5	380 922.2	5 885 499.6	15.1	
13/08/2020	03:30:58	SS_03	Still	200270_SS_03_003	339		380 912.9	5 885 511.5	380 919.2	5 885 504.3	9.5	
13/08/2020	03:31:07	SS_03	Still	200270_SS_03_004	340		380 912.9	5 885 511.5	380 914.8	5 885 507.5	4.5	
13/08/2020	03:31:23	SS_03	Still	200270_SS_03_005	341		380 912.9	5 885 511.5	380 907.6	5 885 513.6	5.7	
13/08/2020	03:31:34	SS_03	Still	200270_SS_03_006	342		380 912.9	5 885 511.5	380 902.4	5 885 518.6	12.8	
13/08/2020	03:31:48	SS_03	Still	200270_SS_03_007	343		380 912.9	5 885 511.5	380 898.4	5 885 524.3	19.3	
13/08/2020	03:32:08	SS_03	Still	200270_SS_03_008	344		380 912.9	5 885 511.5	380 895.8	5 885 529.4	24.8	
13/08/2020	03:32:19	SS_03	Vid	EOL	345	18.2	380 912.9	5 885 511.5	380 894.8	5 885 530.6	26.3	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
13/08/2020	03:39:05	SS_03	HG	FA/PSDA	346	18.2	380 912.9	5 885 511.5	380 914.0	5 885 494.2	17.4	
13/08/2020	04:13:34	SS_04	Vid	SOL	347	17.0	381 597.3	5 886 556.1	381 611.3	5 886 520.5	38.3	
13/08/2020	04:13:59	SS_04	Still	200270_SS_04_001	348		381 597.3	5 886 556.1	381 608.0	5 886 539.2	20.0	
13/08/2020	04:14:11	SS_04	Still	200270_SS_04_002	349		381 597.3	5 886 556.1	381 605.5	5 886 548.4	11.2	
13/08/2020	04:14:18	SS_04	Still	200270_SS_04_003	350		381 597.3	5 886 556.1	381 603.4	5 886 553.7	6.6	
13/08/2020	04:14:29	SS_04	Still	200270_SS_04_004	351		381 597.3	5 886 556.1	381 599.5	5 886 561.4	5.7	
13/08/2020	04:14:45	SS_04	Still	200270_SS_04_005	352		381 597.3	5 886 556.1	381 593.7	5 886 571.3	15.6	
13/08/2020	04:14:55	SS_04	Still	200270_SS_04_006	353		381 597.3	5 886 556.1	381 590.8	5 886 576.5	21.4	
13/08/2020	04:15:15	SS_04	Vid	EOL	354	17.0	381 597.3	5 886 556.1	381 587.2	5 886 584.6	30.2	
13/08/2020	05:27:53	SS_05	Vid	SOL	356	17.3	383 166.3	5 886 689.7	383 164.6	5 886 657.5	32.3	
13/08/2020	05:28:06	SS_05	Still	200270_SS_05_001	357		383 166.3	5 886 689.7	383 168.6	5 886 665.0	24.9	
13/08/2020	05:28:16	SS_05	Still	200270_SS_05_002	358		383 166.3	5 886 689.7	383 169.9	5 886 672.2	17.9	
13/08/2020	05:28:25	SS_05	Still	200270_SS_05_003	359		383 166.3	5 886 689.7	383 170.8	5 886 679.9	10.8	
13/08/2020	05:28:35	SS_05	Still	200270_SS_05_004	360		383 166.3	5 886 689.7	383 169.6	5 886 688.6	3.5	
13/08/2020	05:28:49	SS_05	Still	200270_SS_05_005	361		383 166.3	5 886 689.7	383 167.9	5 886 699.8	10.2	
13/08/2020	05:28:59	SS_05	Still	200270_SS_05_006	362		383 166.3	5 886 689.7	383 166.9	5 886 706.9	17.1	
13/08/2020	05:29:10	SS_05	Still	200270_SS_05_007	363		383 166.3	5 886 689.7	383 165.7	5 886 714.0	24.3	
13/08/2020	05:29:26	SS_05	Vid	EOL	364	17.3	383 166.3	5 886 689.7	383 163.0	5 886 721.3	31.7	
13/08/2020	05:35:45	SS_05	HG	FA/PSDA	365	17.3	383 166.3	5 886 689.7	383 166.9	5 886 689.2	0.8	
13/08/2020	05:42:02	SS_05	HG	NS	366	17.4	383 166.3	5 886 689.7	383 160.1	5 886 692.8	7.0	
13/08/2020	05:47:01	SS_05	HG	NS	367	17.1	383 166.3	5 886 689.7	383 147.6	5 886 693.2	19.0	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
13/08/2020	06:19:02	SS_06	Vid	SOL	368	17.7	383 951.8	5 888 205.5	383 926.3	5 888 184.6	33.0	
13/08/2020	06:19:24	SS_06	Still	200270_SS_06_001	369		383 951.8	5 888 205.5	383 935.8	5 888 191.2	21.5	
13/08/2020	06:19:42	SS_06	Still	200270_SS_06_002	370		383 951.8	5 888 205.5	383 947.4	5 888 197.0	9.6	
13/08/2020	06:19:49	SS_06	Still	200270_SS_06_003	371		383 951.8	5 888 205.5	383 952.1	5 888 199.0	6.5	
13/08/2020	06:19:55	SS_06	Still	200270_SS_06_004	372		383 951.8	5 888 205.5	383 954.9	5 888 201.0	5.5	
13/08/2020	06:20:06	SS_06	Still	200270_SS_06_005	373		383 951.8	5 888 205.5	383 961.1	5 888 205.3	9.3	
13/08/2020	06:20:23	SS_06	Still	200270_SS_06_006	374		383 951.8	5 888 205.5	383 970.1	5 888 207.6	18.4	
13/08/2020	06:20:32	SS_06	Still	200270_SS_06_007	375		383 951.8	5 888 205.5	383 974.2	5 888 209.2	22.7	
13/08/2020	06:20:55	SS_06	Vid	EOL	376	17.7	383 951.8	5 888 205.5	383 983.0	5 888 211.6	31.8	
13/08/2020	06:30:38	SS_06	HG	FA/PSDA	377	18.3	383 951.8	5 888 205.5	383 944.3	5 888 219.8	16.1	
13/08/2020	07:20:15	SS_09	Vid	SOL	378	17.3	382 485.9	5 889 029.6	382 462.6	5 889 024.1	24.0	
13/08/2020	07:20:33	SS_09	Still	200270_SS_09_001	379		382 485.9	5 889 029.6	382 478.5	5 889 017.2	14.4	
13/08/2020	07:20:39	SS_09	Still	200270_SS_09_002	380		382 485.9	5 889 029.6	382 483.9	5 889 016.3	13.5	
13/08/2020	07:20:44	SS_09	Still	200270_SS_09_003	381		382 485.9	5 889 029.6	382 488.2	5 889 016.0	13.8	
13/08/2020	07:20:46	SS_09	Still	200270_SS_09_004	382		382 485.9	5 889 029.6	382 489.3	5 889 015.5	14.5	
13/08/2020	07:20:55	SS_09	Still	200270_SS_09_005	383		382 485.9	5 889 029.6	382 496.8	5 889 015.2	18.0	
13/08/2020	07:21:10	SS_09	Still	200270_SS_09_006	384		382 485.9	5 889 029.6	382 503.3	5 889 008.6	27.3	
13/08/2020	07:21:22	SS_09	Vid	EOL	385	17.3	382 485.9	5 889 029.6	382 506.2	5 889 002.2	34.2	
13/08/2020	07:30:53	SS_09	HG	FA/PSDA	386	17.7	382 485.9	5 889 029.6	382 485.9	5 889 027.7	1.9	
13/08/2020	07:53:14	SS_07	Vid	SOL	387	17.0	382 209.7	5 887 684.8	382 206.0	5 887 662.6	22.5	
13/08/2020	07:53:29	SS_07	Still	200270_SS_07_001	388		382 209.7	5 887 684.8	382 199.1	5 887 676.0	13.8	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
13/08/2020	07:53:35	SS_07	Still	200270_SS_07_002	389		382 209.7	5 887 684.8	382 199.1	5 887 680.3	11.5	
13/08/2020	07:53:44	SS_07	Still	200270_SS_07_003	390		382 209.7	5 887 684.8	382 201.2	5 887 686.3	8.7	
13/08/2020	07:53:52	SS_07	Still	200270_SS_07_004	391		382 209.7	5 887 684.8	382 203.7	5 887 691.1	8.7	
13/08/2020	07:54:01	SS_07	Still	200270_SS_07_005	392		382 209.7	5 887 684.8	382 205.4	5 887 697.2	13.1	
13/08/2020	07:54:10	SS_07	Still	200270_SS_07_006	393		382 209.7	5 887 684.8	382 205.0	5 887 702.6	18.3	
13/08/2020	07:54:34	SS_07	Vid	EOL	394	17.0	382 209.7	5 887 684.8	382 202.3	5 887 720.4	36.3	
13/08/2020	08:04:11	SS_07	HG	FA/PSDA	395	17.6	382 209.7	5 887 684.8	382 200.4	5 887 694.4	13.3	
13/08/2020	08:48:03	SS_08	Vid	SOL	396	17.8	380 636.8	5 887 985.0	380 612.9	5 887 975.4	25.7	
13/08/2020	08:48:16	SS_08	Still	200270_SS_08_001	397		380 636.8	5 887 985.0	380 620.2	5 887 979.2	17.5	
13/08/2020	08:48:22	SS_08	Still	200270_SS_08_002	398		380 636.8	5 887 985.0	380 624.2	5 887 982.6	12.8	
13/08/2020	08:48:31	SS_08	Still	200270_SS_08_003	399		380 636.8	5 887 985.0	380 629.2	5 887 984.8	7.5	
13/08/2020	08:48:42	SS_08	Still	200270_SS_08_004	400		380 636.8	5 887 985.0	380 637.2	5 887 986.0	1.1	
13/08/2020	08:48:53	SS_08	Still	200270_SS_08_005	401		380 636.8	5 887 985.0	380 643.6	5 887 987.3	7.2	
13/08/2020	08:49:04	SS_08	Still	200270_SS_08_006	402		380 636.8	5 887 985.0	380 649.6	5 887 988.8	13.4	
13/08/2020	08:49:20	SS_08	Still	200270_SS_08_007	403		380 636.8	5 887 985.0	380 657.7	5 887 992.4	22.2	
13/08/2020	08:49:41	SS_08	Vid	EOL	404	17.8	380 636.8	5 887 985.0	380 663.8	5 887 993.5	28.3	
13/08/2020	08:54:43	SS_08	HG	FA/PSDA	405	16.7	380 636.8	5 887 985.0	380 632.9	5 887 980.4	6.0	
13/08/2020	09:23:12	SS_10	Vid	SOL	406	16.2	379 388.0	5 889 557.9	379 356.3	5 889 546.3	33.8	
13/08/2020	09:23:37	SS_10	Still	200270_SS_10_001	407		379 388.0	5 889 557.9	379 378.1	5 889 550.6	12.4	
13/08/2020	09:23:48	SS_10	Still	200270_SS_10_002	408		379 388.0	5 889 557.9	379 386.3	5 889 552.6	5.6	
13/08/2020	09:23:55	SS_10	Still	200270_SS_10_003	409		379 388.0	5 889 557.9	379 391.3	5 889 553.7	5.4	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
13/08/2020	09:24:04	SS_10	Still	200270_SS_10_004	410		379 388.0	5 889 557.9	379 397.0	5 889 555.1	9.4	
13/08/2020	09:24:14	SS_10	Still	200270_SS_10_005	411		379 388.0	5 889 557.9	379 404.2	5 889 557.5	16.2	
13/08/2020	09:24:22	SS_10	Still	200270_SS_10_006	412		379 388.0	5 889 557.9	379 408.4	5 889 558.9	20.4	
13/08/2020	09:24:38	SS_10	Vid	EOL	413	16.2	379 388.0	5 889 557.9	379 419.2	5 889 558.6	31.2	
13/08/2020	09:29:44	SS_10	HG	NS	414	16.1	379 388.0	5 889 557.9	379 369.3	5 889 553.5	19.3	
13/08/2020	09:34:44	SS_10	HG	FA/PSDA	415	16.2	379 388.0	5 889 557.9	379 389.5	5 889 556.1	2.4	
13/08/2020	10:03:50	SS_11	Vid	SOL	416	17.6	379 743.5	5 892 004.3	379 717.0	5 891 968.6	44.5	
13/08/2020	10:04:14	SS_11	Still	200270_SS_11_001	417		379 743.5	5 892 004.3	379 727.7	5 891 993.5	19.2	
13/08/2020	10:04:24	SS_11	Still	200270_SS_11_002	418		379 743.5	5 892 004.3	379 735.7	5 892 001.3	8.5	
13/08/2020	10:04:29	SS_11	Still	200270_SS_11_003	419		379 743.5	5 892 004.3	379 738.6	5 892 004.5	4.9	
13/08/2020	10:04:34	SS_11	Still	200270_SS_11_004	420		379 743.5	5 892 004.3	379 740.8	5 892 007.4	4.2	
13/08/2020	10:04:44	SS_11	Still	200270_SS_11_005	421		379 743.5	5 892 004.3	379 744.5	5 892 011.4	7.1	
13/08/2020	10:04:51	SS_11	Still	200270_SS_11_006	422		379 743.5	5 892 004.3	379 746.8	5 892 014.3	10.5	
13/08/2020	10:04:58	SS_11	Still	200270_SS_11_007	423		379 743.5	5 892 004.3	379 748.7	5 892 015.8	12.6	
13/08/2020	10:05:12	SS_11	Still	200270_SS_11_008	424		379 743.5	5 892 004.3	379 750.6	5 892 015.5	13.2	
13/08/2020	10:05:22	SS_11	Still	200270_SS_11_009	425		379 743.5	5 892 004.3	379 751.8	5 892 015.3	13.7	
13/08/2020	10:05:41	SS_11	Still	200270_SS_11_010	426		379 743.5	5 892 004.3	379 754.0	5 892 018.1	17.3	
13/08/2020	10:06:03	SS_11	Still	200270_SS_11_011	427		379 743.5	5 892 004.3	379 759.9	5 892 023.0	24.9	
13/08/2020	10:06:13	SS_11	Vid	EOL	428	17.6	379 743.5	5 892 004.3	379 763.3	5 892 024.8	28.5	
13/08/2020	10:11:51	SS_11	HG	FA/PSDA	429	17.6	379 743.5	5 892 004.3	379 732.1	5 891 995.3	14.5	
16/08/2020	11:56:59	SS_12	Vid	SOL	430	13.1	376 938.5	5 893 256.2	376 921.2	5 893 258.3	17.5	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	11:57:21	SS_12	Still	200270_SS_12_001	431		376 938.5	5 893 256.2	376 925.6	5 893 256.0	12.9	
16/08/2020	11:57:29	SS_12	Still	200270_SS_12_002	432		376 938.5	5 893 256.2	376 930.3	5 893 260.3	9.2	
16/08/2020	11:57:37	SS_12	Still	200270_SS_12_003	433		376 938.5	5 893 256.2	376 935.5	5 893 266.1	10.4	
16/08/2020	11:57:46	SS_12	Still	200270_SS_12_004	434		376 938.5	5 893 256.2	376 942.2	5 893 272.0	16.3	
16/08/2020	11:57:49	SS_12	Still	200270_SS_12_005	435		376 938.5	5 893 256.2	376 945.4	5 893 274.0	19.1	
16/08/2020	11:57:54	SS_12	Still	200270_SS_12_006	436		376 938.5	5 893 256.2	376 948.3	5 893 274.4	20.7	
16/08/2020	11:57:58	SS_12	Still	200270_SS_12_007	437		376 938.5	5 893 256.2	376 951.6	5 893 273.2	21.4	
16/08/2020	11:58:03	SS_12	Still	200270_SS_12_008	438		376 938.5	5 893 256.2	376 953.9	5 893 272.0	22.1	
16/08/2020	11:58:19	SS_12	Vid	EOL	439	13.2	376 938.5	5 893 256.2	376 962.1	5 893 273.5	29.2	
16/08/2020	12:08:02	SS_12	HG	NS	440	12.6	376 938.5	5 893 256.2	376 922.3	5 893 255.5	16.2	
16/08/2020	12:19:10	SS_12	HG	PSDA	441	12.6	376 938.5	5 893 256.2	376 923.4	5 893 273.1	22.7	
16/08/2020	12:24:47	SS_12	HG	NS	442	12.6	376 938.5	5 893 256.2	376 928.4	5 893 252.2	10.9	
16/08/2020	12:49:21	SS_14	Vid	SOL	443	16.0	377 370.8	5 895 273.4	377 357.1	5 895 267.6	14.9	
16/08/2020	12:49:36	SS_14	Still	200270_SS_14_001	444		377 370.8	5 895 273.4	377 362.8	5 895 271.5	8.2	
16/08/2020	12:49:45	SS_14	Still	200270_SS_14_002	445		377 370.8	5 895 273.4	377 365.0	5 895 271.4	6.1	
16/08/2020	12:49:52	SS_14	Still	200270_SS_14_003	446		377 370.8	5 895 273.4	377 367.3	5 895 270.8	4.3	
16/08/2020	12:50:03	SS_14	Still	200270_SS_14_004	447		377 370.8	5 895 273.4	377 371.0	5 895 269.5	3.9	
16/08/2020	12:50:18	SS_14	Still	200270_SS_14_005	448		377 370.8	5 895 273.4	377 376.0	5 895 264.6	10.2	
16/08/2020	12:50:28	SS_14	Still	200270_SS_14_006	449		377 370.8	5 895 273.4	377 382.1	5 895 262.6	15.6	
16/08/2020	12:50:35	SS_14	Vid	EOL	450	16.0	377 370.8	5 895 273.4	377 386.0	5 895 260.5	19.9	
16/08/2020	13:07:50	SS_13	Vid	SOL	451	16.9	376 770.4	5 894 949.2	376 737.3	5 894 939.0	34.6	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	13:08:19	SS_13	Still	200270_SS_13_001	452		376 770.4	5 894 949.2	376 751.3	5 894 950.5	19.2	
16/08/2020	13:08:23	SS_13	Still	200270_SS_13_002	453		376 770.4	5 894 949.2	376 752.8	5 894 951.4	17.8	
16/08/2020	13:08:28	SS_13	Still	200270_SS_13_003	454		376 770.4	5 894 949.2	376 755.4	5 894 953.1	15.6	
16/08/2020	13:08:38	SS_13	Still	200270_SS_13_004	455		376 770.4	5 894 949.2	376 760.9	5 894 957.3	12.5	
16/08/2020	13:08:48	SS_13	Still	200270_SS_13_005	456		376 770.4	5 894 949.2	376 767.6	5 894 961.0	12.2	
16/08/2020	13:08:54	SS_13	Still	200270_SS_13_006	457		376 770.4	5 894 949.2	376 771.1	5 894 962.7	13.5	
16/08/2020	13:08:59	SS_13	Still	200270_SS_13_007	458		376 770.4	5 894 949.2	376 773.2	5 894 963.8	14.8	
16/08/2020	13:09:03	SS_13	Still	200270_SS_13_008	459		376 770.4	5 894 949.2	376 776.1	5 894 964.0	15.8	
16/08/2020	13:09:19	SS_13	Vid	EOL	460	16.9	376 770.4	5 894 949.2	376 782.0	5 894 971.9	25.5	
16/08/2020	13:20:05	SS_15	Vid	SOL	461	15.9	375 953.9	5 895 489.5	375 952.2	5 895 448.5	41.0	
16/08/2020	13:21:10	SS_15	Still	200270_SS_15_001	462		375 953.9	5 895 489.5	375 956.3	5 895 471.3	18.4	
16/08/2020	13:21:15	SS_15	Still	200270_SS_15_002	463		375 953.9	5 895 489.5	375 954.9	5 895 474.4	15.2	
16/08/2020	13:21:19	SS_15	Still	200270_SS_15_003	464		375 953.9	5 895 489.5	375 953.1	5 895 477.6	12.0	
16/08/2020	13:21:25	SS_15	Still	200270_SS_15_004	465		375 953.9	5 895 489.5	375 951.2	5 895 481.6	8.4	
16/08/2020	13:21:31	SS_15	Still	200270_SS_15_005	466		375 953.9	5 895 489.5	375 949.4	5 895 486.1	5.7	
16/08/2020	13:21:36	SS_15	Still	200270_SS_15_006	467		375 953.9	5 895 489.5	375 947.7	5 895 489.8	6.2	
16/08/2020	13:21:47	SS_15	Still	200270_SS_15_007	468		375 953.9	5 895 489.5	375 943.6	5 895 498.1	13.4	
16/08/2020	13:21:51	SS_15	Still	200270_SS_15_008	469		375 953.9	5 895 489.5	375 942.9	5 895 500.8	15.7	
16/08/2020	13:22:02	SS_15	Vid	EOL	470	15.9	375 953.9	5 895 489.5	375 937.1	5 895 508.6	25.4	
16/08/2020	13:38:11	SS_17	Vid	SOL	471	16.3	375 593.7	5 896 342.1	375 572.4	5 896 318.2	32.0	
