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No. 632

1517S Cruise Report: Monitoring survey of North-east Faroe Shetland Channel N C M P A, Wyville Thomson Ridge SAC & West Shetland Shelf N C M P A

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Summary

The Joint Nature Conservation Committee (JNCC) and Marine Scotland Science (MSS) undertook an offshore seabed survey of North-east Faroe Shetland Channel Nature Conservation Marine Protected Area (Nature Conservation Marine Protected Area (N C M P A)), Wyville Thomson Ridge Special Area of Conservation (SAC) and West Shetland Shelf N C M P A aboard the Marine Research Vessel Scotia from 20 October 2017 to 9 November 2017 (survey code 1517S).

The aim of the 1517S survey was to gather initial data for a site monitoring time-series for NEF, WTR and WSS. The survey gathered evidence to inform assessment of the condition of the protected features of the site for comparison against future data to monitor the rate and direction of any changes. This will allow assessment of the long-term effectiveness of current proposed management measures.

At NEF, 15 camera chariot transects and 37 drop-frame camera transects were successfully completed both within and outside the site boundary. In addition, eight 0.1m^2 Hamon grab infaunal samples were collected from within the site. At WSS, 43 infauna samples and 57 Particle Size samples were collected by 0.1m^2 Hamon grab. Due to poor weather, the sampling at WTR was limited to 15 drop-frame camera transects.

Please note that observations made in this Cruise Report represent preliminary field observations which precede quality controlled data analysis. These observations have not been subject to JNCC's Evidence Quality Assurance procedures[1]. This disclaimer should be included when referencing this Cruise Report.

[1] http://jncc.defra.gov.uk/default.aspx?page=6675.

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1 Introduction

The Joint Nature Conservation Committee (JNCC) and Marine Scotland Science (MSS) undertook an offshore seabed survey of North-east Faroe Shetland Channel Nature Conservation Marine Protected Area (N C M P A) (NEF hereafter), Wyville Thomson Ridge Special Area of Conservation (SAC) (WTR hereafter) and West Shetland Shelf N C M P A (WSS hereafter) on the Marine Research Vessel Scotia (survey code 1517S).

The survey departed Aberdeen on 20 October 2017 and arrived back into Aberdeen on 9 November 2017.

1.1 Scientific staff

The survey team included scientists from MSS and JNCC, who were assigned to 12 hour shifts to allow for 24-hour operations (Table 1).

Table 1. 1517S Survey Team.

Leg 1 Scientists	**Organisation**
4	MSS
5	JNCC
Leg 2 Scientists	
3	MSS
6	JNCC

1.2 Survey location

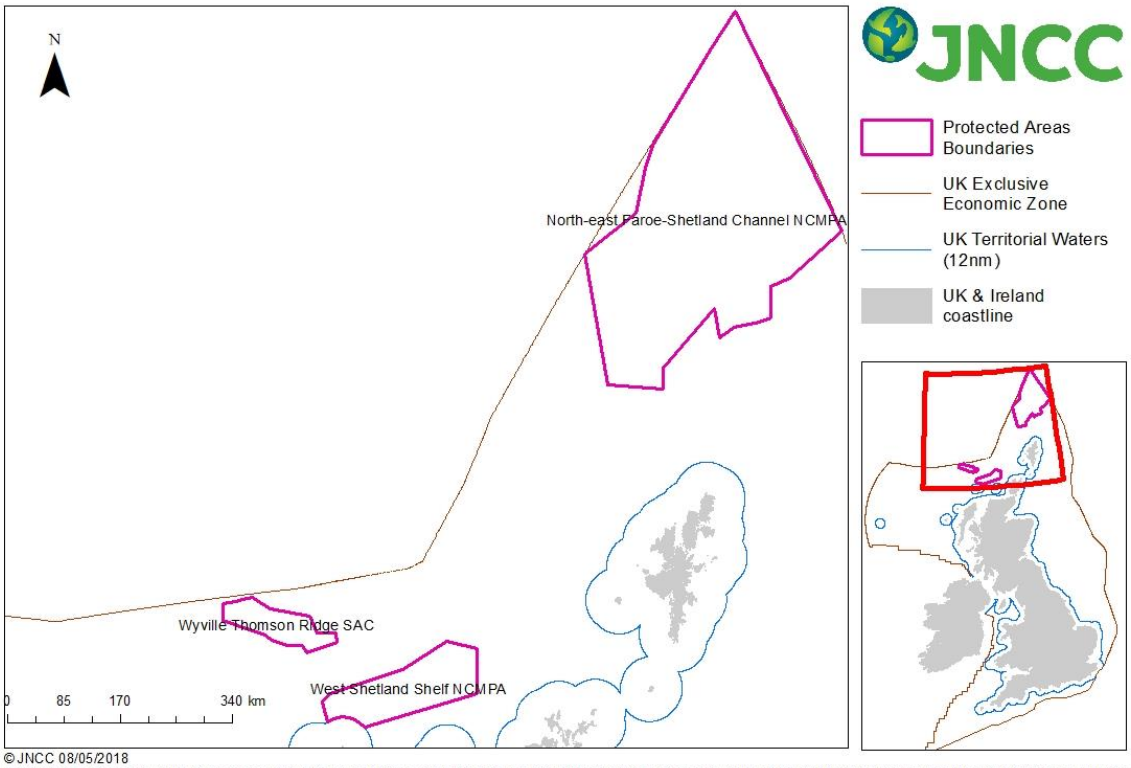


Figure 1. 1517S survey location and boundaries of North-east Faroe Shetland Channel N C M P A, Wyville Thomson Ridge SAC and West Shetland Shelf N C M P A.

1.3 Survey rationale

NEF and WTR were selected by JNCC and MSS as high priority sites for MPA monitoring survey effort in 2017/18. WSS was identified as a moderate weather contingency option during survey planning.

1.4 Variations to planned survey activity

Due to significant periods of moderate swell and high winds experienced on the second leg of the survey, which curtailed camera operations, only 15 of the planned 107 drop-camera stations were completed at WTR. Survey effort was instead diverted to the WSS contingency stations, as Hamon grab sampling was feasible in the conditions experienced. Please see Sections 4 and 5 for more details.

Swell and wind conditions and predicted conditions were reviewed once sampling was completed at WSS. As conditions were not suitable, or due to become suitable, for camera operations within the time remaining for the survey, JNCC and MSS scientists agreed to transit to more sheltered inshore contingency survey locations provided by Scottish Natural Heritage to collect drop-frame imagery data for the remainder of the survey.

1.5 Report structure

Please note information pertaining to the first leg of the survey, which visited NEF, is set out in Section 2 while information pertaining to the second leg of the survey, which visited WTR and WSS, is set out in Sections 3, 4 and 5. Information relevant to both legs of the survey can be found in Sections 6-9 and in the Appendices.

2 North-east Faroe Shetland Channel N C M P A

2.1 Site overview[2]

Located to the far north-east of Scotland and ranging from 330-2420m deep, NEF covers a large part of the north-eastern reaches of the Faroe-Shetland Channel and is the largest MPA designated for benthic features in Scottish waters.

The continental slope here plays an important role in funnelling ocean currents that bring valuable nutrients to the region, supporting a wide diversity of life. At depths of 400-600m, the combination of seabed type and ocean current mixing provide the ideal conditions for deep-sea sponge aggregations. Below 800m, the muddy seabed is home to species that can tolerate the cooler Arctic-influenced waters, such as deep-sea worms. The MPA also includes several features of geological importance, including a series of deep-water mud volcanoes known as the Pilot Whale Diapirs. The purpose of the MPA is to conserve the features outlined in Table 2.

Table 2. Designated features of NEF N C M P A.

Features	Feature type
Deep-sea sponge aggregations	Biodiversity feature: Low or limited mobility species
Offshore subtidal sands and gravels	Biodiversity feature: Habitat
Offshore deep-sea muds	Biodiversity feature: Habitat
Continental slope	Large-scale feature
A wide range of features representative of the West Shetland Margin Palaeo-depositional, Miller Slide and Pilot Whale Diapirs Key Geodiversity Areas	Geological and geomorphological feature

Please note that the focus of this monitoring survey was gathering data to inform the monitoring of the biodiversity features of the site. As the large-scale and geodiversity features are unlikely to change in their range, extent or condition over the timescales under consideration, they were not included in this monitoring survey.

2.2 Aim

The aim of the 1517S survey to NEF was to acquire a robust initial sentinel monitoring (Type 1 monitoring) dataset to contribute to the development of a monitoring time-series for NEF, against which the rate and direction of change in the condition of the MPA features can be inferred over time. Data from this survey will form part of a monitoring time-series and as such future repeated monitoring and evidence gathering will be required to fully investigate and understand the long-term variability in any parameters measured.

The survey aimed to gather evidence within and adjacent to the site, to inform sentinel monitoring of the following feature attributes, which contribute to condition assessment of the **Deep-sea sponge aggregations** feature:

- **extent and distribution**;
- **structures and functions, their quality, and the composition of the characteristic biological communities; and**
- **supporting processes.**

[2] The JNCC Site Information Centre for NEF is available at http://jncc.defra.gov.uk/page-6483.

It should be noted that following consideration of the time available, vessel depth limitations and the large area covered by the **Offshore subtidal sands and gravels** and **Offshore deep-sea muds** features, the **Deep-sea sponge aggregations** designated feature was prioritised for this study.

Deep-sea sponge aggregations are defined by Henry and Roberts (2014); the data collected, and analysis undertaken, will allow for this definition to be applied.

As there was limited existing survey data available for this site, additional information on the distribution of Priority Marine Features (PMFs) and Vulnerable Marine Ecosystems (VMEs) present within and adjacent to the site were also collected.

2.3 Existing data

Existing data (Figure 2) and predicted habitat mapping products (Figure 3) were sourced from six surveys carried out between 1996 and 2006 by the Atlantic Frontier Environmental Network Survey (AFEN), Atlantic Margin Environmental Survey (AMES), Strategic Environmental Assessment (SEA) programmes and UK SeaMap 2010.

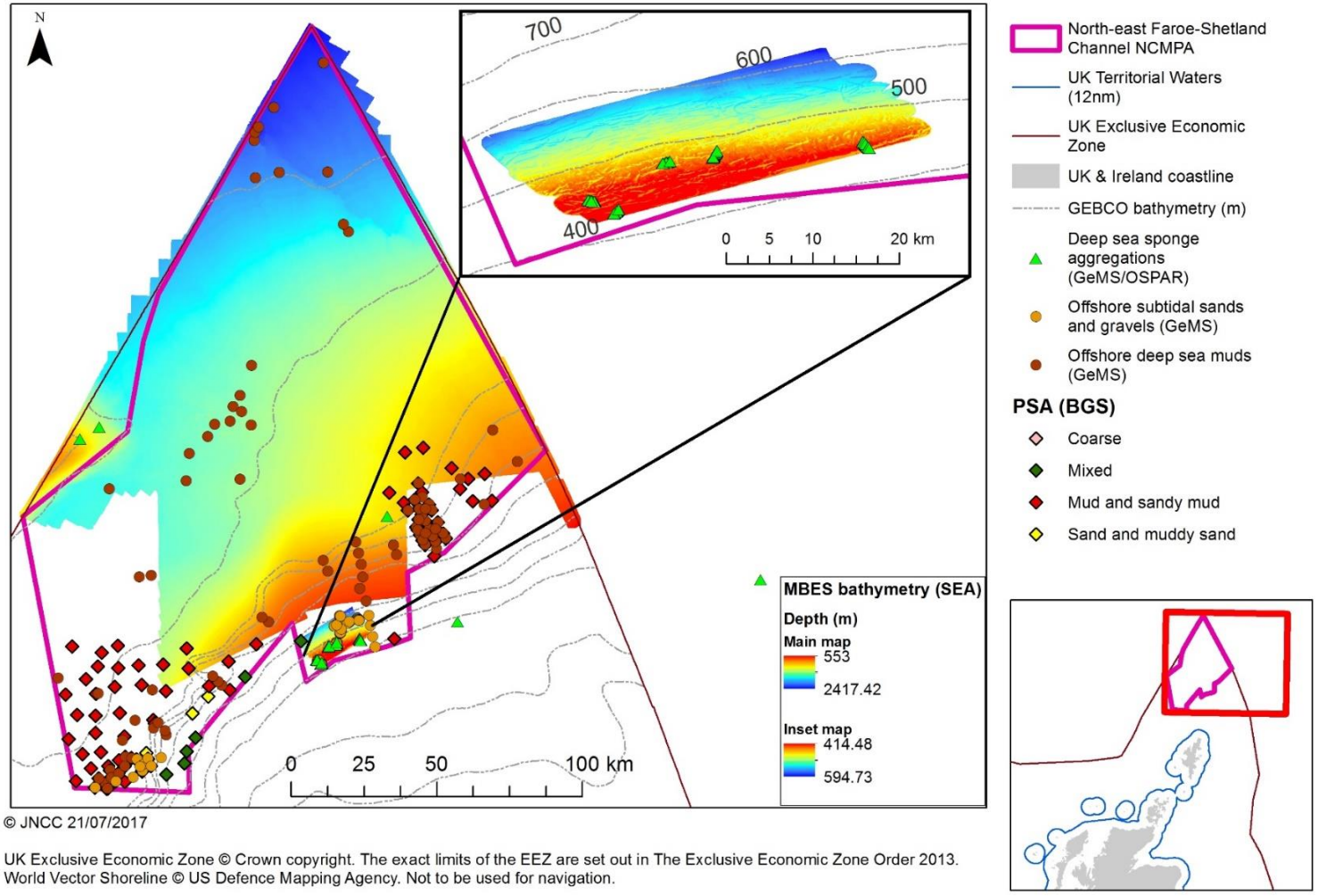


Figure 2. Existing survey data for North-east Faroe-Shetland Channel N C M P A**.**

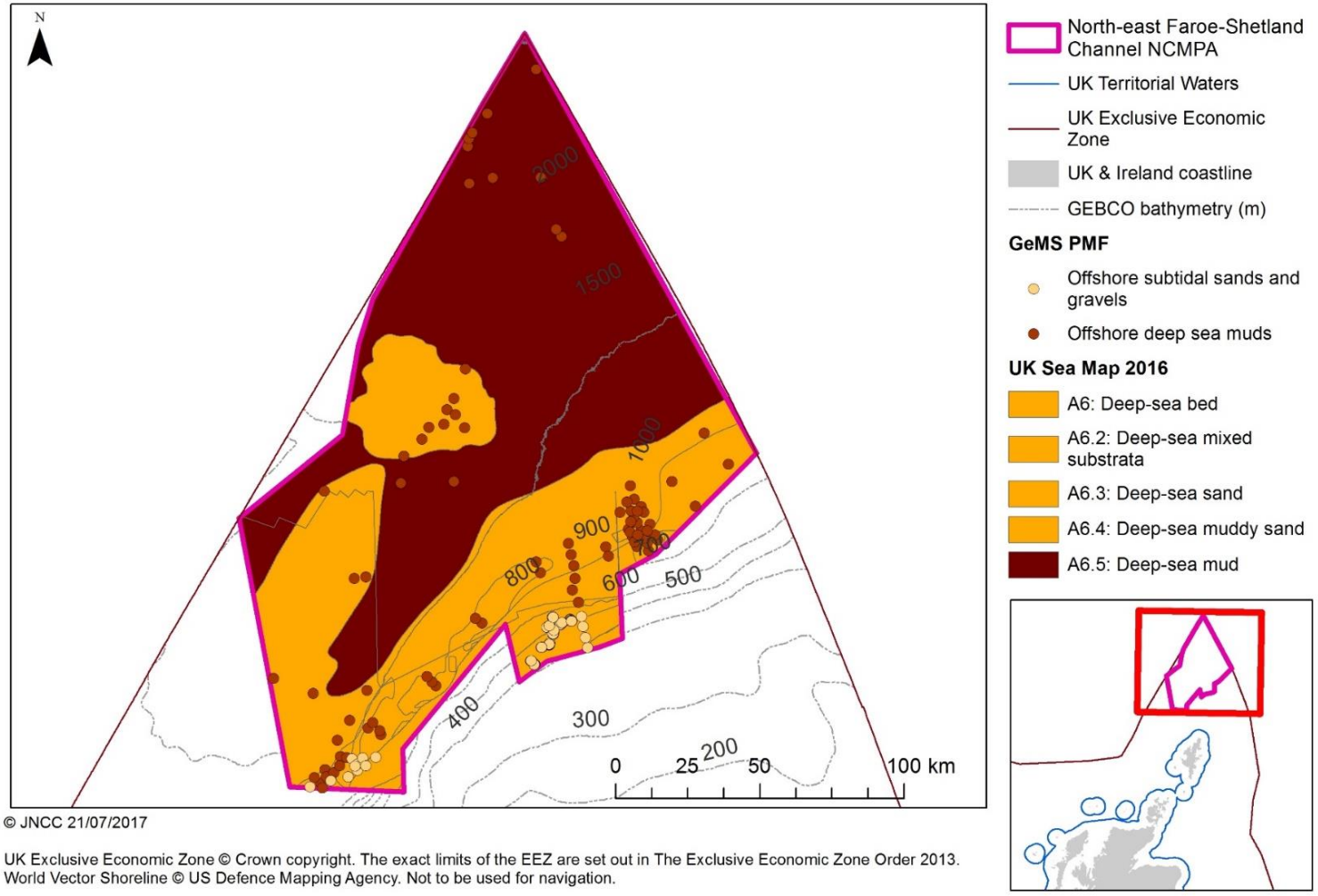


Figure 3. Predicted habitat mapping products available for North-east Faroe-Shetland Channel N C M P A. Note that the underlying data for A6 Deep-sea bed habitat within North-east Faroe-Shetland Channel N C M P A is classified as coarse sediment and therefore corresponds to the Offshore subtidal sands and gravels GeMS PMF hence the same symbology colour has been used.

2.4 Activities and management

2.4.1 Fishing activity data review summary and draft fisheries management measures

JNCC undertook a review of available fishing activity data for NEF to inform survey planning. The review suggests fishing activity levels are very low in the site. Within these low levels, the most predominant activity was associated with gillnets, demersal trawls and hook and line gear types. These gear types showed a distinct line of activity outside of the south-eastern edge of the site.

Please note that while fisheries management measures are not in place to protect the designated features of this site, current draft management measures have been used to inform the survey design of this study (Table 3 and Figure 4). These draft management measures can be found here: https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/SACmanagement/consult but please note these may be subject to change.

Table 3. Draft NEF management measures and associated gear types.

Draft Management Measure	Gear types included
No demersal mobile gear	Dredge, beam trawl, bottom trawl, and seines
No demersal mobile or static gear	Gillnets, trammel nets, long lines, pots and traps, dredge, beam trawl, bottom trawl, and seines

2.4.2. Other activities

There is one well, with activity currently suspended, present in the south-east of the MPA. Part of the MPA overlaps with license blocks identified by the Department for Business, Energy and Industrial Strategy (BEIS) and may be subject to further oil and gas development in the future. Telecommunications cables pass through the site.

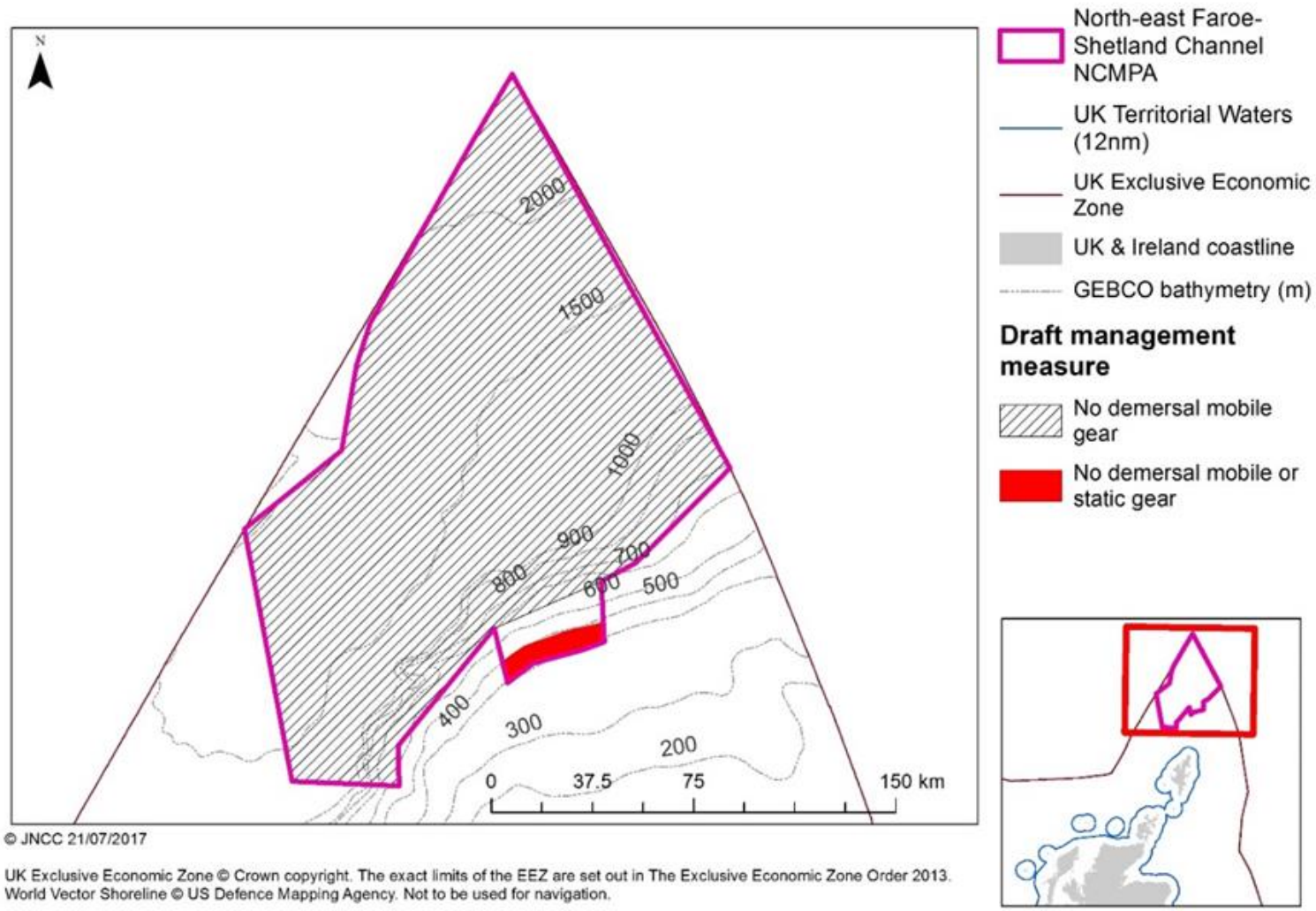


Figure 4. Draft fisheries management measures for North-east Faroe Shetland Channel N C M P A.

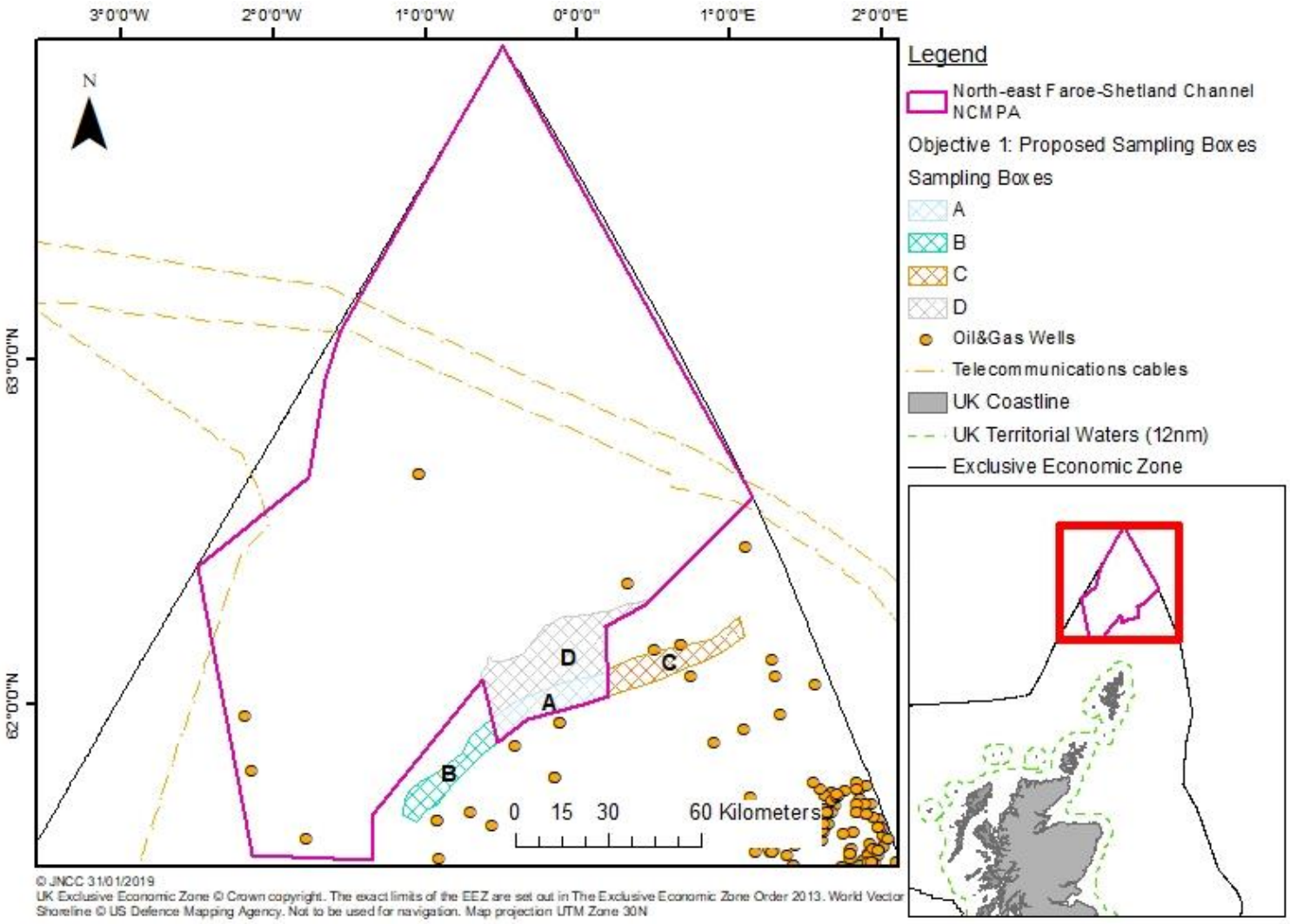


Figure 5. Activities within North-east Faroe Shetland Channel N C M P A.

2.5 Objectives and sampling design

The primary objectives are presented in Table 4 and were developed based on the feature attributes defined in the Conservation Objectives for the site, as detailed in Section 2.5.

Table 4. Monitoring objectives for the 1517S survey of North-east Faroe-Shetland Channel N C M P A (features and attributes used to assess feature condition are in bold).

Objective	Sub-objectives	Priority	Rationale
1. Collect evidence to inform monitoring of the of **Deep-sea sponge aggregations** within and near the site, specifically in relation to: • **extent and distribution; and** • **structures and functions, quality, and composition of the characteristic biological communities.**	**1.1.** Visually sample within the area proposed as a full closure to demersal fisheries (see Figure 2)	**1**	Acquire quantitative data to enable sentinel (Type 1) monitoring of Deep-sea sponge aggregations within the site
	1.2. Replicate visual sampling within two boxes either side of the proposed closure investigated in Sub-objective 1.1	**1**	Acquire quantitative data to investigate the existence of further deep-sea sponge VMEs outside the site, along the same depth contour as previously encountered VMEs. Compare these data to those acquired within the site for Sub-objective 1.1
2. Collect environmental data to improve understanding of environmental conditions and natural **supporting processes** within and near the site	**2.1.** Acquire quantitative data on temperature and salinity within the areas surveyed for Objective 1	**1**	Collect data to support evaluation of supporting processes in assessment of feature condition. Investigate the contribution of environmental parameters to the distribution of Deep-sea sponge aggregations surveyed in Objective 1
3. Collect physical evidence to characterise the sediment composition and biological communities in areas of **Offshore subtidal sands and gravels** and **Offshore deep-sea muds**	**3.1.** Acquire physical samples by means of grab sampler	**3** (Offshore subtidal sands and gravels) and **4** (Offshore deep-sea muds)	Supply data for further characterisation of the wider seabed within the site, validate the currently used seabed habitat model, and inform future monitoring survey designs for these features

Please note that at the time of planning the survey, insufficient existing biological data were available to undertake a statistical power analysis to inform the sample number required. The number of survey boxes and stations per box were identified during survey planning and allocated by JNCC and MSS expert judgement to account for the time available and estimations of the time required to complete each sampling station with the respective gear type used.