16/08/2020	13:38:38	SS_17	Still	200270_SS_17_001	472		375 593.7	5 896 342.1	375 587.0	5 896 330.3	13.5	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	13:38:44	SS_17	Still	200270_SS_17_002	473		375 593.7	5 896 342.1	375 589.1	5 896 332.8	10.3	
16/08/2020	13:38:50	SS_17	Still	200270_SS_17_003	474		375 593.7	5 896 342.1	375 591.2	5 896 335.2	7.3	
16/08/2020	13:38:55	SS_17	Still	200270_SS_17_004	475		375 593.7	5 896 342.1	375 592.8	5 896 337.1	5.1	
16/08/2020	13:39:01	SS_17	Still	200270_SS_17_005	476		375 593.7	5 896 342.1	375 594.3	5 896 340.5	1.7	
16/08/2020	13:39:11	SS_17	Still	200270_SS_17_006	477		375 593.7	5 896 342.1	375 597.0	5 896 345.5	4.8	
16/08/2020	13:39:17	SS_17	Still	200270_SS_17_007	478		375 593.7	5 896 342.1	375 599.4	5 896 348.8	8.8	
16/08/2020	13:39:25	SS_17	Still	200270_SS_17_008	479		375 593.7	5 896 342.1	375 602.4	5 896 352.0	13.3	
16/08/2020	13:39:35	SS_17	Still	200270_SS_17_009	480		375 593.7	5 896 342.1	375 605.4	5 896 355.7	18.0	
16/08/2020	13:39:47	SS_17	Vid	EOL	481	16.2	375 593.7	5 896 342.1	375 609.9	5 896 358.1	22.7	
16/08/2020	13:55:23	SS_16	Vid	SOL	482	16.0	374 897.3	5 895 597.6	374 888.4	5 895 576.2	23.2	
16/08/2020	13:55:39	SS_16	Still	200270_SS_16_001	483		374 897.3	5 895 597.6	374 890.0	5 895 582.4	16.8	
16/08/2020	13:55:44	SS_16	Still	200270_SS_16_002	484		374 897.3	5 895 597.6	374 890.5	5 895 583.9	15.3	
16/08/2020	13:55:49	SS_16	Still	200270_SS_16_003	485		374 897.3	5 895 597.6	374 890.8	5 895 585.6	13.7	
16/08/2020	13:55:55	SS_16	Still	200270_SS_16_004	486		374 897.3	5 895 597.6	374 891.2	5 895 588.7	10.8	
16/08/2020	13:55:00	SS_16	Still	200270_SS_16_005	487		374 897.3	5 895 597.6	374 891.7	5 895 593.4	7.0	
16/08/2020	13:56:27	SS_16	Still	200270_SS_16_006	488		374 897.3	5 895 597.6	374 893.4	5 895 603.9	7.4	
16/08/2020	13:56:33	SS_16	Still	200270_SS_16_007	489		374 897.3	5 895 597.6	374 893.3	5 895 605.7	9.1	
16/08/2020	13:56:37	SS_16	Still	200270_SS_16_008	490		374 897.3	5 895 597.6	374 892.8	5 895 606.8	10.2	
16/08/2020	13:56:52	SS_16	Still	200270_SS_16_009			374 897.3	5 895 597.6	374 891.4	5 895 611.2	14.8	
16/08/2020	13:57:01	SS_16	Vid	EOL	491	16.0	374 897.3	5 895 597.6	374 890.1	5 895 615.5	19.2	
16/08/2020	14:21:57	SS_19	Vid	SOL	492	15.5	373 222.9	5 894 426.3	373 219.6	5 894 394.3	32.1	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	14:22:15	SS_19	Still	200270_SS_19_001	493		373 222.9	5 894 426.3	373 215.4	5 894 404.8	22.7	
16/08/2020	14:22:27	SS_19	Still	200270_SS_19_002	494		373 222.9	5 894 426.3	373 213.5	5 894 413.8	15.6	
16/08/2020	14:22:31	SS_19	Still	200270_SS_19_003	495		373 222.9	5 894 426.3	373 212.9	5 894 417.3	13.4	
16/08/2020	14:22:39	SS_19	Still	200270_SS_19_004	496		373 222.9	5 894 426.3	373 212.0	5 894 422.0	11.7	
16/08/2020	14:22:43	SS_19	Still	200270_SS_19_005	497		373 222.9	5 894 426.3	373 211.2	5 894 424.4	11.9	
16/08/2020	14:22:48	SS_19	Still	200270_SS_19_006	498		373 222.9	5 894 426.3	373 210.1	5 894 427.6	12.9	
16/08/2020	14:22:52	SS_19	Still	200270_SS_19_007	499		373 222.9	5 894 426.3	373 210.7	5 894 430.5	12.9	
16/08/2020	14:23:00	SS_19	Still	200270_SS_19_008	500		373 222.9	5 894 426.3	373 209.5	5 894 436.0	16.6	
16/08/2020	14:23:08	SS_19	Vid	EOL	501	15.5	373 222.9	5 894 426.3	373 208.3	5 894 440.4	20.3	
16/08/2020	14:30:24	SS_19	HG	NS	502		373 222.9	5 894 426.3	373 222.0	5 894 414.8	11.5	
16/08/2020	14:38:03	SS_19	HG	FA/PSDA	503		373 222.9	5 894 426.3	373 217.2	5 894 429.3	6.5	
16/08/2020	14:49:43	SS_19	HG	NS	504		373 222.9	5 894 426.3	373 224.0	5 894 422.4	4.0	
16/08/2020	15:12:53	SS_20	Vid	SOL	505	14.5	370 334.5	5 893 940.6	370 338.6	5 893 917.1	23.8	
16/08/2020	15:13:20	SS_20	Still	200270_SS_20_001	506		370 334.5	5 893 940.6	370 337.0	5 893 936.3	5.0	
16/08/2020	15:13:32	SS_20	Still	200270_SS_20_002	507		370 334.5	5 893 940.6	370 335.6	5 893 941.8	1.6	
16/08/2020	15:13:34	SS_20	Still	200270_SS_20_003	508		370 334.5	5 893 940.6	370 336.1	5 893 942.7	2.6	
16/08/2020	15:13:39	SS_20	Still	200270_SS_20_004	509		370 334.5	5 893 940.6	370 335.7	5 893 945.1	4.7	
16/08/2020	15:13:47	SS_20	Still	200270_SS_20_005	510		370 334.5	5 893 940.6	370 335.1	5 893 948.0	7.4	
16/08/2020	15:13:56	SS_20	Still	200270_SS_20_006	511		370 334.5	5 893 940.6	370 333.9	5 893 950.9	10.3	
16/08/2020	15:14:00	SS_20	Still	200270_SS_20_007	512		370 334.5	5 893 940.6	370 334.1	5 893 952.5	11.9	
16/08/2020	15:14:25	SS_20	Still	200270_SS_20_008	513		370 334.5	5 893 940.6	370 329.9	5 893 959.1	19.0	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	15:14:35	SS_20	Vid	EOL	514	14.5	370 334.5	5 893 940.6	370 328.7	5 893 962.2	22.4	
16/08/2020	15:39:47	SS_21	Vid	SOL	515	14.2	370 310.5	5 894 480.9	370 322.2	5 894 455.3	28.2	
16/08/2020		SS_21	Still	200270_SS_21_001	No fix		370 310.5	5 894 480.9	-	-	-	
16/08/2020		SS_21	Still	200270_SS_21_002	No fix		370 310.5	5 894 480.9	-	-	-	
16/08/2020		SS_21	Still	200270_SS_21_003	No fix		370 310.5	5 894 480.9	-	-	-	
16/08/2020		SS_21	Still	200270_SS_21_004	No fix		370 310.5	5 894 480.9	-	-	-	
16/08/2020	15:40:31	SS_21	Vid	EOL	516	14.2	370 310.5	5 894 480.9	370 302.1	5 894 482.4	8.5	
16/08/2020	15:59:24	SS_21A	Vid	SOL	517	14.2	370 310.5	5 894 480.9	370 325.3	5 894 438.1	45.4	Video re-run
16/08/2020	15:59:58	SS_21A	Still	200270_SS_21A_001	518		370 310.5	5 894 480.9	370 321.2	5 894 452.7	30.2	
16/08/2020	16:00:04	SS_21A	Still	200270_SS_21A_002	519		370 310.5	5 894 480.9	370 321.5	5 894 455.8	27.4	
16/08/2020	16:00:08	SS_21A	Still	200270_SS_21A_003	520		370 310.5	5 894 480.9	370 321.3	5 894 457.8	25.6	
16/08/2020	16:00:18	SS_21A	Still	200270_SS_21A_004	521		370 310.5	5 894 480.9	370 321.6	5 894 464.3	19.9	
16/08/2020	16:00:30	SS_21A	Still	200270_SS_21A_005	522		370 310.5	5 894 480.9	370 320.4	5 894 473.7	12.2	
16/08/2020	16:00:37	SS_21A	Still	200270_SS_21A_006	523		370 310.5	5 894 480.9	370 319.9	5 894 478.7	9.7	
16/08/2020	16:00:41	SS_21A	Still	200270_SS_21A_007	524		370 310.5	5 894 480.9	370 319.0	5 894 480.7	8.5	
16/08/2020	16:00:46	SS_21A	Still	200270_SS_21A_008	525		370 310.5	5 894 480.9	370 317.5	5 894 483.6	7.5	
16/08/2020	16:00:55	SS_21A	Still	200270_SS_21A_009	526		370 310.5	5 894 480.9	370 315.7	5 894 490.4	10.8	
16/08/2020	16:01:09	SS_21A	Still	200270_SS_21A_010	527		370 310.5	5 894 480.9	370 316.3	5 894 500.2	20.2	
16/08/2020	16:01:19	SS_21A	Vid	EOL	528	14.2	370 310.5	5 894 480.9	370 314.8	5 894 509.0	28.4	
16/08/2020	16:07:30	SS_21	HG	FA/PSDA	529		370 310.5	5 894 480.9	370 323.2	5 894 486.8	14.0	
16/08/2020	17:17:41	SS_25	Vid	SOL	530	14.8	369 229.9	5 895 057.3	369 260.3	5 895 022.6	46.1	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	17:18:05	SS_25	Still	200270_SS_25_001	531		369 229.9	5 895 057.3	369 255.5	5 895 036.7	32.9	
16/08/2020	17:18:24	SS_25	Still	200270_SS_25_002	532		369 229.9	5 895 057.3	369 241.7	5 895 043.9	17.9	
16/08/2020	17:18:28	SS_25	Still	200270_SS_25_003	533		369 229.9	5 895 057.3	369 238.2	5 895 046.3	13.8	
16/08/2020	17:18:32	SS_25	Still	200270_SS_25_004	534		369 229.9	5 895 057.3	369 236.3	5 895 047.7	11.5	
16/08/2020	17:18:38	SS_25	Still	200270_SS_25_005	535		369 229.9	5 895 057.3	369 232.6	5 895 050.7	7.1	
16/08/2020	17:18:47	SS_25	Still	200270_SS_25_006	536		369 229.9	5 895 057.3	369 226.6	5 895 055.1	3.9	
16/08/2020	17:18:52	SS_25	Still	200270_SS_25_007	537		369 229.9	5 895 057.3	369 224.5	5 895 057.3	5.4	
16/08/2020	17:19:10	SS_25	Still	200270_SS_25_008	538		369 229.9	5 895 057.3	369 214.9	5 895 062.0	15.7	
16/08/2020	17:19:41	SS_25	Vid	EOL	539	14.8	369 229.9	5 895 057.3	369 205.9	5 895 066.5	25.7	
16/08/2020	17:25:19	SS_25	HG	FA/PSDA	540		369 229.9	5 895 057.3	369 216.4	5 895 048.3	16.1	
16/08/2020	17:50:41	SS_24	Vid	SOL	541	15.6	370 094.4	5 896 077.9	370 115.3	5 896 034.5	48.2	
16/08/2020	17:51:17	SS_24	Still	200270_SS_24_001	542		370 094.4	5 896 077.9	370 108.2	5 896 060.9	21.9	
16/08/2020	17:51:21	SS_24	Still	200270_SS_24_002	543		370 094.4	5 896 077.9	370 107.5	5 896 064.5	18.7	
16/08/2020	17:51:25	SS_24	Still	200270_SS_24_003	544		370 094.4	5 896 077.9	370 106.2	5 896 068.8	14.9	
16/08/2020	17:51:35	SS_24	Still	200270_SS_24_004	545		370 094.4	5 896 077.9	370 103.1	5 896 076.1	8.9	
16/08/2020	17:51:43	SS_24	Still	200270_SS_24_005	546		370 094.4	5 896 077.9	370 099.9	5 896 083.4	7.8	
16/08/2020	17:51:48	SS_24	Still	200270_SS_24_006	547		370 094.4	5 896 077.9	370 097.7	5 896 085.9	8.7	
16/08/2020	17:51:57	SS_24	Still	200270_SS_24_007	548		370 094.4	5 896 077.9	370 093.2	5 896 090.7	12.8	
16/08/2020	17:52:05	SS_24	Vid	EOL	549	15.6	370 094.4	5 896 077.9	370 093.0	5 896 095.2	17.4	
16/08/2020	18:09:15	SS_23	Vid	SOL	550	15.6	370 118.4	5 895 825.7	370 141.6	5 895 802.2	33.0	
16/08/2020	18:09:32	SS_23	Still	200270_SS_23_001	551		370 118.4	5 895 825.7	370 128.7	5 895 812.6	16.7	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	18:09:37	SS_23	Still	200270_SS_23_002	552		370 118.4	5 895 825.7	370 125.5	5 895 815.1	12.8	
16/08/2020	18:09:42	SS_23	Still	200270_SS_23_003	553		370 118.4	5 895 825.7	370 122.2	5 895 818.0	8.6	
16/08/2020	18:09:50	SS_23	Still	200270_SS_23_004	554		370 118.4	5 895 825.7	370 118.7	5 895 820.8	4.9	
16/08/2020	18:09:55	SS_23	Still	200270_SS_23_005	555		370 118.4	5 895 825.7	370 116.0	5 895 822.7	3.9	
16/08/2020	18:10:07	SS_23	Still	200270_SS_23_006	556		370 118.4	5 895 825.7	370 108.1	5 895 828.9	10.8	
16/08/2020	18:10:14	SS_23	Still	200270_SS_23_007	557		370 118.4	5 895 825.7	370 104.7	5 895 832.1	15.1	
16/08/2020	18:10:26	SS_23	Still	200270_SS_23_008	558		370 118.4	5 895 825.7	370 100.3	5 895 836.2	20.9	
16/08/2020	18:10:33	SS_23	Vid	EOL	559	15.6	370 118.4	5 895 825.7	370 097.4	5 895 838.5	24.5	
16/08/2020	18:15:39	SS_23	HG	FA/PSDA	560		370 118.4	5 895 825.7	370 122.6	5 895 821.5	6.0	
16/08/2020	18:42:14	SS_22	Vid	SOL	561	15.0	371 103.0	5 895 717.7	371 129.5	5 895 697.4	33.4	
16/08/2020	18:42:38	SS_22	Still	200270_SS_22_001	562		371 103.0	5 895 717.7	371 119.4	5 895 714.8	16.7	
16/08/2020	18:42:43	SS_22	Still	200270_SS_22_002	563		371 103.0	5 895 717.7	371 116.0	5 895 716.7	13.0	
16/08/2020	18:42:49	SS_22	Still	200270_SS_22_003	564		371 103.0	5 895 717.7	371 112.8	5 895 719.2	9.9	
16/08/2020	18:42:58	SS_22	Still	200270_SS_22_004	565		371 103.0	5 895 717.7	371 109.5	5 895 722.5	8.1	
16/08/2020	18:43:05	SS_22	Still	200270_SS_22_005	566		371 103.0	5 895 717.7	371 107.5	5 895 725.1	8.7	
16/08/2020	18:43:12	SS_22	Still	200270_SS_22_006	567		371 103.0	5 895 717.7	371 106.8	5 895 727.0	10.0	
16/08/2020	18:43:24	SS_22	Still	200270_SS_22_007	568		371 103.0	5 895 717.7	371 105.7	5 895 728.3	10.9	
16/08/2020	18:43:30	SS_22	Still	200270_SS_22_008	569		371 103.0	5 895 717.7	371 105.2	5 895 728.3	10.8	
16/08/2020	18:43:36	SS_22	Still	200270_SS_22_009	570		371 103.0	5 895 717.7	371 105.4	5 895 728.6	11.1	
16/08/2020	18:43:44	SS_22	Vid	EOL	571	15.0	371 103.0	5 895 717.7	371 107.5	5 895 729.5	12.6	
16/08/2020	19:19:29	SS_26	Vid	SOL	572	15.1	372 927.8	5 899 325.9	372 944.7	5 899 297.4	33.1	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	19:19:52	SS_26	Still	200270_SS_26_001	573		372 927.8	5 899 325.9	372 935.0	5 899 315.3	12.8	
16/08/2020	19:19:56	SS_26	Still	200270_SS_26_002	574		372 927.8	5 899 325.9	372 932.4	5 899 319.0	8.3	
16/08/2020	19:20:02	SS_26	Still	200270_SS_26_003	575		372 927.8	5 899 325.9	372 930.3	5 899 322.6	4.2	
16/08/2020	19:20:11	SS_26	Still	200270_SS_26_004	576		372 927.8	5 899 325.9	372 927.3	5 899 328.8	2.9	
16/08/2020	19:20:19	SS_26	Still	200270_SS_26_005	577		372 927.8	5 899 325.9	372 924.8	5 899 333.5	8.1	
16/08/2020	19:20:25	SS_26	Still	200270_SS_26_006	578		372 927.8	5 899 325.9	372 922.4	5 899 336.5	11.9	
16/08/2020	19:20:32	SS_26	Still	200270_SS_26_007	579		372 927.8	5 899 325.9	372 919.1	5 899 340.1	16.7	
16/08/2020	19:20:41	SS_26	Still	200270_SS_26_008	580		372 927.8	5 899 325.9	372 914.9	5 899 344.4	22.5	
16/08/2020	19:21:00	SS_26	Vid	EOL	581	15.1	372 927.8	5 899 325.9	372 908.0	5 899 352.3	33.0	
16/08/2020	19:28:08	SS_26	HG	NS	582		372 927.8	5 899 325.9	372 918.2	5 899 330.1	10.5	
16/08/2020	19:32:28	SS_26	HG	NS	583		372 927.8	5 899 325.9	372 918.4	5 899 315.9	13.8	
16/08/2020	19:37:00	SS_26	HG	PSDA	584		372 927.8	5 899 325.9	372 922.3	5 899 326.6	5.5	
16/08/2020	20:06:03	SS_18	Vid	SOL	585	15.2	374 188.9	5 896 486.1	374 197.5	5 896 457.9	29.5	
16/08/2020	20:06:19	SS_18	Still	200270_SS_18_001	586		374 188.9	5 896 486.1	374 190.6	5 896 467.5	18.7	
16/08/2020	20:06:24	SS_18	Still	200270_SS_18_002	587		374 188.9	5 896 486.1	374 188.0	5 896 471.2	15.0	
16/08/2020	20:06:31	SS_18	Still	200270_SS_18_003	588		374 188.9	5 896 486.1	374 185.7	5 896 476.6	10.1	
16/08/2020	20:06:37	SS_18	Still	200270_SS_18_004	589		374 188.9	5 896 486.1	374 183.9	5 896 481.6	6.8	
16/08/2020	20:06:43	SS_18	Still	200270_SS_18_005	590		374 188.9	5 896 486.1	374 182.5	5 896 486.1	6.4	
16/08/2020	20:06:49	SS_18	Still	200270_SS_18_006	591		374 188.9	5 896 486.1	374 181.3	5 896 491.2	9.1	
16/08/2020	20:06:59	SS_18	Still	200270_SS_18_007	592		374 188.9	5 896 486.1	374 179.6	5 896 499.0	15.8	
16/08/2020	20:07:09	SS_18	Still	200270_SS_18_008	593		374 188.9	5 896 486.1	374 178.7	5 896 505.9	22.2	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]												
Date	Time [UTC]	Station	Type	Sample Rep/ Still No.	Fix No.	Water Depth [m BSL]	Proposed Location		Actual Location		Offset [m]	Notes
							Easting	Northing	Easting	Northing		
16/08/2020	20:07:23	SS_18	Vid	EOL	594	15.2	374 188.9	5 896 486.1	374 177.9	5 896 514.7	30.6	
16/08/2020	20:13:52	SS_18	HG	FA/PSDA	595		374 188.9	5 896 486.1	374 186.4	5 896 505.5	19.5	
16/08/2020	20:48:23	SS_18	HG	NS	596		374 188.9	5 896 486.1	374 172.3	5 896 498.0	20.4	
16/08/2020	21:17:29	SS_18	HG	NS	597		374 188.9	5 896 486.1	374 186.7	5 896 509.6	23.5	
16/08/2020	21:21:09	SS_18	HG	NS	598		374 188.9	5 896 486.1	374 182.0	5 896 492.7	9.5	
18/08/2020	15:51:25	SS_03	DG	PC	1190	18.6	380 912.9	5 885 511.5	380 928.5	5 885 502.9	17.8	

Notes

UTC = Coordinated Universal Time
BSL = Below sea level
SOL = Start of line
EOL = End of line
HG = Hamon grab
FA/FB/FC = Faunal sample A, B or C
PSDA/PSDB/PSDC = Particle size distribution sample A, B or C
NS = No sample
SG = Shipek grab
PC = Chemistry sample
DG = Day grab

B.2 Grab Log

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth [cm]	Sediment Description (including stratigraphy)		Comments (fauna, smell, bioturbation, debris)
						Sediment Type	Sediment Description	
11/08/2020	17:31:49	EC_14	FA/PSDA	25	4	gS	Gravelly sand	
11/08/2020	17:36:45	EC_14	NS	26	0			
11/08/2020	17:46:23	EC_14	NS	27	2	gS	Gravelly sand	
11/08/2020	18:15:54	EC_14	NS	28	0			Did not trigger
11/08/2020	18:16:45	EC_14	NS	29	1	gS	Gravelly sand	
11/08/2020	18:16:45	EC_14	PSDB	No fix	2	gS	Gravelly sand	
11/08/2020	18:32:50	EC_14	NS	30	1		Sand	Added weight
11/08/2020	19:10:42	EC_14	NS	31	< 1			Moved location
11/08/2020	19:49:24	EC_03	NS	47	0			
11/08/2020	19:55:58	EC_03	NS	48	0			
11/08/2020	20:03:18	EC_03	PSDA	49	2	gS	Gravelly sand	Changed to back-up Hamon grab
11/08/2020	20:29:26	EC_03	NS	50	< 1	gS	Gravelly sand	Changed back to original grab
11/08/2020	20:51:24	EC_03	NS	51	0			
11/08/2020	20:56:17	EC_03	NS	52	0			
11/08/2020	21:00:43	EC_03	PSDB	53	1	gS	Gravelly sand	
11/08/2020	21:13:20	EC_03	PSDC	54	2	gS	Gravelly sand	
11/08/2020	21:41:51	EC_19	FA/PSDA	64	6	S	Sand with shell fragments	
11/08/2020	21:59:11	EC_19	FB/PSDB	65	5	S	Sand with shell fragments	
11/08/2020	22:13:28	EC_19	FC/PSDC	66	5	S	Sand with shell fragments	
11/08/2020	23:38:18	EC_25	PSDA	75	2	gS	Gravelly sand	Very coarse, different from all other gravelly sand samples

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth [cm]	Sediment Description (including stratigraphy)		Comments (fauna, smell, bioturbation, debris)
						Sediment Type	Sediment Description	
11/08/2020	23:46:24	EC_25	NS	76	<1	gS	Gravelly sand	Very coarse, different from all other gravelly sand samples
12/08/2020	23:54:23	EC_25	NS	77	2	gS	Gravelly sand	Crab
12/08/2020	00:08:17	EC_25	NS	78	1	gS	Gravelly sand	Shore crab, squat lobster, slipper limpet
12/08/2020	00:47:27	EC_04	PSDA	87	2	gS	Gravelly sand	Crab
12/08/2020	00:54:16	EC_04	NS	88	2	gS	Gravelly sand	
12/08/2020	01:01:46	EC_04	NS	89	2	gS	Gravelly sand	
12/08/2020	01:31:18	EC_24	PSDA	100	2	sG	Sandy gravel	Slipper limpet
12/08/2020	01:43:00	EC_24	PSDB	101	2	gS	Gravelly sand	
12/08/2020	01:50:07	EC_24	NS	102	< 1	gS	Gravelly sand	
12/08/2020	02:18:13	EC_24	PSDC	103	2	gS	Gravelly sand	
12/08/2020	02:57:27	EC_05	FA/PSDA	115	4	sG	Sandy gravel	Crabs
12/08/2020	03:37:11	EC_18	PSDA	127	2	gS	Gravelly sand	
12/08/2020	03:44:52	EC_18	NS	128	2	gS	Gravelly sand	
12/08/2020	03:53:40	EC_18	NS	130	2	gS	Gravelly sand	
12/08/2020	04:50:36	EC_17	FA/PSDA	151	5	(g)S	Slightly gravelly sand	<i>Sabellaria</i> fragments
12/08/2020	05:58:25	EC_07	NS	174	3	(g)S	Slightly gravelly sand	Out of target tolerance
12/08/2020	06:05:17	EC_07	PSDA	175	3	(g)S	Slightly gravelly sand	
12/08/2020	06:10:39	EC_07	PSDB	176	3	(g)S	Slightly gravelly sand	
12/08/2020	06:21:37	EC_07	FA/PSDC	177	5	(g)S	Slightly gravelly sand	
12/08/2020	06:35:38	EC_07	FB	178	4	(g)S	Slightly gravelly sand	
12/08/2020	07:26:24	EC_07	FC	179	3	gS	Gravelly sand	

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth [cm]	Sediment Description (including stratigraphy)		Comments (fauna, smell, bioturbation, debris)
						Sediment Type	Sediment Description	
12/08/2020	07:32:56	EC_07	NS	180	2	gS	Gravelly sand	
12/08/2020	08:14:16	EC_08	FA/PSDA	191	6	S	Sand with shell fragments	
12/08/2020	11:46:20	EC_15	NS	215	1	S	Sand with shell fragments	
12/08/2020	11:50:47	EC_15	FA/PSDA	216	4	S	Sand with shell fragments	
12/08/2020	11:59:28	EC_15	NS	217	< 1	S	Sand	
12/08/2020	13:26:54	EC_15	PC	218	5	gS	Gravelly sand	Shipek
12/08/2020	14:48:17	EC_04	NS	239	< 1	gS	Gravelly sand	Shipek
12/08/2020	14:57:28	EC_04	PC	240	3	gS	Gravelly sand	Shipek HMA1, HCA1
12/08/2020	15:29:34	EC_05	NS	241	< 1	gS	Gravelly sand	Shipek
12/08/2020	15:36:22	EC_05	PC	242	3	gS	Gravelly sand	Shipek HMA1, HCA1
12/08/2020	18:21:53	EC_09	FA/PSDA	250	6	S	Sand with shell fragments	
12/08/2020	18:51:01	EC_09	FB/PSDB	251	6	S	Sand with shell fragments	Crab
12/08/2020	19:33:53	EC_09	FC/PSDC	252	6	S	Sand with shell fragments	
12/08/2020	20:08:31	EC_16	FA/PSDA	263	4	mS	Muddy sand with shell fragments	Lumps of clay
12/08/2020	20:18:39	EC_16	NS	264	2	msG	Muddy sandy gravel	
12/08/2020	20:24:50	EC_16	NS	265	2	msG	Muddy sandy gravel	
12/08/2020	20:57:55	EC_10	NS	278	3	(g)mS	Slightly gravelly muddy sand with shell fragments	
12/08/2020	21:05:20	EC_10	FA/PSDA	279	5	(g)mS	Slightly gravelly muddy sand with shell fragments	
12/08/2020	21:43:15	EC_12	NS	293	< 1	(g)mS	Slightly gravelly muddy sand with shell fragments	
12/08/2020	21:47:10	EC_12	FA/PSDA	294	4	(g)mS	Slightly gravelly muddy sand with shell fragments	
12/08/2020	21:53:43	EC_12	NS	295	3	(g)mS	Slightly gravelly muddy sand with shell fragments	
13/08/2020	23:55:17	EC_23	FA/PSDA	304	5	gS	Gravelly sand	Fragments of <i>Sabellaria</i>