The sampling design employed to achieve each objective is described in Sections 2.4.3.2 to 2.4.3.5.

2.5.1 Objectives 1 and 2

To achieve objectives 1 and 2, sampling focused on three nested boxes (see Figure 5) located between the 400m and 500m contours within and directly adjacent to the site boundary:

- Box A is within NEF and corresponds with the proposed fishing closure
- Box B is outside NEF and to the south-west of Box A
- Box C is outside NEF and to the north-east of Box A

The following sampling effort was applied in each box:

- ~3km long chariot tows were completed to characterise the epifaunal communities present within the boxes
- 200m long drop-frame camera transect stations were completed to facilitate collection of high-definition video and still images
- Conductivity-Temperature-Density (CTD) sensors were attached to both camera systems to allow for collection of environmental data

Chariot station placement was based on a grid set along 425m and 475m depth contours with the chariot 'flown' parallel to these depth contours. Drop-frame stations were located between the chariot transect start and end points, and were distributed evenly across Boxes A, B and C.

Stations within nested boxes and in adjacent nested boxes were located a minimum distance of 3km apart to ensure sampling points were independent of each other. Stations in adjacent boxes were not closer to each other than stations within boxes.

2.5.2 Objective 3

To achieve this objective, stations were assigned using a triangular systematic grid within a nested box (Box D) located within the predicted Offshore sands and gravels and Deep-sea muds features close to boxes A, B and C.

Stations were sampled between chariot camera shifts to facilitate chariot camera operational staff rest.

Imagery data collected using the chariot camera system was used to inform which benthic sampling equipment to deploy; the mini-Hamon Grabs were used to sample the coarse material identified (i.e. potential Offshore subtidal sands and gravels). Stations were assigned a minimum of 3km from each other to ensure sampling points were independent of each other.

2.6 Data collected

Please note that observations made in the Cruise Report represent preliminary field observations. These observations have not been subject to relevant Quality Assurance procedures.

Fifteen 3km (approximately one-hour duration) camera chariot transects were successfully completed; representative images of these transects can be found within Appendix 2.

Thirty-seven 200m (approximately 10-minute duration) drop-frame camera transects were successfully completed; representative images of each camera transect are shown in Appendix 3.

Eight stations were successfully sampled for infauna and PSA, with one further station sampled for PSA only; representative images of each grab sample are shown in Appendix 4.

An overview of sampling gear used and locations sampled is provided in Figure 5. Locations of completed stations by gear-type for each box is shown in Figure 6-12 (Section 2.6.1 to 2.6.4), which also outline the number of stations successfully completed in each box.

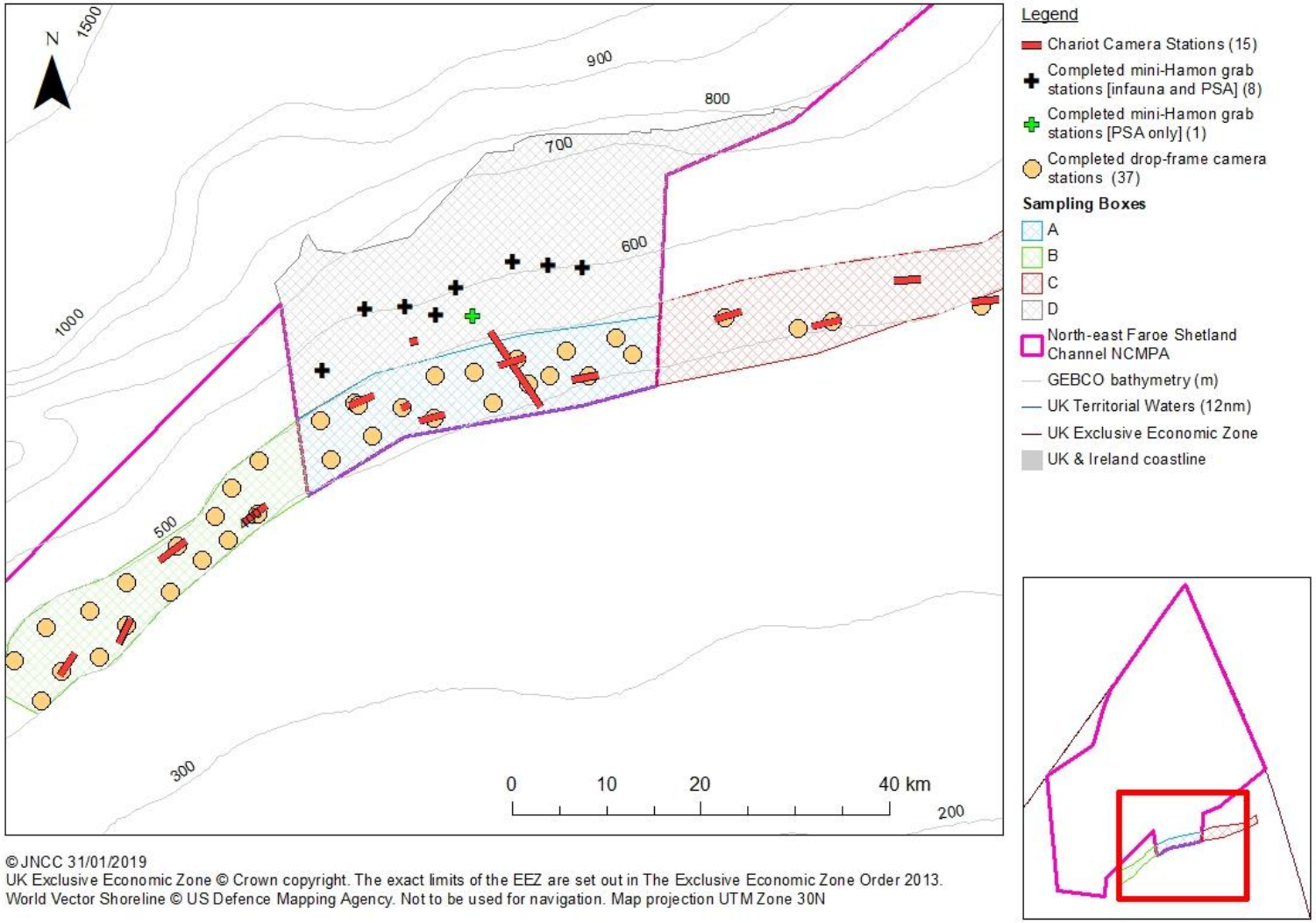


Figure 6. Overview of stations completed at North-east Faroe Shetland Channel N C M P A.

2.6.1 Box A

Eighteen drop-frame camera, collecting video and stills data, and six chariot camera transects, collecting video data only, were successfully completed in Box A (see Figure 7 and Figure 8).

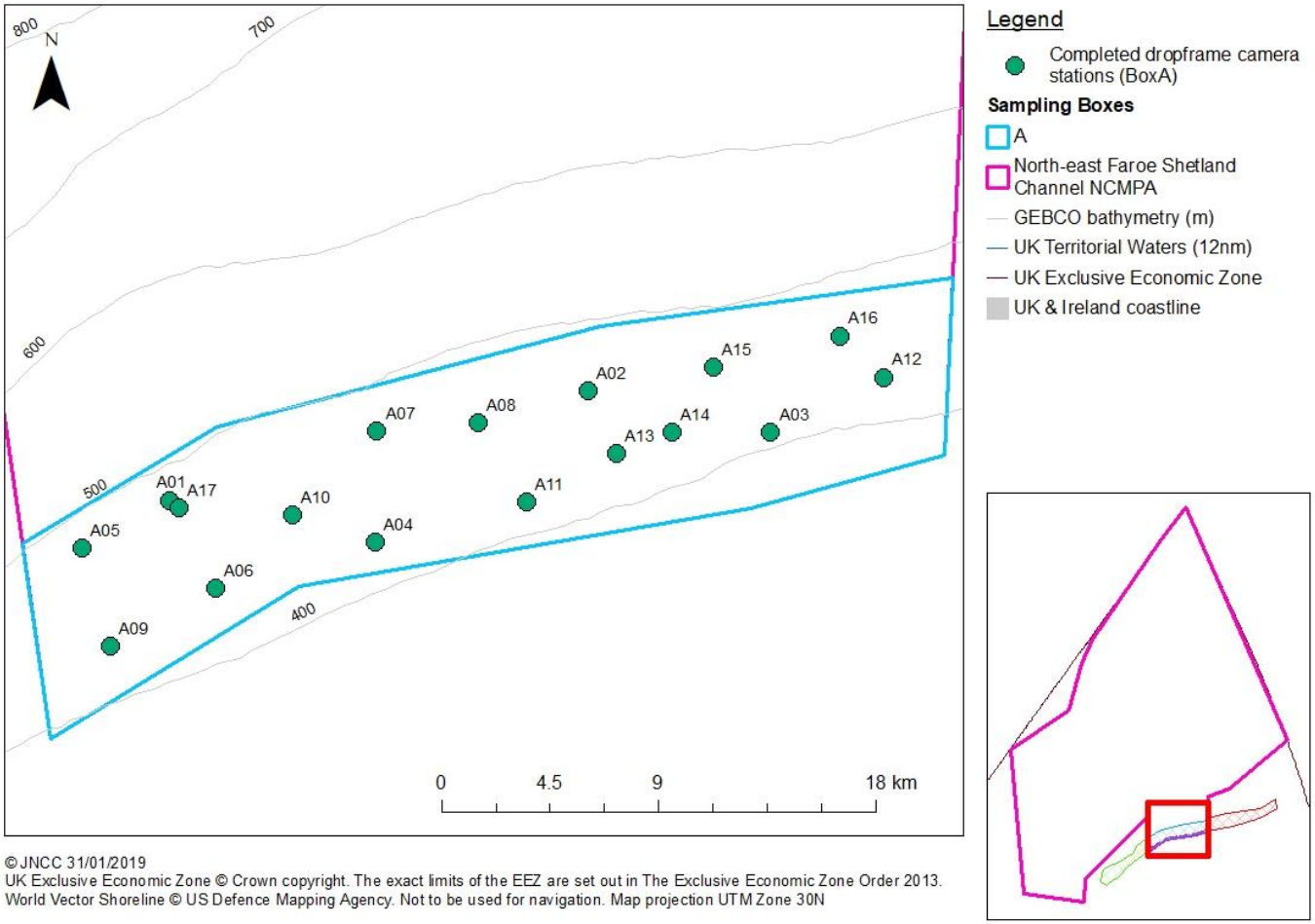


Figure 7. Completed drop-frame camera stations at North-east Faroe Shetland Channel N C M P A Box A.

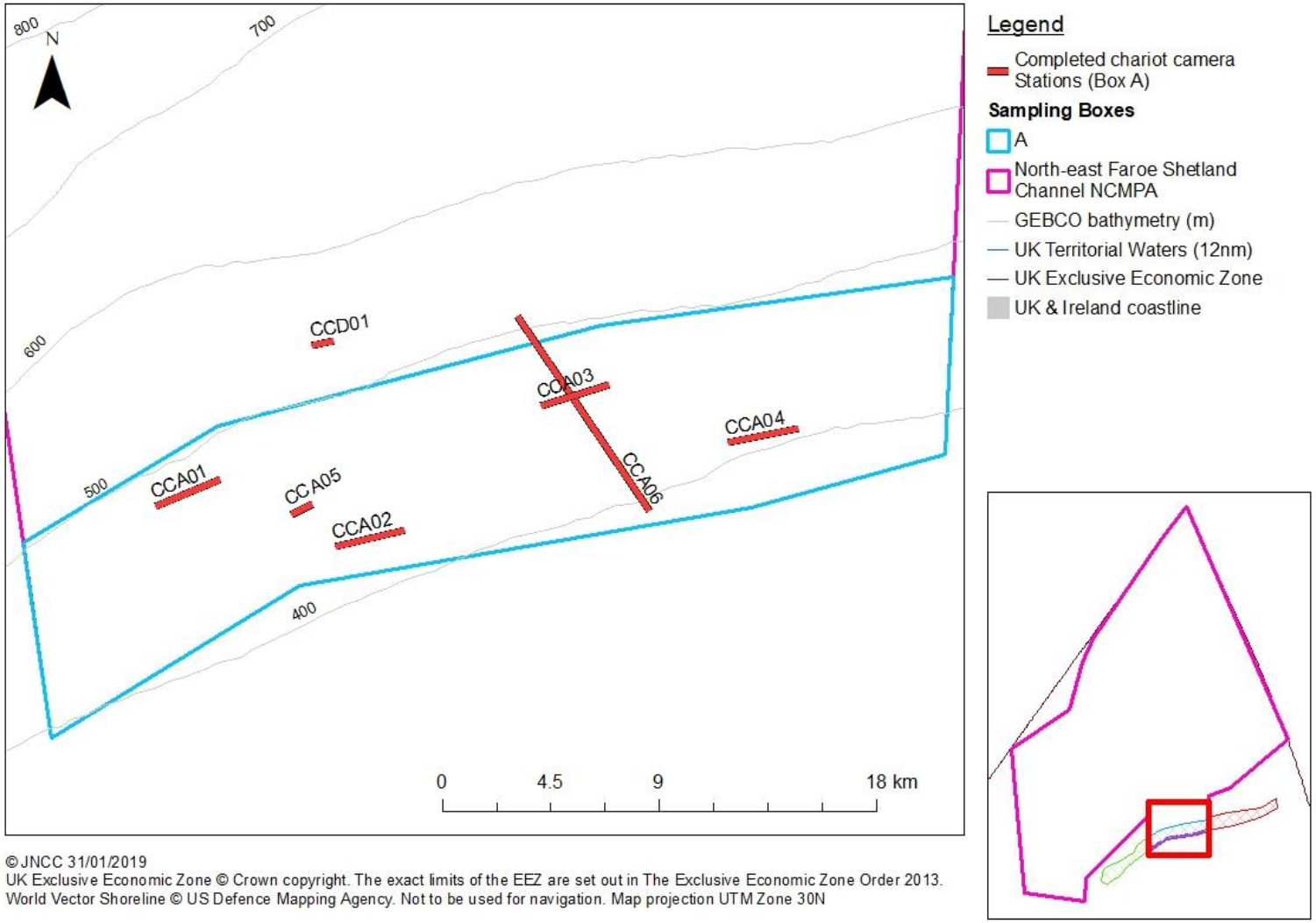


Figure 8. Completed chariot-towed camera stations at North-east Faroe Shetland Channel N C M P A Box A.

2.6.2 Box B

Four chariot-towed camera transects, collecting video data, and 16 drop-frame camera transects, collecting video and stills data, were successfully completed in Box B (see Figure 9 and Figure 10).

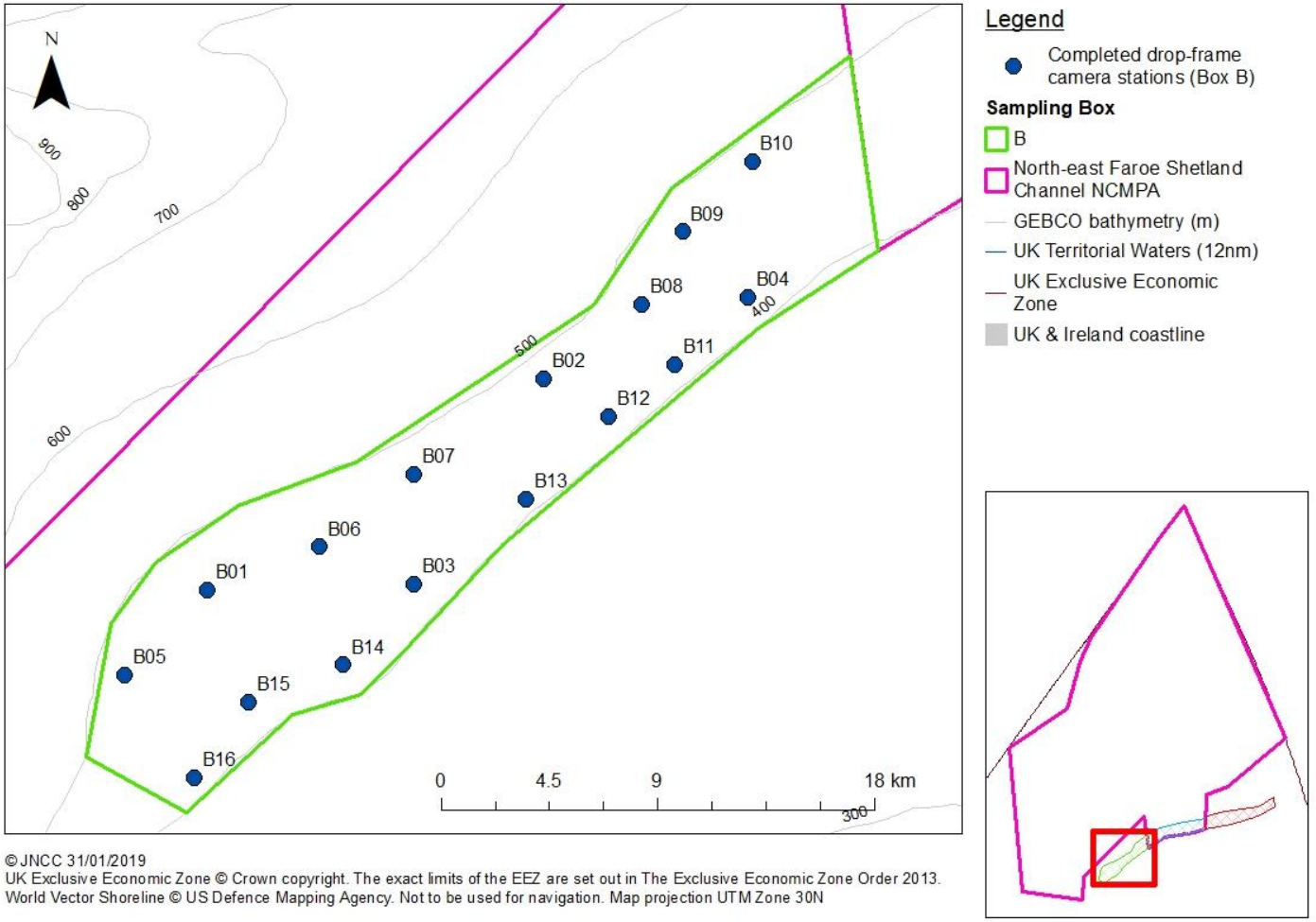


Figure 9. Completed drop-frame camera stations at North-east Faroe Shetland Channel N C M P A Box B.

Figure 10. Completed chariot camera stations at North-east Faroe Shetland Channel N C M P A Box B.

2.6.3 Box C

Four chariot-towed camera transects, collecting video data, and four drop-frame camera transects were successfully completed in Box C (Figure 11 and Figure 12).

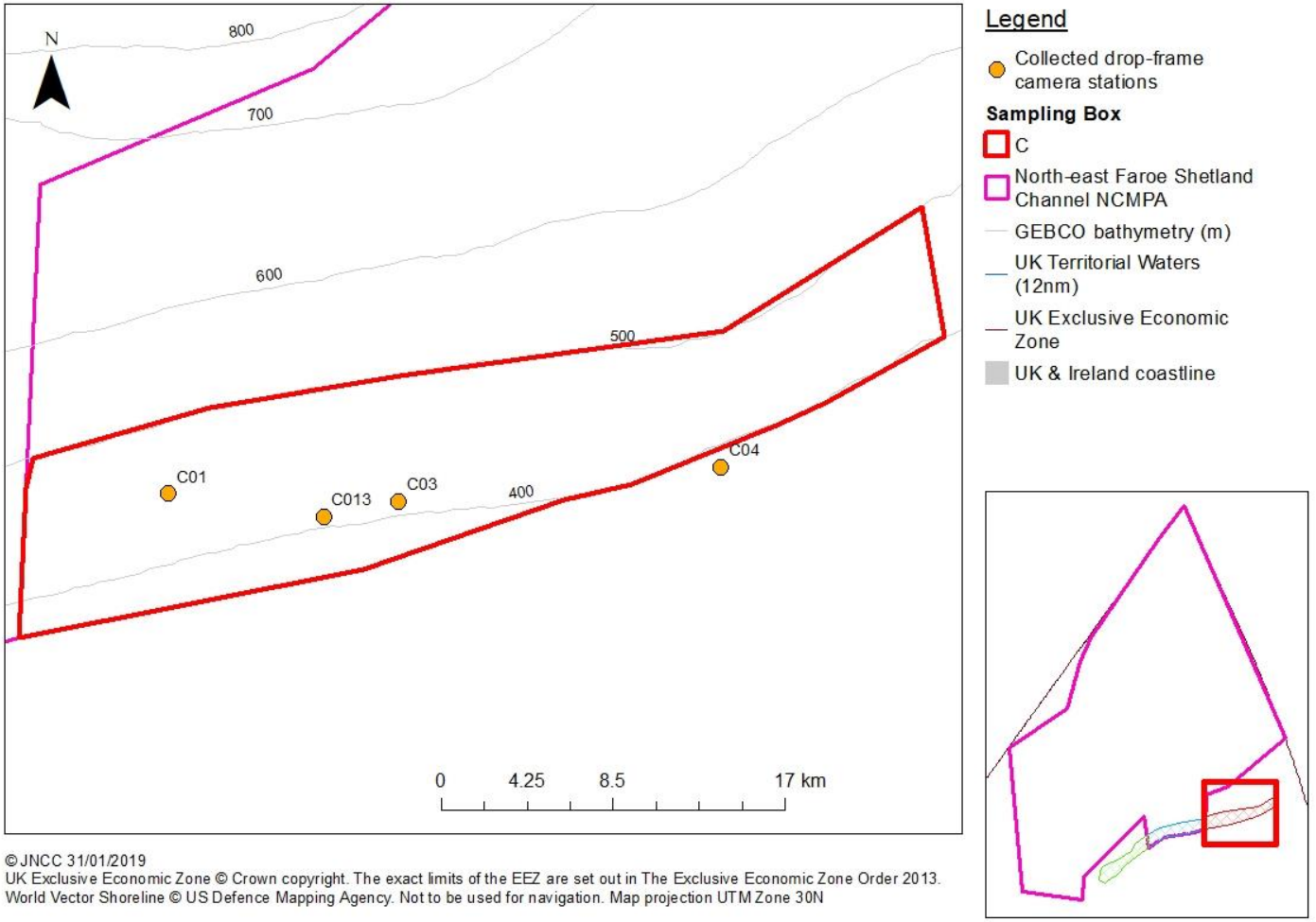


Figure 11. Completed drop-frame camera stations at North-east Faroe Shetland Channel N C M P A Box C.

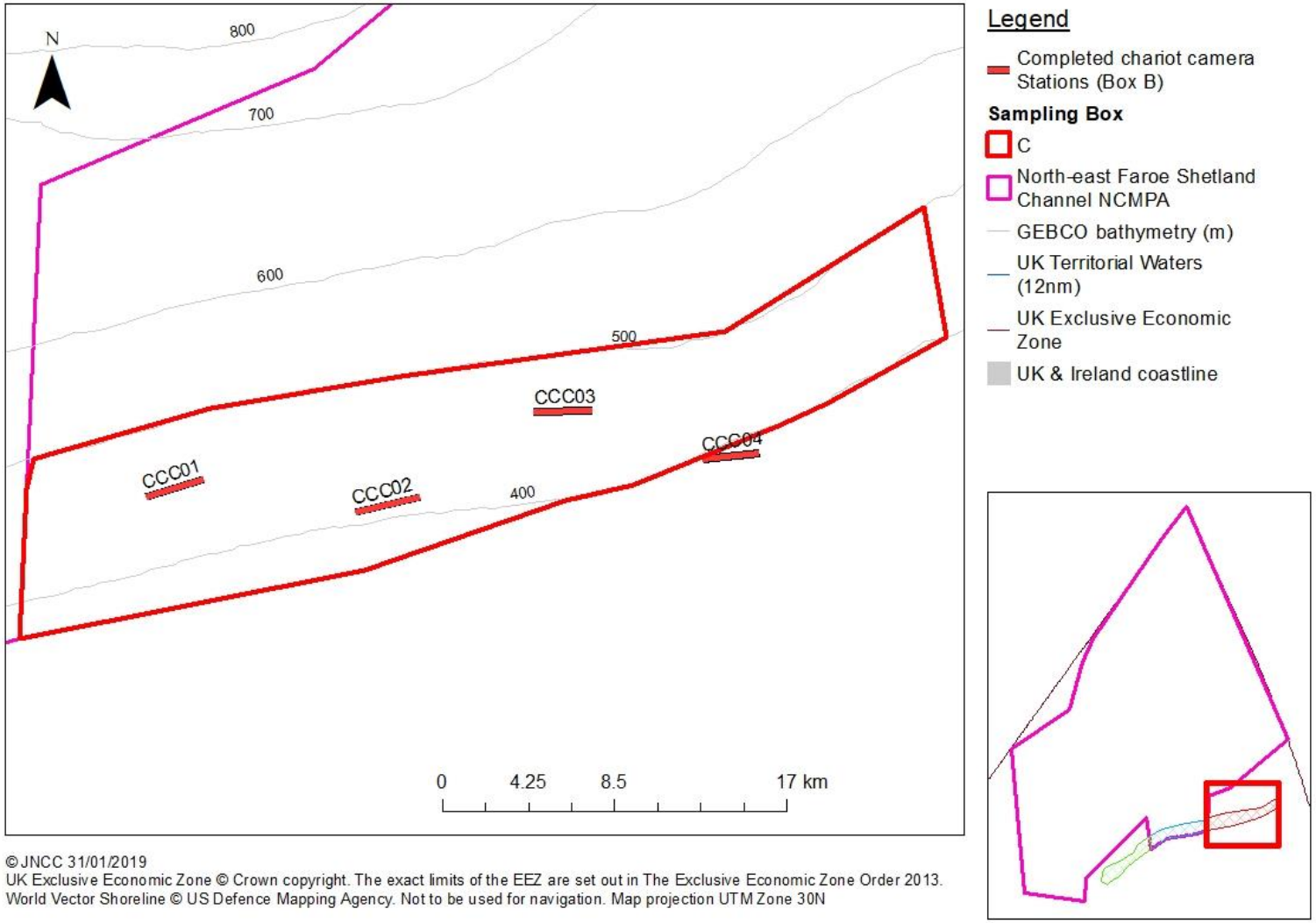


Figure 12. Completed chariot-towed camera stations at North-east Faroe Shetland Channel N C M P A Box C

2.6.4 Box D

Six stations were successfully sampled for infauna and PSA in Box D using the 0.1m^2 MSS mini-Hamon grab with an additional station (D13) sampled for PSA only (due to an insufficient sample volume collected for infaunal analysis). A further three stations were successfully sampled in Box D for infauna and PSA using the 0.1m^2 BSL mini-Hamon grab. One chariot-towed camera transect (CCD01) was successfully completed in Box D, collecting video data (see Figure 13).