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth [cm]	Sediment Description (including stratigraphy)		Comments (fauna, smell, bioturbation, debris)
						Sediment Type	Sediment Description	
13/08/2020	00:14:15	EC_23	FB/PSDB	305	6	gS	Gravelly sand	<i>Liocarcinus</i> sp.
13/08/2020	00:30:33	EC_23	FC/PSDC	306	6	gS	Gravelly sand	
13/08/2020	01:15:57	EC_11	FA/PSDA	315	4	gS	Gravelly sand with shell fragments	
13/08/2020	01:23:45	EC_11	NS	316	1	gS	Gravelly sand with shell fragments	
13/08/2020	01:28:03	EC_11	NS	317	0			
13/08/2020	02:10:07	SS_01	FA/PSDA	327	5	gS	Gravelly sand with shell fragments	Fragments of <i>Sabellaria</i>
13/08/2020	02:52:17	SS_02	FA/PSDA	335	8	S	Sand with shell fragments	Two 10L buckets
13/08/2020	03:39:05	SS_03	FA/PSDA	346	5	gS	Gravelly sand	<i>Sabellaria</i>
13/08/2020	05:35:45	SS_05	FA/PSDA	365	4	gS	Gravelly sand	
13/08/2020	05:42:02	SS_05	NS	366	4	gS	Gravelly sand	
13/08/2020	05:47:01	SS_05	NS	367	4	gS	Gravelly sand	
13/08/2020	06:30:38	SS_06	FA/PSDA	377	5	gS	Gravelly sand with shell fragments	
13/08/2020	07:30:53	SS_09	FA/PSDA	386	5	msG	Muddy gravelly sand	
13/08/2020	08:04:11	SS_07	FA/PSDA	395	5	gS	Gravelly sand	
13/08/2020	08:54:43	SS_08	FA/PSDA	405	5	sG	Sandy gravel	2 x 10L buckets
13/08/2020	09:29:44	SS_10	NS	414	2	(g)mS	Slightly gravelly muddy sand	
13/08/2020	09:34:44	SS_10	FA/PSDA	415	6	(g)mS	Slightly gravelly muddy sand	
13/08/2020	10:11:51	SS_11	FA/PSDA	429	6	(g)mS	Slightly gravelly muddy sand	Fragments of <i>Sabellaria</i> and polychaetes
16/08/2020	12:08:02	SS_12	NS	440	< 1	(g)mS	Slightly gravelly muddy sand	
16/08/2020	12:19:10	SS_12	PSDA	441	2	(g)mS	Slightly gravelly muddy sand	
16/08/2020	12:24:47	SS_12	NS	442	2	(g)mS	Slightly gravelly muddy sand	
16/08/2020	14:30:24	SS_19	NS	502	2	(g)mS	Slightly gravelly muddy sand	Sun star

Date	Time [UTC]	Station	Sample Rep	Fix No.	Sample Depth [cm]	Sediment Description (including stratigraphy)		Comments (fauna, smell, bioturbation, debris)
						Sediment Type	Sediment Description	
16/08/2020	14:38:03	SS_19	FA/PSDA	503	4	(g)mS	Slightly gravelly muddy sand	Clay lumps, cobbles and shell fragments
16/08/2020	14:49:43	SS_19	NS	504	1	(g)mS	Slightly gravelly muddy sand	
16/08/2020	16:07:30	SS_21	FA/PSDA	529	5	(g)mS	Slightly gravelly muddy sand	Crab
16/08/2020	17:25:19	SS_25	FA/PSDA	540	5	(g)mS	Slightly gravelly muddy sand	Cobbles and shell fragments
16/08/2020	18:15:39	SS_23	FA/PSDA	560	6	(g)mS	Slightly gravelly muddy sand	Anoxic patches
16/08/2020	19:28:08	SS_26	NS	582	2	(g)mS	Slightly gravelly muddy sand	Stone in jaw
16/08/2020	19:32:28	SS_26	NS	583	2	(g)mS	Slightly gravelly muddy sand	Stone in jaw
16/08/2020	19:37:00	SS_26	PSDA	584	2	(g)mS	Slightly gravelly muddy sand	Shell fragments
16/08/2020	20:13:52	SS_18	FA/PSDA	595	5	(g)mS	Slightly gravelly muddy sand	Shell fragments
16/08/2020	20:48:23	SS_18	NS	596	0			Day grab - Cobble in jaw
16/08/2020	21:17:29	SS_18	NS	597	0			Day grab - Cobble in jaw
16/08/2020	21:21:09	SS_18	NS	598	0			Day grab - Cobble in jaw
18/08/2020	15:51:25	SS_03	PC	1190	3	gS	Gravelly sand	Cobbles and shell fragments

Notes
UTC = Coordinated Universal Time
FA/FB/FC = Faunal sample A, B or C
PSDA/PSDB/PSDC = Particle size distribution sample A, B or C
NS = No sample
PC = Chemistry sample

B.3 Sediment Particle Size Characterisation with Herring and Sand Eel Assessments


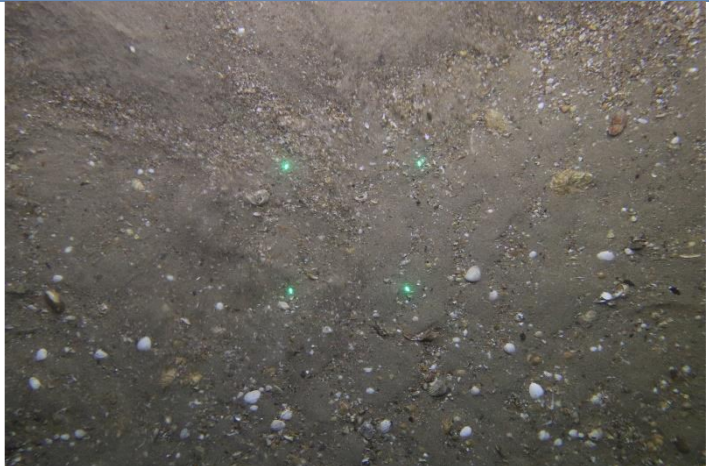
Station	Fractional Composition			Fines		Folk (1954)	Folk (BGS Modified)	Herring Habitat Preference (MarineSpace et al., 2013)	Sand Eel Habitat Preference (Latto et al., 2013)
	Gravel [%]	Sand [%]	Fines [%]	Silt [%]	Clay [%]				
Sheringham Shoal									
SS_01_PSDA	41.34	55.66	2.99	2.23	0.77	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_02_PSDA	19.52	80.48	0.00	0.00	0.00	Gravelly sand	Gravelly sand	Marginal	Preferred
SS_03_PSDA	54.85	42.86	2.29	1.73	0.56	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_05_PSDA	38.38	60.67	0.95	0.81	0.14	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_06_PSDA	51.72	47.73	0.54	0.48	0.06	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_07_PSDA	39.77	55.61	4.62	3.25	1.37	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_08_PSDA	60.51	39.13	0.35	0.35	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_09_PSDA	58.33	36.78	4.89	3.37	1.51	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
SS_10_PSDA	36.59	54.33	9.08	5.93	3.15	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
SS_11_PSDA	40.46	53.43	6.11	4.67	1.43	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
SS_12_PSDA	55.40	41.13	3.47	2.37	1.10	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_18_PSDA	52.58	40.81	6.61	4.50	2.10	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
SS_19_PSDA	38.94	44.12	16.94	10.94	5.99	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
SS_21_PSDA	40.84	54.02	5.14	3.66	1.48	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_23_PSDA	29.94	56.92	13.14	8.66	4.48	Gravelly muddy sand	Gravelly muddy sand	Unsuitable	Unsuitable
SS_25_PSDA	30.74	64.54	4.72	3.57	1.16	Sandy gravel	Sandy gravel	Preferred	Marginal
SS_26_PSDA	59.95	34.19	5.87	3.98	1.89	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
Export Cable Corridor									
EC_03_PSDA	58.30	41.70	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_03_PSDB	58.57	41.43	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal



Station	Fractional Composition			Fines		Folk (1954)	Folk (BGS Modified)	Herring Habitat Preference (MarineSpace et al., 2013)	Sand Eel Habitat Preference (Latto et al., 2013)
	Gravel [%]	Sand [%]	Fines [%]	Silt [%]	Clay [%]				
EC_03_PSDC	56.93	43.07	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_04_PSDA	42.35	54.11	3.55	2.62	0.92	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_05_PSDA	37.50	57.92	4.58	3.33	1.25	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_07_PSDA	31.05	66.40	2.56	1.95	0.60	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_07_PSDB	27.40	71.50	1.10	0.95	0.15	Gravelly sand	Gravelly sand	Marginal	Preferred
EC_07_PSDC	17.62	82.38	0.00	0.00	0.00	Gravelly sand	Gravelly sand	Marginal	Preferred
EC_08_PSDA	0.79	99.21	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_09_PSDA	2.79	97.21	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_09_PSDB	6.04	93.96	0.00	0.00	0.00	Gravelly sand	Gravelly sand	Marginal	Preferred
EC_09_PSDC	0.04	99.96	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_10_PSDA	56.85	40.19	2.96	2.24	0.71	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_11_PSDA	42.67	57.33	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_12_PSDA	32.95	61.46	5.59	4.07	1.52	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_14_PSDA	43.00	57.00	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_14_PSDB	56.78	43.22	0.00	0.00	0.00	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_15_PSDA	0.10	99.90	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_16_PSDA	30.94	46.93	22.13	14.66	7.47	Muddy sandy gravel	Muddy, sandy gravel	Unsuitable	Unsuitable
EC_17_PSDA	31.04	64.46	4.50	3.43	1.07	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_18_PSDA	36.29	61.41	2.30	1.85	0.45	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_19_PSDA	0.02	99.98	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_19_PSDB	0.12	99.88	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred
EC_19_PSDC	0.04	99.96	0.00	0.00	0.00	Slightly gravelly sand	Sand	Unsuitable	Preferred

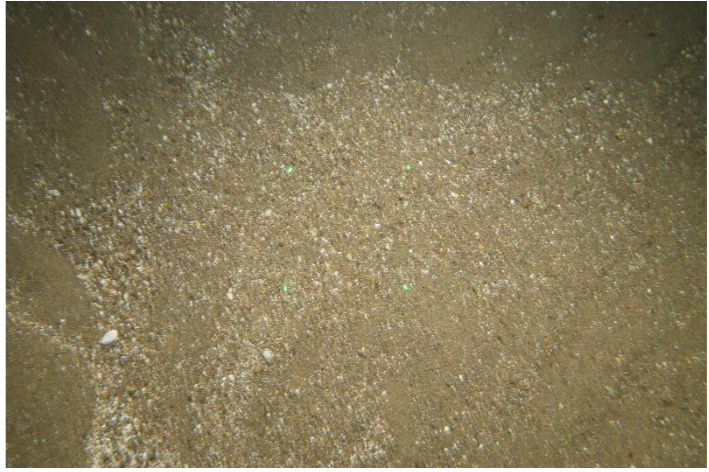


Station	Fractional Composition			Fines		Folk (1954)	Folk (BGS Modified)	Herring Habitat Preference (MarineSpace et al., 2013)	Sand Eel Habitat Preference (Latto et al., 2013)
	Gravel [%]	Sand [%]	Fines [%]	Silt [%]	Clay [%]				
EC_23_PSDA	49.93	47.09	2.98	2.12	0.86	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_23_PSDB	27.03	72.57	0.40	0.36	0.04	Gravelly sand	Gravelly sand	Marginal	Preferred
EC_23_PSDC	32.39	64.86	2.74	2.21	0.53	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_24_PSDA	60.33	36.81	2.86	2.28	0.58	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_24_PSDB	49.62	45.34	5.03	3.67	1.36	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_24_PSDC	58.49	37.82	3.69	2.59	1.10	Sandy gravel	Sandy gravel	Preferred	Marginal
EC_25_PSDA	38.48	55.50	6.02	4.25	1.77	Sandy gravel	Sandy gravel	Preferred	Marginal
Minimum	0.02	34.19	0.00	0.00	0.00	-	-	-	-
Maximum	60.51	99.98	22.13	14.66	7.47				
Median	38.71	55.64	2.65	2.04	0.57				
Mean	36.17	60.48	3.35	2.36	0.99				
Standard Deviation	19.34	20.56	4.47	2.96	1.52				
RSD [%]	53	34	133	126	154				




B.4 Photographic Log



B.4.1 Sheringham Shoal



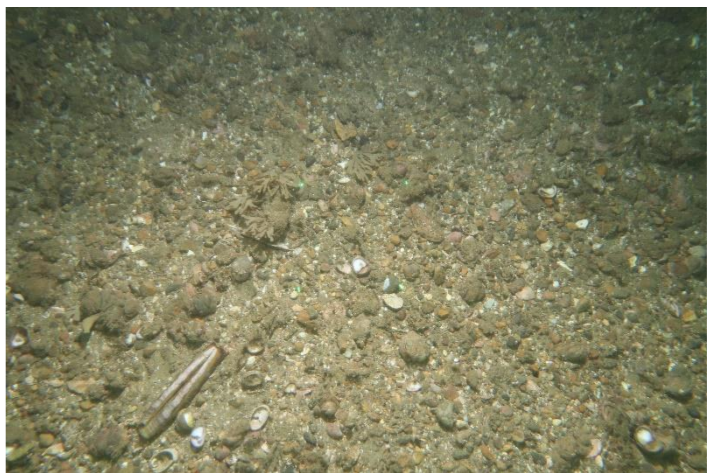
Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_01	SOL	383 361.37	5 883 469.23	Coarse sediment (sand, shell fragments, pebbles) Sublittoral coarse sediment (A5.1)	Bryozoan (<i>Flustridae</i> inc. <i>Flustra foliacea</i>)	1 – 5 %	O	
	EOL	383 319.44	5 883 504.33		Hermit crab (<i>Paguridae</i>)	P	P	
				Anemone (<i>Actiniaria</i>)	P	P		
				Starfish (<i>Asterias rubens</i>)	2	F		
				Faunal turf (<i>Hydrozoa/Bryozoa</i>)	1 – 5 %	O		
				Anemone (<i>Urticina</i> sp.)	3	O		
				Edible crab (<i>Cancer pagurus</i>)	1	F		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Anemone (<i>Sagartiidae</i>)	P	P		
				Sea squirts (<i>Ascidacea</i>)	P	P		
				Sea squirt (<i>Dendrodoa grossularia</i>)	P	P		
				Barnacles (<i>Sessilia</i>)	P	P		
				Common sunstar (<i>Crossaster papposus</i>)	1	F		
				Tube worm (<i>Sabella</i> sp.)	P	P		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Shrimp (<i>Caridea</i>)	P	P		
				Faunal tube (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Encrusting sponge (<i>Porifera</i>)	< 1 %	R		
SS_02	SOL	381 343.09	5 884 387.49	Rippled sand, shell fragments, pebbles) Sublittoral coarse sediment (A5.1)	No visible fauna			
	EOL	381 352.27	5 884 441.22					



Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_03	SOL	380 931.94	5 885 485.48	Coarse sediment (sand, shell fragments, pebbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	380 895.10	5 885 530.53		Faunal turf (Hydrozoa/Bryozoa)	< 1 %	R	
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Starfish (Asteroidea)	P	P		
				Goby (Gobiidae)	P	P		
				Hermit crab (Paguridae)	P	P		
				Anemone (Sagartiidae)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Sea squirts (Ascidacea)	P	P		
				Sea squirts(? <i>Dendrodoa grossularia</i>)	P	P		
				Common sunstar (<i>Crossaster papposus</i>)	2	F		
				Encrusting sponge (Porifera)	< 1 %	R		
				Barnacles (Sessilia)	P	P		
				Swimming crab (<i>Liocarcinus</i> sp.)	1	O		
				Nut crab (<i>Ebalia</i> sp.)	P	P		
				Anemone (<i>Sagartiidae</i>)	P	P		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Crab (Brachyura)	P	P		
				Sponge (Polymastiidae)	< 1 %	R		
				Shrimp (Caridae)	P	P		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Sponge (? <i>Sycon ciliatum</i>)	< 1 %	R		
SS_04	SOL	381 610.84	5 886 522.64	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	381 587.95	5 886 583.63		Faunal turf (Hydrozoa/Bryozoa)	< 1 %	R	
				Common sunstar (<i>Crossaster papposus</i>)	3	F		
				Squat lobster (Galatheaidea)	P	P		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Topshell (Trochoidea)	P	P		
				Starfish (Asteroidea)	2	O		
				Swimming crab (<i>Liocarcinus</i> sp.)	3	O		
				Slipper limpets (<i>Crepidula fornicata</i>)	20 – 39 %	C		
				Barnacles (Sessilia)	P	P		
				Dragonet (<i>Callionymus</i> sp.)	P	P		
				Hermit crab (Paguridae)	P	P		
				Nut crab (<i>Ebalia</i> sp.)	P	P		
				Sponge (Demospongiae)	< 1 %	R		
				Shrimp (Caridea)	P	P		
				Anemone (Sagartiidae)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Faunal tubes (<i>Lanice conchilega</i>)	P	P		
				Faunal burrows	P	P		


Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_05	SOL	383 165.59	5 886 658.99	Sand with shell fragments Sublittoral sand (A5.2)	Bryozoan (Flustridae) Slipper limpets (<i>Crepidula fornicata</i>) Barnacles (Sessilia)	< 1 % < 1 % P	R R P	
	EOL	383 163.00	5 886 720.81					
SS_06	SOL	383 926.51	5 888 184.83	Sand with shell fragments Sublittoral sand (A5.2)	Bryozoan (Flustridae)	< 1 %	R	
	-	383 971.86	5 888 208.06					
	-	383 971.86	5 888 208.06	Coarse sediment (sand, shell fragments, pebbles and cobbles) Sublittoral coarse sediment (A5.1)	Faunal tubes (Serpulidae) Common sunstar (<i>Crossaster papposus</i>) Bryozoan (Flustridae) Barnacles (Sessilia)	P 1 < 1 % P	P F R P	
	EOL	383 981.92	5 888 211.58					



Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_07	SOL	382 203.15	5 887 666.12	Coarse sediment (sand, shell fragments, pebbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae)	< 1 %	R	
	EOL	382 203.07	5 887 718.97		Common sunstar (<i>Crossaster papposus</i>)	1	F	
SS_08	SOL	380 614.83	5 887 975.83	Rippled sand with shell fragments. Patch of gravel and pebbles Sublittoral sand (A5.2)	Shrimp (Caridea)	P	P	
	EOL	380 663.16	5 887 993.07		Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R	
SS_09	SOL	382 471.79	5 889 019.79	Coarse sediment (sand, shell fragments, pebbles, cobbles) Circalittoral mixed sediments (A5.44)	Fish (Pisces)	1	O	
	EOL	382 505.55	5 889 003.41		Dragonet (<i>Callionymus</i> sp.)	P	P	
				Barnacles (Sessilia)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	< 1 %	R		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Common sunstar (<i>Crossaster papposus</i>)	1	F		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Sponge (Polymastiidae)	< 1 %	R		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Faunal burrows	P	P		


Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_10	SOL	379 358.75	5 889 456.89	Coarse sediment (sand, shell fragments, pebbles, cobbles) Circalittoral mixed sediments (A5.44)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	1 – 5 %	O	
	EOL	379 418.34	5 889 558.73		Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R	
S_11	SOL	379 716.66	5 891 971.42	Coarse sediment (sand, shell fragments, pebbles, cobbles) Circalittoral mixed sediments (A5.44)	Barnacles (Sessilia)	P	P	
	EOL	379 762.36	5 892 024.12		Sponge (?Polymastiidae)	< 1 %	R	
				Nut crab (<i>Ebalia</i> sp.)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	< 1 %	R		
				Anemone (<i>Urticina</i> sp.)	1	R		
				Anemone (Sagartiidae)	P	P		
				Shrimp (Caridea)	P	P		
				Squat lobster (Galatheoidea)	P	P		
				Goby (Gobiidae)	P	P		
				Possible hydroid (?Tubulariidae)	P	P		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Faunal burrows	P	P		
				Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R		
				Nut crab (<i>Ebalia</i> sp.)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	1 – 5 %	O		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Squat lobster (Galatheoidea)	P	P		
				Barnacles (Sessilia)	P	P		
				Starfish (<i>Asterias rubens</i>)	2	F		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Hydroid (<i>Nemertesia</i> sp.)	< 1 %	R		
				Goby (Gobiidae)	P	P		
				Anemone (Actiniaria)	P	P		
				Sea squirt (Ascidiacea)	P	P		
				Hydroid (?Sertulariidae)	< 1 %	R		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Hermit crab (Paguridae)	P	P		
				Faunal burrows	P	P		




Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_12	SOL	376 914.28	5 893 252.95	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Anemone (<i>Urticina</i> sp.)	4	O	
	EOL	376 960.68	5 893 273.42		Faunal tubes (Serpulidae)	P	P	
SS_13	SOL	376 738.69	5 894 941.65	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	376 781.32	5 894 970.43		Anemone (<i>Urticina</i> sp.)	9	F	
SS_14	SOL	377 357.74	5 895 268.44	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Squat lobster (Galatheoidea)	P	P	
	EOL	377 385.00	5 895 261.40		Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R	



Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_15	SOL	375 953.10	5 895 448.07	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	375 937.90	5 895 507.83		Anemone (<i>Urticina</i> sp.)	7	F	
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Squat lobster (Galatheoidea)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Barnacles (Sessilia)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	1 – 5 %	O		
				Sea squirts (Ascidacea: ? <i>Dendrodoa grossularia</i>)	P	P		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Common sunstar (<i>Crossaster papposus</i>)	1	F		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Faunal burrows	P	P		
SS_16	SOL	374 888.65	5 895 577.40	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	374 890.51	5 895 613.69		Anemone (<i>Urticina</i> sp.)	27	F	
				Sea squirts (<i>Clavelina lepadiformis</i>)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	5 – 9 %	F		
				Squat lobster (Galatheoidea)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Common sunstar (<i>Crossaster papposus</i>)	2	F		
				Goby (Gobiidae)	P	P		
				Bryozoan (Bugulidae)	< 1 %	R		
				Sea squirts (Ascidacea)	P	P		
				Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P		
				Sponge (? <i>Sycon ciliatum</i>)	< 1 %	R		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Barnacles (Sessilia)	P	P		
				Brown crab (<i>Cancer pagurus</i>)	P	P		
				Hydroid (?Sertulariidae)	< 1 %	R		
				Possible spider crab (?Inachidae)	P	P		
				Faunal burrows	P	P		

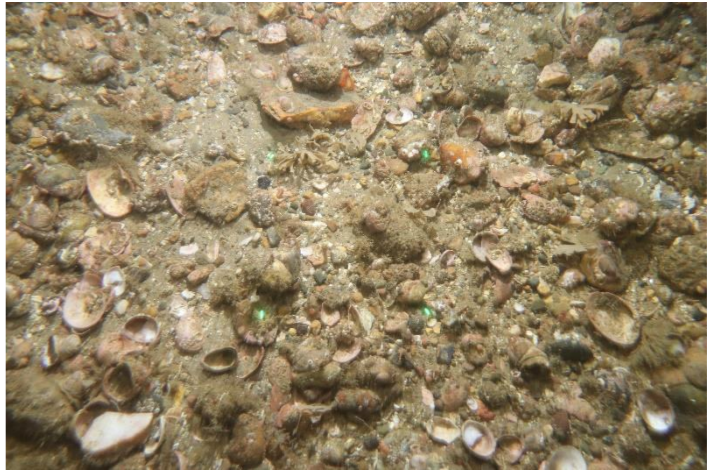
Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_17	SOL	375 574.31	5 896 320.26	Coarse sediment (sand, shell fragments, pebbles and cobbles) Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
	EOL	375 608.98	5 896 357.97		Anemone (<i>Urticina</i> sp.)	23	F	
				Squat lobster (Galatheoidea)	P	P		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Goby (Gobiidae)	P	P		
				Sea squirts (<i>Clavelina lepadiformis</i>)	P	P		
				Possible sea squirts (?Ascidiacea)	P	P		
				Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	1 – 5 %	O		
				Dragonet (<i>Callionymus</i> sp.)	P	P		
				Barnacles (Sessilia)	P	P		
				Sponge (Demospongiae)	< 1 %	R		
				Faunal tubes (Serpulidae)	P	P		
				Pogge (<i>Agonus cataphractus</i>)	1	O		
				Bryozoan (? <i>Crisia</i> sp.)	< 1 %	R		
				Common sunstar (<i>Crossaster papposus</i>)	1	F		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Possible Butterfish (? <i>Pholis gunnellus</i>)	1	O		
				Shrimp (Caridea)	P	P		
				Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P		
				Bryozoan (Bugulidae)	< 1 %	R		
				Topshell (Trochoidea)	P	P		
				Faunal tubes (? <i>Sabellaria spinulosa</i>)	< 1 %	R		
				Faunal burrows	P	P		

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_18	SOL	374 196.84	5 896 459.23	Coarse sediment (sand, shell fragments, pebbles, cobbles)	Anemone (<i>Urticina</i> sp.) Anemone (Actiniaria) Faunal tubes (Serpulidae) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal tube (<i>Lanice conchilega</i>) Slipper limpets (<i>Crepidula fornicata</i>) Sea squirts (? <i>Botryllus schlosseri</i>) Sea squirts (? <i>Dendrodoa grossularia</i>) Common sunstar (<i>Crossaster papposus</i>) Sponge (Porifera) Faunal turf (Hydrozoa/Bryozoa)	7 P P 1 – 5 % P < 1 % P P 2 < 1 % 1 – 5 % P P P	F P P O P R P F R O P P	
	EOL	374 177.81	5 896 513.13	Circalittoral mixed sediments (A5.44)	Sea squirts (<i>Clavelina lepadiformis</i>) Squat lobster (Galattheoidea) Barnacles (Sessilia) Shrimp (Caridea) Hydroid (<i>Nemertesia antennina</i>) Starfish (<i>Henricia</i> sp.) Spider crab (Inachinae) Brittlestar (<i>Ophiura</i> sp.) Hydroid (?Sertulariidae) Faunal tubes (? <i>Sabellaria spinulosa</i>) Faunal burrows	< 1 % P P P P P P P P P P P	R P O P P R R R P	
SS_19	SOL	373 218.82	5 894 396.34	Coarse sediment (sand, shell fragments, pebbles, cobbles)	Anemone (<i>Urticina</i> sp.) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Bryozoan (Bugulidae) Sea squirts (<i>Clavelina lepadiformis</i>) Faunal turf (Hydrozoa/Bryozoa) Sea squirts (? <i>Dendrodoa grossularia</i>) Barnacles (Sessilia) Faunal tubes (Serpulidae) Goby (Gobiidae)	6 1 – 5 % < 1 % P 5 – 9 % P P P P P	F O R P F P P P P	
	EOL	373 208.45	5 894 439.97	Circalittoral mixed sediments (A5.44)	Slipper limpets (<i>Crepidula fornicata</i>) Squat lobster (Galattheoidea) Sponge (? <i>Sycon ciliatum</i>) Faunal tube (<i>Lanice conchilega</i>) Topshell (Trocoidea) Crab (<i>Liocarcinus</i> sp.) Faunal tubes (? <i>Sabellaria spinulosa</i>) Faunal burrows	< 1 % P < 1 % P P 2 < 1 % P	R P R P P O P P	



Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image
SS_20	SOL	370 338.57	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Faunal turf (Hydrozoa/Bryozoa)	1 – 5 %	O	
				Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
		Starfish (<i>Asterias rubens</i>)	1	F			
		Encrusting sponge (? <i>Halichondria panicea</i>)	< 1 %	R			
		Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R			
		Sponge (? <i>Sycon ciliatum</i>)	< 1 %	R			
		Sea squirts (Ascidacea)	P	P			
		Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P			
		Faunal tube (<i>Lanice conchilega</i>)	P	P			
		Faunal tubes (Serpulidae)	P	P			
		Anemone (<i>Urticina</i> sp.)	4	O			
		Barnacles (Sessilia)	P	P			
		Painted topshell (<i>Calliostoma zizyphinum</i>)	P	P			
		Sea squirts (<i>Clavelina lepadiformis</i>)	P	P			
		Common sunstar (<i>Crossaster papposus</i>)	1	F			
		Squat lobster (Galatheaidea)	P	P			
		Topshell (Trochoidea)	P	P			
		Anemone (Actiniaria)	P	P			
		Hydroid (<i>Nemertesia antennina</i>)	< 1 %	R			
		Hydroid (<i>Hydrallmania falcata</i>)	< 1 %	R			
		Faunal burrows	P	P			
	EOL	370 328.43					




Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_21A	SOL	370 325.73	5 894 439.75	Mixed sediment (sand, shell fragments, pebbles, cobbles, clay clasts) Circalittoral mixed sediments (A5.44)	Anemone (<i>Urticina</i> sp.) Common sunstar (<i>Crossaster papposus</i>) Bryozoan (Flustridae) Faunal turf (Hydrozoa/Bryozoa)	4 1 < 1 % < 1 %	F C R R	
	-	370 321.59	5 894 448.91					
	-	370 321.59	5 894 448.91	Mixed sediment (sand, shell fragments, pebbles, areas of emergent clay)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Velvet swimming crab (<i>Necora puber</i>) Brown crab (<i>Cancer pagurus</i>) Faunal turf (Hydrozoa/Bryozoa) Bryozoan (? <i>Alcyonidium diaphanum</i>) Anemone (Sagartiidae)	< 1 % 2 1 < 1 % < 1 % P	R O F R R P	
	-	370320.26	5 894 475.49	Piddocks with a sparse associated fauna in sublittoral very soft chalk or clay (A4.231)	Swimming crab (<i>Liocarcinus</i> sp.) Encrusting sponge (Porifera) Sea squirts (Ascidiacea) Sea squirts (? <i>Dendrodoa grossularia</i>) Slipper limpets (<i>Crepidula fornicata</i>) Possible piddock burrows (? <i>Bivalvia</i>)	2 < 1 % P P < 1 % P	O R P R R P	
EOL	-	370 320.26	5 894 475.49		Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Encrusting sponge (Porifera) Slipper limpets (<i>Crepidula fornicata</i>) Faunal turf (Hydrozoa/Bryozoa) Sea squirts (Ascidiacea) Sea squirts (? <i>Dendrodoa grossularia</i>) Sea squirts (<i>Clavelina lepadiformis</i>) Spider crab (Inachidae)	< 1 % < 1 % < 1 % 1 – 5 % P P P P	R R R O P P P P	
		370 315.90	5 894 507.55	Coarse sediment (sand, shell fragments, pebbles, cobbles, clay clasts) Circalittoral mixed sediments (A5.44)	Spider crab (Inachinae) Faunal tubes (Serpulidae) Anemone (Actiniaria) Squat lobster (Galattheoidea) Common sunstar (<i>Crossaster papposus</i>) Barnacles (Sessilia) Anemone (<i>Urticina</i> sp.) Anemone (Sagartiidae) Hydroid (<i>Hydrallmania falcata</i>) Possible clingfish (? <i>Lepadogaster</i> sp.) Faunal tubes (<i>Lanice conchilega</i>) Bryozoan (? <i>Alcyonidium diaphanum</i>) Sponge (? <i>Sycon ciliatum</i>) Possible hydroid (? <i>Nemertesia</i> sp.)	P P P P 2 P 5 P < 1 % P P < 1 % < 1 % < 1 %	P P P P F P F P R P R R R	




Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_22	SOL	371 118.69	5 895 701.24	Coarse sediment (sand, shell fragments, pebbles, cobbles) Sublittoral coarse sediment (A5.1)	Anemone (Actiniaria)	P	P	
	EOL	371 101.74	5 895 737.91		Anemone (<i>Urticina</i> sp.)	8	F	
				Faunal tubes (Serpulidae)	P	P		
				Sponge (? <i>Sycon ciliatum</i>)	< 1 %	R		
				Common sunstar (<i>Crossaster papposus</i>)	3	F		
				Sea squirts (<i>Clavelina lepadiformis</i>)	P	P		
				Encrusting sponge (Porifera)	< 1 %	R		
				Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Squat lobster (Galatheaidea)	P	P		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Barnacles (Sessilia)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	1 – 5 %	O		
				Anemone (Sagartiidae)	P	P		
				Hydroid (<i>Nemertesia antennina</i>)	< 1 %	R		
				Sea squirts (Asciacea)	P	P		
				Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P		
				Hydroid (<i>Hydrallmania falcata</i>)	< 1 %	R		
				Brown crab (<i>Cancer pagurus</i>)	1	F		
				Goby (Gobiidae)	P	P		
				Spider crab (Inachinae)	P	P		
				Hydroid (?Sertulariidae)	< 1 %	R		
				Topshell (Trochoidea)	P	P		
SS_23	SOL	370 138.44	5 895 803.02	Coarse sediment (sand, shell fragments, pebbles, cobbles) Circalittoral mixed sediments (A5.44)	Anemone (<i>Urticina</i> sp.)	17	F	
	EOL	370 098.51	5 895 838.11		Anemones (Actiniaria)	P	P	
				Common sunstar (<i>Crossaster papposus</i>)	4	F		
				Faunal tubes (Serpulidae)	P	P		
				Faunal turf (Hydrozoa/Bryozoa)	5 – 9 %	F		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Squat lobster (Galatheaidea)	P	P		
				Encrusting sponge (Porifera)	< 1 %	R		
				Sea squirts (<i>Clavelina lepadiformis</i>)	P	P		
				Barnacles (Sessilia)	P	P		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P		
				Sea squirts (Asciacea)	P	P		
				Anemone (Sagartiidae)	P	P		
				Topshell (Trochoidea)	P	P		
				Sponge (Porifera)	P	P		
				Possible sea slug (?Nudibranchia)	P	P		
				Bryozoan (<i>Alcyonidium diaphanum</i>)	< 1 %	R		
				Hermit crab (Paguridae)	P	P		
				Spider crab (Inachinae)	P	P		
				Possible pogge (<i>Agonus cataphractus</i>)	1	O		



Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
SS_26	SOL	372 943.64	5 899 298.79	Coarse sediment (sand, shell fragments, pebbles, cobbles) Circalittoral mixed sediments (A5.44)	Anemone (Actiniaria)	P	P	
	EOL	372 908.45	5 899 351.98		Crab (<i>Cancer pagurus</i>)	2	F	
				Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R		
				Anemone (<i>Urticina</i> sp.)	13	F		
				Faunal turf (Hydrozoa/Bryozoa)	< 1 %	R		
				Sea squirts (? <i>Dendrodoa grossularia</i>)	P	P		
				Sea squirts (<i>Clavelina lepadiformis</i>)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Squat lobster (Galatheoidea)	P	P		
				Spider crab (Inachidae)	P	P		
				Fish (Scorpaeniformes)	1	O		
				Faunal tube (<i>Lanice conchilega</i>)	P	P		
				Swimming crab (<i>Liocarcinus</i> sp.)	P	P		
				Anemone (Actiniaria)	P	P		
				Hydroid (<i>Hydrallmania falcata</i>)	< 1 %	R		
				Barnacles (Sessilia)	P	P		



B.4.2 Export Cable Corridor

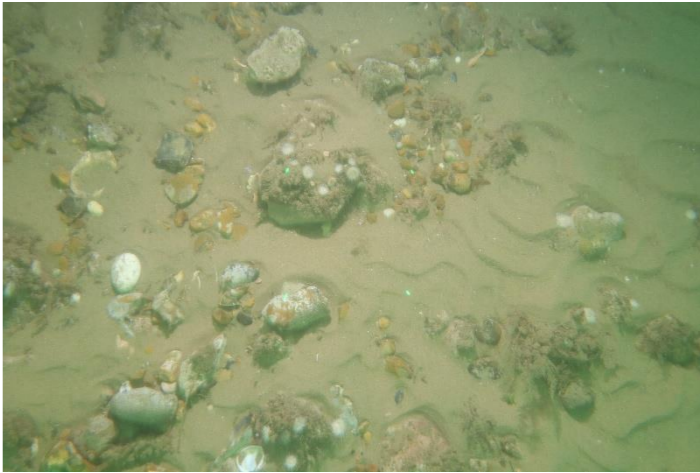

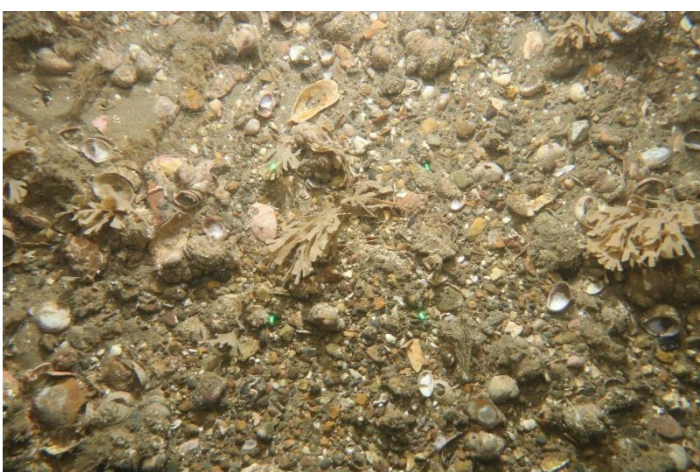
Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_02	SOL	376 649.2	5 869 674.6	Rippled sand with shell fragments and pebbles and occasional cobbles	Starfish (<i>Asterias rubens</i>) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Anemone (<i>Urticina</i> sp.) Bryozoan (<i>Alcyonidium diaphanum</i>) Faunal turf (Hydrozoa/Bryozoa) Red algae (Rhodophyta)	57 < 1 % 2 < 1 % < 1 % < 1 %	F R O R R	
	EOL	376 612.9	5 869 693.2	Sublittoral coarse sediment (A5.1)	Encrusting bryozoans (Bryozoa) Hydroid (<i>Nemertesia antennina</i>) Anemone (Actiniaria) Coralline algae (Corallinaceae) Fish (Pisces)	< 1 % < 1 % P < 1 % P	R R P R P	
EC_03	SOL	378 242.7	5 870 764.4	Rippled sand with shells, pebbles and occasional cobbles	Starfish (<i>Asterias rubens</i>) Faunal turf (Hydrozoa/Bryozoa) Bryozoan (<i>Vesicularia spinosa</i>) Anemone (<i>Sagartia</i> sp.) Anemone (<i>Urticina felina</i>) Anemones (<i>Urticina</i> sp.) Sea squirt (Ascidiacea) Bryozoan (<i>Alcyonidium diaphanum</i>) Sponge (Porifera) Goby (Gobiidae)	6 < 1 % < 1 % > 700 2 63 < 1 % < 1 % < 1 % P	O R R A O F R R P	
	EOL	378 303.8	5 870 767.3	Sublittoral coarse sediment (A5.1)	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Barnacles (Sessilia) Ross worm (<i>Sabellaria spinulosa</i>) Dragonet (<i>Callionymus</i> sp.) Crab (<i>Carcinus maenas</i>) Hermit crab (Paguridae) Common sunstar (<i>Crossaster papposus</i>) Edible crab (<i>Cancer pagurus</i>) Spider crab (Inachidae) Crab (<i>Necora puber</i>) Coralline algae (Corallinaceae) Bryozoan (<i>Flustra foliacea</i>) Red algae (Rhodophyta) Soft coral (<i>Alcyonium digitatum</i>)	< 1 % P < 1 % 2 1 P 1 2 P 1 < 1 % < 1 % < 1 % < 1 %	R P R O O P F F P O R R R R	



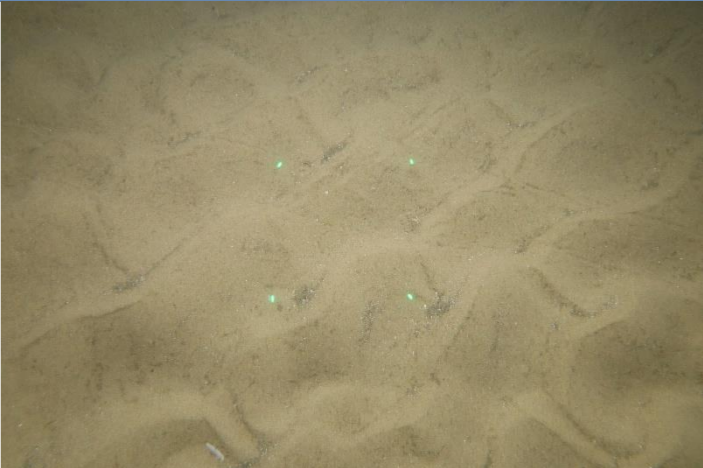
Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_04	SOL	379 070.5	5 872 311.4	Sandy gravel with cobbles and occasional boulders	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Sea squirt (? <i>Dendrodoa grossularia</i>) Brittlestars (Ophiuroidea) Common sunstar (<i>Crossaster papposus</i>) Sea squirt (<i>Clavelina lepadiformis</i>) Anemone (<i>Urticina</i> sp.) Encrusting bryozoans (Bryozoa) Coralline algae (Corallinaceae) Spider crab (Inachidae)	< 1 % 10 - 19 % P P 1 P 12 < 1 % < 1 % P	R C O P F P O R R P	
	EOL	379 014.6	5 872 302.9	Sublittoral coarse sediment (A5.1)	Sea squirts (Asciacea) Hydroid (<i>Hydrallmania falcata</i>) Squat lobster (Galatheoidea) Encrusting sponges (Porifera) Nut crab (<i>Ebalia</i> sp.) Anemone (Sagartiidae) Faunal tubes (Serpulidae) Ross worm (<i>Sabellaria spinulosa</i>) Sea squirts (Didemnidae)	P P < 1 % P < 1 % P P < 1 % < 1 % P	P P R P R P R R P	
EC_05	SOL	380 755.2	5 873 777.7	Sandy gravel with exposed low-lying clay and occasional cobbles	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Anemone (<i>Urticina</i> sp.) Slipper limpet (<i>Crepidula fornicata</i>)	< 1 % < 1 % 16 < 1 %	R R O R	
	EOL	380 751.2	5 873 818.8	Circalittoral mixed sediments (A5.44)	Faunal tubes (Serpulidae) Brittlestars (Ophiuroidea) Fish (Pisces)	P P P	P P P	
EC_06	SOL	382 440.8	5 876 011.3	Sandy gravel with exposed low-lying clay and occasional cobbles	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Encrusting bryozoans (Bryozoa) Faunal tubes (Serpulidae) Common sunstar (<i>Crossaster papposus</i>)	< 1 % < 1 % < 1 % P 1	R R R P F	
	EOL	382 496.4	5 876 004.7	Circalittoral mixed sediments (A5.44)	Bryozoan (<i>Vesicularia spinosa</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Anemone (<i>Urticina</i> sp.) Starfish (<i>Henricia</i> sp.)	< 1 % < 1 % 10 1	R R O R	




Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_07	SOL	382 215.1	5 876 420.1	Rippled sand with shell, pebbles and occasional cobbles	Bryozoan (<i>Flustridae</i> inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Bryozoan (<i>Vesicularia spinosa</i>) Hydroid (<i>Hydrallmania falcata</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Brittlestars (Ophiuroidea)	< 1 % 1 - 5 % < 1 % < 1 % < 1 % P	R O R R R P	
	EOL	382 269.4	5 876 397.2	Sublittoral coarse sediment (A5.1)	Hydroid (<i>Nemertesia antennina</i>) Anemone (<i>Urticina felina</i>) Anemone (<i>Urticina</i> sp.) Common sunstar (<i>Crossaster papposus</i>)	< 1 % 2 4 2	R O O O	
EC_08	SOL	382 373.5	5 877 156.6	Rippled sand with shell fragments and a small patch of gravelly sand	No visible fauna	-	-	
	EOL	382 419.7	5 877 163.2	Sublittoral sand (A5.2)				
EC_09	SOL	382 617.8	5 877 813.4	Rippled sand with shell fragments	No visible fauna	-	-	
	EOL	382 628.7	5 877 832.2	Sublittoral sand (A5.2)				




Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_10	SOL	383 244.1	5 879 866.8	Sandy gravel with occasional cobbles	Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Faunal tubes (Serpulidae) Encrusting bryozoans (Bryozoa) Sea squirt (? <i>Dendrodoa grossularia</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Sponge (<i>Sycon ciliatum</i>) Anemones (<i>Urticina</i> sp.) Edible crab (<i>Cancer pagurus</i>) Anemone (Actiniaria) Hydroid (<i>Nemertesia antennina</i>)	< 1 % 1 - 5 % P < 1 % P < 1 % P 13 1 P < 1 %	R O P R P R P F F P P R	
	EOL	383 312.4	5 879 847.4	Sublittoral coarse sediment (A5.1)	Barnacles (Sessilia) Comon sunstar (<i>Crossaster papposus</i>) Painted topshell (<i>Calliostoma zizyphinum</i>) Sea squirt (Ascidiacea) Crab (<i>Macropodia</i> sp.) Ross worm (<i>Sabellaria spinulosa</i>) Sea slug (Nudibranchia) Sponge (Porifera) Starfish (<i>Asterias rubens</i>) Goby (Gobiidae)	P 1 P P P < 1 % P < 1 % 1 P	P F P P P R P R O P	
EC_11	SOL	384 209.5	5 882 423.1	Rippled sand with shell fragments and a varying proportion of gravel	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (<i>Vesicularia spinosa</i>) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Barnacles (Sessilia)	< 1 % < 1 % < 1 % P	R R R P	
	EOL	384 172.0	5 882 441.6	Sublittoral coarse sediment (A5.1)	Anemones (<i>Urticina</i> sp.) Anemone (<i>Sagartia</i> sp.)	9 P	F P	

Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_12	SOL	383 599.1	5 879 948.6	Sandy gravel with occasional cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Anemone (<i>Sagartia</i> sp.) Anemone (Sagartiidae) Slipper limpet (<i>Crepidula fornicata</i>) Sea squirt (? <i>Pyura</i> sp.) Ross worm (<i>Sabellaria spinulosa</i>) Hermit crab (Paguridae) Sea squirt (? <i>Dendrodoa grossularia</i>) Spider crab (<i>Macropodia</i> sp.) Bryozoan (<i>Alcyonidium diaphanum</i>) Sea squirt (Asciacea)	1 - 5 % 1 - 5 % P P < 1 % P < 1 % P P P < 1 % P	O O P P R P R P P R P P	
	EOL	383 644.1	5 879 953.6	Circalittoral mixed sediments (A5.44)	Faunal tubes (Sabellidae) Encrusting sponge (Porifera) Encrusting bryozoan (Bryozoa) Hydroid (<i>Hydrallmania falcata</i>) Hydroid (<i>Nemertesia antennina</i>) Sunstar (<i>Crossaster papposus</i>) Hydroid (<i>Sertulariidae</i>) Painted topshell (<i>Calliostoma zizyphinum</i>) Anemones (<i>Urticina</i> sp.) Shrimp (Caridea) Starfish (<i>Asterias rubens</i>)	P < 1 % < 1 % < 1 % < 1 % 1 < 1 % P P 3 P 1	P R R R R F R P P O P O	
EC_13	SOL	381 471.7	5 875 397.7	Sandy gravel with occasional cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Faunal turf (Hydrozoa/Bryozoa) Anemone (Sagartiidae) Slipper limpet (<i>Crepidula fornicata</i>) Sea squirt (? <i>Dendrodoa grossularia</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Spider crab (Inachidae) Anemones (<i>Urticina</i> sp.) Anemone (<i>Urticina felina</i>)	5 - 9 % < 1 % < 1 % P < 1 % P < 1 % P P 5 3	F R R P R P R P P O O	
	EOL	381 413.2	5 875 401.8	Circalittoral mixed sediments (A5.44)	Brittlestars (Ophiuroidea) Starfish (<i>Asterias rubens</i>) Ross worm (<i>Sabellaria spinulosa</i>) Hydroid (<i>Thuiaria thuja</i>) Goby (Gobiidae) Dragonet (<i>Callionymus</i> sp.) Flatfish (Pleuronectiformes) Common sunstar (<i>Crossaster papposus</i>) Starfish (<i>Henricia</i> sp.)	P 1 < 1 % < 1 % P 1 1 1 2 1	P O R R P O F F O	

Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_14	SOL	377 336.3	5 870 616.4	Rippled sand with occasional cobbles and boulders	Faunal turf (Hydrozoa/Bryozoa) Soft coral (<i>Alcyonium digitatum</i>) Edible crab (<i>Cancer pagurus</i>) Starfish (<i>Asterias rubens</i>) Anemone (<i>Metridium</i> sp.) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Encrusting sponge (Porifera) Anemones (<i>Urticina</i> sp.) Anemone (<i>Sagartia</i> sp.)	< 1 % < 1 % 1 33 1 < 1 % < 1 % < 1 % 18 P	R R O F R R R F P	
	EOL	377 474.2	5 870 635.0	Sublittoral coarse sediment (A5.1)	Sea squirt (<i>Ascidacea</i>) Sponge (Porifera) Coralline algae (Corallinaceae) Barnacles (Sessilia) Encrusting bryozoan (Bryozoa) Faunal tubes (Serpulidae) Comon sunstar (<i>Crossaster papposus</i>)	P < 1 % < 1 % P < 1 % P 1	P R R P R P O	
EC_15	SOL	375 779.5	5 869 281.5	Rippled sand with occasional cobbles	Faunal turf (Hydrozoa/Bryozoa) Anemone (<i>Sagartiidae</i>) Bryozoan (<i>Alcyonidium diaphanum</i>) Coralline algae (Corallinaceae) Anemones (<i>Urticina</i> sp.) Barnacles (Sessilia) Faunal tubes (Serpulidae)	< 1 % 3 < 1 % < 1 % 1 P P	R O R R O P P	
	EOL	375 725.7	5 869 295.9	Sublittoral sand (A5.2)	Anemone (<i>Metridium</i> sp.) Dragonet (<i>Callionymus</i> sp.) Starfish (<i>Asterias rubens</i>) Hermit crab (Paguridae) Fish (Pisces)	6 1 1 P 1	F O O P O	
EC_16	SOL	383 035.3	5 879 019.9	Sandy gravel with occasional cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Slipper limpets (<i>Crepidula fornicata</i>) Anemones (<i>Urticina</i> sp.) Anemone (<i>Urticina felina</i>) Faunal tubes (Serpulidae) Barnacles (Sessilia) Sea squirt (? <i>Dendrodoa grossularia</i>) Anemone (<i>Sagartia</i> sp.)	1 - 5 % < 1 % < 1 % 5 1 P P P P	O R R F O P P P	
	EOL	383 056.1	5 879 021.3	Circalittoral mixed sediments (A5.44)	Hydroid (<i>Hydrallmania falcata</i>) Encrusting bryozoan (Bryozoa) Sea squirt (<i>Pyura/Polycrpa</i> sp.) Goby (Gobiidae) Faunal tubes (<i>Lanice conchilega</i>) Ross worm (<i>Sabellaria spinulosa</i>) Anemone (<i>Sagartiidae</i>) Shrimp (Caridea) Starfish (<i>Henricia</i> sp.)	< 1 % < 1 % P P P < 1 % P P P 1	R R P P P R P P P O	

Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect		Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image
EC_17	SOL	381 322.4	5 875 847.2	Sandy gravel with occasional cobbles Cirralittoral mixed sediments (A5.44)	Faunal turf (Hydrozoa/Bryozoa)	10 - 19 %	C	
	EOL	381 266.4	5 875 895.7		Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	< 1 %	R	
				Sponge (<i>Amphilectus fucorum</i>)	< 1 %	R		
				Anemone (Sagartiidae)	P	P		
				Faunal tubes (<i>Lanice conchilega</i>)	P	P		
				Hydroid (<i>Nemertesia antennina</i>)	< 1 %	R		
				Swimming crab (<i>Liocarcinus depurator</i>)	1	O		
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Encrusting sponge (Porifera)	< 1 %	R		
				Bryozoan (<i>Alcyonidium diaphanum</i>)	< 1 %	R		
				Hermit crab (Paguridae)	P	P		
				Shrimp (Caridea)	P	P		
				Sea squirt (Didemnidae)	P	P		
				Sunstar (<i>Crossaster papposus</i>)	1	F		
				Starfish (<i>Asterias rubens</i>)	1	O		
				Anemone (<i>Urticina</i> sp.)	3	O		
EC_18	SOL	381 772.9	5 874 880.4	Sandy gravel with occasional cobbles Cirralittoral mixed sediments (A5.44)	Faunal turf (Hydrozoa/Bryozoa)	5 - 9 %	F	
	EOL	381 707.4	5 874 881.8		Bryozoan (Flustridae inc. <i>Flustra foliacea</i>)	1 - 5 %	O	
				Slipper limpets (<i>Crepidula fornicata</i>)	< 1 %	R		
				Anemone (<i>Sagartia</i> sp.)	P	P		
				Anemone (Sagartiidae)	P	P		
				Sea squirt (? <i>Dendrodoa grossularia</i>)	P	P		
				Hydroid (<i>Nemertesia antennina</i>)	< 1 %	R		
				Sandeels (Ammodytidae)	P	P		
				Faunal tubes (Serpulidae)	P	P		
				Encrusting sponges (Porifera)	< 1 %	R		
				Draonet (<i>Callionymus</i> sp.)	P	P		
				Hermit crab (Paguridae)	P	P		
				Faunal tube (Sabellidae)	P	P		
				Anemones (<i>Urticina</i> sp.)	14	F		
				Lemon sole (<i>Microstomus kitt</i>)	1	F		
				Hydroid (<i>Hydrallmania falcata</i>)	< 1 %	R		
				Mackerel (<i>Scomber scombrus</i>)	1	F		
				Sunstar (<i>Crossaster papposus</i>)	1	F		
				Starfish (<i>Asterias rubens</i>)	1	O		
EC_19	SOL	377 661.7	5 871 139.9	Rippled sand with shell fragments	Starfish (<i>Asterias rubens</i>) Fish (Pisces)	4 2	F O	
	EOL	377 626.0	5 871 163.8	Sublittoral sand (A5.2)				

Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_23	SOL	384 078.5	5 881 909.2	Rippled sand with a varying proportion of gravel and occasional cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Slipper limpets (<i>Crepidula fornicata</i>) Anemone (Sagartiidae) Sea slug (Nudibranchia)	< 1 % < 1 % < 1 % P P	R R R P P	
	EOL	384 104.8	5 881 939.3	Sublittoral coarse sediment (A5.1)	Hermit crab (Paguridae) Barnacles (Sessilia) Anemones (<i>Urticina</i> sp.) Edible crab (<i>Cancer pagurus</i>)	P P 1 1	P P O F	
EC_24	SOL	379 790.3	5 872 412.4	Sandy gravel with cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Barnacles (Sessilia) Slipper limpets (<i>Crepidula fornicata</i>) Faunal tubes (Serpulidae) Sea squirt (? <i>Dendrodoa grossularia</i>)	< 1 % < 1 % P < 1 % P P	R R P R P P	
	EOL	379 734.9	5 872 411.2	Small areas of exposed low-lying dark substrate (peat) Circalittoral mixed sediments (A5.44)	Anemones (<i>Urticina</i> sp.) Anemone (Sagartiidae) Encrusting bryozoan (Bryozoa) Spider crab (Macropodia sp.) Squat lobster (Galatheaidea) Encrusting sponge (Porifera) Faunal tubes (<i>Lanice conchilega</i>) Edible crab (<i>Cancer pagurus</i>) Common sunstar (<i>Crossaster papposus</i>)	19 P < 1 % P P < 1 % P 4 2	F P R P P R P F f	
EC_25	SOL	378 783.9	5 871 921.1	Gravel with cobbles	Faunal turf (Hydrozoa/Bryozoa) Bryozoan (Flustridae inc. <i>Flustra foliacea</i>) Common sunstar (<i>Crossaster papposus</i>) Faunal tubes (Serpulidae) Encrusting bryozoan (Bryozoa) Slipper limpets (<i>Crepidula fornicata</i>) Sea squirt (? <i>Dendrodoa grossularia</i>)	< 1 % < 1 % 3 P < 1 % < 1 % P	R R F P R R P	
	EOL	378 736.6	5 871 920.0	Circalittoral mixed sediments (A5.44)	Anemones (<i>Urticina</i> sp.) Coralline algae (Corallinaceae) Sea squirt (<i>Clavelina lapidiformis</i>) Swimming crab (<i>Liocarcinus</i> sp.) Painted topshell (<i>Calliostoma zizyphinum</i>) Starfish (<i>Asterias rubens</i>) Edible crab (<i>Cancer pagurus</i>)	34 < 1 % P P P 3 1	F R P P P O F	

Geodetic Parameters: WGS 1984, UTM Zone 31N, CM 3°E [m]								
Station/ Transect	Easting	Northing	Detailed Sediment Notes and EUNIS Classification	Conspicuous Species	Counts or Percentage Cover	Estimated Abundance	Representative Image	
EC_26	SOL	375 233.3	5 868 469.0	Rippled sand with exposed chalk and cobbles and boulders	Starfish (<i>Asterias rubens</i>) Red algae (Rhodophycota) Faunal turf (Hydrozoa/Bryozoa) Tube-building worm (<i>Sabella</i> sp.) Anemone (Sagartiidae) Brown algae (<i>Cutleria multifida</i>)	3 1 - 5 % < 1 % P P	O O R P P	
		375 247.4	5 868 564.1	Infralittoral rock and other hard substrata (A3)	Anemones (<i>Urticina</i> sp.) Red algae (<i>Phyllophora</i> sp.) Anemone (<i>Sagartia</i> sp.) Red algae (<i>Asparagopsis</i> sp.) Red algae (<i>Osmundea</i> sp.) Goby (Gobiidae)	< 1 % 1 < 1 % P P P	P O R P P P	
		375 247.4	5 868 564.1	Rippled sand with a varying proportion of gravel and cobbles and boulders	Starfish (<i>Asterias rubens</i>) Faunal tubes (Serpulidae) Red algae (Rhodophycota)	4 P < 1 %	F P R	
		375 242.9	5 868 601.1	Sublittoral coarse sediment (A5.1)	Faunal turf (Hydrozoa/Bryozoa) Goby (Gobiidae)	< 1 % P	R P	
EOL		375 242.9	5 868 601.1	Rippled sand with a varying proportion of gravel	Starfish (<i>Asterias rubens</i>)	3	O	
		375 245.1	5 868 675.1	Sublittoral sand (A5.2)				

B.5 Stony Reef Assessment

B.5.1 Sheringham Shoal

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
SS_01	1	383 353.1	5 883 473.2	0	Flat seabed	< 80	
	2	383 348.4	5 883 476.7	0	Flat seabed	< 80	
	3	383 344.2	5 883 480.1	0	Flat seabed	< 80	
	4	383 338.8	5 883 485.9	0	Flat seabed	< 80	
	5	383 330.0	5 883 492.8	0	Flat seabed	< 80	
	6	383 327.3	5 883 495.0	0	Flat seabed	< 80	
	7	383 324.4	5 883 498.4	0	Flat seabed	< 80	
	Mean			0	Flat seabed	< 80	Not a Reef
SS_03	1	380 925.7	5 885 495.0	0	Flat seabed	< 80	
	2	380 922.2	5 885 499.6	0	Flat seabed	< 80	
	3	380 919.2	5 885 504.3	0	Flat seabed	< 80	
	4	380 914.8	5 885 507.5	0	Flat seabed	< 80	
	5	380 907.6	5 885 513.6	0	Flat seabed	< 80	
	6	380 902.4	5 885 518.6	0	Flat seabed	< 80	
	7	380 898.4	5 885 524.3	0	Flat seabed	< 80	
	8	380 895.8	5 885 529.4	0	Flat seabed	< 80	
	Mean			0	Flat seabed	< 80	Not a Reef
SS_04	1	381 608.0	5 886 539.2	0	Flat seabed	< 80	
	2	381 605.5	5 886 548.4	0	Flat seabed	< 80	
	3	381 603.4	5 886 553.7	0	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	4	381 599.5	5 886 561.4	1	Flat seabed	< 80	
	5	381 593.7	5 886 571.3	0	Flat seabed	< 80	
	6	381 590.8	5 886 576.5	0	Flat seabed	< 80	
	Mean			0	Flat seabed	< 80	Not a Reef
SS_06	1	383 935.8	5 888 191.2	0	Flat seabed	< 80	
	2	383 947.4	5 888 197.0	0	Flat seabed	< 80	
	3	383 952.1	5 888 199.0	0	Flat seabed	< 80	
	4	383 954.9	5 888 201.0	0	Flat seabed	< 80	
	5	383 961.1	5 888 205.3	0	Flat seabed	< 80	
	6	383 970.1	5 888 207.6	0	Flat seabed	< 80	
	7	383 974.2	5 888 209.2	5	< 64	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_07	1	382 199.1	5 887 676.0	0	Flat seabed	< 80	
	2	382 199.1	5 887 680.3	0	Flat seabed	< 80	
	3	382 201.2	5 887 686.3	0	Flat seabed	< 80	
	4	382 203.7	5 887 691.1	0	Flat seabed	< 80	
	5	382 205.4	5 887 697.2	0	Flat seabed	< 80	
	6	382 205.0	5 887 702.6	0	Flat seabed	< 80	
	Mean			0	Flat seabed	< 80	Not a Reef
SS_09	1	382 478.5	5 889 017.2	0	Flat seabed	< 80	
	2	382 483.9	5 889 016.3	5	Flat seabed	< 80	
	3	382 488.2	5 889 016.0	2	Flat seabed	< 80	
	4	382 489.3	5 889 015.5	5	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	5	382 496.8	5 889 015.2	3	Flat seabed	< 80	
	6	382 503.3	5 889 008.6	10	< 64	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_10	1	379 378.1	5 889 550.6	0	Flat seabed	< 80	
	2	379 386.3	5 889 552.6	1	Flat seabed	< 80	
	3	379 391.3	5 889 553.7	4	Flat seabed	< 80	
	4	379 397.0	5 889 555.1	1	Flat seabed	< 80	
	5	379 404.2	5 889 557.5	6	< 64	< 80	
	6	379 408.4	5 889 558.9	10	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_11	1	379 727.7	5 891 993.5	0	Flat seabed	< 80	
	2	379 735.7	5 892 001.3	0	Flat seabed	< 80	
	3	379 738.6	5 892 004.5	3	Flat seabed	< 80	
	4	379 740.8	5 892 007.4	0	Flat seabed	< 80	
	5	379 744.5	5 892 011.4	0	Flat seabed	< 80	
	6	379 746.8	5 892 014.3	0	Flat seabed	< 80	
	7	379 748.7	5 892 015.8	0	Flat seabed	< 80	
	8	379 750.6	5 892 015.5	4	Flat seabed	< 80	
	9	379 751.8	5 892 015.3	2	Flat seabed	< 80	
	10	379 754.0	5 892 018.1	1	Flat seabed	< 80	
	11	379 759.9	5 892 023.0	1	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_12	1	376 925.6	5 893 256.0	6	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	2	376 930.3	5 893 260.3	5	Flat seabed	< 80	
	3	376 935.5	5 893 266.1	2	Flat seabed	< 80	
	4	376 942.2	5 893 272.0	0	Flat seabed	< 80	
	5	376 945.4	5 893 274.0	1	Flat seabed	< 80	
	6	376 948.3	5 893 274.4	0	Flat seabed	< 80	
	7	376 951.6	5 893 273.2	0	Flat seabed	< 80	
	8	376 953.9	5 893 272.0	2	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_13	1	376 751.3	5 894 950.5	2	Flat seabed	< 80	
	2	376 752.8	5 894 951.4	3	< 64	< 80	
	3	376 755.4	5 894 953.1	3	< 64	< 80	
	4	376 760.9	5 894 957.3	0	Flat seabed	< 80	
	5	376 767.6	5 894 961.0	0	Flat seabed	< 80	
	6	376 771.1	5 894 962.7	4	Flat seabed	< 80	
	7	376 773.2	5 894 963.8	8	< 64	< 80	
	8	376 776.1	5 894 964.0	0	Flat seabed	< 80	
Mean			< 10	Flat seabed	< 80	Not a Reef	
SS_14	1	377 362.8	5 895 271.5	0	Flat seabed	< 80	
	2	377 365.0	5 895 271.4	1	Flat seabed	< 80	
	3	377 367.3	5 895 270.8	0	Flat seabed	< 80	
	4	377 371.0	5 895 269.5	1	Flat seabed	< 80	
	5	377 376.0	5 895 264.6	0	Flat seabed	< 80	
	6	377 382.1	5 895 262.6	0	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	Mean			0	Flat seabed	< 80	Not a Reef
SS_15	1	375 956.3	5 895 471.3	0	Flat seabed	< 80	
	2	375 954.9	5 895 474.4	5	Flat seabed	< 80	
	3	375 953.1	5 895 477.6	9	< 64	< 80	
	4	375 951.2	5 895 481.6	13	< 64	< 80	
	5	375 949.4	5 895 486.1	8	< 64	< 80	
	6	375 947.7	5 895 489.8	5	< 64	< 80	
	7	375 943.6	5 895 498.1	0	Flat seabed	< 80	
	8	375 942.9	5 895 500.8	2	Flat seabed	< 80	
		Mean			< 10	Flat seabed	< 80
SS_16	1	374 890.0	5 895 582.4	3	Flat seabed	< 80	
	2	374 890.5	5 895 583.9	5	< 64	< 80	
	3	374 890.8	5 895 585.6	3	Flat seabed	< 80	
	4	374 891.2	5 895 588.7	7	Flat seabed	< 80	
	5	374 891.7	5 895 593.4	3	Flat seabed	< 80	
	6	374 893.4	5 895 603.9	4	Flat seabed	< 80	
	7	374 893.3	5 895 605.7	6	< 64	< 80	
	8	374 892.8	5 895 606.8	10	< 64	< 80	
	9	374 891.4	5 895 611.2	8	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_17	1	375 587.0	5 896 330.3	8	< 64	< 80	
	2	375 589.1	5 896 332.8	8	< 64	< 80	
	3	375 591.2	5 896 335.2	7	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	4	375 592.8	5 896 337.1	4	Flat seabed	< 80	
	5	375 594.3	5 896 340.5	7	< 64	< 80	
	6	375 597.0	5 896 345.5	5	Flat seabed	< 80	
	7	375 599.4	5 896 348.8	6	Flat seabed	< 80	
	8	375 602.4	5 896 352.0	7	Flat seabed	< 80	
	9	375 605.4	5 896 355.7	4	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_18	1	374 190.6	5 896 467.5	3	< 64	< 80	
	2	374 188.0	5 896 471.2	3	< 64	< 80	
	3	374 185.7	5 896 476.6	2	< 64	< 80	
	4	374 183.9	5 896 481.6	3	Flat seabed	< 80	
	5	374 182.5	5 896 486.1	2	Flat seabed	< 80	
	6	374 181.3	5 896 491.2	3	< 64	< 80	
	7	374 179.6	5 896 499.0	3	Flat seabed	< 80	
	8	374 178.7	5 896 505.9	3	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_19	1	373 215.4	5 894 404.8	1	Flat seabed	< 80	
	2	373 213.5	5 894 413.8	2	Flat seabed	< 80	
	3	373 212.9	5 894 417.3	3	Flat seabed	< 80	
	4	373 212.0	5 894 422.0	5	Flat seabed	< 80	
	5	373 211.2	5 894 424.4	6	< 64	< 80	
	6	373 210.1	5 894 427.6	6	Flat seabed	< 80	
	7	373 210.7	5 894 430.5	4	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	8	373 209.5	5 894 436.0	6	< 64	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_20	1	370 337.0	5 893 936.3	0	Flat seabed	< 80	
	2	370 335.6	5 893 941.8	0	Flat seabed	< 80	
	3	370 336.1	5 893 942.7	2	Flat seabed	< 80	
	4	370 335.7	5 893 945.1	0	Flat seabed	< 80	
	5	370 335.1	5 893 948.0	0	Flat seabed	< 80	
	6	370 333.9	5 893 950.9	0	Flat seabed	< 80	
	7	370 334.1	5 893 952.5	0	Flat seabed	< 80	
	8	370 329.9	5 893 959.1	1	Flat seabed	< 80	
	Mean			0	Flat seabed	< 80	Not a Reef
SS_22	1	371 119.4	5 895 714.8	2	Flat seabed	< 80	
	2	371 116.0	5 895 716.7	2	Flat seabed	< 80	
	3	371 112.8	5 895 719.2	0	Flat seabed	< 80	
	4	371 109.5	5 895 722.5	1	Flat seabed	< 80	
	5	371 107.5	5 895 725.1	0	Flat seabed	< 80	
	6	371 106.8	5 895 727.0	0	Flat seabed	< 80	
	7	371 105.7	5 895 728.3	0	Flat seabed	< 80	
	8	371 105.2	5 895 728.3	0	Flat seabed	< 80	
	9	371 105.4	5 895 728.6	1	Flat seabed	< 80	
Mean			< 10	Flat seabed	< 80	Not a Reef	
SS_23	1	370 128.7	5 895 812.6	2	Flat seabed	< 80	
	2	370 125.5	5 895 815.1	0	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	3	370 122.2	5 895 818.0	1	Flat seabed	< 80	
	4	370 118.7	5 895 820.8	0	Flat seabed	< 80	
	5	370 116.0	5 895 822.7	4	Flat seabed	< 80	
	6	370 108.1	5 895 828.9	0	Flat seabed	< 80	
	7	370 104.7	5 895 832.1	0	Flat seabed	< 80	
	8	370 100.3	5 895 836.2	0	Flat seabed	< 80	
	Mean				< 10	Flat seabed	< 80
SS_24	1	370 108.2	5 896 060.9	0	Flat seabed	< 80	
	2	370 107.5	5 896 064.5	0	Flat seabed	< 80	
	3	370 106.2	5 896 068.8	0	Flat seabed	< 80	
	4	370 103.1	5 896 076.1	0	Flat seabed	< 80	
	5	370 099.9	5 896 083.4	0	Flat seabed	< 80	
	6	370 097.7	5 896 085.9	0	Flat seabed	< 80	
	7	370 093.2	5 896 090.7	1	Flat seabed	< 80	
Mean				0	Flat seabed	< 80	Not a Reef
SS_25	1	369 255.5	5 895 036.7	0	Flat seabed	< 80	
	2	369 241.7	5 895 043.9	0	Flat seabed	< 80	
	3	369 238.2	5 895 046.3	0	Flat seabed	< 80	
	4	369 236.3	5 895 047.7	0	Flat seabed	< 80	
	5	369 232.6	5 895 050.7	3	Flat seabed	< 80	
	6	369 226.6	5 895 055.1	1	Flat seabed	< 80	
	7	369 224.5	5 895 057.3	0	Flat seabed	< 80	
	8	369 214.9	5 895 062.0	1	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	Mean			< 10	Flat seabed	< 80	Not a Reef
SS_26	1	372 935.0	5 899 315.3	4	< 64	< 80	
	2	372 932.4	5 899 319.0	4	Flat seabed	< 80	
	3	372 930.3	5 899 322.6	5	Flat seabed	< 80	
	4	372 927.3	5 899 328.8	5	< 64	< 80	
	5	372 924.8	5 899 333.5	14	Flat seabed	< 80	
	6	372 922.4	5 899 336.5	8	Flat seabed	< 80	
	7	372 919.1	5 899 340.1	5	Flat seabed	< 80	
	8	372 914.9	5 899 344.4	3	Flat seabed	< 80	
	Mean			< 10	Flat seabed	< 80	Not a Reef
Notes							
Key:	Not a Reef			Low Reef			