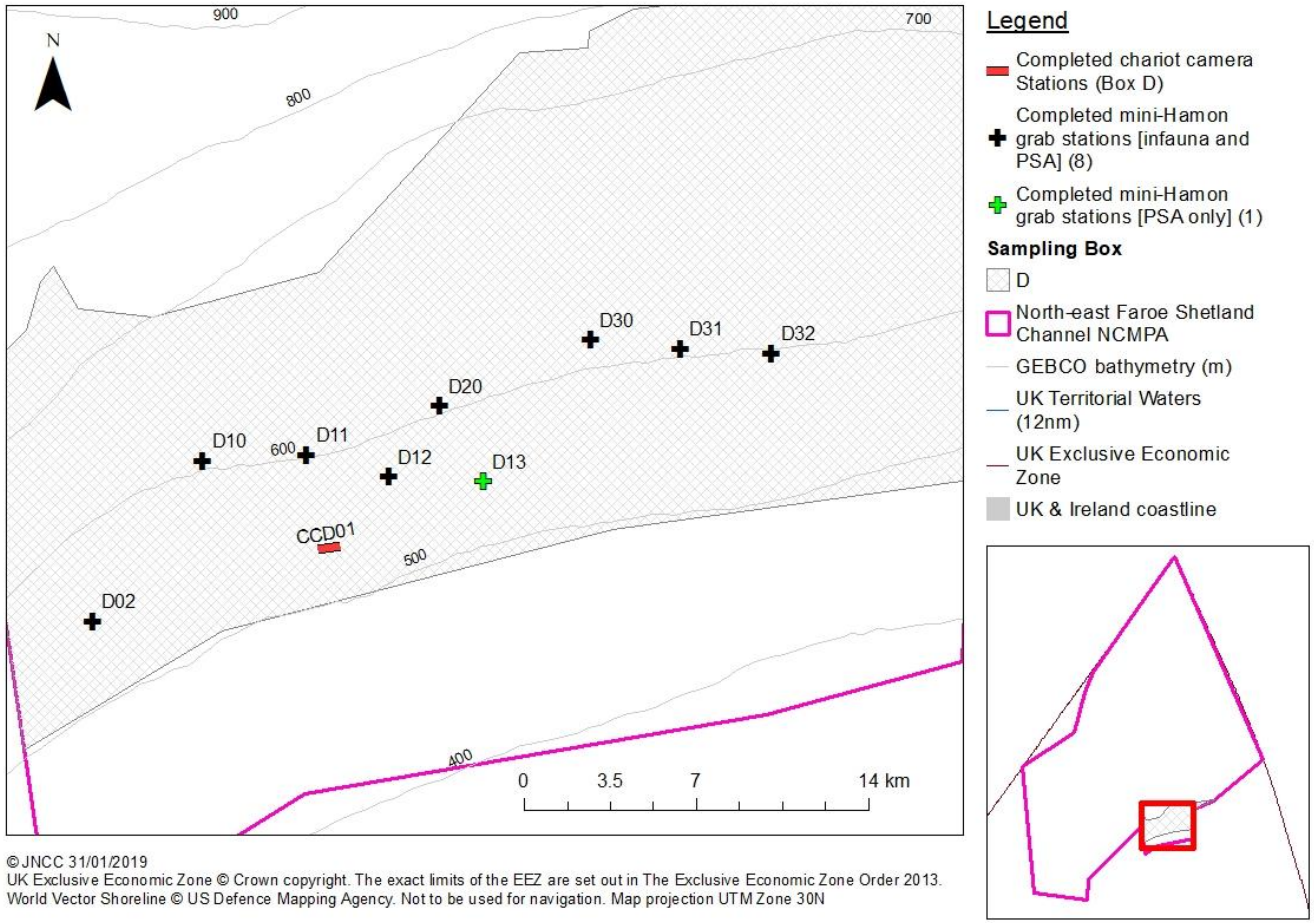
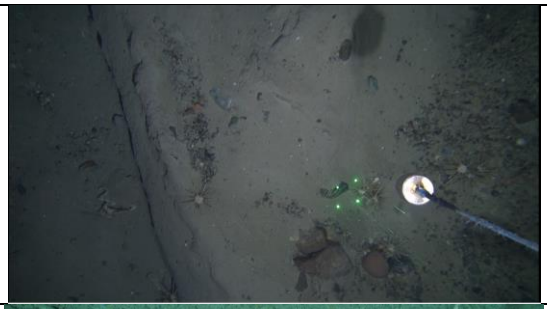


Figure 13. Completed Hamon grab and chariot-towed camera stations at North-east Faroe Shetland Channel N C M P A Box D**.**

2.7 Anthropogenic activity

Table 5. Anthropogenic impacts observed at survey stations.

Station name	Gear	Date	Time	Anthropogenic impact	Photograph
D12_S13	Grab	22/10/2017	18:34	White plastic in sample	
A02_S40	Drop-frame	25/10/2017	16:33	Two ropes	

B02_S53	Drop-frame	26/10/2017	10:15	Possible trawl scar	
B10_S66	Drop-frame	27/10/2017	03:00	Two wires	
CCA02	Chariot	21/10/2017	14:08	Rope	

CCB03	Chariot	22/10/2017	11:52	Rope	
CCB04	Chariot	22/10/2017	14:03	Possible trawl scar	
CCD01	Chariot	22/10/2017	17:15	Rope	

CCC03	Chariot	23/10/2017	10:56	Possible trawl scar	
CCA06	Chariot	24/10/2017	09:53 – 12:12	Possible trawl scar and trawl door mark	

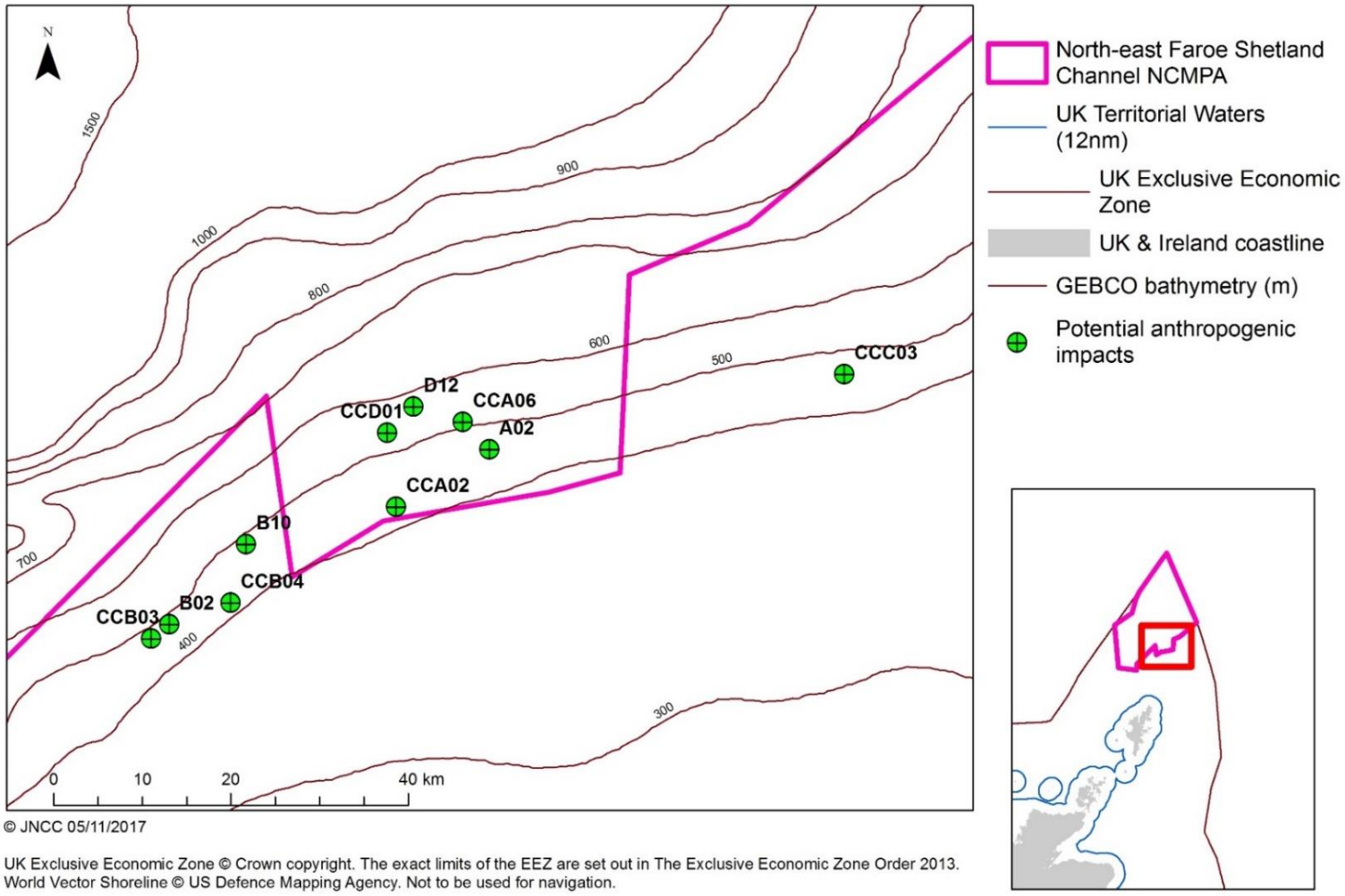


Figure 14. Survey stations where potential anthropogenic impacts were observed.

3 Wyville Thomson Ridge SAC

3.1 Site overview

The Wyville Thomson Ridge is a rocky plateau situated in the Atlantic Ocean to the north-east of the Rockall Trough. It is composed of extensive stony reef interspersed with gravel areas and bedrock reef along its flanks. These habitats support diverse biological communities, representative of hard substratum in deep water including a range of sponges, stylasterids, cup and soft corals, brachiopods, bryozoans, dense beds of feather-stars and brittlestars, sea urchins, sea cucumbers and sea spiders. The stony reef is thought to have been formed by the ploughing movement of icebergs through the seabed at the end of the last ice age.

The purpose of the MPA is to conserve the feature outlined in Table 6.

Table 6. Designated feature of Wyville Thompson Ridge SAC.

Features	**Feature type**
Reefs	Annex I Habitat

3.2 Aim

The aim of the survey at WTR was to gather evidence within the site to inform sentinel monitoring of the following feature attributes, which contribute to condition assessment for the **Annex I Reef** feature:

- **extent and distribution** of the habitat
- **structure and function** of the habitat and biological communities
- **supporting processes.**

Survey effort was focused on the **Annex I Reef 'iceberg plough-mark'** feature, as delineated by NOC using TOBI data collected by NOC in 1996 and 1998 (Masson 1997).

3.3 Existing Data

Existing data (Figure 15) and predicted habitat mapping products (Figure 16) were sourced from two previous surveys to the site, the 1512S JNCC/MSS survey to Wyville Thomson Ridge and the Strategic Environmental Assessment (SEA 7) 2006 survey, that also collected bathymetry data at the site.

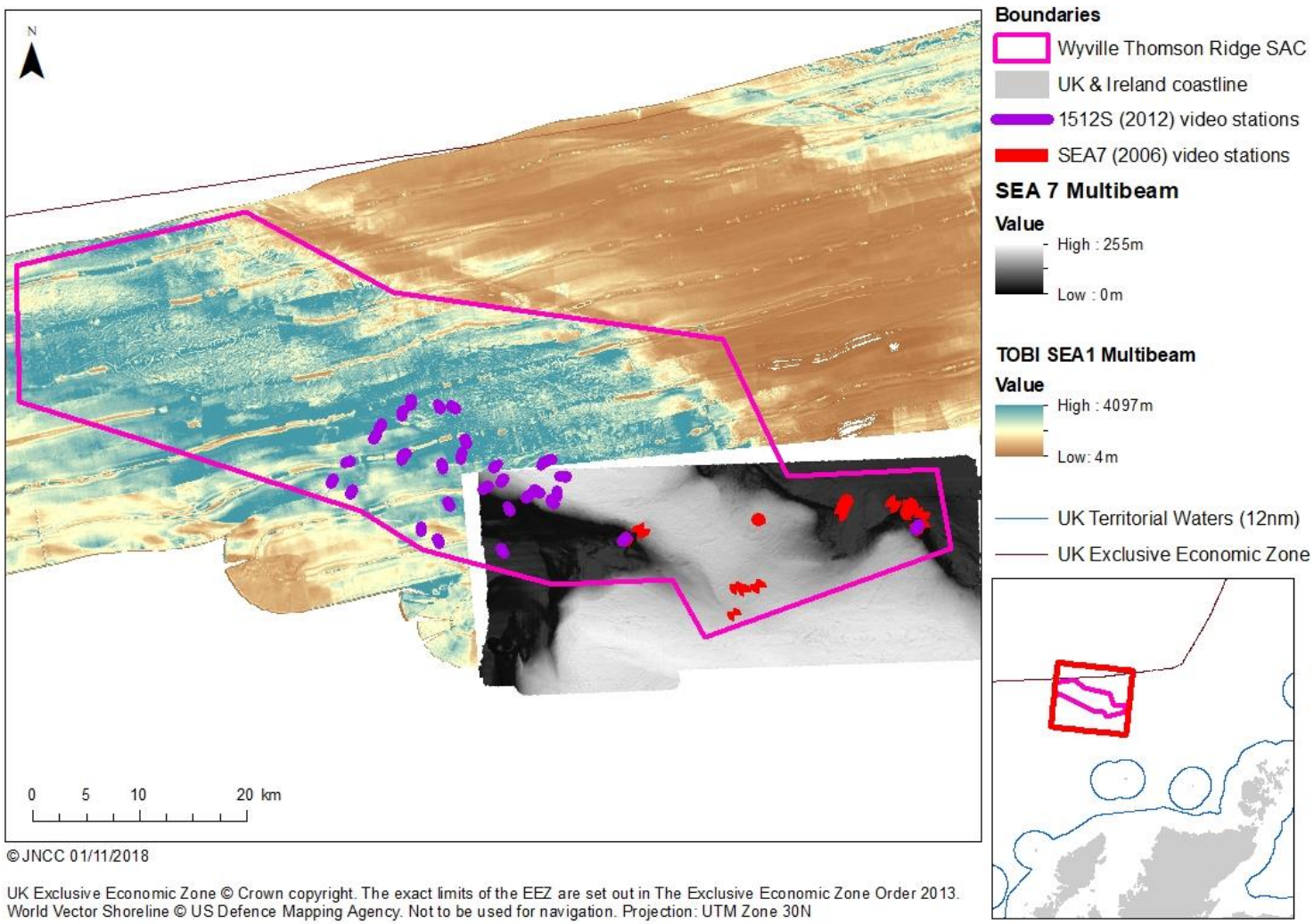


Figure 15. Existing survey data for Wyville Thomson Ridge SAC.

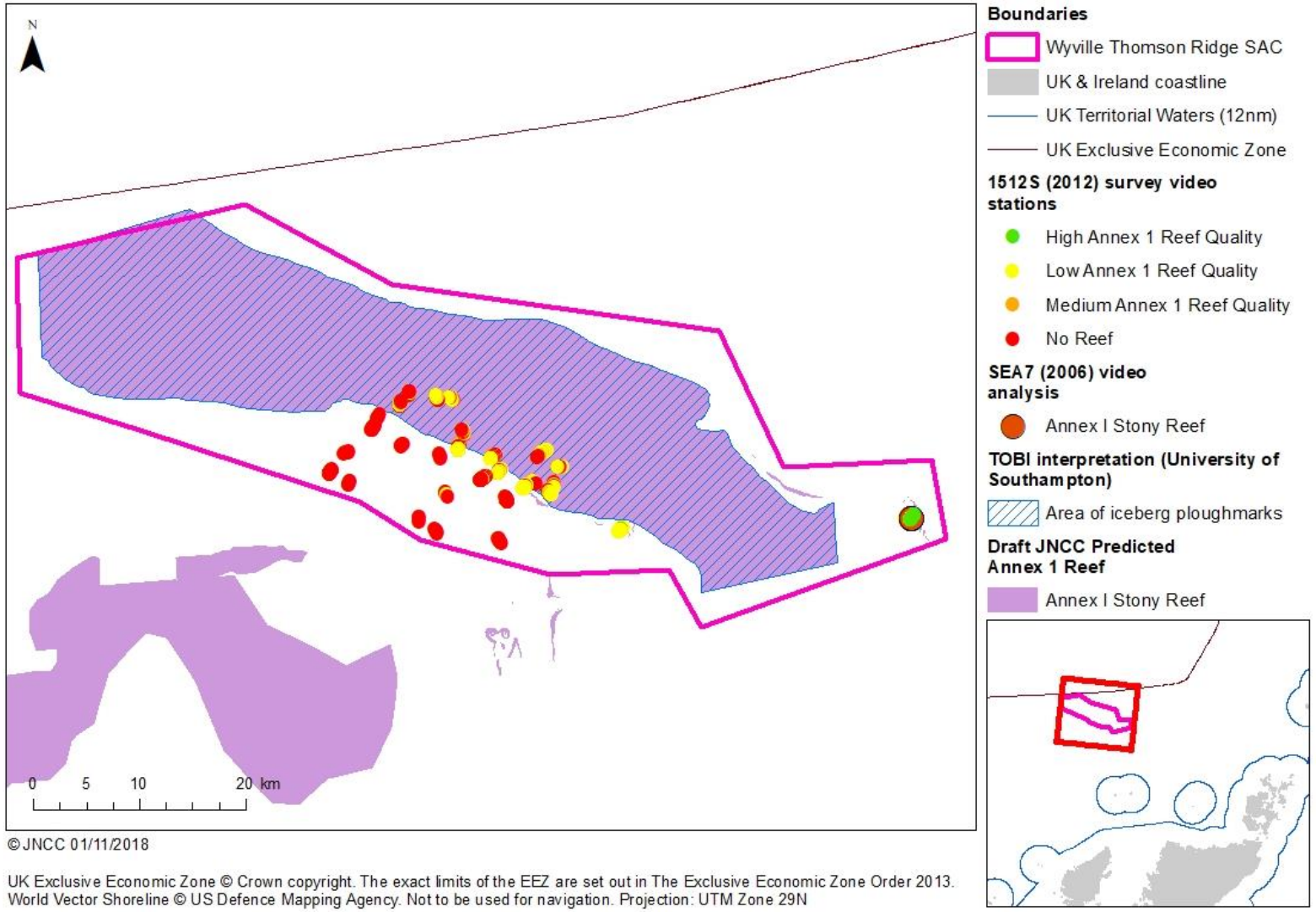


Figure 16. Derived survey data products available for Wyville Thomson Ridge SAC.

3.4 Activities and management

3.4.1 Fishing activity data review summary and draft fisheries management measures

JNCC undertook a review of available fishing activity data for WTR to inform survey planning.

The main activity was found to occur to the south east of the site and in the centre of the site, consisting of demersal trawls and hooks and line fishing with gillnets also present, though the levels of these activities were found to be low.

Please note that while fisheries management measures were not in place to protect the designated features of this site when survey planning took place, available draft management measures were used to inform the survey design of this study (Table 7 and Figure 17).

These draft management measures can be found here: https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/SACmanagement/consult and may be subject to change.

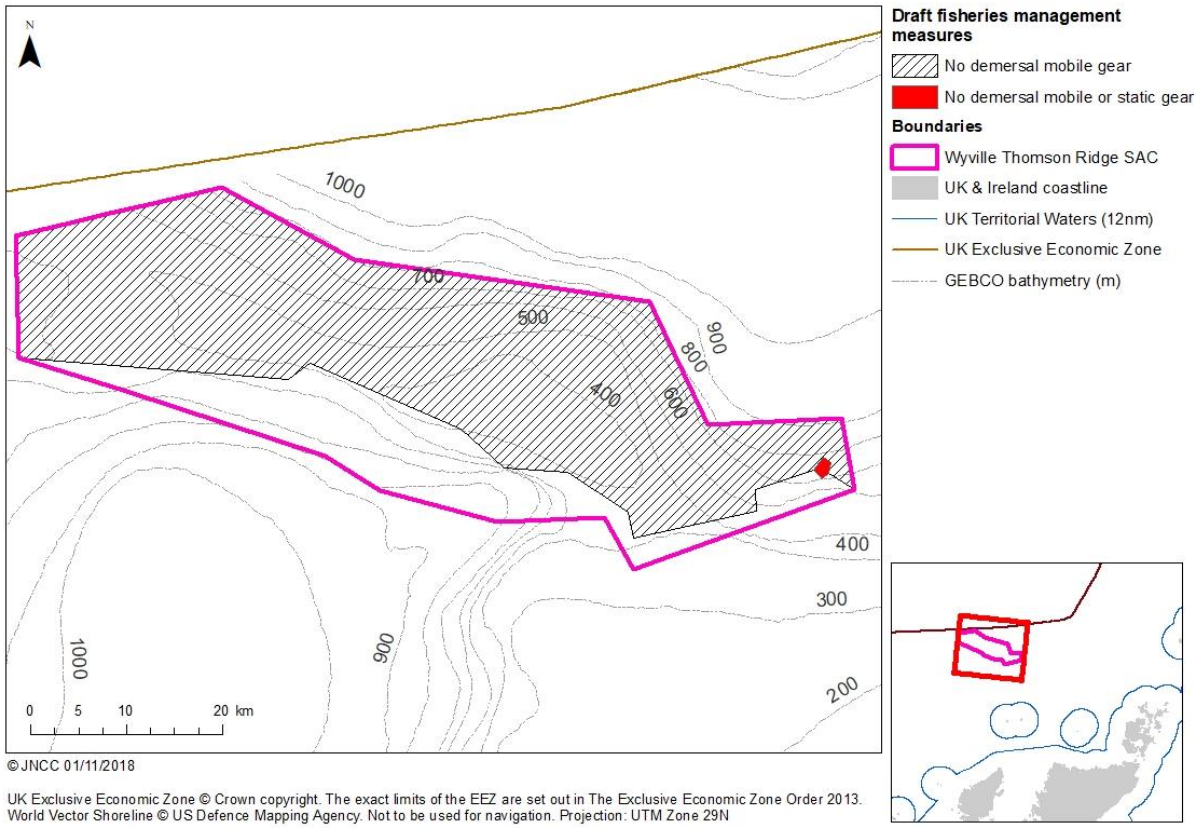


Figure 17. Draft fisheries management measures for Wyville Thomson Ridge (SAC).

Table 7. Draft Wyville Thompson Ridge SAC management measures and associated gear types.

Draft Management Measure	Gear types included
No demersal mobile gear	Dredge, beam trawl, bottom trawl, and seines
No demersal mobile or static gear	Gilllnets, trammel nets, long lines, pots and traps, dredge, beam trawl, bottom trawl, and seines

3.4.2 Other activities

Whilst 'licensable' activities such as oil and gas exploration and production do not take place within Wyville Thomson Ridge SAC at present, any future proposals would have to comply with Article 6(3) of the EU Habitats Directive 1992, which is transposed into UK law by the Conservation of Offshore Marine Habitats and Species Regulations 2017. Two telecommunications cables intersect the site shown in Figure 19.

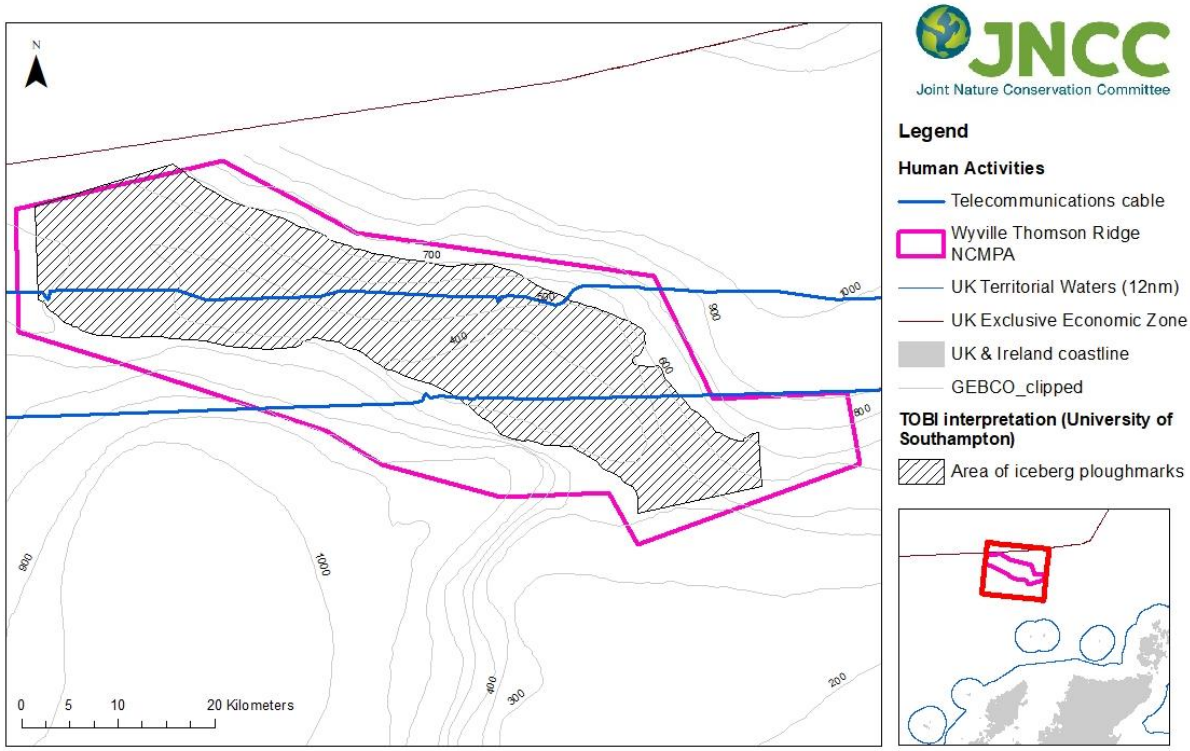


Figure 18. Detailing telecommunications cables that are intersecting Wyville Thomson Ridge (SAC).

3.5 Objectives and survey design

The planned objectives are presented in Table 8 and were developed based on the feature attributes defined in the Conservation Objectives for WTR.

Table 8. Monitoring objectives the 1517S survey of Wyville Thomson Ridge SAC (features and attributes used to assess feature condition are in **bold**).

Objective	Sub-objectives	Priority	Rationale
1. Collect evidence to inform monitoring of the; • **extent and distribution** • **structure and function,** and of **Annex I Reefs** within and near the site	**1.1.** Visually sample within the area delineated as 'iceberg ploughmark' by NOC	1	Acquire quantitative data to enable sentinel (Type 1) monitoring of Annex I Reefs within the survey area. Compare biological communities encountered on the Arctic and North Atlantic sides of the ridge. Compare biological communities on top of the ridge to those either side of the ridge
2. Collect environmental data to improve understanding of environmental conditions and natural **supporting processes** within and near the site	**2.1.** Acquire quantitative data on temperature and salinity, simultaneous to the operations undertaken Objective 1	1	Collect data to support evaluation of supporting processes in assessment of feature condition. Investigate the contribution of environmental parameters to the distribution of biota surveyed in Objective 1

The number of survey boxes and stations per box to be visited, as identified during survey planning, were informed by JNCC and MSS expert judgement, taking into account the time available for the survey and estimations of the length of time required to complete each sampling station with the respective gear type(s).

Please note that at the time of planning the survey, insufficient existing biological data were available to undertake a statistical power analysis to inform development of the sampling design.

The sampling design employed to achieve the survey objectives is described below.

3.5.1 Objectives 1 and 2

To achieve these objectives, sampling focussed on the area within the site delineated as 'iceberg ploughmark' by NOC (Figure 16).

Short (200m) drop-frame camera transect stations were assigned using a triangular systematic grid within a nested box (Box A) to facilitate collection of high definition video and still images.

A CTD was attached to the drop-frame to allow for collection of oceanographic data. CTD data can be used to inform post-hoc stratification of imagery data collected.

Stations were a minimum of 3km apart to ensure sampling points were independent of each other.

3.6 Data collected

Please note that observations made in the cruise report represent preliminary field observations. These observations have not been subject to relevant Quality Assurance procedures.

Fifteen drop-camera (approximately ten-minute duration) tows, each ~200m in length, were successfully completed at WTR (see Figure 19 for their locations and Appendix 3 for representative images).

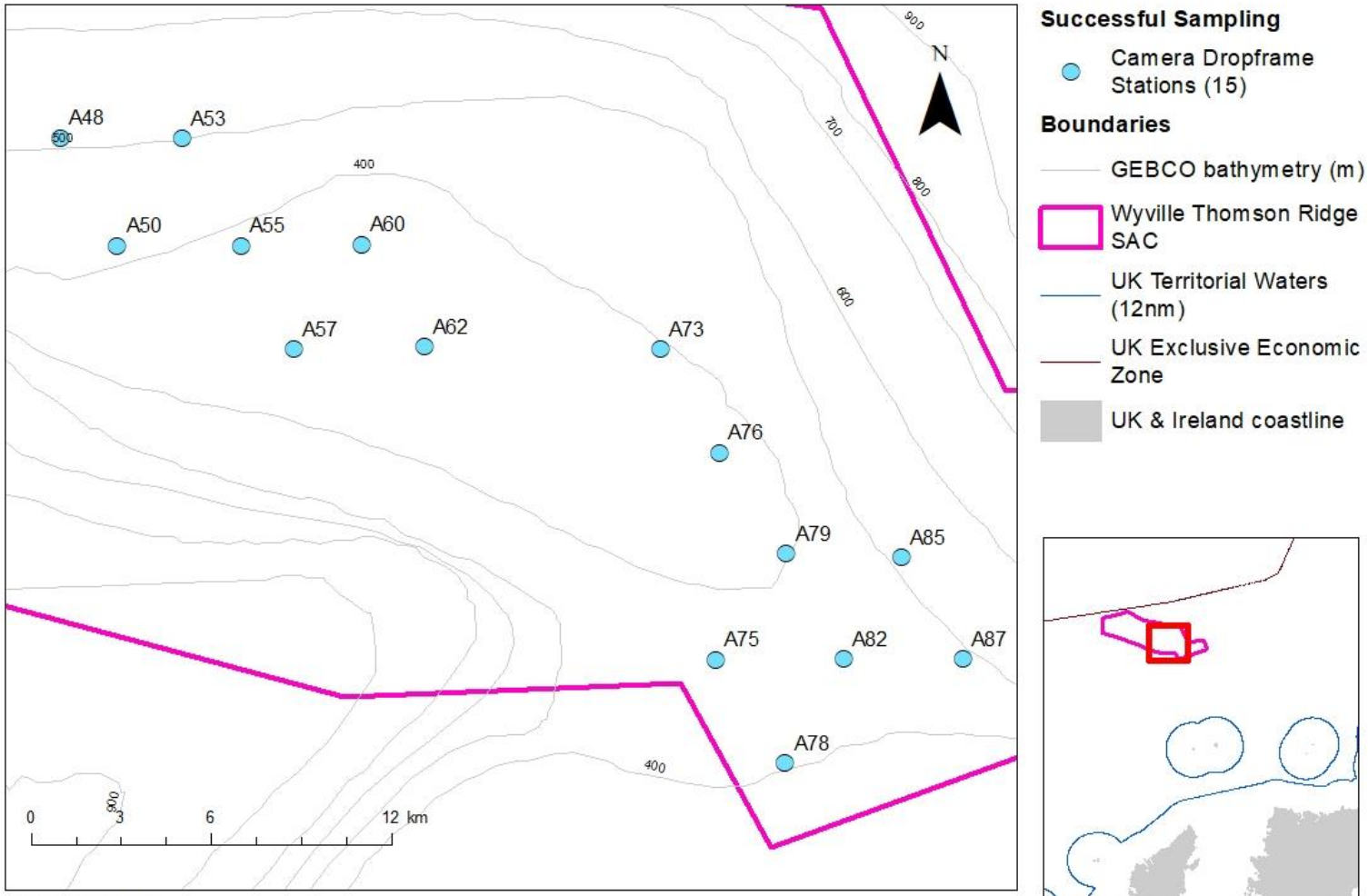


Figure 19. Locations of completed drop-camera stations at Wyville Thompson Ridge SAC.

3.6.1 Anthropogenic activity

Table 9. Anthropogenic activity observed at Wyville Thompson Ridge SAC survey station.

Station name	Gear	Date	Time	Anthropogenic activity	Photograph
WTR_A48_S86	Drop Camera	01/11/2017	02:25	Possible trawl scar	

4 West Shetland Shelf N C M P A

4.1 Site Overview

Designated in July 2014, West Shetland Shelf N C M P A (WSS) is placed north of the Scottish coastline with a depth range of 70-150m depth. This site overlaps with the Windsock fisheries area that is managed for the recovery of cod stocks. The site is designated for the wide range in sand and gravel habitats and present in the area.

Table 10. Designated features of West Shetland Shelf N C M P A.

Features	Feature Type
Offshore subtidal sands and gravels	Habitat

4.2 Aim

The aim of the survey at WSS was to better characterise the MPA to inform sentinel monitoring of the designated 'Offshore sands and gravels' feature of the site.

Please note WSS was identified as a moderate weather contingency survey location during survey planning.

4.3 Objectives and survey design

The planned objective for WSS is presented in Table 11 and was developed based on the feature attributes defined in the Conservation Objectives for WSS.

The monitoring objective (Table 11) was to successfully evaluate the Offshore Sands and gravels feature at this site by collecting infaunal samples using a 0.1m^2 Hamon grab. Stations were designated using a triangular grid within a nested box with two potential options with 3km and 5km sample station spacings respectively to choose from depending on the time available for the work (Figure 20). The 3km grid was the sampling grid chosen for the sampling at this site.

The sampling box was located to the west of the site where there was limited existing data to increase the coverage of data across the site.

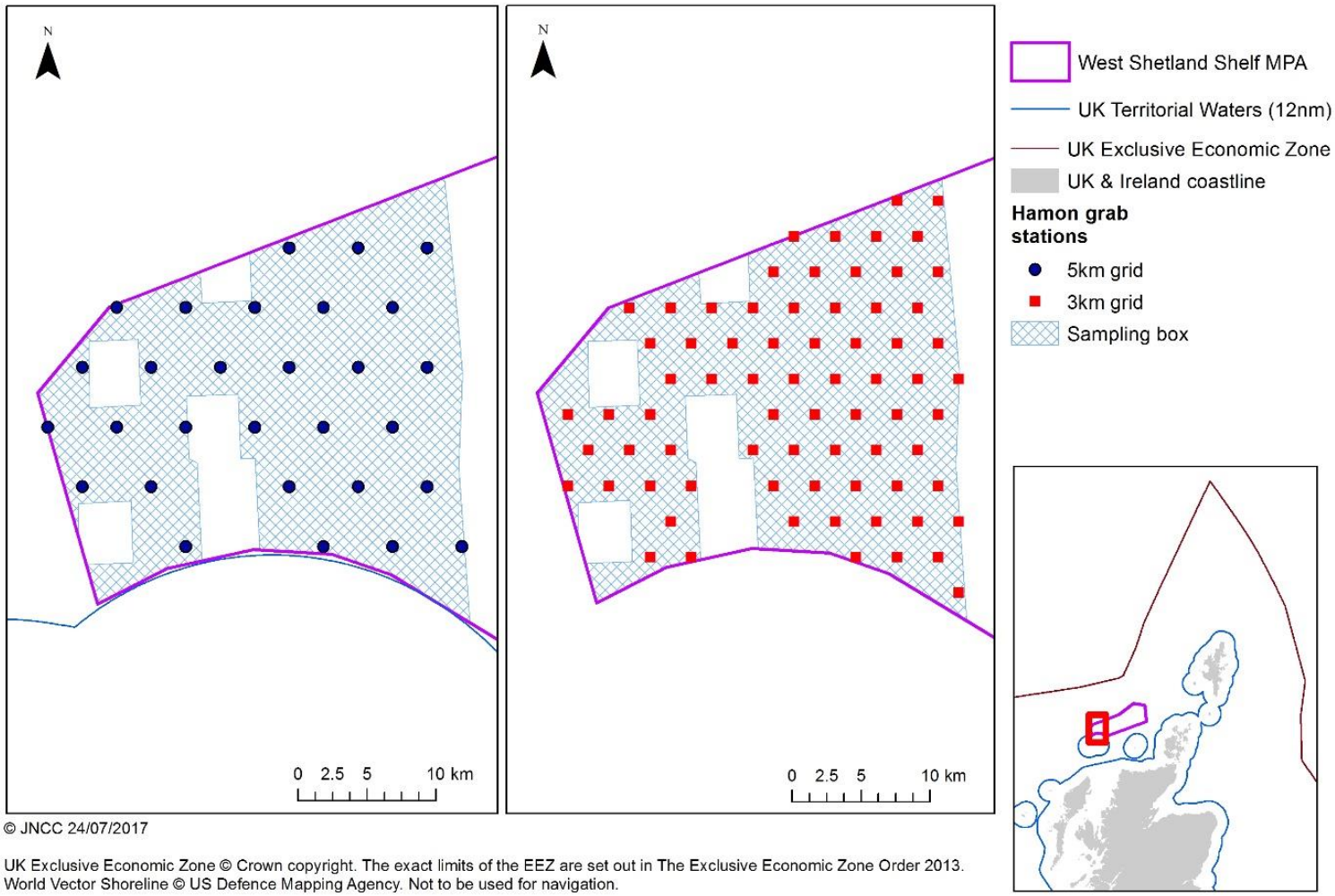


Figure 20. West Shetland Shelf N C M P A nested sampling box and sampling stations, with 3km (right – 72 samples) and 5km (left – 29 samples) grid sizes.

Table 11. Monitoring objective for the 1517S survey of West Shetland Shelf N C M P A (features and attributes used to assess feature condition are in **bold**).

Objective	Sub-objectives	Priority	Rationale
5. Collect physical evidence to characterise the sediment composition and biological communities in WSS	**5.1.** Acquire physical samples by means of grab sampler	Moderate weather alternate gear type contingency	Supply data for further characterisation of the wider seabed within WSS, and inform future monitoring survey designs for this site

4.4 Data collected

Forty-three stations were successfully sampled for infauna (processed using a 0.5mm sieve) and PSA at WSS and samples at a further **13** stations which were too small in volume (<4L) to be processed for infauna were retained for PSA (see Figure 21 for their locations and Appendix 4 for representative images). Fifteen stations were unsuccessfully attempted, suggesting the seabed may be unsuitable for grab sampling at these locations.

4.5 Anthropogenic activity

No anthropogenic activity was observed at WSS.

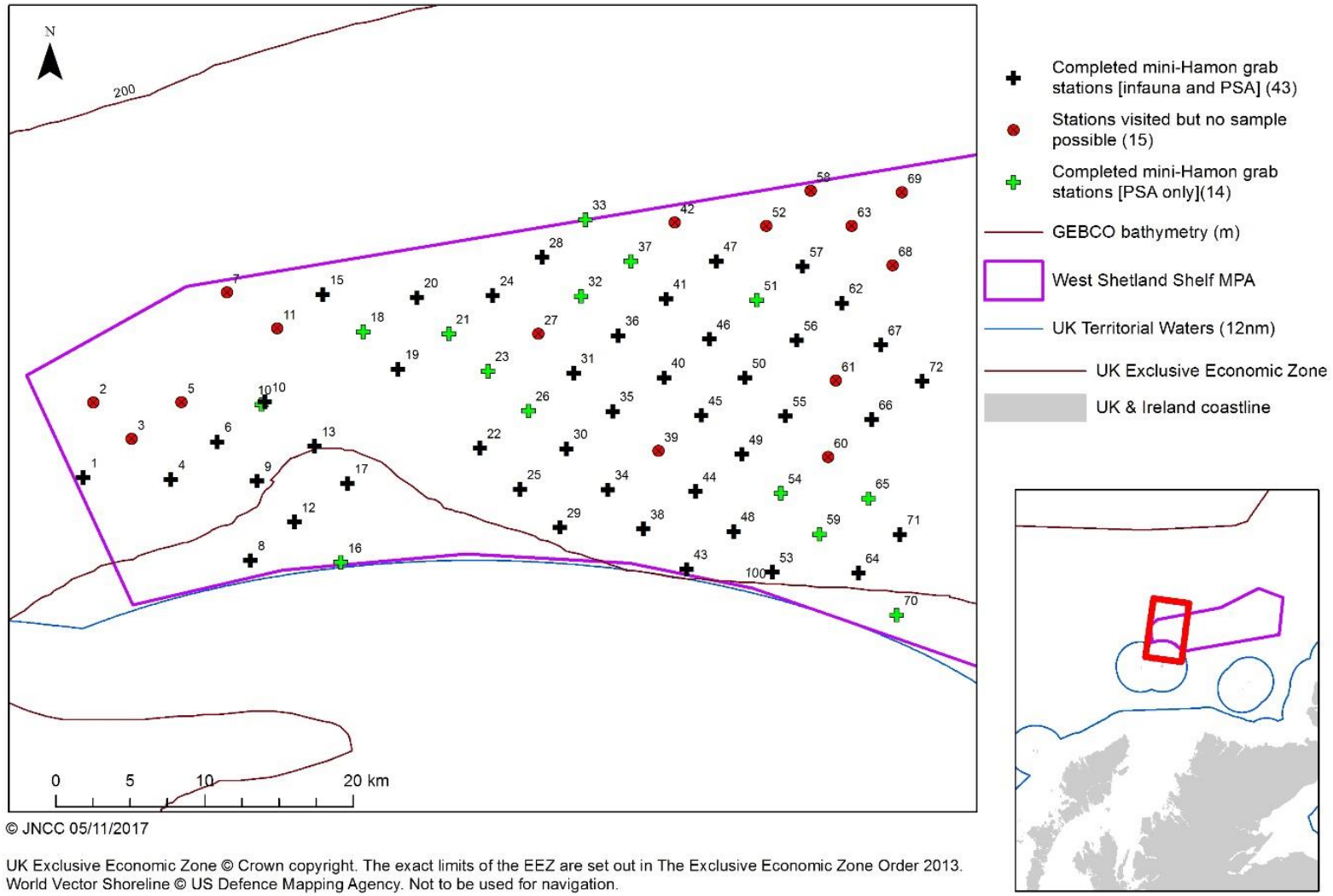


Figure 21. Completed mini-Hamon grab sample stations at West Shetland Shelf N C M P A.

5 Inshore contingency survey

Inshore contingency survey locations were identified during survey planning though discussion with Scottish Natural Heritage (SNH), to be surveyed in the event of a prolonged period of poor weather necessitating the ship to transit to a more sheltered location (see Appendix 6).

Contingency surveying was carried out in locations provided to the East of Shetland and Peterhead. Please contact SNH for more information: cathy.tilbrook@nature.scot.

6 Cruise narrative

6.1 Leg 1 (19th October 2017 to 29th October 2017)

The Marine Research Vessel (MRV) Scotia (hereafter "Scotia") mobilised for the 1517S offshore seabed survey from Aberdeen Harbour from 16th - 19th October 2017. JNCC scientists joined Scotia on Thursday 19th October 2017.

Scotia departed Aberdeen Harbour for NEF at 03:30 on Friday 20th October 2017. A ship's induction was carried out at 08:00 UTC on Friday 20th October 2017, with a safety drill (general muster) following at 12:00. The box corer, mini-Hamon grab and camera chariot system were successfully 'wet tested' from 14:00 to 16:30 on Friday 20th October 2017. A toolbox talk, led by the Scientist-in-Charge (SIC) was held between JNCC and MSS scientists and the captain at 15:00 on Friday 20th October 2017.

Scotia arrived on the first station in Box A (CCA01) at NEF at 11:00 on Saturday 21th October 2017 and completed all planned Box A camera chariot sampling operations.

Daily survey effort was divided between camera chariot operations in Boxes A, B and C, which were carried out between 07:00 and 19:00 each day, and mini-Hamon grab operations in Box D, which were carried out between 19:00 to 07:00 each day; as such camera operations were ceased and mini-Hamon grab sampling operations began in Box D at 19:00 on Saturday 21st October 2017. Following two failed stations, high swell prevented further grab deployment at 00:00 on Sunday 22nd October 2017.

Scotia began transiting to Box B at 03:00 on Sunday 22nd October 2017, where camera chariot operations were resumed at 07:00 on Sunday 22nd October 2017.

Following completion of all planned Box B camera chariot stations and two additional camera chariot stations in Boxes A and D, mini-Hamon grab sampling operations were resumed in Box D at 19:00 on Sunday 22nd October 2017.

Scotia began transiting to Box C at 03:30 on Monday 23rd October 2017, where camera chariot operations were resumed at 07:30 on Monday 23rd October 2017. Sampling operations were suspended at 14:30 on Monday 23rd October 2017 due to high winds and swell.

Camera chariot operations were resumed in Box C at 09:00 on Tuesday 24th October 2017. Following completion of all planned Box C camera chariot stations and an additional camera chariot station in Box A, mini-Hamon grab sampling operations were resumed in Box D at 19:00 on Tuesday 24th October 2017.

Scotia began transiting to Box A at 06:30 on Wednesday 25th October 2017, where drop-frame camera operations began at 07:30. Operations were suspended at 12:00 on Wednesday 25th October 2017 to resolve a twist on the drop-frame cable and resumed at 14:00 on Wednesday 25th October 2017.

Sampling was suspended due to inclement weather from 13:30 on Friday 27th October 2017. Weather did not improve sufficiently to resume sampling before Scotia began transit to Lerwick at 15:00 on Saturday 28th October 2017 for a scheduled half landing to facilitate crew rest as per the Working Time Directive and a partial crew change.

Leg 1 of the 1517S survey ended when Scotia arrived alongside in Lerwick at 09:00 on Sunday 29th October 2017.

6.2 Leg 2 (30th October 2017 to 7th November 2017)

Two JNCC and two Marine Scotland scientists left the vessel, while three JNCC and one Marine Scotland scientists joined the ship during the half-landing. Leg 2 of 1517S departed from Lerwick on Monday 30th October 2017 at 10:00. During the transit, a ships induction and safety drill were completed for new members of staff.

Scotia arrived at the first station (A78) at WTR at 04:00 on Tuesday 31st October 2017.

Sampling was successfully completed until 21:00 on Tuesday 31st October where operations were suspended to resolve issues with the camera. Operations resumed at 23:00 on Tuesday 31st October 2017.12 stations at WTR were successfully sampled until 02:30 on Wednesday 1st November 2017, where operations were suspended due to high swell and wind speed.

Sampling operations were suspended until 12:30 on Wednesday 1st November where prolonged weather and sea condition deterioration meant that at 12:30 Scotia departed from WTR and transited to WSS for grabbing operations.

Scotia arrived at the first station (WSS14) at WSS at 16:00 on Wednesday 1st November and commenced grab sampling operations. Grab sampling was suspended at 18:30 on Wednesday 1st November due to poor weather conditions. Grab sampling operations were resumed at 06:00 on Thursday 2nd November.

Grab sampling operations were continued until 06:00 on Friday 3rd November when operations were suspended due to poor weather until 08:00 on Friday 3rd November when grab sampling was resumed.

On Saturday 4th November 2017 at 04:45 all stations at WSS had been visited, though not all were successfully sampled. The weather and sea conditions prevented any further work recommencing at WTR and at 04:45 on Saturday 4th November 2017 Scotia transited to east Shetland to undertake contingency work for SNH.

Scotia arrived on the first station for the SNH contingency work at 19:00 on Saturday 4th November. Technical issues halted operations until 21:30 where drop-frame camera operations were initiated on behalf of SNH.

Operations continued until 15:00 on Monday 6th November 2017 when weather prevented transit to Peterhead until 04:00 on Sunday 5th November 2017 for further SNH contingency sampling.

Scotia arrived off Peterhead at 20:00 on Tuesday 7th November 2017 and continued drop-frame camera operations until 14:00 on Tuesday 7th November 2017, when Scotia began transit to Aberdeen for demobilisation of the vessel. The vessel arrived in Aberdeen at 17:00 on Tuesday 7th November 2017.

7 Methods used

7.1 Imagery and associated environmental data

7.1.1 Drop-frame camera system

Underwater photographs and video were captured using a seabed imagery system mounted on a drop-frame (Figure 21). A CTD logger was also attached to the drop-frame.

Figure 22. MSS drop-frame camera system (image © JNCC 2017).

The drop-frame system supported the following instruments:

- SubC 1 Alpha video camera for primary TV observation and topside recording to mini-DV tape and DVD (HD video recorded internally)
- Standard definition Kongsberg OE 14-408 digital camera (10MP) with dedicated flash unit for still images capture (camera controlled topside, images recorded internally)
- Four SEALED lamps for illumination
- Four reference spot lasers (green) and two fan lasers (green, WTR only)
- CTD logger

Set-up and operation followed the MESH 'Recommended Operating Guidelines (ROG) for underwater video and photographic imaging techniques'[3].

[3] Coggan, R., Mitchell, A., White, J. & Golding, N. (2007) Recommended operating guidelines (ROG) for underwater video and photographic imaging techniques. MESH Project guideline document. Online:http://www.emodnet-seabedhabitats.eu/pdf/GMHM3_Video_ROG.pdf.

Field notes were made during each camera deployment, with station and sample metadata and real-time observations of substrate and taxa recorded.

The station locations assigned represented the midpoints of each transect. During deployments, the vessel executed a controlled drift at ~0.2 knots through the specified station. The height of the drop-frame off the seabed was controlled by winch; the operator had sight of the video monitor.

Short (200m) transects were carried out, with HD video recorded continuously and stills captured approximately twice every minute. A positional fix was recorded for every still image captured.

Four green point lasers, with laser points 63mm apart, were used to provide scaling for video and stills captured. At WTR, fan lasers set 400mm apart were also employed.

7.1.2 Towed camera chariot system

Underwater video data were also captured using a camera chariot system (Figure 23). A CTD logger was attached to the chariot frame.

Figure 23. Chariot camera system frame. Note that the camera system is not mounted on the chariot in this image. (image © JNCC 2017).

The chariot system supported the following instruments:

- SubC 1 Alpha video camera for primary TV observation and topside recording to mini-DV tape and DVD (HD video recorded internally)
- Six SEALED lamps for illumination
- Four reference spot lasers (green)
- CTD logger

Set-up and operation followed MSS standard operating procedures.

During deployment, the vessel transited at ~2 knots along the specified transects. The height of the chariot off the seabed was controlled by winch; the operator had sight of the video monitor.

~3km transects were carried out, with HD video recorded continuously. A positional fix was recorded every five minutes.

Field notes were made during each deployment, with station and sample metadata and real-time observations of substrate and taxa recorded.

Four green point lasers, with laser points 63mm apart, were used to provide scaling for video captured.

7.2 Physical sampling

A 0.1m^2 MSS mini-Hamon grab and a 0.1 m^2 mini-Hamon grab supplied by BSL were used to collect infaunal and Particle Size samples at NEF and WSS (Figure 24 and Figure 25). Two 0.1m^2 mini-Hamon grabs were taken on the vessel to act as a back-up in the event of damage to one of the grabs.

Figure 24. MSS 0.1m^2 mini-Hamon grab.

Figure 25. BSL 0.1m^2 mini-Hamon grab.

Sampling operations, including gear deployment and recovery and preliminary sample processing, followed MESH Recommended Operating Guidelines for grab sampling and sorting and treatment of samples (Guerra & Freitas 2012) and equipment specific Standard Operating Procedures (i.e. Coggan 2007).

Benthic infauna and PSA sub-samples were collected from each valid (>4L) grab sample; samples were preliminarily processed on transit between stations. Processing included:

- Washing benthic infauna samples with seawater using 0.25mm and 0.5mm sieves, storing samples in suitably sized and labelled sample containers, and chemically preserving (using formalin) and securely stowing samples; and
- Storing PSA sub-samples in suitably sized and labelled sample containers and securely stowing samples in a freezer.

7.3 Metadata

The ship position and time-stamps for each survey event were acquired using a Startech USB-comms adaptor to input the ship's GPS feed to a laptop with ArcGIS 10.1 to allow 'fixes' of the ship position to be recorded.

Positional data for the drop-frame camera, camera chariot and grabs were acquired using a Sonardyne Ranger 2 Ultra Short Baseline (USBL) system. The system comprised a hull-mounted Sonardyne transceiver and equipment-mounted Sonardyne transponders (both directional and omni-directional transponders were used); the resulting positions were then linked to respective survey events.

Layback and ship's position have been used where USBL positions were not available (see Appendix 1). JNCC log sheets were completed for each sampling event.

Video and still images were downloaded from the cameras and backed up to multiple hard drives at appropriate intervals.

7.4 Davis System

The following vessel navigational and metocean measurements were recorded throughout the 1517S survey using the Scotia Davis system at one-minute intervals:

- Latitude
- Longitude
- Heading
- Depth
- Speed
- Wind direction
- Wind speed;
- Conductivity
- Density
- Salinity
- Sound velocity
- Temperature
- Air pressure;
- Air temperature
- Relative humidity

8 Data formats

The 1517S survey collected data in the formats described in Table 12.

Table 12. 1517S survey data formats.

Data Type	Raw Format	Converted To	Saved
High Definition video	.m2ts	n/a	Electronically
Standard Definition video	.vob	n/a	DVD, mini DV tape
Stills	.raw	.jpeg	Electronically
Grab sample images	.jpeg	n/a	Electronically
USBL	.csv	.xls	Electronically
Davis system	.txt	n/a	Electronically
CTD	.txt	.xls	Electronically

9 Quality control (QC)

9.1 Positioning

The USBL system was unable to be time-matched to the ship GPS system throughout the survey as it was not possible to synchronise the USBL clock with the ship clock. This meant that the matching of imagery to the latitude and longitude was completed by matching the USBL recorded ship latitude and longitude with the GIS ship latitude and longitude taken from the Davis system.

Length of cable out and depth were logged for all sampling work, i.e. when the grab reached the seabed, and the start and end of all camera transects.

The USBL system failed to record the latitude and longitude of the stations detailed in Table 13 below. In these cases, ship latitude and longitude were used for the Hamon grab stations and layback was calculated for camera transects.

Table 13. Stations where USBL positions were not available**.**

Station Name	Gear Type
NEF_CCB01_S07	Chariot camera
WTR_A73_S79	Drop-frame camera
WTR_A62_S80	Drop-frame camera
WTR_A60_S82	Drop-frame camera
NEF_A14_S38	Drop-frame camera
NEF_D12_S13	Hamon grab
NEF_D11_S15	Hamon grab
NEF_D10_S16	Hamon grab
WSS_6_S97	Hamon grab
WSS_9_S98	Hamon grab

9.2 Data management

A JNCC data manager was assigned to ensure all relevant survey data and metadata were recorded, stored and catalogued according to JNCC data management protocols. Further details of on-board data management procedures are described in the Data Management Plan (O'Connor 2015), available on request.

10 Health and safety events

A ‘general muster’ was held at 13:00 on 20 October 2017.

An unsecured trolley rolled and hit a scientist working on deck on 25 October 2017. An incident report was submitted to Marine Scotland Science (MSS) and the trolley was stored securely for the remainder of the survey. No further action was undertaken on survey. The incident was discussed by MSS and JNCC staff at the post-survey debrief, where it was agreed that scientists and crew would be instructed to ensure the trolley is securely stowed on future surveys.

11 Intellectual property rights and confidentiality

Rights to all knowledge (including, but not limited to, data, information, know-how, designs, drawings and specifications) brought to the project by either party (JNCC or MSS) will remain with that party, and such knowledge is to be used solely for the purposes of conducting this project.

Rights to knowledge jointly generated within the project will be jointly owned by JNCC and MSS.

The project is publicly funded and all knowledge generated within the project will be made publicly available under Open Government Licence: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/.

Data acquired during this survey must be accompanied by the following statement:

“Contains Joint Nature Conservation Committee and Marine Scotland Science materials ©JNCC/MSS 2017.”

12 References

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GUERRA, M.T. & FREITAS, R. 2012. Recommended Operational Guidelines (ROG) for grab sampling and sorting, and treatment of samples. MeshAtlantic v1.4. Available from: http://www.emodnet-seabedhabitats.eu/pdf/MeshA_ROG_grab_sampling_v1.4.pdf.

Appendix 1: Survey metadata (summary version; full electronic spreadsheet available on request)

Table 14. Summary metadata for 1517S grab sampling events. Latitudes and longitudes are USBL derived unless otherwise stated. Sampling devices; MSS mini-Hamon Grab 0.1m^2 (LHG) and BSL mini-Hamon grab 0.1m^2 (HG). Shaded grey areas indicate where USBL positions were not available (ship position used instead).