B.5.2 Export Cable Corridor

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
EC_02	1	376 643.3	5 869 676.9	1	Flat seabed	< 80	
	2	376 640.4	5 869 678.5	2	Flat seabed	< 80	
	3	376 638.3	5 869 680.3	7	< 64	< 80	
	4	376 634.8	5 869 681.6	1	< 64	< 80	
	5	376 633.0	5 869 682.5	1	< 64	< 80	
	6	376 630.1	5 869 684.2	1	Flat seabed	< 80	
	7	376 627.4	5 869 684.6	1	Flat seabed	< 80	
	8	376 624.6	5 869 685.6	3	Flat seabed	< 80	
	9	376 622.9	5 869 687.6	0	Flat seabed	< 80	
	10	376 618.0	5 869 690.3	0	Flat seabed	< 80	
	Mean				< 10	Flat seabed	< 80
EC_03	1	378 255.2	5 870 766.2	0	Flat seabed	< 80	
	2	378 258.5	5 870 766.4	1	Flat seabed	< 80	
	3	378 262.7	5 870 767.2	12	< 64	< 80	
	4	378 265.4	5 870 767.2	1	Flat seabed	< 80	
	5	378 268.4	5 870 767.2	12	Flat seabed	< 80	
	6	378 271.3	5 870 767.2	7	Flat seabed	< 80	
	7	378 274.3	5 870 767.3	32	< 64	< 80	
	8	378 280.3	5 870 767.2	6	Flat seabed	< 80	
	9	378 287.3	5 870 767.2	15	Flat seabed	< 80	
	10	378 291.0	5 870 766.7	35	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	11	378 295.4	5 870 766.8	14	< 64	< 80	
	12	378 297.8	5 870 766.8	7	< 64	< 80	
	13	378 301.5	5 870 767.1	2	< 64	< 80	
	Mean			10 - 40	< 64	< 80	Low Reef
EC_04	1	379 058.9	5 872 311.4	2	< 64	< 80	
	2	379 052.0	5 872 308.8	3	< 64	< 80	
	3	379 045.3	5 872 306.2	5	< 64	< 80	
	4	379 035.6	5 872 304.3	2	< 64	< 80	
	5	379 026.1	5 872 304.5	4	< 64	< 80	
	6	379 020.7	5 872 304.1	3	< 64	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_05	1	200270_EC_05_001	380 750.6	5 873 785.4	-	-	-
	2	200270_EC_05_002	380 747.5	5 873 793.6	3	< 64	
	3	200270_EC_05_003	380 744.6	5 873 795.7	3	< 64	
	4	200270_EC_05_004	380 741.8	5 873 797.8	4	< 64	
	5	200270_EC_05_005	380 739.4	5 873 801.6	5	< 64	
	6	200270_EC_05_006	380 739.4	5 873 806.8	4	< 64	
	7	200270_EC_05_007	380 740.1	5 873 809.4	2	< 64	
	8	200270_EC_05_008	380 741.7	5 873 812.0	7	< 64	
	9	200270_EC_05_009	380 747.1	5 873 816.6	8	< 64	
	Mean			< 10	< 64	< 80	Not a Reef
EC_06	1	382 451.4	5 876 009.9	-	-	-	-
	2	382 461.0	5 876 008.0	2	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	3	382 465.0	5 876 007.4	-	-	-	-
	4	382 472.9	5 876 007.6	1	Flat seabed	< 80	
	5	382 479.0	5 876 006.5	1	Flat seabed	< 80	
	6	382 482.6	5 876 006.5	2	Flat seabed	< 80	
	7	382 488.7	5 876 006.1	1	Flat seabed	< 80	
	Mean				< 10	< 64	< 80
EC_07	1	382 219.7	5 876 418.6	1	Flat seabed	< 80	
	2	382 223.2	5 876 417.2	0	Flat seabed	< 80	
	3	382 228.0	5 876 415.6	1	Flat seabed	< 80	
	4	382 229.5	5 876 414.9	0	Flat seabed	< 80	
	5	382 234.0	5 876 412.6	0	Flat seabed	< 80	
	6	382 239.3	5 876 411.0	0	Flat seabed	< 80	
	7	382 244.1	5 876 409.4	0	Flat seabed	< 80	
	8	382 253.4	5 876 404.4	1	Flat seabed	< 80	
	9	382 256.3	5 876 403.0	0	Flat seabed	< 80	
	10	382 261.0	5 876 400.4	0	Flat seabed	< 80	
	Mean				< 10	< 64	< 80
EC_08	1	382 382.3	5 877 158.1	0	Flat seabed	< 80	
	2	382 385.6	5 877 159.0	0	Flat seabed	< 80	
	3	382 390.0	5 877 160.4	0	Flat seabed	< 80	
	4	382 391.9	5 877 161.0	0	Flat seabed	< 80	
	5	382 398.7	5 877 162.1	0	Flat seabed	< 80	
	6	382 405.6	5 877 162.3	0	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	7	382 409.8	5 877 162.6	0	Flat seabed	< 80	
	8	382 414.5	5 877 162.9	0	Flat seabed	< 80	
	Mean			0	< 64	< 80	Not a Reef
EC_09	1	382 626.8	5 877 818.0	0	Flat seabed	< 80	
	2	382 629.6	5 877 817.3	0	Flat seabed	< 80	
	3	382 631.9	5 877 816.5	0	Flat seabed	< 80	
	4	382 634.3	5 877 816.2	0	Flat seabed	< 80	
	Mean			0	< 64	< 80	Not a Reef
EC_10	1	383 269.6	5 879 870.0	3	Flat seabed	< 80	
	2	383 273.1	5 879 868.2	3	< 64	< 80	
	3	383 282.2	5 879 862.7	1	Flat seabed	< 80	
	4	383 285.6	5 879 860.2	1	Flat seabed	< 80	
	5	383 288.6	5 879 858.2	1	Flat seabed	< 80	
	6	383 291.3	5 879 856.1	4	< 64	< 80	
	7	383 295.8	5 879 854.2	5	< 64	< 80	
	8	383 300.1	5 879 852.1	2	< 64	< 80	
	9	383 304.8	5 879 850.6	3	< 64	< 80	
	10	383 308.7	5 879 849.2	1	Flat seabed	< 80	
Mean			< 10	< 64	< 80	Not a Reef	
EC_11	384 207.7	5 882 423.8	0	Flat seabed	< 80	384 207.7	
	384 202.6	5 882 426.3	0	Flat seabed	< 80	384 202.6	
	384 199.5	5 882 428.3	0	Flat seabed	< 80	384 199.5	
	384 190.7	5 882 432.6	0	Flat seabed	< 80	384 190.7	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	384 184.2	5 882 435.5	0	Flat seabed	< 80	384 184.2	
	384 179.1	5 882 437.4	4	< 64	< 80	384 179.1	
	Mean			< 10	< 64	< 80	Not a Reef
EC_12	1	377 362.8	5 895 271.5	0	Flat seabed	< 80	
	2	383 613.2	5 879 949.5	-	-	-	
	3	383 615.6	5 879 949.3	3	< 64	< 80	
	4	383 618.6	5 879 949.6	3	< 64	< 80	
	5	383 620.2	5 879 950.0	1	Flat seabed	< 80	
	6	383 624.1	5 879 950.4	1	Flat seabed	< 80	
	7	383 626.7	5 879 950.6	1	Flat seabed	< 80	
	8	383 629.4	5 879 951.3	1	Flat seabed	< 80	
	9	383 632.1	5 879 951.7	0	Flat seabed	< 80	
	10	383 634.8	5 879 951.9	1	Flat seabed	< 80	
	11	383 638.9	5 879 952.4	2	< 64	< 80	
Mean			< 10	< 64	< 80	Not a Reef	
EC_13	1	381 459.4	5 875 398.1	1	Flat seabed	< 80	
	2	381 454.1	5 875 398.1	0	Flat seabed	< 80	
	3	381 449.7	5 875 398.1	3	< 64	< 80	
	4	381 444.9	5 875 398.4	2	< 64	< 80	
	5	381 440.5	5 875 398.0	1	Flat seabed	< 80	
	6	381 435.8	5 875 399.3	1	Flat seabed	< 80	
	7	381 429.8	5 875 400.0	7	< 64	< 80	
	8	381 422.7	5 875 401.4	3	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	9	381 418.4	5 875 401.2	1	Flat seabed	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_14	1	377 418.1	5 870 616.7	2	Flat seabed	< 80	
	2	377 421.9	5 870 615.6	18	< 64	< 80	
	3	377 426.5	5 870 614.4	22	< 64	< 80	
	4	377 431.1	5 870 615.1	8	< 64	< 80	
	5	377 436.7	5 870 616.9	1	Flat seabed	< 80	
	6	377 441.2	5 870 618.1	1	Flat seabed	< 80	
	7	377 449.1	5 870 619.0	7	< 64	< 80	
	8	377 454.3	5 870 621.6	15	< 64	< 80	
	9	377 458.5	5 870 623.7	8	< 64	< 80	
	10	377 464.0	5 870 627.0	7	< 64	< 80	
	11	377 469.8	5 870 631.7	16	< 64	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_15	1	375 762.3	5 869 286.7	4	< 64	< 80	
	2	375 757.3	5 869 287.3	10	< 64	< 80	
	3	375 752.0	5 869 287.9	0	Flat seabed	< 80	
	4	375 747.9	5 869 288.7	1	Flat seabed	< 80	
	5	375 744.7	5 869 289.2	1	Flat seabed	< 80	
	6	375 740.4	5 869 291.3	0	Flat seabed	< 80	
	7	375 732.4	5 869 293.9	22	< 64	< 80	
	8	375 729.9	5 869 294.9	18	< 64	< 80	
Mean			< 10	< 64	< 80	Not a Reef	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
EC_16	1	383 039.4	5 879 020.2	1	Flat seabed	< 80	
	2	383 041.9	5 879 020.7	1	< 64	< 80	
	3	383 043.4	5 879 021.1	2	< 64	< 80	
	4	383 045.4	5 879 021.6	6	< 64	< 80	
	5	383 047.2	5 879 022.1	3	< 64	< 80	
	6	383 048.6	5 879 022.5	8	< 64	< 80	
	7	383 051.0	5 879 022.4	3	< 64	< 80	
	8	383 053.2	5 879 022.0	3	Flat seabed	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_17	1	381 300.8	5 875 850.3	0	Flat seabed	< 80	
	2	381 290.5	5 875 857.9	0	Flat seabed	< 80	
	3	381 285.9	5 875 862.4	0	Flat seabed	< 80	
	4	381 281.9	5 875 868.2	0	Flat seabed	< 80	
	5	381 278.1	5 875 877.7	0	Flat seabed	< 80	
	6	381 275.2	5 875 884.4	0	Flat seabed	< 80	
	7	381 272.1	5 875 889.7	0	Flat seabed	< 80	
	Mean			0	< 64	< 80	Not a Reef
EC_18	1	381 760.9	5 874 882.9	2	Flat seabed	< 80	
	2	381 750.3	5 874 884.5	0	Flat seabed	< 80	
	3	381 745.5	5 874 884.8	0	Flat seabed	< 80	
	4	381 740.4	5 874 884.0	1	Flat seabed	< 80	
	5	381 735.9	5 874 885.0	2	Flat seabed	< 80	
	6	381 730.9	5 874 885.0	2	Flat seabed	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	7	381 726.5	5 874 885.2	2	Flat seabed	< 80	
	8	381 718.9	5 874 885.2	1	Flat seabed	< 80	
	9	381 714.3	5 874 884.4	0	Flat seabed	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_19	1	377 645.3	5 871 150.8	0	Flat seabed	< 80	
	2	377 642.8	5 871 151.5	0	Flat seabed	< 80	
	3	377 640.3	5 871 154.3	0	Flat seabed	< 80	
	4	377 637.7	5 871 155.9	0	Flat seabed	< 80	
	5	377 635.4	5 871 157.7	0	Flat seabed	< 80	
	6	377 633.4	5 871 158.8	0	Flat seabed	< 80	
	7	377 629.8	5 871 161.0	0	Flat seabed	< 80	
	Mean			0	< 64	< 80	Not a Reef
EC_23	1	384 088.4	5 881 917.8	1	Flat seabed	< 80	
	2	384 093.5	5 881 923.6	1	Flat seabed	< 80	
	3	384 095.6	5 881 927.2	1	Flat seabed	< 80	
	4	384 097.7	5 881 931.0	1	Flat seabed	< 80	
	5	384 098.9	5 881 932.3	1	Flat seabed	< 80	
	6	384 099.9	5 881 934.1	0	Flat seabed	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
EC_24	1	379 783.6	5 872 413.3	12	Flat seabed	< 80	
	2	379 775.6	5 872 411.6	15	Flat seabed	< 80	
	3	379 770.6	5 872 411.5	9	< 64	< 80	
	4	379 764.9	5 872 411.1	13	< 64	< 80	

Geodetic Parameters: WGS84, UTM Zone 31N, CM 3°E [m]							
Transect	Still	Still Coordinates		Cobble/Boulders Cover [%]	Mean Elevation [mm]	Epifauna Cover [%]	Overall Reefiness
		Easting [m]	Northing [m]				
	5	379 760.6	5 872 410.9	14	< 64	< 80	
	6	379 754.6	5 872 411.6	18	< 64	< 80	
	7	379 748.5	5 872 412.0	12	< 64	< 80	
	8	379 742.7	5 872 411.9	9	< 64	< 80	
	Mean			10 - 40	< 64	< 80	Low Reef
EC_25	1	378 776.0	5 871 921.7	7	Flat seabed	< 80	
	2	378 769.2	5 871 923.1	6	Flat seabed	< 80	
	3	378 761.9	5 871 924.6	9	< 64	< 80	
	4	378 754.1	5 871 924.5	5	< 64	< 80	
	5	378 745.6	5 871 923.6	7	Flat seabed	< 80	
	6	378 737.9	5 871 923.1	9	Flat seabed	< 80	
	Mean			< 10	< 64	< 80	Not a Reef
Notes							
Key:	Not a Reef			Low Reef			