Station Name	Gear Code	Attempt	Sample	Fix Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_D33_S05	HG	A1	No	19:57:14	-	62.1018	-0.0902
1517S_NEF_D33_S05	HG	A2	No	20:32:31	-	62.1049	-0.0838
1517S_NEF_D33_S05	HG	A3	No	21:14:58	-	62.1057	-0.0853
1517S_NEF_D45_S06	HG	A1	No	22:13:44	-	62.1628	-0.1530
1517S_NEF_D45_S06	HG	A2	No	22:43:46	666	62.1638	-0.1537
1517S_NEF_D45_S06	HG	A3	No	23:21:25	660	62.1627	-0.1470
1517S_NEF_D12_S13	LHG	A1	Infauna and PSA	18:34:12	520	62.0496	-0.4513
1517S_NEF_D20_S14	LHG	A1	No	20:49:11	582	62.0764	-0.4148
1517S_NEF_D20_S14	LHG	A2	Infauna and PSA	21:08:56	583	62.0764	-0.4147
1517S_NEF_D11_S15	LHG	A1	No	22:35:50	565	62.0531	-0.5194
1517S_NEF_D11_S15	LHG	A2	No	22:56:03	567	62.0517	-0.5230
1517S_NEF_D11_S15	LHG	A3	Infauna and PSA	23:16:53	572	62.0561	-0.5160
1517S_NEF_D10_S16	LHG	A1	Infauna and PSA	00:43:07	585	62.0517	-0.5964
1517S_NEF_D02_S17	LHG	A1	Infauna and PSA	02:09:27	543	61.9907	-0.6762
1517S_NEF_D13_S18	LHG	A1	PSA only	08:45:49	545	62.0516	-0.3721
1517S_NEF_D25_S25	LHG	A1	No	17:58:27	550	62.0681	-0.0516
1517S_NEF_D25_S25	LHG	A2	No	18:23:18	532	62.0687	-0.0532
1517s_NEF_D24_S26	LHG	A1	No	19:21:35	542	62.0711	-0.1239
1517s_NEF_D24_S26	LHG	A2	No	19:41:14	544	62.0717	-0.1246
1517s_NEF_D24_S26	LHG	A3	No	20:06:28	547	62.0738	-0.1275
1517s_NEF_D24_S26	LHG	A4	No	20:25:15	589	62.454	0.782
1517s_NEF_D32_S27	LHG	A1	No	21:09:51	-	62.1006	-0.1566
1517s_NEF_D32_S27	LHG	A2	Infauna and PSA	21:34:07	589	62.1017	-0.1576

1517s_NEF_D31_S28	LHG	A1	Infauna and PSA	22:32:12	596	62.1021	-0.2289
1517s_NEF_D30_S29	LHG	A1	Infauna and PSA	23:54:32	600	62.1038	-0.3003
1517s_NEF_D29_S30	LHG	A1	No	01:19:09	608	62.1045	-0.3754
1517s_NEF_D29_S30	LHG	A2	No	01:42:49	607	62.1037	-0.3738
1517s_NEF_D29_S30	LHG	A3	No	02:03:26	607	62.1026	-0.3744
1517s_NEF_D28_S31	LHG	A1	No	02:45:08	619	62.1053	-0.4498
1517s_NEF_D28_S31	LHG	A2	No	03:05:22	618	62.1055	-0.4481
1517s_NEF_D28_S31	LHG	A3	No	03:26:09	620	62.1081	-0.4456
1517s_NEF_D27_S32	LHG	A1	No	04:09:33	637	62.1094	-0.5195
1517s_NEF_D27_S32	LHG	A2	No	04:30:12	642	62.1132	-0.5232
1517s_NEF_D27_S32	LHG	A3	No	04:51:03	645	62.1174	-0.5265
1517s_NEF_D21_S33	LHG	A1	No	06:00:33	573	62.0766	-0.3427
1517S_WSS_07_S87	HG	A1	No	15:53:48	137	59.4969	-5.9726
1517S_WSS_07_S87	HG	A2	No	16:01:18	137	59.4960	-5.9731
1517S_WSS_07_S87	HG	A3	No	16:07:23	137	59.4960	-5.9756
1517S_WSS_11_S88	HG	A1	No	16:37:35	138	59.4750	-5.9450
1517S_WSS_11_S88	HG	A2	No	16:46:18	136	59.4740	-5.9452
1517S_WSS_11_S88	HG	A3	No	16:52:23	136	59.4734	-5.9466
1517S_WSS_11_S88	HG	A4	No	16:53:54	136	59.4728	-5.9479
1517S_WSS_14_S89	HG	A1	Infauna and PSA	16:54:31	130	59.4733	-5.9468
1517S_WSS_10_S90	HG	A1	No	18:40:21	130	59.4289	-5.9543
1517S_WSS_10_S90	HG	A2	PSA only	18:45:53	132	59.4285	-5.9536
1517S_WSS_10_S90	HG	A3	No	18:56:10	132	59.4281	-5.9562
1517S_WSS_10_S91	HG	A1	Infauna and PSA	06:45:17	132	59.4305	-5.9519
1517S_WSS_05_S92	HG	A1	No	07:17:10	134	59.4303	-6.0025
1517S_WSS_05_S92	HG	A2	No	07:25:43	134	59.4300	-6.0009
1517S_WSS_05_S92	HG	A3	No	07:31:57	134	59.4299	-6.0009
1517S_WSS_02_S93	HG	A1	No	08:30:00	153	59.4298	-6.0556
1517S_WSS_02_S93	HG	A2	No	08:37:17	136	59.4297	-6.0556
1517S_WSS_02_S93	HG	A3	No	08:44:45	135	59.4315	-6.0579

1517S_WSS_03_S94	HG	A1	No	09:30:57	132	59.4067	-6.0327
1517S_WSS_03_S94	HG	A2	No	09:24:08	133	59.4071	-6.0330
1517S_WSS_03_S94	HG	A3	No	09:30:12	131	59.4068	-6.0329
1517S_WSS_01_S95	HG	A1	Infauna and PSA	10:00:38	-	59.3843	-6.0619
1517S_WSS_04_S96	HG	A1	Infauna and PSA	10:29:01	132	59.3833	-6.0087
1517S_WSS_06_S97	HG	A1	Infauna and PSA	11:09:43	130	59.4061	-5.9811
1517S_WSS_09_S98	HG	A1	Infauna and PSA	11:47:31	128	59.3824	-5.9571
1517S_WSS_12_S99	HG	A1	Infauna and PSA	12:19:22	122	59.3575	-5.9341
1517S_WSS_08_S100	HG	A1	Infauna and PSA	12:52:06	113	59.3345	-5.9608
1517S_WSS_16_S101	HG	A1	No	13:14:49	109	59.3341	-5.9077
1517S_WSS_16_S101	HG	A2	No	13:20:41	110	59.3335	-5.9072
1517S_WSS_16_S101	HG	A3	PSA only	13:30:22	109	59.3333	-5.9063
1507S_WSS_17_S102	HG	A1	Infauna and PSA	14:02:24	131	59.3811	-5.9026
1507S_WSS_13_S103	HG	A1	No	14:29:21	132	59.4043	-5.9277
1507S_WSS_13_S103	HG	A2	Infauna and PSA	14:39:03	130	59.4035	-5.9226
1507S_WSS_19_S104	HG	A1	Infauna and PSA	15:12:28	128.7	59.4505	-5.8718
1517S_WSS_18_S105	HG	A1	No	15:37:03	130	59.4743	-5.8951
1517S_WSS_18_S105	HG	A2	PSA only	15:46:37	132	59.4732	-5.8929
1517S_WSS_15_S106	HG	A1	No	16:19:14	137	59.4969	-5.9188
1517S_WSS_15_S106	HG	A2	Infauna and PSA	16:26:34	138	59.4957	-5.9172
1517S_WSS_15_S106	HG	A3	No	16:35:48	137	59.4942	-5.9161
1517S_WSS_20_S107	HG	A1	No	17:06:11	130.1	59.4954	-5.8629
1517S_WSS_20_S107	HG	A2	No	17:13:00	130.59	59.4950	-5.8621
1517S_WSS_20_S107	HG	A3	Infauna and PSA	17:19:54	-	59.4936	-5.8603
1517S_WSS_21_S108	HG	A1	PSA only	18:16:22	130	59.4719	-5.8405
1517S_WSS_21_S108	HG	A2	No	18:23:28	130	59.4708	-5.8392
1517S_WSS_21_S108	HG	A3	No	18:33:53	129	59.4686	-5.8368
1517S_WSS_23_S109	HG	A1	PSA only	18:57:28	123	59.4490	-5.8169
1517S_WSS_23_S109	HG	A2	No	19:05:15	123	59.4478	-5.8152
1517S_WSS_23_S109	HG	A3	No	19:14:23	123	59.4471	-5.8120

1517S_WSS_26_S110	HG	A1	PSA only	19:37:26	124.4	59.4251	-5.7927
1517S_WSS_26_S110	HG	A2	No	19:44:18	125	59.4241	-5.7913
1517S_WSS_26_S110	HG	A2	No	19:51:08	124	59.4238	-5.7902
1517S_WSS_22_S111	HG	A1	Infauna and PSA	20:20:21	130.5	59.4026	-5.8218
1517S_WSS_25_S112	HG	A1	Infauna and PSA	20:50:10	125	59.3776	-5.7975
1517S_WSS_29_S113	HG	A2	Infauna and PSA	21:11:34	124	59.3546	-5.7736
1517S_WSS_34_S114	HG	A1	Infauna and PSA	21:41:29	122	59.3774	-5.7446
1517S_WSS_30_S115	HG	A1	Infauna and PSA	22:18:30	123	59.4017	-5.7699
1517S_WSS_35_S116	HG	A1	No	22:53:46	120	59.4248	-5.7413
1517S_WSS_35_S116	HG	A2	Infauna and PSA	22:53:50	121	59.4248	-5.7413
1517S_WSS_31_S117	HG	A1	Infauna and PSA	23:24:28	125	59.4480	-5.7651
1517S_WSS_27_S118	HG	A1	No	00:01:50	121	59.4715	-5.7868
1517S_WSS_27_S118	HG	A2	No	00:09:01	122	59.4713	-5.7854
1517S_WSS_27_S118	HG	A3	No	00:16:49	124	59.4699	-5.7836
1517S_WSS_24_S119	HG	A1	No	00:48:41	127	59.4956	-5.8148
1517S_WSS_24_S119	HG	A2	Infauna and PSA	00:57:12	126	59.4948	-5.8141
1517S_WSS_28_S120	HG	A1	No	01:24:44	125	59.5189	-5.7859
1517S_WSS_28_S120	HG	A2	Infauna and PSA	01:33:23	125	59.5180	-5.7846
1517S_WSS_33_S121	HG	A1	PSA only	02:00:28	123	59.5408	-5.7584
1517S_WSS_33_S121	HG	A2	No	02:07:30	123	59.5401	-5.7567
1517S_WSS_33_S121	HG	A3	No	02:13:29	123	59.5391	-5.7558
1517S_WSS_37_S122	HG	A1	No	02:36:10	117	59.5166	-5.7326
1517S_WSS_37_S122	HG	A2	PSA only	02:42:07	117	59.5156	-5.7307
1517S_WSS_37_S122	HG	A3	No	02:49:22	117	59.5145	-5.7295
1517S_WSS_32_S123	HG	A1	No	03:14:23	123	59.4952	-5.7619
1517S_WSS_32_S123	HG	A2	PSA only	03:21:59	122	59.4946	-5.7607
1517S_WSS_32_S123	HG	A3	No	03:28:29	121	59.4937	-5.7597
1517S_WSS_36_S124	HG	A1	Infauna and PSA	03:50:42	127	59.4706	-5.7386
1517S_WSS_40_S125	HG	A1	No	04:20:06	124	59.4463	-5.7115
1517S_WSS_40_S125	HG	A2	Infauna and PSA	04:25:16	124	59.4455	-5.7102

1517S_WSS_45_S126	HG	A1	Infauna and PSA	04:52:46	120	59.4224	-5.6881
1517S_WSS_39_S127	HG	A1	No	05:24:58	121	59.4011	-5.7141
1517S_WSS_39_S127	HG	A2	No	05:31:41	121	59.3997	-5.7125
1517S_WSS_39_S127	HG	A1	no	05:24:58	121	59.4011	-5.7141
1517S_WSS_39_S127	HG	A2	No	05:31:58	121	59.3997	-5.7125
1517S_WSS_44_S128	HG	A1	Infauna and PSA	08:39:07	120	59.3763	-5.6913
1517S_WSS_38_S129	HG	A1	No	09:17:05	120	59.3536	-5.7228
1517S_WSS_38_S129	HG	A2	No	09:17:24	120	59.3536	-5.7228
1517S_WSS_38_S129	HG	A3	Infauna and PSA	09:23:23	120	59.3536	-5.7228
1517S_WSS_43_S130	HG	A1	Infauna and PSA	09:50:51	114	59.3291	-5.6967
1517S_WSS_53_S131	HG	A1	Infauna and PSA	10:14:49	107	59.3273	-5.6447
1517S_WSS_48_S132	HG	A1	No	10:44:54	115	59.3520	-5.6683
1517S_WSS_48_S132	HG	A2	Infauna and PSA	10:45:11	114	59.3521	-5.6683
1517S_WSS_54_S133	HG	A1	No	11:24:49	110	59.3750	-5.6397
1517S_WSS_54_S133	HG	A2	No	11:26:39	110	59.3750	-5.6397
1517S_WSS_54_S133	HG	A3	PSA only	11:32:02	110	59.3749	-5.6401
1517S_WSS_49_S134	HG	A1	Infauna and PSA	12:00:11	117	59.3987	-5.6635
1517S_WSS_55_S135	HG	A1	Infauna and PSA	12:30:00	118	59.4218	-5.6369
1517S_WSS_50_S136	HG	A1	Infauna and PSA	12:56:59	119	59.4451	-5.6615
1517S_WSS_46_S137	HG	A1	No	13:27:05	122	59.4691	-5.6833
1517S_WSS_46_S137	HG	A2	Infauna and PSA	13:32:36	122.7	59.4685	-5.6831
1517S_WSS_41_S138	HG	A1	Infauna and PSA	14:00:17	121	59.4930	-5.7093
1517S_WSS_47_S139	HG	A1	Infauna and PSA	14:27:23	114	59.5154	-5.6790
1517S_WSS_42_S140	HG	A1	No	14:52:41	114	59.5389	-5.7040
1517S_WSS_42_S140	HG	A2	No	14:57:48	113	59.5385	-5.7033
1517S_WSS_42_S140	HG	A3	No	15:07:43	113	59.5372	-5.7016
1517S_WSS_52_S141	HG	A1	No	15:30:04	106	59.5371	-5.6486
1517S_WSS_52_S141	HG	A2	No	15:38:31	106	59.5360	-5.6469
1517S_WSS_52_S141	HG	A3	No	15:46:15	107	59.5340	-5.6456
1517S_WSS_58_S142	HG	A1	No	16:12:55	106	59.5585	-5.6216

1517S_WSS_58_S142	HG	A2	No	16:20:43	106	59.5571	-5.6210
1517S_WSS_58_S142	HG	A3	No	16:31:38	106	59.5556	-5.6200
1517S_WSS_69_S143	HG	A1	No	17:08:05	106	59.5574	-5.5664
1517S_WSS_69_S143	HG	A2	No	17:14:36	107	59.5564	-5.5667
1517S_WSS_69_S143	HG	A3	No	17:21:26	107	59.5555	-5.5663
1517S_WSS_63_S144	HG	A1	No	18:33:36	107	59.5370	-5.5965
1517S_WSS_63_S144	HG	A2	No	18:40:19	107	59.5365	-5.5963
1517S_WSS_63_S144	HG	A3	No	18:46:44	106	59.5359	-5.5966
1517S_WSS_57_S145	HG	A1	No	19:14:02	112	59.5142	-5.6262
1517S_WSS_57_S145	HG	A2	No	19:20:45	113	59.5135	-5.6265
1517S_WSS_57_S145	HG	A3	Infauna and PSA	19:28:28	113	59.5125	-5.6264
1517S_WSS_51_S146	HG	A1	No	19:54:03	119	59.4921	-5.6542
1517S_WSS_51_S146	HG	A2	PSA only	19:54:20	119	59.4920	-5.6543
1517S_WSS_51_S146	HG	A3	No	19:54:03	119	59.4921	-5.6542
1517S_WSS_56_S147	HG	A1	Infauna and PSA	20:31:50	120	59.4678	-5.6300
1517S_WSS_61_S148	HG	A1	No	20:58:04	116	59.4435	-5.6063
1517S_WSS_61_S148	HG	A2	No	21:03:10	115.8	59.4435	-5.6063
1517S_WSS_61_S148	HG	A3	No	21:12:16	115	59.4435	-5.6063
1517S_WSS_60_S149	HG	A1	No	21:53:51	110	59.3967	-5.6110
1517S_WSS_60_S149	HG	A2	No	21:57:56	110	59.3971	-5.6112
1517S_WSS_60_S149	HG	A3	No		109		
1517S_WSS_65_S150	HG	A1	No	22:33:33	106	59.3719	-5.5865
1517S_WSS_65_S150	HG	A2	No	22:37:18	106	59.3719	-5.5865
1517S_WSS_65_S150	HG	A3	PSA only	22:44:19	105	59.3718	-5.5869
1517S_WSS_59_S151	HG	A1	PSA only	23:10:04	105	59.3505	-5.6164
1517S_WSS_59_S151	HG	A2	No	23:17:17	105	59.3504	-5.6164
1517S_WSS_64_S152	HG	A1	Infauna and PSA	23:45:21	102	59.3269	-5.5927
1517S_WSS_70_S153	HG	A1	No	00:20:15	103.5	59.3028	-5.5693
1517S_WSS_70_S153	HG	A2	PSA only	00:31:25	104	59.3015	-5.5696
1517S_WSS_70_S153	HG	A3	No	00:37:55	104	59.3017	-5.5693

1517S_WSS_71_S154	HG	A1	Infauna and PSA	01:10:47	106	59.3501	-5.5679
1517S_WSS_66_S155	HG	A1	Infauna and PSA	01:53:40	113	59.4197	-5.5851
1517S_WSS_72_S156	HG	A1	No	02:21:15	110	59.4434	-5.5547
1517S_WSS_72_S156	HG	A2	Infauna and PSA	02:29:49	114	59.4428	-5.5542
1517S_WSS_67_S157	HG	A1	No	02:56:44	114	59.4663	-5.5802
1517S_WSS_67_S157	HG	A2	Infauna and PSA	03:07:23	114	59.4649	-5.5793
1517S_WSS_62_S158	HG	A1	Infauna and PSA	03:35:02	114	59.4903	-5.6029
1517S_WSS_68_S159	HG	A1	No	04:01:52	105	59.5141	-5.5720
1517S_WSS_68_S159	HG	A2	No	04:15:35	106	59.5116	-5.5707
1517S_WSS_68_S159	HG	A3	No	04:21:01	106	59.5111	-5.5709

Table 15. Summary metadata for 1517S drop-frame camera transects, including Start of Line (SOL) and End of Line (EOL) information. Latitudes and longitudes are USBL derived unless otherwise stated. Shaded grey areas indicate where USBL positions were not available (ship position used instead). N/A indicates missing longitude and latitude.

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A12_S34	SOL	1	07:41:56	459	62.0229	-0.045
1517S_NEF_A12_S34	-	2	07:42:49	-	62.0227	-0.0453
1517S_NEF_A12_S34	-	3	07:43:15	-	62.0227	-0.0453
1517S_NEF_A12_S34	-	4	07:43:43	-	62.0226	-0.0454
1517S_NEF_A12_S34	-	5	07:44:17	-	62.0224	-0.0456
1517S_NEF_A12_S34	-	6	07:44:31	-	62.0224	-0.0456
1517S_NEF_A12_S34	-	7	07:44:48	-	62.0224	-0.0456
1517S_NEF_A12_S34	-	8	07:45:13	-	62.0223	-0.0457
1517S_NEF_A12_S34	-	9	07:45:27	-	62.0223	-0.0458
1517S_NEF_A12_S34	-	10	07:46:11	-	62.0221	-0.0461
1517S_NEF_A12_S34	-	11	07:46:31	-	62.0221	-0.0462
1517S_NEF_A12_S34	-	12	07:46:57	-	62.022	-0.0463
1517S_NEF_A12_S34	-	13	07:47:30	-	62.0219	-0.0465
1517S_NEF_A12_S34	-	14	07:48:00	-	62.0219	-0.0465
1517S_NEF_A12_S34	-	15	07:48:25	-	62.0218	-0.0466
1517S_NEF_A12_S34	-	16	07:48:38	-	62.0218	-0.0467
1517S_NEF_A12_S34	-	17	07:49:44	-	62.0216	-0.047
1517S_NEF_A12_S34	-	18	07:49:56	-	62.0215	-0.0471
1517S_NEF_A12_S34	-	19	07:50:34	-	62.0214	-0.0472
1517S_NEF_A12_S34	-	20	07:50:53	-	62.0214	-0.0472
1517S_NEF_A12_S34	-	21	07:51:58	-	62.0212	-0.0475
1517S_NEF_A12_S34	-	22	07:52:13	-	62.0211	-0.0477
1517S_NEF_A12_S34	-	23	07:52:32	-	62.0211	-0.0478
1517S_NEF_A12_S34	-	24	07:53:28	-	62.0209	-0.048
1517S_NEF_A12_S34	EOL	25	07:53:52	456	62.0208	-0.0481
1517S_NEF_A16_S35	SOL	1	08:54:57	484	62.0374	-0.0819
1517S_NEF_A16_S35	-	2	08:55:26	-	62.0374	-0.0819

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A16_S35	-	3	08:55:46	-	62.0373	-0.082
1517S_NEF_A16_S35	-	4	08:56:01	-	62.0373	-0.082
1517S_NEF_A16_S35	-	5	08:56:21	-	62.0371	-0.0821
1517S_NEF_A16_S35	-	6	08:56:48	-	62.0371	-0.0821
1517S_NEF_A16_S35	-	7	08:57:16	-	62.037	-0.0822
1517S_NEF_A16_S35	-	8	08:57:42	-	62.037	-0.0822
1517S_NEF_A16_S35	-	9	08:58:07	-	62.037	-0.0822
1517S_NEF_A16_S35	-	10	08:58:38	-	62.0368	-0.0824
1517S_NEF_A16_S35	-	11	08:59:21	-	62.0367	-0.0824
1517S_NEF_A16_S35	-	12	08:59:35	-	62.0367	-0.0825
1517S_NEF_A16_S35	-	13	09:00:01	-	62.0366	-0.0826
1517S_NEF_A16_S35	-	14	09:00:14	-	62.0366	-0.0826
1517S_NEF_A16_S35	-	15	09:00:33	-	62.0365	-0.0826
1517S_NEF_A16_S35	-	16	09:01:01	-	62.0365	-0.0826
1517S_NEF_A16_S35	-	17	09:01:22	-	62.0365	-0.0827
1517S_NEF_A16_S35	-	18	09:01:47	-	62.0364	-0.0828
1517S_NEF_A16_S35	-	19	09:02:18	-	62.0363	-0.0829
1517S_NEF_A16_S35	-	20	09:02:38	-	62.0363	-0.0829
1517S_NEF_A16_S35	-	21	09:03:09	-	62.0362	-0.083
1517S_NEF_A16_S35	-	22	09:03:30	-	62.0361	-0.083
1517S_NEF_A16_S35	-	23	09:03:50	-	62.0361	-0.0831
1517S_NEF_A16_S35	-	24	09:04:29	-	62.036	-0.0832
1517S_NEF_A16_S35	EOL	25	09:04:44	479	62.036	-0.0832
1517S_NEF_A03_S36	SOL	1	10:04:18	430	61.9992	-0.1324
1517S_NEF_A03_S36	-	2	10:04:33	-	61.9994	-0.1325
1517S_NEF_A03_S36	-	3	10:05:00	-	61.9992	-0.1325
1517S_NEF_A03_S36	-	4	10:05:17	-	61.9991	-0.1326
1517S_NEF_A03_S36	-	5	10:05:45	-	61.9961	-0.132
1517S_NEF_A03_S36	-	6	10:05:57	-	61.9961	-0.132

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A03_S36	-	7	10:06:06	-	61.999	-0.133
1517S_NEF_A03_S36	-	8	10:06:39	-	61.9989	-0.133
1517S_NEF_A03_S36	-	9	10:07:07	-	61.999	-0.1332
1517S_NEF_A03_S36	-	10	10:07:30	-	61.999	-0.1334
1517S_NEF_A03_S36	-	11	10:07:58	-	61.9991	-0.1335
1517S_NEF_A03_S36	-	12	10:08:21	-	62.0019	-0.1349
1517S_NEF_A03_S36	-	13	10:08:55	-	61.9989	-0.1337
1517S_NEF_A03_S36	-	14	10:09:27	-	61.9988	-0.1338
1517S_NEF_A03_S36	-	15	10:10:09	-	61.9988	-0.1341
1517S_NEF_A03_S36	-	16	10:10:25	-	61.9989	-0.1343
1517S_NEF_A03_S36	-	17	10:11:22	-	61.9988	-0.1346
1517S_NEF_A03_S36	-	18	10:11:34	-	61.9988	-0.1346
1517S_NEF_A03_S36	-	19	10:12:21	-	61.9988	-0.1349
1517S_NEF_A03_S36	-	20	10:12:41	-	61.9987	-0.1353
1517S_NEF_A03_S36	-	21	10:12:54	-	61.9987	-0.1353
1517S_NEF_A03_S36	-	22	10:13:08	-	61.9988	-0.1352
1517S_NEF_A03_S36	-	23	10:13:25	-	61.9958	-0.1334
1517S_NEF_A03_S36	-	24	10:13:37	-	61.9958	-0.1334
1517S_NEF_A03_S36	-	25	10:15:06	-	61.9987	-0.136
1517S_NEF_A03_S36	EOL	26	10:15:16	430	61.9988	-0.136
1517S_NEF_A15_S37	SOL	1	13:45:48	472	62.0229	-0.1792
1517S_NEF_A15_S37	-	2	13:46:18	-	62.0229	-0.1794
1517S_NEF_A15_S37	-	3	13:46:30	-	62.0229	-0.1795
1517S_NEF_A15_S37	-	4	13:47:03	-	62.0228	-0.1797
1517S_NEF_A15_S37	-	5	13:47:28	-	62.0228	-0.1798
1517S_NEF_A15_S37	-	6	13:48:01	-	62.0228	-0.1801
1517S_NEF_A15_S37	-	7	13:48:15	-	62.0228	-0.1802
1517S_NEF_A15_S37	-	8	13:49:15	-	62.0227	-0.1805
1517S_NEF_A15_S37	-	9	13:49:36	-	62.0259	-0.1832

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A15_S37	-	10	13:49:48	-	62.0193	-0.1787
1517S_NEF_A15_S37	-	11	13:50:43	-	62.0226	-0.181
1517S_NEF_A15_S37	-	12	13:51:24	-	62.0225	-0.1813
1517S_NEF_A15_S37	-	13	13:51:46	-	62.0225	-0.1815
1517S_NEF_A15_S37	-	14	13:52:22	-	62.0225	-0.1817
1517S_NEF_A15_S37	-	15	13:53:19	-	62.0224	-0.1821
1517S_NEF_A15_S37	-	16	13:53:50	-	62.0223	-0.1823
1517S_NEF_A15_S37	EOL	17	13:54:12	474	62.0223	-0.1824
1517s_NEF_A14_S38	SOL	1	14:44:21	444	61.996617	-0.213457
1517s_NEF_A14_S38	-	2	14:44:42	-	61.996585	-0.213612
1517s_NEF_A14_S38	-	3	14:45:11	-	61.996530	-0.213828
1517s_NEF_A14_S38	-	4	14:45:22	-	61.996515	-0.213920
1517s_NEF_A14_S38	-	5	14:45:40	-	61.996475	-0.214032
1517s_NEF_A14_S38	-	6	14:45:57	-	61.996448	-0.214170
1517s_NEF_A14_S38	-	7	14:46:09	-	61.996428	-0.214253
1517s_NEF_A14_S38	-	8	14:46:33	-	61.996392	-0.214438
1517s_NEF_A14_S38	-	9	14:47:01	-	61.996355	-0.214642
1517s_NEF_A14_S38	-	10	14:47:22	-	61.996327	-0.214778
1517s_NEF_A14_S38	-	11	14:47:44	-	61.996288	-0.214925
1517s_NEF_A14_S38	-	12	14:48:53	-	61.996177	-0.215428
1517s_NEF_A14_S38	-	13	14:49:21	-	61.996122	-0.215648
1517s_NEF_A14_S38	-	14	14:49:42	-	61.996088	-0.215817
1517s_NEF_A14_S38	-	15	14:50:08	-	61.996033	-0.215990
1517s_NEF_A14_S38	-	16	14:50:51	-	61.995948	-0.216325
1517s_NEF_A14_S38	-	17	14:51:25	-	61.995895	-0.216557
1517s_NEF_A14_S38	-	18	14:51:52	-	61.995873	-0.216702
1517s_NEF_A14_S38	-	19	14:52:13	-	61.995873	-0.216770
1517s_NEF_A14_S38	-	20	14:52:48	-	61.995850	-0.216918
1517s_NEF_A14_S38	EOL	21	14:53:09	443	61.995848	-0.216997

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A13_S39	SOL	1	15:32:39	-	61.9893	-0.2518
1517S_NEF_A13_S39	-	2	15:33:01	-	61.9892	-0.2520
1517S_NEF_A13_S39	-	3	15:33:18	-	61.9892	-0.2521
1517S_NEF_A13_S39	-	4	15:33:42	-	61.9892	-0.2521
1517S_NEF_A13_S39	-	5	15:33:59	-	61.9892	-0.2523
1517S_NEF_A13_S39	-	6	15:34:37	-	61.9892	-0.2524
1517S_NEF_A13_S39	-	7	15:35:21	-	61.9892	-0.2526
1517S_NEF_A13_S39	-	8	15:35:30	-	61.9892	-0.2526
1517S_NEF_A13_S39	-	9	15:35:54	-	61.9891	-0.2528
1517S_NEF_A13_S39	-	10	15:36:39	-	61.9891	-0.2530
1517S_NEF_A13_S39	-	11	15:37:29	-	61.9890	-0.2531
1517S_NEF_A13_S39	-	12	15:37:48	-	61.9890	-0.2531
1517S_NEF_A13_S39	-	13	15:38:01	-	61.9890	-0.2535
1517S_NEF_A13_S39	-	14	15:38:31	-	61.9890	-0.2536
1517S_NEF_A13_S39	-	15	15:39:08	-	61.9890	-0.2539
1517S_NEF_A13_S39	-	16	15:39:16	-	61.9890	-0.2539
1517S_NEF_A13_S39	-	17	15:40:10	-	61.9890	-0.2542
1517S_NEF_A13_S39	-	18	15:40:49	-	61.9890	-0.2543
1517S_NEF_A13_S39	-	19	15:41:25	-	61.9889	-0.2546
1517S_NEF_A13_S39	-	20	15:42:08	-	61.9889	-0.2548
1517S_NEF_A13_S39	-	21	15:42:27	-	61.9889	-0.2550
1517S_NEF_A13_S39	-	22	15:42:54	-	61.9889	-0.2550
1517S_NEF_A13_S39	-	23	15:43:06	-	61.9889	-0.2550
1517S_NEF_A13_S39	-	24	15:43:49	-	61.9889	-0.2553
1517S_NEF_A13_S39	-	25	15:44:02	-	61.9888	-0.2554
1517S_NEF_A13_S39	-	26	15:44:45	-	61.9888	-0.2555
1517S_NEF_A13_S39	-	27	15:45:30	-	61.9888	-0.2556
1517S_NEF_A13_S39	EOL	28	15:45:56	439	61.9887	-0.2559
1517S_NEF_A02_S40	SOL	1	16:33:28	-	62.0128	-0.2766

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A02_S40	-	2	16:33:54	-	62.0127	-0.2767
1517S_NEF_A02_S40	-	3	16:34:21	-	62.0127	-0.2768
1517S_NEF_A02_S40	-	4	16:34:36	-	62.0127	-0.2768
1517S_NEF_A02_S40	-	5	16:34:53	-	62.0127	-0.2769
1517S_NEF_A02_S40	-	6	16:35:16	-	62.0127	-0.2769
1517S_NEF_A02_S40	-	7	16:35:37	-	62.0126	-0.2771
1517S_NEF_A02_S40	-	8	16:36:09	-	62.0126	-0.2771
1517S_NEF_A02_S40	-	9	16:36:25	-	62.0126	-0.2771
1517S_NEF_A02_S40	-	10	16:36:55	-	62.0126	-0.2773
1517S_NEF_A02_S40	-	11	16:37:34	-	62.0125	-0.2774
1517S_NEF_A02_S40	-	12	16:37:51	-	62.0125	-0.2775
1517S_NEF_A02_S40	-	13	16:38:10	-	62.0125	-0.2776
1517S_NEF_A02_S40	-	14	16:38:40	-	62.0125	-0.2777
1517S_NEF_A02_S40	-	15	16:38:57	-	62.0125	-0.2777
1517S_NEF_A02_S40	-	16	16:39:06	-	62.0125	-0.2778
1517S_NEF_A02_S40	-	17	16:39:37	-	62.0124	-0.2779
1517S_NEF_A02_S40	-	18	16:39:50	-	62.0124	-0.278
1517S_NEF_A02_S40	-	19	16:40:06	-	62.0124	-0.2781
1517S_NEF_A02_S40	-	20	16:40:33	-	62.0123	-0.2782
1517S_NEF_A02_S40	-	21	16:40:50	-	62.0123	-0.2783
1517S_NEF_A02_S40	-	22	16:40:58	-	62.0123	-0.2783
1517S_NEF_A02_S40	-	23	16:41:29	-	62.0123	-0.2784
1517S_NEF_A02_S40	-	24	16:41:49	-	62.0122	-0.2785
1517S_NEF_A02_S40	-	25	16:42:16	-	62.0123	-0.2785
1517S_NEF_A02_S40	-	26	16:42:37	-	62.0122	-0.2787
1517S_NEF_A02_S40	-	27	16:42:55	-	62.0122	-0.2788
1517S_NEF_A02_S40	-	28	16:43:11	-	62.0122	-0.2789
1517S_NEF_A02_S40	EOL	29	16:43:32	-	62.0121	-0.279
1517S_NEF_A11_S41	SOL	1	17:54:10	-	61.9692	-0.3214

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A11_S41	-	2	17:54:37	-	61.9691	-0.3215
1517S_NEF_A11_S41	-	3	17:55:17	-	61.9691	-0.3217
1517S_NEF_A11_S41	-	4	17:55:43	-	61.9691	-0.3218
1517S_NEF_A11_S41	-	5	17:56:07	-	61.9691	-0.3219
1517S_NEF_A11_S41	-	6	17:56:39	-	61.969	-0.322
1517S_NEF_A11_S41	-	7	17:57:59	-	61.9689	-0.3222
1517S_NEF_A11_S41	-	8	17:58:26	-	61.9689	-0.3223
1517S_NEF_A11_S41	-	9	17:59:03	-	61.9689	-0.3225
1517S_NEF_A11_S41	-	10	17:59:38	-	61.9688	-0.3226
1517S_NEF_A11_S41	-	11	18:00:04	-	61.9688	-0.3227
1517S_NEF_A11_S41	-	12	18:00:21	-	61.9688	-0.3227
1517S_NEF_A11_S41	-	13	18:00:49	-	61.9687	-0.3229
1517S_NEF_A11_S41	-	14	18:01:43	-	61.9687	-0.3231
1517S_NEF_A11_S41	-	15	18:02:18	-	61.9686	-0.3233
1517S_NEF_A11_S41	-	16	18:03:04	-	61.9686	-0.3235
1517S_NEF_A11_S41	EOL	17	18:04:04	-	61.9685	-0.3239
1517S_NEF_A08_S42	SOL	1	19:34:48	473	61.9981	-0.3613
1517S_NEF_A08_S42	-	2	19:35:23	-	61.9981	-0.3614
1517S_NEF_A08_S42	-	3	19:35:43	-	61.9981	-0.3614
1517S_NEF_A08_S42	-	4	19:36:07	-	61.998	-0.3615
1517S_NEF_A08_S42	-	5	19:36:20	-	61.998	-0.3615
1517S_NEF_A08_S42	-	6	19:36:35	-	61.998	-0.3615
1517S_NEF_A08_S42	-	7	19:37:54	-	61.9979	-0.3617
1517S_NEF_A08_S42	-	8	19:38:19	-	61.998	-0.3618
1517S_NEF_A08_S42	-	9	19:39:12	-	61.9977	-0.3619
1517S_NEF_A08_S42	-	10	19:39:37	-	61.9978	-0.3621
1517S_NEF_A08_S42	-	11	19:40:05	-	61.9978	-0.3621
1517S_NEF_A08_S42	-	12	19:40:42	-	61.9978	-0.3623
1517S_NEF_A08_S42	-	13	19:41:02	-	61.9977	-0.3623

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A08_S42	-	14	19:41:15	-	61.9977	-0.3623
1517S_NEF_A08_S42	-	15	19:41:27	-	61.9977	-0.3624
1517S_NEF_A08_S42	-	16	19:41:55	-	61.9977	-0.3624
1517S_NEF_A08_S42	-	17	19:42:31	-	61.9977	-0.3626
1517S_NEF_A08_S42	-	18	19:42:56	-	61.9976	-0.3627
1517S_NEF_A08_S42	-	19	19:43:10	-	61.9977	-0.3627
1517S_NEF_A08_S42	-	20	19:43:23	-	61.9976	-0.3628
1517S_NEF_A08_S42	-	21	19:43:56	-	61.9976	-0.3629
1517S_NEF_A08_S42	-	22	19:44:30	-	61.9976	-0.3631
1517S_NEF_A08_S42	-	23	19:45:21	-	61.9976	-0.3633
1517S_NEF_A08_S42	EOL	24	19:45:51	471	61.9935	-0.3622
1517S_NEF_A04_S43	SOL	1	20:56:09	-	61.9526	-0.439
1517S_NEF_A04_S43	-	2	20:56:29	-	61.9526	-0.439
1517S_NEF_A04_S43	-	3	20:56:55	-	61.9526	-0.439
1517S_NEF_A04_S43	-	4	20:57:47	-	61.9524	-0.4391
1517S_NEF_A04_S43	-	5	20:58:13	-	61.9523	-0.439
1517S_NEF_A04_S43	-	6	20:58:23	-	61.9523	-0.439
1517S_NEF_A04_S43	-	7	20:59:08	-	61.9523	-0.4391
1517S_NEF_A04_S43	-	8	20:59:21	-	61.9523	-0.4391
1517S_NEF_A04_S43	-	9	21:00:03	-	61.9522	-0.4391
1517S_NEF_A04_S43	-	10	21:00:57	-	61.952	-0.4392
1517S_NEF_A04_S43	-	11	21:01:31	-	61.952	-0.4393
1517S_NEF_A04_S43	-	12	21:01:53	-	61.9519	-0.4393
1517S_NEF_A04_S43	-	13	21:02:06	-	61.9519	-0.4393
1517S_NEF_A04_S43	-	14	21:02:59	-	61.9518	-0.4394
1517S_NEF_A04_S43	-	15	21:03:37	-	61.9517	-0.4394
1517S_NEF_A04_S43	-	16	21:04:20	-	61.9516	-0.4394
1517S_NEF_A04_S43	-	17	21:04:46	-	61.9516	-0.4395
1517S_NEF_A04_S43	-	18	21:05:01	-	61.9515	-0.4395

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A04_S43	-	19	21:05:39	-	61.9514	-0.4397
1517S_NEF_A04_S43	-	20	21:05:47	-	61.9514	-0.4397
1517S_NEF_A04_S43	EOL	21	21:06:07	-	61.9514	-0.4397
1517S_NEF_A07_S44	SOL	1	22:17:54	-	61.9942	-0.4406
1517S_NEF_A07_S44	-	2	22:18:03	-	61.9942	-0.4406
1517S_NEF_A07_S44	-	3	22:18:13	-	61.9942	-0.4406
1517S_NEF_A07_S44	-	4	22:19:17	-	61.994	-0.4405
1517S_NEF_A07_S44	-	5	22:19:29	-	61.994	-0.4405
1517S_NEF_A07_S44	-	6	22:20:01	-	61.9939	-0.4405
1517S_NEF_A07_S44	-	7	22:20:46	-	61.9938	-0.4406
1517S_NEF_A07_S44	-	8	22:21:16	-	61.9937	-0.4405
1517S_NEF_A07_S44	-	9	22:22:24	-	61.9936	-0.4406
1517S_NEF_A07_S44	-	10	22:23:06	-	61.9935	-0.4407
1517S_NEF_A07_S44	-	11	22:23:37	-	61.9935	-0.4407
1517S_NEF_A07_S44	-	12	22:24:11	-	61.9934	-0.4407
1517S_NEF_A07_S44	-	13	22:25:06	-	61.9934	-0.4409
1517S_NEF_A07_S44	-	14	22:25:20	-	61.9934	-0.4409
1517S_NEF_A07_S44	-	15	22:25:31	-	61.9933	-0.441
1517S_NEF_A07_S44	-	16	22:25:55	-	61.9933	-0.441
1517S_NEF_A07_S44	-	17	22:26:22	-	61.9933	-0.441
1517S_NEF_A07_S44	-	18	22:26:38	-	61.9932	-0.4411
1517S_NEF_A07_S44	-	19	22:27:12	-	61.9932	-0.4412
1517S_NEF_A07_S44	-	20	22:28:33	-	61.9931	-0.4414
1517S_NEF_A07_S44	-	21	22:28:47	-	61.9931	-0.4414
1517S_NEF_A07_S44	-	22	22:30:15	-	61.993	-0.4416
1517S_NEF_A07_S44	EOL	23	22:30:59	-	61.9929	-0.4417
1517S_NEF_A10_S45	SOL	1	23:30:45	449	61.9619	-0.5019
1517S_NEF_A10_S45	-	2	23:31:04	-	61.9619	-0.5019
1517S_NEF_A10_S45	-	3	23:31:42	-	61.9618	-0.502

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A10_S45	-	4	23:32:14	-	61.9617	-0.5021
1517S_NEF_A10_S45	-	5	23:32:32	-	61.9617	-0.5021
1517S_NEF_A10_S45	-	6	23:33:03	-	61.9616	-0.5022
1517S_NEF_A10_S45	-	7	23:33:26	-	61.9616	-0.5023
1517S_NEF_A10_S45	-	8	23:33:49	-	61.9615	-0.5023
1517S_NEF_A10_S45	-	9	23:34:24	-	61.9615	-0.5023
1517S_NEF_A10_S45	-	10	23:34:50	-	61.9614	-0.5024
1517S_NEF_A10_S45	-	11	23:35:14	-	61.9613	-0.5026
1517S_NEF_A10_S45	-	12	23:36:06	-	61.9612	-0.5027
1517S_NEF_A10_S45	-	13	23:36:19	-	61.9612	-0.5027
1517S_NEF_A10_S45	-	14	23:36:38	-	61.9611	-0.5028
1517S_NEF_A10_S45	-	15	23:37:06	-	61.9611	-0.5028
1517S_NEF_A10_S45	-	16	23:37:20	-	61.9611	-0.5028
1517S_NEF_A10_S45	-	17	23:37:49	-	61.9609	-0.503
1517S_NEF_A10_S45	-	18	23:38:06	-	61.961	-0.5029
1517S_NEF_A10_S45	EOL	19	23:38:24	448	61.9609	-0.503
1517S_NEF_A06_S46	SOL	1	00:31:27	429	61.9335	-0.559
1517S_NEF_A06_S46	-	2	00:31:40	-	61.9335	-0.559
1517S_NEF_A06_S46	-	3	00:32:34	-	61.9334	-0.5591
1517S_NEF_A06_S46	-	4	00:33:29	-	61.9334	-0.5592
1517S_NEF_A06_S46	-	5	00:34:19	-	61.9332	-0.5592
1517S_NEF_A06_S46	-	6	00:35:03	-	61.9332	-0.5593
1517S_NEF_A06_S46	--	7	00:35:32	-	61.9331	-0.5594
1517S_NEF_A06_S46	-	8	00:36:00	-	61.933	-0.5594
1517S_NEF_A06_S46	-	9	00:36:30	-	61.933	-0.5595
1517S_NEF_A06_S46	-	10	00:36:58	-	61.9329	-0.5596
1517S_NEF_A06_S46	-	11	00:37:27	-	61.9329	-0.5596
1517S_NEF_A06_S46	-	12	00:38:05	-	61.9328	-0.5598
1517S_NEF_A06_S46	-	13	00:38:32	-	61.9328	-0.5598

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A06_S46	-	14	00:39:13	-	61.9327	-0.5599
1517S_NEF_A06_S46	-	15	00:39:51	-	61.9325	-0.56
1517S_NEF_A06_S46	-	16	00:40:17	-	61.9325	-0.56
1517S_NEF_A06_S46	-	17	00:40:49	-	61.9324	-0.5601
1517S_NEF_A06_S46	-	18	00:41:26	-	61.9323	-0.5603
1517S_NEF_A06_S46	EOL	19	00:41:53	427	61.9323	-0.5603
1517S_NEF_A01_S47	SOL	1	01:43:27	482	61.9644	-0.5987
1517S_NEF_A01_S47	-	2	01:44:25	-	61.9643	-0.5987
1517S_NEF_A01_S47	-	3	01:44:57	-	61.9643	-0.5987
1517S_NEF_A01_S47	-	4	01:45:29	-	61.9643	-0.5989
1517S_NEF_A01_S47	-	5	01:46:03	-	61.9642	-0.5988
1517S_NEF_A01_S47	-	6	01:46:49	-	61.9642	-0.5989
1517S_NEF_A01_S47	-	7	01:47:30	-	61.9641	-0.599
1517S_NEF_A01_S47	-	8	01:50:18	-	61.964	-0.5994
1517S_NEF_A01_S47	-	9	01:50:24	-	61.964	-0.5995
1517S_NEF_A01_S47	-	10	01:51:32	-	61.964	-0.5994
1517S_NEF_A01_S47	-	11	01:52:04	-	61.9639	-0.5997
1517S_NEF_A01_S47	-	12	01:52:54	-	61.9638	-0.5999
1517S_NEF_A01_S47	-	13	01:53:31	-	61.9638	-0.6001
1517S_NEF_A01_S47	EOL	14	01:54:30	481	61.9637	-0.6002
1517S_NEF_A17_S48	SOL	1	02:52:00	477	61.9616	-0.5918
1517S_NEF_A17_S48	-	2	02:52:32	-	61.9616	-0.5919
1517S_NEF_A17_S48	-	3	02:52:52	-	61.9616	-0.5918
1517S_NEF_A17_S48	-	4	02:53:56	-	61.9615	-0.5918
1517S_NEF_A17_S48	-	5	02:54:30	-	61.9615	-0.5918
1517S_NEF_A17_S48	-	6	02:54:56	-	61.9615	-0.5919
1517S_NEF_A17_S48	-	7	02:55:30	-	61.9614	-0.5918
1517S_NEF_A17_S48	-	8	02:55:57	-	61.9614	-0.592
1517S_NEF_A17_S48	-	9	02:56:04	-	61.9614	-0.592

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A17_S48	-	10	02:56:23	-	61.9614	-0.5921
1517S_NEF_A17_S48	-	11	02:57:04	-	61.9614	-0.592
1517S_NEF_A17_S48	-	12	02:57:40	-	61.9613	-0.5922
1517S_NEF_A17_S48	-	13	02:57:57	-	61.9613	-0.5922
1517S_NEF_A17_S48	-	14	02:58:27	-	61.9613	-0.5924
1517S_NEF_A17_S48	-	15	02:58:57	-	61.9611	-0.5923
1517S_NEF_A17_S48	-	16	02:59:10	-	61.9612	-0.5924
1517S_NEF_A17_S48	-	17	02:59:33	-	61.9612	-0.5926
1517S_NEF_A17_S48	EOL	18	02:59:51	479	61.9612	-0.5926
1517S_NEF_A09_S49	SOL	1	04:06:01	429	61.9076	-0.6411
1517S_NEF_A09_S49	-	2	04:06:24	-	61.9076	-0.6411
1517S_NEF_A09_S49	-	3	04:06:46	-	61.9076	-0.6412
1517S_NEF_A09_S49	-	4	04:07:13	-	61.9076	-0.6412
1517S_NEF_A09_S49	-	5	04:07:42	-	61.9076	-0.6413
1517S_NEF_A09_S49	-	6	04:08:08	-	61.9076	-0.6413
1517S_NEF_A09_S49	-	7	04:08:28	-	61.9075	-0.6415
1517S_NEF_A09_S49	-	8	04:08:48	-	61.9076	-0.6415
1517S_NEF_A09_S49	-	9	04:09:08	-	61.9076	-0.6416
1517S_NEF_A09_S49	-	10	04:10:05	-	61.9075	-0.6418
1517S_NEF_A09_S49	-	11	04:10:23	-	61.9076	-0.6418
1517S_NEF_A09_S49	-	12	04:11:07	-	61.9075	-0.6421
1517S_NEF_A09_S49	-	13	04:11:37	-	61.9075	-0.6422
1517S_NEF_A09_S49	-	14	04:12:12	-	61.9075	-0.6424
1517S_NEF_A09_S49	-	15	04:12:36	-	61.9075	-0.6424
1517S_NEF_A09_S49	-	16	04:13:17	-	61.9075	-0.6424
1517S_NEF_A09_S49	-	17	04:13:46	-	61.9075	-0.6428
1517S_NEF_A09_S49	-	18	04:14:37	-	61.9075	-0.643
1517S_NEF_A09_S49	-	19	04:15:11	-	61.9074	-0.6432
1517S_NEF_A09_S49	EOL	20	04:15:33	428	61.9075	-0.6433

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_A05_S50	SOL	1	05:13:41	484	61.9445	-0.6677
1517S_NEF_A05_S50	-	2	05:14:24	-	61.9445	-0.6678
1517S_NEF_A05_S50	-	3	05:14:55	-	61.9445	-0.6679
1517S_NEF_A05_S50	-	4	05:15:03	-	61.9445	-0.6679
1517S_NEF_A05_S50	-	5	05:15:38	-	61.9444	-0.668
1517S_NEF_A05_S50	-	6	05:16:09	-	61.9444	-0.6682
1517S_NEF_A05_S50	-	7	05:16:14	-	61.9444	-0.6682
1517S_NEF_A05_S50	-	8	05:16:36	-	61.9444	-0.6683
1517S_NEF_A05_S50	-	9	05:16:54	-	61.9444	-0.6683
1517S_NEF_A05_S50	-	10	05:17:13	-	61.9443	-0.6684
1517S_NEF_A05_S50	-	11	05:17:26	-	61.9443	-0.6684
1517S_NEF_A05_S50	-	12	05:17:44	-	61.9443	-0.6685
1517S_NEF_A05_S50	-	13	05:18:01	-	61.9442	-0.6685
1517S_NEF_A05_S50	-	14	05:18:13	-	61.9443	-0.6686
1517S_NEF_A05_S50	-	15	05:19:18	-	61.9442	-0.6689
1517S_NEF_A05_S50	-	16	05:19:56	-	61.9442	-0.669
1517S_NEF_A05_S50	-	17	05:20:17	-	61.9442	-0.6691
1517S_NEF_A05_S50	-	18	05:20:41	-	61.9441	-0.6691
1517S_NEF_A05_S50	-	19	05:21:02	-	61.9441	-0.6693
1517S_NEF_A05_S50	-	20	05:21:11	-	61.9441	-0.6693
1517S_NEF_A05_S50	-	21	05:21:35	-	61.9441	-0.6693
1517S_NEF_A05_S50	-	22	05:22:17	-	61.944	-0.6696
1517S_NEF_A05_S50	-	23	05:22:45	-	61.944	-0.6697
1517S_NEF_A05_S50	-	24	05:23:54	-	61.9439	-0.67
1517S_NEF_A05_S50	-	25	05:24:12	-	61.9438	-0.67
1517S_NEF_A05_S50	-	26	05:25:01	-	61.9438	-0.6702
1517S_NEF_A05_S50	-	27	05:25:46	-	61.9438	-0.6703
1517S_NEF_A05_S50	-	28	05:25:54	-	61.9437	-0.6705
1517S_NEF_A05_S50	EOL	29	05:26:29	486	61.9437	-0.6706

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B04_S51	SOL	1	07:29:31	425	61.8532	-0.7846
1517S_NEF_B04_S51	-	2	07:30:33	-	61.8531	-0.7846
1517S_NEF_B04_S51	-	3	07:31:41	-	61.8531	-0.7847
1517S_NEF_B04_S51	-	4	07:32:23	-	61.8531	-0.7848
1517S_NEF_B04_S51	-	5	07:32:45	-	61.853	-0.7848
1517S_NEF_B04_S51	-	6	07:33:32	-	61.853	-0.7849
1517S_NEF_B04_S51	-	7	07:33:59	-	61.8529	-0.785
1517S_NEF_B04_S51	-	8	07:34:52	-	61.8529	-0.7851
1517S_NEF_B04_S51	-	9	07:35:12	-	61.8529	-0.7851
1517S_NEF_B04_S51	-	10	07:35:45	-	61.8529	-0.7852
1517S_NEF_B04_S51	-	11	07:36:28	-	61.8528	-0.7854
1517S_NEF_B04_S51	-	12	07:37:04	-	61.8528	-0.7854
1517S_NEF_B04_S51	-	13	07:37:25	-	61.8528	-0.7855
1517S_NEF_B04_S51	-	14	07:37:50	-	61.8527	-0.7856
1517S_NEF_B04_S51	-	15	07:38:01	-	61.8527	-0.7856
1517S_NEF_B04_S51	-	16	07:39:00	-	61.8527	-0.7857
1517S_NEF_B04_S51	-	17	07:39:08	-	61.8526	-0.7858
1517S_NEF_B04_S51	-	18	07:39:55	-	61.8526	-0.786
1517S_NEF_B04_S51	-	19	07:40:39	-	61.8525	-0.7861
1517S_NEF_B04_S51	-	20	07:41:24	-	61.8525	-0.7862
1517S_NEF_B04_S51	EOL	21	07:41:56	426	61.8525	-0.7863
1517S_NEF_B08_S52	SOL	1	08:45:11	495	61.8483	-0.8676
1517S_NEF_B08_S52	-	2	08:45:59	-	61.8483	-0.8677
1517S_NEF_B08_S52	-	3	08:46:41	-	61.8483	-0.8677
1517S_NEF_B08_S52	-	4	08:47:10	-	61.8483	-0.8679
1517S_NEF_B08_S52	-	5	08:48:29	-	61.8483	-0.8681
1517S_NEF_B08_S52	-	6	08:49:09	-	61.8483	-0.8681
1517S_NEF_B08_S52	-	7	08:49:40	-	61.8484	-0.8681
1517S_NEF_B08_S52	-	8	08:50:19	-	61.8483	-0.8684

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B08_S52	-	9	08:50:33	-	61.8483	-0.8684
1517S_NEF_B08_S52	-	10	08:51:28	-	61.8483	-0.8684
1517S_NEF_B08_S52	-	11	08:52:03	-	61.8482	-0.8686
1517S_NEF_B08_S52	-	12	08:52:40	-	61.8482	-0.8685
1517S_NEF_B08_S52	-	13	08:53:12	-	61.8481	-0.8686
1517S_NEF_B08_S52	-	14	08:53:33	-	61.8481	-0.8687
1517S_NEF_B08_S52	-	15	08:54:37	-	61.8480	-0.8689
1517S_NEF_B08_S52	-	16	08:54:50	-	61.8480	-0.8689
1517S_NEF_B08_S52	-	17	08:55:05	-	61.8480	-0.8689
1517S_NEF_B08_S52	-	18	08:55:50	-	61.8479	-0.8690
1517S_NEF_B08_S52	-	19	08:56:00	-	61.8479	-0.8690
1517S_NEF_B08_S52	-	20	08:56:42	-	61.8479	-0.8690
1517S_NEF_B08_S52	-	21	08:57:14	-	61.8479	-0.8692
1517S_NEF_B08_S52	EOL	22	08:57:43	495	61.8479	-0.8692
1517S_NEF_B02_S53	SOL	1	10:04:49	480	61.8174	-0.9384
1517S_NEF_B02_S53	-	2	10:05:36	-	61.8174	-0.9385
1517S_NEF_B02_S53	-	3	10:06:49	-	61.8174	-0.9387
1517S_NEF_B02_S53	-	4	10:07:35	-	61.8174	-0.9387
1517S_NEF_B02_S53	-	5	10:08:44	-	61.8175	-0.9389
1517S_NEF_B02_S53	-	6	10:09:23	-	61.8175	-0.939
1517S_NEF_B02_S53	-	7	10:09:42	-	61.8174	-0.9391
1517S_NEF_B02_S53	-	8	10:10:14	-	61.8174	-0.9389
1517S_NEF_B02_S53	-	9	10:10:42	-	61.8175	-0.9394
1517S_NEF_B02_S53	-	10	10:11:02	-	61.8175	-0.9395
1517S_NEF_B02_S53	-	11	10:12:17	-	61.8175	-0.9397
1517S_NEF_B02_S53	-	12	10:12:47	-	61.8175	-0.9398
1517S_NEF_B02_S53	-	13	10:13:35	-	61.8175	-0.94
1517S_NEF_B02_S53	-	14	10:13:50	-	61.8175	-0.94
1517S_NEF_B02_S53	-	15	10:14:11	-	61.8175	-0.9401

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B02_S53	-	16	10:14:50	-	61.8175	-0.9403
1517S_NEF_B02_S53	-	17	10:15:17	-	61.8175	-0.9404
1517S_NEF_B02_S53	-	18	10:15:46	-	61.8175	-0.9405
1517S_NEF_B02_S53	-	19	10:16:26	-	61.8176	-0.9407
1517S_NEF_B02_S53	EOL	20	10:17:04	485	61.8175	-0.9409
1517S_NEF_B13_S54	SOL	1	11:29:53	414	61.7736	-0.9473
1517S_NEF_B13_S54	-	2	11:31:13	-	61.7735	-0.9473
1517S_NEF_B13_S54	-	3	11:31:44	-	61.7735	-0.9473
1517S_NEF_B13_S54	-	4	11:32:06	-	61.7734	-0.9473
1517S_NEF_B13_S54	-	5	11:32:46	-	61.7734	-0.9473
1517S_NEF_B13_S54	-	6	11:33:03	-	61.7734	-0.9474
1517S_NEF_B13_S54	-	7	11:33:16	-	61.7734	-0.9474
1517S_NEF_B13_S54	-	8	11:33:46	-	61.7733	-0.9476
1517S_NEF_B13_S54	-	9	11:34:22	-	61.7733	-0.9477
1517S_NEF_B13_S54	-	10	11:34:47	-	61.7732	-0.9476
1517S_NEF_B13_S54	-	11	11:35:14	-	61.7732	-0.9476
1517S_NEF_B13_S54	-	12	11:35:43	-	61.7731	-0.9478
1517S_NEF_B13_S54	-	13	11:35:54	-	61.7731	-0.9479
1517S_NEF_B13_S54	-	14	11:36:13	-	61.7731	-0.9479
1517S_NEF_B13_S54	-	15	11:36:54	-	61.7730	-0.9480
1517S_NEF_B13_S54	-	16	11:37:06	-	61.7730	-0.9480
1517S_NEF_B13_S54	-	17	11:38:01	-	61.7729	-0.9482
1517S_NEF_B13_S54	-	18	11:38:10	-	61.7729	-0.9482
1517S_NEF_B13_S54	-	19	11:38:47	-	61.7728	-0.9485
1517S_NEF_B13_S54	EOL	20	11:39:45	410	61.7727	-0.9487
1517S_NEF_B03_S55	SOL	1	12:36:43	428	61.7399	-1.0321
1517S_NEF_B03_S55	-	2	12:36:51	-	61.7399	-1.0324
1517S_NEF_B03_S55	-	3	12:37:30	-	61.7399	-1.0324
1517S_NEF_B03_S55	-	4	12:37:58	-	61.7398	-1.0322

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B03_S55	-	5	12:38:31	-	61.7398	-1.0323
1517S_NEF_B03_S55	-	6	12:38:49	-	61.7398	-1.0323
1517S_NEF_B03_S55	-	7	12:39:19	-	61.7397	-1.0322
1517S_NEF_B03_S55	-	8	12:39:48	-	61.7397	-1.0323
1517S_NEF_B03_S55	-	9	12:40:16	-	61.7396	-1.0325
1517S_NEF_B03_S55	-	10	12:40:34	-	61.7396	-1.0325
1517S_NEF_B03_S55	-	11	12:41:08	-	61.7395	-1.0325
1517S_NEF_B03_S55	-	12	12:41:28	-	61.7394	-1.0326
1517S_NEF_B03_S55	-	13	12:41:47	-	61.7394	-1.0326
1517S_NEF_B03_S55	-	14	12:42:15	-	61.7394	-1.0325
1517S_NEF_B03_S55	-	15	12:42:54	-	61.7394	-1.0325
1517S_NEF_B03_S55	-	16	12:43:04	-	61.7393	-1.0326
1517S_NEF_B03_S55	-	17	12:43:46	-	61.7392	-1.0327
1517S_NEF_B03_S55	-	18	12:44:02	-	61.7392	-1.0327
1517S_NEF_B03_S55	-	19	12:44:33	-	61.7391	-1.0328
1517S_NEF_B03_S55	-	20	12:44:39	-	61.7391	-1.0328
1517S_NEF_B03_S55	-	21	12:44:48	-	61.7391	-1.0328
1517S_NEF_B03_S55	EOL	22	12:45:03	427	61.739	-1.0329
1517S_NEF_B14_S56	SOL	1	13:51:56	431	61.7075	-1.0818
1517S_NEF_B14_S56	-	2	13:52:26	-	61.7075	-1.0819
1517S_NEF_B14_S56	-	3	13:52:41	-	61.7074	-1.0818
1517S_NEF_B14_S56	-	4	13:52:59	-	61.7074	-1.0820
1517S_NEF_B14_S56	-	5	13:53:35	-	61.7073	-1.0821
1517S_NEF_B14_S56	-	6	13:53:55	-	61.7074	-1.0822
1517S_NEF_B14_S56	-	7	13:54:23	-	61.7073	-1.0823
1517S_NEF_B14_S56	-	8	13:54:38	-	61.7073	-1.0824
1517S_NEF_B14_S56	-	9	13:54:49	-	61.7072	-1.0824
1517S_NEF_B14_S56	-	10	13:54:59	-	61.7072	-1.0824
1517S_NEF_B14_S56	-	11	13:55:19	-	61.7072	-1.0824

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B14_S56	-	12	13:55:29	-	61.7072	-1.0825
1517S_NEF_B14_S56	-	13	13:55:59	-	61.7071	-1.0826
1517S_NEF_B14_S56	-	14	13:56:28	-	61.7071	-1.0827
1517S_NEF_B14_S56	-	15	13:56:45	-	61.7070	-1.0827
1517S_NEF_B14_S56	-	16	13:57:22	-	61.7069	-1.0829
1517S_NEF_B14_S56	-	17	13:57:54	-	61.7068	-1.0831
1517S_NEF_B14_S56	-	18	13:58:16	-	61.7068	-1.0831
1517S_NEF_B14_S56	-	19	13:58:30	-	61.7069	-1.0832
1517S_NEF_B14_S56	EOL	20	13:58:53	434	61.7068	-1.0833
1517S_NEF_B15_S57	SOL	1	14:52:50	723	61.6909	-1.1548
1517S_NEF_B15_S57	-	2	14:53:13	-	61.6908	-1.1549
1517S_NEF_B15_S57	-	3	14:53:34	-	61.6908	-1.155
1517S_NEF_B15_S57	-	4	14:53:47	-	61.6906	-1.1549
1517S_NEF_B15_S57	-	5	14:54:08	-	61.6908	-1.1549
1517S_NEF_B15_S57	-	6	14:54:19	-	61.6908	-1.1549
1517S_NEF_B15_S57	-	7	14:54:38	-	61.6908	-1.1549
1517S_NEF_B15_S57	-	8	14:55:06	-	61.6908	-1.1551
1517S_NEF_B15_S57	-	9	14:55:35	-	61.6907	-1.1551
1517S_NEF_B15_S57	-	10	14:55:52	-	61.6907	-1.1552
1517S_NEF_B15_S57	-	11	14:56:21	-	61.6907	-1.1554
1517S_NEF_B15_S57	-	12	14:57:23	-	61.6906	-1.1554
1517S_NEF_B15_S57	-	13	14:57:59	-	61.6905	-1.1555
1517S_NEF_B15_S57	-	14	14:58:38	-	61.6906	-1.1558
1517S_NEF_B15_S57	-	15	14:59:20	-	61.6905	-1.156
1517S_NEF_B15_S57	-	16	14:59:34	-	61.6903	-1.1559
1517S_NEF_B15_S57	-	17	14:59:55	-	61.6903	-1.1559
1517S_NEF_B15_S57	-	18	15:00:22	-	61.6904	-1.1562
1517S_NEF_B15_S57	-	19	15:00:34	-	61.6903	-1.1563
1517S_NEF_B15_S57	EOL	20	15:01:04	819	61.6903	-1.1561

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B16_S58	SOL	1	15:52:06	-	61.6599	-1.1945
1517S_NEF_B16_S58	-	2	15:52:28	-	61.6599	-1.1946
1517S_NEF_B16_S58	-	3	15:52:54	-	61.6599	-1.1947
1517S_NEF_B16_S58	-	4	15:53:30	-	61.6599	-1.1948
1517S_NEF_B16_S58	-	5	15:53:41	-	61.6599	-1.1949
1517S_NEF_B16_S58	-	6	15:54:11	-	61.6599	-1.195
1517S_NEF_B16_S58	-	7	15:54:52	-	61.6599	-1.1952
1517S_NEF_B16_S58	-	8	15:55:11	-	61.6599	-1.1952
1517S_NEF_B16_S58	-	9	15:55:25	-	61.6599	-1.1954
1517S_NEF_B16_S58	-	10	15:55:47	-	61.6599	-1.1954
1517S_NEF_B16_S58	-	11	15:56:01	-	61.6599	-1.1955
1517S_NEF_B16_S58	-	12	15:56:10	-	61.6599	-1.1954
1517S_NEF_B16_S58	-	13	15:57:05	-	61.6599	-1.1958
1517S_NEF_B16_S58	-	14	15:57:42	-	61.6599	-1.196
1517S_NEF_B16_S58	-	15	15:58:33	-	61.6599	-1.1962
1517S_NEF_B16_S58	-	16	15:59:13	-	61.6598	-1.1964
1517S_NEF_B16_S58	-	17	15:59:39	-	61.6598	-1.1966
1517S_NEF_B16_S58	-	18	16:00:08	-	61.6598	-1.1967
1517S_NEF_B16_S58	-	19	16:00:33	-	61.6598	-1.1968
1517S_NEF_B16_S58	-	20	16:01:01	-	61.6598	-1.197
1517S_NEF_B16_S58	-	21	16:01:45	-	61.6598	-1.1972
1517S_NEF_B16_S58	EOL	22	16:02:02	479	61.6598	-1.1975
1517S_NEF_B05_S59	SOL	1	17:27:01	-	61.694	-1.2564
1517S_NEF_B05_S59	-	2	17:27:23	-	61.6941	-1.2565
1517S_NEF_B05_S59	-	3	17:27:47	-	61.6941	-1.2566
1517S_NEF_B05_S59	-	4	17:28:13	-	61.6942	-1.2566
1517S_NEF_B05_S59	-	5	17:28:23	-	61.6942	-1.2566
1517S_NEF_B05_S59	-	6	17:28:33	-	61.6942	-1.2568
1517S_NEF_B05_S59	-	7	17:28:53	-	61.6943	-1.2569

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B05_S59	-	8	17:29:15	-	61.6943	-1.257
1517S_NEF_B05_S59	-	9	17:29:42	-	61.6944	-1.257
1517S_NEF_B05_S59	-	10	17:30:07	-	61.6944	-1.2572
1517S_NEF_B05_S59	-	11	17:30:22	-	61.6945	-1.2572
1517S_NEF_B05_S59	-	12	17:30:48	-	61.6945	-1.2573
1517S_NEF_B05_S59	-	13	17:31:04	-	61.6945	-1.2574
1517S_NEF_B05_S59	-	14	17:31:40	-	61.6946	-1.2575
1517S_NEF_B05_S59	-	15	17:32:01	-	61.6946	-1.2576
1517S_NEF_B05_S59	-	16	17:32:29	-	61.6947	-1.2577
1517S_NEF_B05_S59	-	17	17:33:23	-	61.6948	-1.2579
1517S_NEF_B05_S59	-	18	17:33:35	-	61.6948	-1.2579
1517S_NEF_B05_S59	-	19	17:33:49	-	61.6949	-1.258
1517S_NEF_B05_S59	-	20	17:34:12	-	61.6949	-1.258
1517S_NEF_B05_S59	-	21	17:35:00	-	61.6951	-1.2583
1517S_NEF_B05_S59	-	22	17:35:31	-	61.6951	-1.2584
1517S_NEF_B05_S59	EOL	23	17:36:37	-	61.6953	-1.2588
1517S_NEF_B01_S60	SOL	1	19:35:44	-	61.7291	-1.1942
1517S_NEF_B01_S60	-	2	19:36:35	-	61.7292	-1.1944
1517S_NEF_B01_S60	-	3	19:37:05	-	61.7292	-1.1944
1517S_NEF_B01_S60	-	4	19:37:56	-	61.7292	-1.1948
1517S_NEF_B01_S60	-	5	19:38:14	-	61.7293	-1.1948
1517S_NEF_B01_S60	-	6	19:40:13	-	61.7293	-1.1955
1517S_NEF_B01_S60	-	7	19:41:02	-	61.7294	-1.1958
1517S_NEF_B01_S60	-	8	19:41:21	-	61.7294	-1.1959
1517S_NEF_B01_S60	-	9	19:41:55	-	61.7294	-1.1959
1517S_NEF_B01_S60	-	10	19:42:45	-	61.7294	-1.1963
1517S_NEF_B01_S60	-	11	19:43:04	-	61.7294	-1.1963
1517S_NEF_B01_S60	-	12	19:43:48	-	61.7294	-1.1965
1517S_NEF_B01_S60	-	13	19:44:09	-	61.7294	-1.1967

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B01_S60	-	14	19:44:32	-	61.7295	-1.1968
1517S_NEF_B01_S60	-	15	19:45:05	-	61.7295	-1.1969
1517S_NEF_B01_S60	-	16	19:45:17	-	61.7295	-1.1971
1517S_NEF_B01_S60	-	17	19:45:39	-	61.7295	-1.1973
1517S_NEF_B01_S60	EOL	18	19:45:58	-	61.7295	-1.1973
1517S_NEF_B06_S61	SOL	1	21:03:00	490	61.7486	-1.1082
1517S_NEF_B06_S61	-	2	21:03:18	-	61.7486	-1.1083
1517S_NEF_B06_S61	-	3	21:04:12	-	61.7486	-1.1085
1517S_NEF_B06_S61	-	4	21:04:35	-	61.7486	-1.1087
1517S_NEF_B06_S61	-	5	21:04:55	-	61.7486	-1.1088
1517S_NEF_B06_S61	-	6	21:05:18	-	61.7486	-1.1088
1517S_NEF_B06_S61	-	7	21:05:45	-	61.7486	-1.1091
1517S_NEF_B06_S61	-	8	21:06:09	-	61.7486	-1.1091
1517S_NEF_B06_S61	-	9	21:06:28	-	61.7486	-1.1092
1517S_NEF_B06_S61	-	10	21:06:45	-	61.7486	-1.1092
1517S_NEF_B06_S61	-	11	21:07:15	-	61.7486	-1.1093
1517S_NEF_B06_S61	-	12	21:07:39	-	61.7486	-1.1095
1517S_NEF_B06_S61	-	13	21:07:49	-	61.7486	-1.1096
1517S_NEF_B06_S61	-	14	21:09:02	-	61.7485	-1.1099
1517S_NEF_B06_S61	-	15	21:09:36	-	61.7486	-1.1101
1517S_NEF_B06_S61	-	16	21:10:03	-	61.7486	-1.1103
1517S_NEF_B06_S61	-	17	21:10:30	-	61.7486	-1.1105
1517S_NEF_B06_S61	-	18	21:10:50	-	61.7486	-1.1107
1517S_NEF_B06_S61	-	19	21:11:12	-	61.7486	-1.1108
1517S_NEF_B06_S61	-	20	21:11:38	-	61.7486	-1.1108
1517S_NEF_B06_S61	-	21	21:11:55	-	61.7485	-1.1109
1517S_NEF_B06_S61	-	22	21:12:46	-	61.7429	-1.1213
1517S_NEF_B06_S61	-	23	21:12:52	-	61.7429	-1.1213
1517S_NEF_B06_S61	EOL	24	21:13:09	498	61.7487	-1.1115

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B07_S62	SOL	1	22:20:11	-	61.7769	-1.0387
1517S_NEF_B07_S62	-	2	22:20:26	-	61.7769	-1.0388
1517S_NEF_B07_S62	-	3	22:20:35	-	61.7769	-1.0388
1517S_NEF_B07_S62	-	4	22:21:01	-	61.777	-1.0389
1517S_NEF_B07_S62	-	5	22:21:14	-	61.777	-1.039
1517S_NEF_B07_S62	-	6	22:21:27	-	61.777	-1.039
1517S_NEF_B07_S62	-	7	22:21:39	-	61.777	-1.039
1517S_NEF_B07_S62	-	8	22:21:51	-	61.777	-1.0391
1517S_NEF_B07_S62	-	9	22:22:14	-	61.7771	-1.0392
1517S_NEF_B07_S62	-	10	22:23:00	-	61.7771	-1.0394
1517S_NEF_B07_S62	-	11	22:23:10	-	61.7771	-1.0394
1517S_NEF_B07_S62	-	12	22:23:55	-	61.7772	-1.0396
1517S_NEF_B07_S62	-	13	22:24:15	-	61.7772	-1.0397
1517S_NEF_B07_S62	-	14	22:25:07	-	61.7772	-1.0398
1517S_NEF_B07_S62	-	15	22:26:28	-	61.7774	-1.0403
1517S_NEF_B07_S62	-	16	22:26:38	-	61.7774	-1.0403
1517S_NEF_B07_S62	-	17	22:27:10	-	61.7774	-1.0404
1517S_NEF_B07_S62	-	18	22:27:35	-	61.7775	-1.0405
1517S_NEF_B07_S62	-	19	22:28:19	-	61.7775	-1.0407
1517S_NEF_B07_S62	-	20	22:28:31	-	61.7775	-1.0408
1517S_NEF_B07_S62	-	21	22:29:03	-	61.7776	-1.0409
1517S_NEF_B07_S62	-	22	22:29:24	-	61.7776	-1.041
1517S_NEF_B07_S62	-	23	22:29:32	-	61.7776	-1.041
1517S_NEF_B07_S62	-	24	22:30:02	-	61.7776	-1.0411
1517S_NEF_B07_S62	-	25	22:30:32	-	61.7777	-1.0414
1517S_NEF_B07_S62	-	26	22:30:59	-	61.7777	-1.0415
1517S_NEF_B07_S62	EOL	27	22:31:30	-	61.7778	-1.0415
1517S_NEF_B12_S63	SOL	1	23:44:39	422	61.8045	-0.8865
1517S_NEF_B12_S63	-	2	23:44:11	-	61.8045	-0.8866

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B12_S63	-	3	23:45:55	-	61.8045	-0.8867
1517S_NEF_B12_S63	-	4	23:46:14	-	61.8045	-0.8868
1517S_NEF_B12_S63	-	5	23:46:51	-	61.8045	-0.8869
1517S_NEF_B12_S63	-	6	23:47:15	-	61.8045	-0.887
1517S_NEF_B12_S63	-	7	23:47:39	-	61.8044	-0.8869
1517S_NEF_B12_S63	-	8	23:48:07	-	61.8045	-0.8871
1517S_NEF_B12_S63	-	9	23:48:37	-	61.8045	-0.8873
1517S_NEF_B12_S63	-	10	23:48:59	-	61.8045	-0.8873
1517S_NEF_B12_S63	-	11	23:49:20	-	61.8045	-0.8875
1517S_NEF_B12_S63	-	12	23:50:11	-	61.8045	-0.8876
1517S_NEF_B12_S63	-	13	23:50:44	-	61.8045	-0.8877
1517S_NEF_B12_S63	-	14	23:51:25	-	61.8045	-0.888
1517S_NEF_B12_S63	-	15	23:52:10	-	61.8045	-0.8881
1517S_NEF_B12_S63	-	16	23:53:03	-	61.8044	-0.8883
1517S_NEF_B12_S63	-	17	23:53:44	-	61.8045	-0.8885
1517S_NEF_B12_S63	-	18	23:54:28	-	61.8044	-0.8887
1517S_NEF_B12_S63	-	19	23:55:25	-	61.8045	-0.8892
1517S_NEF_B11_S64	EOL	20	23:55:55	425	61.8044	-0.8892
1517S_NEF_B11_S64	SOL	1	00:51:22	421	61.826	-0.836
1517S_NEF_B11_S64	-	2	00:51:44	-	61.826	-0.8362
1517S_NEF_B11_S64	-	3	00:52:11	-	61.826	-0.8361
1517S_NEF_B11_S64	-	4	00:52:37	-	61.826	-0.8364
1517S_NEF_B11_S64	-	5	00:53:14	-	61.8259	-0.8365
1517S_NEF_B11_S64	-	6	00:53:42	-	61.8259	-0.8365
1517S_NEF_B11_S64	-	7	00:54:06	-	61.8259	-0.8367
1517S_NEF_B11_S64	-	8	00:54:26	-	61.8259	-0.8368
1517S_NEF_B11_S64	-	9	00:54:45	-	61.8258	-0.8367
1517S_NEF_B11_S64	-	10	00:55:20	-	61.8258	-0.8369
1517S_NEF_B11_S64	-	11	00:55:49	-	61.8258	-0.837

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B11_S64	-	12	00:56:20	-	61.8257	-0.8372
1517S_NEF_B11_S64	-	13	00:56:46	-	61.8257	-0.8373
1517S_NEF_B11_S64	-	14	00:57:15	-	61.8257	-0.8374
1517S_NEF_B11_S64	-	15	00:57:37	-	61.8256	-0.8375
1517S_NEF_B11_S64	-	16	00:58:25	-	61.8256	-0.8377
1517S_NEF_B11_S64	-	17	00:58:42	-	61.8256	-0.838
1517S_NEF_B11_S64	-	18	00:59:06	-	61.8255	-0.8379
1517S_NEF_B11_S64	-	19	00:59:26	-	61.8255	-0.8382
1517S_NEF_B11_S64	-	20	00:59:55	-	61.8255	-0.8381
1517S_NEF_B11_S64	EOL	21	01:00:26	-	61.8255	-0.8383
1517S_NEF_B09_S65	SOL	1	01:51:51	495	61.8749	-0.8364
1517S_NEF_B09_S65	-	2	01:52:36	-	61.8748	-0.8365
1517S_NEF_B09_S65	-	3	01:53:08	-	61.8749	-0.8366
1517S_NEF_B09_S65	-	4	01:53:34	-	61.8749	-0.8368
1517S_NEF_B09_S65	-	5	01:54:00	-	61.8749	-0.8368
1517S_NEF_B09_S65	-	6	01:54:25	-	61.8749	-0.8369
1517S_NEF_B09_S65	-	7	01:55:12	-	61.8749	-0.8371
1517S_NEF_B09_S65	-	8	01:55:35	-	61.8749	-0.8371
1517S_NEF_B09_S65	-	9	01:56:18	-	61.875	-0.8373
1517S_NEF_B09_S65	-	10	01:56:43	-	61.875	-0.8373
1517S_NEF_B09_S65	-	11	01:57:22	-	61.875	-0.8375
1517S_NEF_B09_S65	-	12	01:57:38	-	61.875	-0.8376
1517S_NEF_B09_S65	-	13	01:57:59	-	61.875	-0.8377
1517S_NEF_B09_S65	-	14	01:58:14	-	61.875	-0.8378
1517S_NEF_B09_S65	-	15	01:58:29	-	61.875	-0.8378
1517S_NEF_B09_S65	-	16	01:59:04	-	61.875	-0.8378
1517S_NEF_B09_S65	-	17	01:59:25	-	61.875	-0.8381
1517S_NEF_B09_S65	-	18	01:59:44	-	61.875	-0.8382
1517S_NEF_B09_S65	-	19	02:00:17	-	61.875	-0.8383

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_B09_S65	-	20	02:00:27	-	61.875	-0.8383
1517S_NEF_B09_S65	-	21	02:00:40	-	61.875	-0.8383
1517S_NEF_B09_S65	EOL	22	02:01:12	495	61.875	-0.8384
1517S_NEF_B10_S66	SOL	1	02:55:36	490	61.9031	-0.7849
1517S_NEF_B10_S66	-	2	02:55:49	-	61.9031	-0.7849
1517S_NEF_B10_S66	-	3	02:56:35	-	61.9032	-0.785
1517S_NEF_B10_S66	-	4	02:57:39	-	61.9032	-0.7854
1517S_NEF_B10_S66	-	5	02:58:06	-	61.9032	-0.7855
1517S_NEF_B10_S66	-	6	02:58:25	-	61.9032	-0.7855
1517S_NEF_B10_S66	-	7	02:58:50	-	61.9032	-0.7856
1517S_NEF_B10_S66	-	8	02:59:20	-	61.9032	-0.7857
1517S_NEF_B10_S66	-	9	02:59:44	-	61.9032	-0.7858
1517S_NEF_B10_S66	-	10	03:00:02	-	61.9031	-0.7859
1517S_NEF_B10_S66	-	11	03:00:22	-	61.9031	-0.7859
1517S_NEF_B10_S66	-	12	03:00:48	-	61.9031	-0.786
1517S_NEF_B10_S66	-	13	03:01:10	-	61.9031	-0.7861
1517S_NEF_B10_S66	-	14	03:01:35	-	61.9031	-0.7863
1517S_NEF_B10_S66	-	15	03:02:02	-	61.9031	-0.7863
1517S_NEF_B10_S66	-	16	03:02:13	-	61.9031	-0.7864
1517S_NEF_B10_S66	-	17	03:02:39	-	61.9031	-0.7866
1517S_NEF_B10_S66	-	18	03:03:02	-	61.903	-0.7866
1517S_NEF_B10_S66	-	19	03:03:14	-	61.903	-0.7868
1517S_NEF_B10_S66	-	20	03:03:52	-	61.903	-0.7869
1517S_NEF_B10_S66	-	21	03:04:10	-	61.903	-0.787
1517S_NEF_B10_S66	-	22	03:04:35	-	61.903	-0.787
1517S_NEF_B10_S66	-	23	03:05:27	-	61.903	-0.7871
1517S_NEF_B10_S66	EOL	24	03:06:03	485	61.9029	-0.7875
1517S_NEF_C01_S67	SOL	1	06:43:48	472	62.0593	0.1429
1517S_NEF_C01_S67	-	2	06:44:12	-	62.0593	0.143

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_C01_S67	-	3	06:44:22	-	62.0593	0.1429
1517S_NEF_C01_S67	-	4	06:44:39	-	62.0593	0.1428
1517S_NEF_C01_S67	-	5	06:45:08	-	62.0592	0.1426
1517S_NEF_C01_S67	-	6	06:45:42	-	62.0592	0.1423
1517S_NEF_C01_S67	-	7	06:46:33	-	62.0592	0.142
1517S_NEF_C01_S67	-	8	06:47:00	-	62.0591	0.1419
1517S_NEF_C01_S67	-	9	06:47:19	-	62.0591	0.1418
1517S_NEF_C01_S67	-	10	06:48:04	-	62.059	0.1416
1517S_NEF_C01_S67	-	11	06:48:24	-	62.059	0.1414
1517S_NEF_C01_S67	-	12	06:48:43	-	62.059	0.1413
1517S_NEF_C01_S67	-	13	06:49:35	-	62.059	0.141
1517S_NEF_C01_S67	-	14	06:49:55	-	62.0589	0.1409
1517S_NEF_C01_S67	-	15	06:50:10	-	62.0589	0.1409
1517S_NEF_C01_S67	-	16	06:50:52	-	62.0589	0.1405
1517S_NEF_C01_S67	-	17	06:51:09	-	62.0589	0.1405
1517S_NEF_C01_S67	-	18	06:51:18	-	62.0588	0.1403
1517S_NEF_C01_S67	-	19	06:51:39	-	62.0588	0.1403
1517S_NEF_C01_S67	-	20	06:51:44	-	62.0588	0.1402
1517S_NEF_C01_S67	EOL	21	06:52:13	473	62.0588	0.1399
1517S_NEF_C013_S68	SOL	1	08:07:51	430	62.052	0.2893
1517S_NEF_C013_S68	-	2	08:08:25	-	62.052	0.2893
1517S_NEF_C013_S68	-	3	08:08:58	-	62.052	0.2892
1517S_NEF_C013_S68	-	4	08:09:42	-	62.052	0.2889
1517S_NEF_C013_S68	-	5	08:10:01	-	62.052	0.2889
1517S_NEF_C013_S68	-	6	08:10:14	-	62.052	0.2888
1517S_NEF_C013_S68	-	7	08:10:55	-	62.052	0.2888
1517S_NEF_C013_S68	-	8	08:11:12	-	62.052	0.2886
1517S_NEF_C013_S68	-	9	08:11:46	-	62.052	0.2883
1517S_NEF_C013_S68	-	10	08:12:26	-	62.052	0.2883

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_C013_S68	-	11	08:12:33	-	62.052	0.2882
1517S_NEF_C013_S68	-	12	08:13:10	-	62.0519	0.2881
1517S_NEF_C013_S68	-	13	08:13:18	-	62.0519	0.2881
1517S_NEF_C013_S68	-	14	08:13:20	-	62.0519	0.2881
1517S_NEF_C013_S68	-	15	08:13:42	-	62.0519	0.2881
1517S_NEF_C013_S68	-	16	08:13:59	-	62.0519	0.2881
1517S_NEF_C013_S68	-	17	08:14:17	-	62.0519	0.2878
1517S_NEF_C013_S68	-	18	08:14:59	-	62.0519	0.2876
1517S_NEF_C013_S68	-	19	08:15:13	-	62.0519	0.2876
1517S_NEF_C013_S68	-	20	08:15:45	-	62.0518	0.2874
1517S_NEF_C013_S68	-	21	08:16:42	-	62.0519	0.2873
1517S_NEF_C013_S68	-	22	08:16:55	-	62.0519	0.2873
1517S_NEF_C013_S68	-	23	08:17:11	-	62.0518	0.2871
1517S_NEF_C013_S68	-	24	08:17:16	-	62.0518	0.2871
1517S_NEF_C013_S68	-	25	08:17:23	-	62.0518	0.2871
1517S_NEF_C013_S68	-	26	08:17:59	-	62.0518	0.2868
1517S_NEF_C013_S68	-	27	08:18:13	-	62.0518	0.2868
1517S_NEF_C013_S68	-	28	08:18:32	-	62.0517	0.2867
1517S_NEF_C013_S68	-	29	08:18:51	-	62.0517	0.2866
1517S_NEF_C013_S68	-	30	08:19:38	-	62.0517	0.2863
1517S_NEF_C013_S68	-	31	08:20:12	-	62.0517	0.2863
1517S_NEF_C013_S68	EOL	32	08:20:37	428	62.0516	0.2861
1517S_NEF_C03_S69	SOL	1	09:24:40	425	62.0602	0.3593
1517S_NEF_C03_S69	-	2	09:24:59	-	62.0602	0.3593
1517S_NEF_C03_S69	-	3	09:25:25	-	62.0602	0.3593
1517S_NEF_C03_S69	-	4	09:26:10	-	62.0602	0.3592
1517S_NEF_C03_S69	-	5	09:26:27	-	62.0602	0.3590
1517S_NEF_C03_S69	-	6	09:28:14	-	62.0602	0.3584
1517S_NEF_C03_S69	-	7	09:28:55	-	62.060075	0.353895

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_C03_S69	-	8	09:29:37	-	62.0601	0.3580
1517S_NEF_C03_S69	-	9	09:30:22	-	62.0601	0.3579
1517S_NEF_C03_S69	-	10	09:30:36	-	62.0601	0.3579
1517S_NEF_C03_S69	-	11	09:30:54	-	62.0601	0.3579
1517S_NEF_C03_S69	-	12	09:31:30	-	62.0601	0.3576
1517S_NEF_C03_S69	-	13	09:31:52	-	62.0601	0.3576
1517S_NEF_C03_S69	-	14	09:31:59	-	62.0601	0.3574
1517S_NEF_C03_S69	-	15	09:32:24	-	62.0601	0.3574
1517S_NEF_C03_S69	-	16	09:33:19	-	62.0600	0.3571
1517S_NEF_C03_S69	-	17	09:33:27	-	62.0600	0.3570
1517S_NEF_C03_S69	-	18	09:34:05	-	62.0600	0.3568
1517S_NEF_C03_S69	-	19	09:34:39	-	62.0600	0.3567
1517S_NEF_C03_S69	-	20	09:34:48	-	62.0600	0.3566
1517S_NEF_C03_S69	-	21	09:35:23	-	62.0601	0.3564
1517S_NEF_C03_S69	-	22	09:36:03	-	62.0600	0.3562
1517S_NEF_C03_S69	-	23	09:36:12	-	62.0600	0.3561
1517S_NEF_C03_S69	EOL	24	09:36:28	427	62.0600	0.3561
1517S_NEF_C02_S70	n/a	n/a	11:50:00	470	62.105000	0.497000
1517S_NEF_C04_S71	SOL	1	12:38:40	530	62.0805	0.6626
1517S_NEF_C04_S71	-	2	12:39:29	-	62.0805	0.6622
1517S_NEF_C04_S71	-	3	12:40:21	-	62.0805	0.6619
1517S_NEF_C04_S71	-	4	12:40:22	-	N/A	N/A
1517S_NEF_C04_S71	-	5	12:40:45	-	62.0805	0.6616
1517S_NEF_C04_S71	-	6	12:41:11	-	62.0805	0.6615
1517S_NEF_C04_S71	-	7	12:41:35	-	62.0805	0.6612
1517S_NEF_C04_S71	-	8	12:43:02	-	62.0805	0.6606
1517S_NEF_C04_S71	-	9	12:43:12	-	62.0805	0.6606
1517S_NEF_C04_S71	-	10	12:44:17	-	62.0806	0.6600
1517S_NEF_C04_S71	-	11	12:44:42	-	62.0806	0.6598

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_C04_S71	-	12	12:44:51	-	62.0806	0.6598
1517S_NEF_C04_S71	-	13	12:45:17	-	62.0805	0.6595
1517S_NEF_C04_S71	-	14	12:45:44	-	62.0805	0.6594
1517S_NEF_C04_S71	-	15	12:46:07	-	62.0804	0.6592
1517S_NEF_C04_S71	-	16	12:47:07	-	62.0805	0.6588
1517S_NEF_C04_S71	EOL	17	12:47:27	529	62.0805	0.6586
1517S_WTR_A78_S72	SOL	1	05:04:42	476	59.8090	-6.2999
1517S_WTR_A78_S72	-	2	05:05:26	-	59.8090	-6.3002
1517S_WTR_A78_S72	-	3	05:06:07	-	59.8090	-6.3003
1517S_WTR_A78_S72	-	4	05:06:38	-	59.8090	-6.3005
1517S_WTR_A78_S72	-	5	05:07:07	-	59.8090	-6.3006
1517S_WTR_A78_S72	-	6	05:07:52	-	59.8091	-6.3009
1517S_WTR_A78_S72	-	7	05:09:10	-	59.80905	-6.30109
1517S_WTR_A78_S72	-	8	05:09:51	-	59.80916	-6.30118
1517S_WTR_A78_S72	-	9	05:10:17	-	59.80906	-6.30133
1517S_WTR_A78_S72	-	10	05:10:42	-	59.80913	-6.30144
1517S_WTR_A78_S72	-	11	05:11:12	-	59.80911	-6.30169
1517S_WTR_A78_S72	-	12	05:11:44	-	59.80909	-6.30188
1517S_WTR_A78_S72	-	13	05:12:19	-	59.80891	-6.30193
1517S_WTR_A78_S72	-	14	05:12:59	-	59.80903	-6.30213
1517S_WTR_A78_S72	-	15	05:13:40	-	59.8090	-6.3024
1517S_WTR_A78_S72	-	16	05:14:07	-	-59.80889	-6.30256
1517S_WTR_A78_S72	-	17	05:15:11	-	59.8088	-6.3028
1517S_WTR_A78_S72	-	18	05:15:30	-	59.80885	-6.30302
1517S_WTR_A78_S72	-	19	05:16:12	-	59.8087	-6.3032
1517S_WTR_A78_S72	-	20	05:16:53	-	59.8090	-6.3035
1517S_WTR_A78_S72	-	21	05:17:47	-	59.80864	-6.30343
1517S_WTR_A78_S72	-	22	05:18:33	-	59.80880	-6.30370
1517S_WTR_A78_S72	-	23	05:19:03	-	59.8085	-6.3037

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A78_S72	-	24	05:19:21	-	59.8086	-6.3038
1517S_WTR_A78_S72	-	25	05:19:58	-	59.80854	-6.30398
1517S_WTR_A78_S72	-	26	05:20:26	-	59.80832	-6.30395
1517S_WTR_A78_S72	-	27	05:20:48	-	59.8084	-6.3042
1517S_WTR_A78_S72	-	28	05:21:10	-	59.8084	-6.3042
1517S_WTR_A78_S72	EOL	29	05:21:37	470	59.8082	-6.3043
1517S_WTR_A87_S73	SOL	1	06:37:47	479	59.8376	-6.1927
1517S_WTR_A87_S73	-	2	06:38:20	-	59.8377	-6.1928
1517S_WTR_A87_S73	-	3	06:38:56	-	59.8376	-6.1930
1517S_WTR_A87_S73	-	4	06:39:29	-	59.83772	-6.19323
1517S_WTR_A87_S73	-	5	06:40:07	-	59.8378	-6.1933
1517S_WTR_A87_S73	-	6	06:40:51	-	59.83765	-6.19352
1517S_WTR_A87_S73	-	7	06:41:22	-	59.8375	-6.1936
1517S_WTR_A87_S73	-	8	06:42:02	-	59.83758	-6.19380
1517S_WTR_A87_S73	-	9	06:42:38	-	59.8377	-6.1939
1517S_WTR_A87_S73	-	10	06:43:14	-	59.8374	-6.1940
1517S_WTR_A87_S73	-	11	06:43:53	-	59.8375	-6.1943
1517S_WTR_A87_S73	-	12	06:44:30	-	59.83747	-6.19453
1517S_WTR_A87_S73	-	13	06:45:14	-	59.83741	-6.19471
1517S_WTR_A87_S73	-	14	06:45:48	-	59.83741	-6.19492
1517S_WTR_A87_S73	-	15	06:46:21	-	59.83740	-6.19510
1517S_WTR_A87_S73	-	16	06:46:53	-	59.83752	-6.19518
1517S_WTR_A87_S73	-	17	06:47:28	-	59.83740	-6.19532
1517S_WTR_A87_S73	-	18	06:47:59	-	59.83733	-6.19547
1517S_WTR_A87_S73	-	19	06:48:37	-	59.8373	-6.1956
1517S_WTR_A87_S73	-	20	06:48:48	-	59.8374	-6.1957
1517S_WTR_A87_S73	-	21	06:49:36	-	59.8374	-6.1958
1517S_WTR_A87_S73	-	22	06:50:12	-	59.83733	-6.19596
1517S_WTR_A87_S73	-	23	06:50:45	-	59.8373	-6.1962

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A87_S73	-	24	06:51:30	-	59.83729	-6.19645
1517S_WTR_A87_S73	EOL	25	06:52:11	475	59.8373	-6.1967
1517S_WTR_A82_S74	SOL	1	07:42:06	434	59.8397	-6.2642
1517S_WTR_A82_S74	-	2	07:42:44	-	59.8395	-6.2643
1517S_WTR_A82_S74	-	3	07:44:05	-	59.83936	-6.26519
1517S_WTR_A82_S74	-	4	07:44:24	-	59.39310	-6.26521
1517S_WTR_A82_S74	-	5	07:44:37	-	59.83928	-6.26530
1517S_WTR_A82_S74	-	6	07:45:11	-	59.83921	-6.26527
1517S_WTR_A82_S74	-	7	07:45:51	-	59.83908	-6.26579
1517S_WTR_A82_S74	-	8	07:46:19	-	59.8392	-6.2655
1517S_WTR_A82_S74	-	9	07:46:52	-	59.83902	-6.26565
1517S_WTR_A82_S74	-	10	07:47:31	-	59.8390	-6.2659
1517S_WTR_A82_S74	-	11	07:48:01	-	59.83896	-6.26621
1517S_WTR_A82_S74	-	12	07:48:48	-	59.8390	-6.2664
1517S_WTR_A82_S74	-	13	07:49:36	-	59.8389	-6.2667
1517S_WTR_A82_S74	-	14	07:50:06	-	59.83893	-6.26695
1517S_WTR_A82_S74	-	15	07:50:40	-	59.8388	-6.2670
1517S_WTR_A82_S74	-	16	07:51:25	-	59.8389	-6.2673
1517S_WTR_A82_S74	-	17	07:52:07	-	59.83876	-6.26750
1517S_WTR_A82_S74	EOL	18	07:52:57	435	59.8387	-6.2678
1517S_WTR_A75_S75	SOL	1	08:51:02	504	59.8403	-6.3402
1517S_WTR_A75_S75	-	2	08:51:38	-	59.8403	-6.3405
1517S_WTR_A75_S75	-	3	08:52:11	-	59.8403	-6.3407
1517S_WTR_A75_S75	-	4	08:52:52	-	59.8400	-6.3410
1517S_WTR_A75_S75	-	5	08:53:23	-	59.8401	-6.3414
1517S_WTR_A75_S75	-	6	08:53:44	-	59.8401	-6.3415
1517S_WTR_A75_S75	-	7	08:54:00	-	59.8401	-6.3416
1517S_WTR_A75_S75	-	8	08:54:35	-	59.8400	-6.3420
1517S_WTR_A75_S75	-	9	08:54:59	-	59.8400	-6.3422

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A75_S75	-	10	08:55:26	-	59.84007	-6.34239
1517S_WTR_A75_S75	-	11	08:55:50	-	59.84011	-6.34255
1517S_WTR_A75_S75	-	12	08:56:09	-	59.8400	-6.3428
1517S_WTR_A75_S75	-	13	08:56:34	-	59.84011	-6.34300
1517S_WTR_A75_S75	-	14	08:57:12	-	59.84013	-6.34333
1517S_WTR_A75_S75	-	15	08:57:51	-	59.83998	-6.34354
1517S_WTR_A75_S75	-	16	08:58:23	-	59.83993	-6.34380
1517S_WTR_A75_S75	-	17	08:58:53	-	59.84000	-6.34398
1517S_WTR_A75_S75	-	18	08:59:19	-	59.83975	-6.34424
1517S_WTR_A75_S75	-	19	08:59:51	-	59.8398	-6.3445
1517S_WTR_A75_S75	-	20	09:00:12	-	59.8398	-6.3447
1517S_WTR_A75_S75	EOL	21	09:00:43	512	59.8399	-6.3449
1517S_WTR_A85_S76	SOL	1	10:27:52	468	59.86868	-6.22836
1517S_WTR_A85_S76	-	2	10:28:26	-	59.8687	-6.2285
1517S_WTR_A85_S76	-	3	10:29:04	-	59.8687	-6.2287
1517S_WTR_A85_S76	-	4	10:30:10	-	59.8685	-6.2292
1517S_WTR_A85_S76	-	5	10:30:41	-	59.86848	-6.22946
1517S_WTR_A85_S76	-	6	10:31:14	-	59.8684	-6.2296
1517S_WTR_A85_S76	-	7	10:31:59	-	59.8684	-6.2299
1517S_WTR_A85_S76	-	8	10:32:51	-	59.8684	-6.2302
1517S_WTR_A85_S76	-	9	10:33:29	-	59.8682	-6.2306
1517S_WTR_A85_S76	-	10	10:34:04	-	59.86790	-6.23084
1517S_WTR_A85_S76	-	11	10:34:47	-	59.8682	-6.2311
1517S_WTR_A85_S76	-	12	10:35:22	-	59.8682	-6.2313
1517S_WTR_A85_S76	-	13	10:36:00	-	59.86791	-6.23159
1517S_WTR_A85_S76	-	14	10:36:34	-	59.8681	-6.2319
1517S_WTR_A85_S76	-	15	10:37:09	-	59.86797	-6.23198
1517S_WTR_A85_S76	EOL	16	10:37:45	465	59.86795	-6.23226
1517S_WTR_A79_S77	SOL	1	11:34:47	426	59.8711	-6.2972

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A79_S77	-	2	11:35:15	-	59.8713	-6.2974
1517S_WTR_A79_S77	-	3	11:35:52	-	59.8712	-6.2976
1517S_WTR_A79_S77	-	4	11:36:09	-	59.8711	-6.2978
1517S_WTR_A79_S77	-	5	11:36:19	-	59.8711	-6.2978
1517S_WTR_A79_S77	-	6	11:36:49	-	59.8711	-6.2980
1517S_WTR_A79_S77	-	7	11:37:29	-	59.67108	-6.29825
1517S_WTR_A79_S77	-	8	11:37:53	-	59.87090	-6.29849
1517S_WTR_A79_S77	-	9	11:38:35	-	59.8710	-6.2987
1517S_WTR_A79_S77	-	10	11:39:02	-	59.87088	-6.29879
1517S_WTR_A79_S77	-	11	11:39:20	-	59.8709	-6.2990
1517S_WTR_A79_S77	-	12	11:40:02	-	59.87084	-6.29923
1517S_WTR_A79_S77	-	13	11:40:27	-	59.8708	-6.2994
1517S_WTR_A79_S77	-	14	11:40:39	-	N/A	N/A
1517S_WTR_A79_S77	-	15	11:41:08	-	59.8708	-6.2997
1517S_WTR_A79_S77	-	16	11:41:48	-	59.8707	-6.2999
1517S_WTR_A79_S77	-	17	11:42:13	-	59.8707	-6.3001
1517S_WTR_A79_S77	-	18	11:42:55	-	59.8706	-6.3003
1517S_WTR_A79_S77	-	19	11:43:33	-	59.8706	-6.3005
1517S_WTR_A79_S77	-	20	11:44:00	-	59.8706	-6.3007
1517S_WTR_A79_S77	-	21	11:44:27	-	59.8706	-6.3009
1517S_WTR_A79_S77	-	22	11:44:51	-	59.8705	-6.3010
1517S_WTR_A79_S77	-	23	11:45:12	-	59.87043	-6.30114
1517S_WTR_A79_S77	EOL	24	11:46:02	426	59.8704	-6.3014
1517S_WTR_A76_S78	SOL	1	12:56:15	466	59.9025	-6.3343
1517S_WTR_A76_S78	-	2	12:56:48	-	59.90244	-6.33459
1517S_WTR_A76_S78	-	3	12:57:22	-	59.90244	-6.33495
1517S_WTR_A76_S78	-	4	12:57:56	-	59.90229	-6.33509
1517S_WTR_A76_S78	-	5	12:58:32	-	59.90218	-6.33535
1517S_WTR_A76_S78	-	6	12:58:52	-	59.90218	-6.33555

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A76_S78	-	7	12:59:24	-	59.90232	-6.33558
1517S_WTR_A76_S78	-	8	12:59:40	-	59.90233	-6.33568
1517S_WTR_A76_S78	-	9	13:00:00	-	59.9024	-6.3358
1517S_WTR_A76_S78	-	10	13:00:18	-	59.9023	-6.3359
1517S_WTR_A76_S78	-	11	13:00:46	-	59.90220	-6.33601
1517S_WTR_A76_S78	-	12	13:01:23	-	59.9021	-6.3362
1517S_WTR_A76_S78	-	13	13:01:49	-	59.9022	-6.3364
1517S_WTR_A76_S78	-	14	13:02:22	-	59.90202	-6.33660
1517S_WTR_A76_S78	-	15	13:02:52	-	59.9020	-6.3368
1517S_WTR_A76_S78	-	16	13:03:01	-	59.9018	-6.3368
1517S_WTR_A76_S78	-	17	13:03:29	-	59.90183	-6.33703
1517S_WTR_A76_S78	-	18	13:04:06	-	59.9019	-6.3373
1517S_WTR_A76_S78	-	19	13:04:36	-	59.90177	-6.33742
1517S_WTR_A76_S78	-	20	13:04:59	-	59.9017	-6.3375
1517S_WTR_A76_S78	-	21	13:05:12	-	59.9017	-6.3375
1517S_WTR_A76_S78	-	22	13:05:30	-	59.9017	-6.3377
1517S_WTR_A76_S78	-	23	13:05:48	-	59.90167	-6.33789
1517S_WTR_A76_S78	EOL	24	13:06:22	464	59.90161	-6.33823
1517S_WTR_A73_S79	SOL	1	14:10:48	436	59.933752	-6.369568
1517S_WTR_A73_S79	-	2	14:11:06	-	59.933728	-6.369630
1517S_WTR_A73_S79	-	3	14:11:29	-	59.933697	-6.369733
1517S_WTR_A73_S79	-	4	14:11:47	-	59.933667	-6.369808
1517S_WTR_A73_S79	-	5	14:12:18	-	59.933615	-6.369987
1517S_WTR_A73_S79	-	6	14:12:41	-	59.933568	-6.370122
1517S_WTR_A73_S79	-	7	14:12:56	-	59.933527	-6.370205
1517S_WTR_A73_S79	-	8	14:13:16	-	59.933478	-6.370325
1517S_WTR_A73_S79	-	9	14:13:45	-	59.933413	-6.370507
1517S_WTR_A73_S79	-	10	14:14:06	-	59.933348	-6.370632
1517S_WTR_A73_S79	-	11	14:14:25	-	59.933310	-6.370722

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A73_S79	-	12	14:14:38	-	59.933278	-6.370775
1517S_WTR_A73_S79	-	13	14:15:00	-	59.933240	-6.370883
1517S_WTR_A73_S79	-	14	14:15:19	-	59.933207	-6.370943
1517S_WTR_A73_S79	-	15	14:15:40	-	59.933173	-6.371028
1517S_WTR_A73_S79	-	16	14:16:01	-	59.933142	-6.371118
1517S_WTR_A73_S79	-	17	14:16:17	-	59.933118	-6.371167
1517S_WTR_A73_S79	-	18	14:16:43	-	59.933085	-6.371250
1517S_WTR_A73_S79	-	19	14:17:11	-	59.933038	-6.371370
1517S_WTR_A73_S79	-	20	14:17:31	-	59.932993	-6.371448
1517S_WTR_A73_S79	-	21	14:18:00	-	59.932942	-6.371583
1517S_WTR_A73_S79	-	22	14:18:17	-	59.932908	-6.371662
1517S_WTR_A73_S79	-	23	14:18:36	-	59.932875	-6.371740
1517S_WTR_A73_S79	-	24	14:18:50	-	59.932842	-6.371798
1517S_WTR_A73_S79	-	25	14:19:10	-	59.932798	-6.371900
1517S_WTR_A73_S79	-	26	14:19:34	-	59.932747	-6.372028
1517S_WTR_A73_S79	-	27	14:19:50	-	59.932712	-6.372118
1517S_WTR_A73_S79	-	28	14:20:06	-	59.932668	-6.372205
1517S_WTR_A73_S79	EOL	29	14:20:42	432	59.932580	-6.372408
1517S_WTR_A62_S80	SOL	1	15:24:09	363	59.937548	-6.510455
1517S_WTR_A62_S80	-	2	15:24:29	-	59.937512	-6.510497
1517S_WTR_A62_S80	-	3	15:25:03	-	59.937445	-6.510553
1517S_WTR_A62_S80	-	4	15:25:48	-	59.937352	-6.510675
1517S_WTR_A62_S80	-	5	15:26:29	-	59.937233	-6.510840
1517S_WTR_A62_S80	-	6	15:26:47	-	59.937172	-6.510887
1517S_WTR_A62_S80	-	7	15:27:19	-	59.937078	-6.510983
1517S_WTR_A62_S80	-	8	15:27:42	-	59.937020	-6.511058
1517S_WTR_A62_S80	-	9	15:28:12	-	59.936938	-6.511155
1517S_WTR_A62_S80	-	10	15:28:36	-	59.936878	-6.511235
1517S_WTR_A62_S80	-	11	15:29:11	-	59.936785	-6.511347

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A62_S80	-	12	15:29:53	-	59.936685	-6.511513
1517S_WTR_A62_S80	-	13	15:30:07	-	59.936660	-6.511565
1517S_WTR_A62_S80	-	14	15:30:44	-	59.936602	-6.511697
1517S_WTR_A62_S80	-	15	15:31:25	-	59.936558	-6.511828
1517S_WTR_A62_S80	-	16	15:31:47	-	59.936522	-6.511922
1517S_WTR_A62_S80	-	17	15:32:16	-	59.936480	-6.512065
1517S_WTR_A62_S80	-	18	15:32:42	-	59.936430	-6.512200
1517S_WTR_A62_S80	-	19	15:33:14	-	59.936367	-6.512380
1517S_WTR_A62_S80	-	20	15:33:43	-	59.936293	-6.512568
1517S_WTR_A62_S80	-	21	15:34:21	-	59.936193	-6.512808
1517S_WTR_A62_S80	EOL	22	15:34:48	354	59.936133	-6.512947
1517S_WTR_A57_S81	SOL	1	16:37:03	337	59.93922228	-6.583223673
1517S_WTR_A57_S81	-	2	16:37:34	-	59.93652491	-6.582203048
1517S_WTR_A57_S81	-	3	16:37:59	-	59.94127264	-6.584880715
1517S_WTR_A57_S81	-	4	16:38:14	-	59.93902025	-6.583414229
1517S_WTR_A57_S81	-	5	16:39:24	-	59.93670317	-6.592508346
1517S_WTR_A57_S81	-	6	16:40:32	-	59.93621483	-6.592809708
1517S_WTR_A57_S81	-	7	16:41:03	-	59.93885314	-6.594471879
1517S_WTR_A57_S81	-	8	16:41:24	-	59.9362045	-6.583065806
1517S_WTR_A57_S81	-	9	16:41:46	-	59.9387787	-6.584494137
1517S_WTR_A57_S81	-	10	16:42:10	-	59.93880675	-6.584602202
1517S_WTR_A57_S81	-	11	16:42:40	-	59.93899565	-6.584907265
1517S_WTR_A57_S81	-	12	16:43:19	-	59.93885319	-6.585145672
1517S_WTR_A57_S81	-	13	16:44:01	-	59.93632482	-6.594162899
1517S_WTR_A57_S81	-	14	16:44:36	-	59.93622117	-6.584421159
1517S_WTR_A57_S81	-	15	16:43:52	-	59.93878563	-6.585238286
1517S_WTR_A57_S81	-	16	16:45:12	-	59.93869156	-6.585749944
1517S_WTR_A57_S81	-	17	16:46:21	-	59.93587685	-6.585007656
1517S_WTR_A57_S81	-	18	16:46:54	-	59.93871461	-6.586354531

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A57_S81	-	19	16:47:35	-	59.93855541	-6.586460766
1517S_WTR_A57_S81	-	20	16:47:57	-	59.93883706	-6.596459551
1517S_WTR_A57_S81	-	21	16:48:10	-	59.93847066	-6.58669399
1517S_WTR_A57_S81	-	22	16:48:23	-	59.93847066	-6.58669399
1517S_WTR_A57_S81	-	23	16:49:31	-	59.93590686	-6.585969345
1517S_WTR_A57_S81	-	24	16:50:00	-	59.94061732	-6.588821455
1517S_WTR_A57_S81	-	25	16:50:32	-	59.93564895	-6.586063763
1517S_WTR_A57_S81	-	26	16:51:10	-	59.94059924	-6.589088634
1517S_WTR_A57_S81	-	27	16:51:43	-	59.93571434	-6.586782446
1517S_WTR_A57_S81	-	28	16:52:17	-	59.93579641	-6.596790351
1517S_WTR_A57_S81	EOL	29	16:52:43	337	59.9383009	-6.588149038
1517S_WTR_A60_S82	SOL	1	18:27:45	360	59.968528	-6.544963
1517S_WTR_A60_S82	-	2	18:28:30	-	59.968440	-6.545152
1517S_WTR_A60_S82	-	3	18:28:41	-	59.968427	-6.545197
1517S_WTR_A60_S82	-	4	18:29:17	-	59.968352	-6.545333
1517S_WTR_A60_S82	-	5	18:29:37	-	59.968322	-6.545407
1517S_WTR_A60_S82	-	6	18:30:02	-	59.968297	-6.545507
1517S_WTR_A60_S82	-	7	18:30:12	-	59.968292	-6.545533
1517S_WTR_A60_S82	-	8	18:30:48	-	59.968277	-6.545592
1517S_WTR_A60_S82	-	9	18:31:38	-	59.968177	-6.545793
1517S_WTR_A60_S82	-	10	18:32:46	-	59.968048	-6.545973
1517S_WTR_A60_S82	-	11	18:33:25	-	59.968003	-6.546043
1517S_WTR_A60_S82	-	12	18:34:23	-	59.967867	-6.546297
1517S_WTR_A60_S82	-	13	18:35:09	-	59.967780	-6.546483
1517S_WTR_A60_S82	-	14	18:35:35	-	59.967725	-6.546593
1517S_WTR_A60_S82	-	15	18:36:09	-	59.967675	-6.546708
1517S_WTR_A60_S82	-	16	18:36:34	-	59.967648	-6.546770
1517S_WTR_A60_S82	-	17	18:37:13	-	59.967585	-6.546882
1517S_WTR_A60_S82	-	18	18:37:28	-	59.967542	-6.546940

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A60_S82	-	19	18:37:46	-	59.967493	-6.547027
1517S_WTR_A60_S82	-	20	18:38:19	-	59.967428	-6.547148
1517S_WTR_A60_S82	-	21	18:38:54	-	59.967397	-6.547212
1517S_WTR_A60_S82	-	22	18:39:30	-	59.967368	-6.547263
1517S_WTR_A60_S82	EOL	23	18:39:43	357	59.967337	-6.547310
1517S_WTR_A55_S83	SOL	1	22:59:40	333	59.97034	-6.61619
1517S_WTR_A55_S83	-	2	22:59:49	-	59.97032	-6.61622
1517S_WTR_A55_S83	-	3	23:00:38	-	59.9702	-6.6166
1517S_WTR_A55_S83	-	4	23:01:08	-	59.9700	-6.6165
1517S_WTR_A55_S83	-	5	23:01:22	-	59.9700	-6.6165
1517S_WTR_A55_S83	-	6	23:01:49	-	59.9698	-6.6169
1517S_WTR_A55_S83	-	7	23:02:06	-	59.9698	-6.6169
1517S_WTR_A55_S83	-	8	23:02:38	-	59.9696	-6.6171
1517S_WTR_A55_S83	-	9	23:02:55	-	59.9697	-6.6171
1517S_WTR_A55_S83	-	10	23:03:16	-	59.96961	-6.61713
1517S_WTR_A55_S83	-	11	23:03:48	-	59.9696	-6.6172
1517S_WTR_A55_S83	-	12	23:04:03	-	59.96957	-6.61726
1517S_WTR_A55_S83	-	13	23:04:35	-	59.9696	-6.6173
1517S_WTR_A55_S83	-	14	23:04:44	-	59.9692	-6.6173
1517S_WTR_A55_S83	-	15	23:05:10	-	59.9692	-6.6174
1517S_WTR_A55_S83	-	16	23:05:34	-	59.9691	-6.6175
1517S_WTR_A55_S83	-	17	23:06:06	-	59.96914	-6.61763
1517S_WTR_A55_S83	-	18	23:06:49	-	59.96831	-6.61853
1517S_WTR_A55_S83	-	19	23:07:18	-	59.9690	-6.6178
1517S_WTR_A55_S83	-	20	23:07:35	-	59.96889	-6.61786
1517S_WTR_A55_S83	-	21	23:08:35	-	59.968717	-6.618072
1517S_WTR_A55_S83	-	22	23:09:02	-	59.968614	-6.618033
1517S_WTR_A55_S83	-	23	23:09:18	-	59.968614	-6.618033
1517S_WTR_A55_S83	-	24	23:09:48	-	59.96853	-6.61815

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A55_S83	EOL	25	23:10:18	333	59.96845	-6.61834
1517S_WTR_A50_S84	SOL	1	00:09:34	327	59.97146	-6.69005
1517S_WTR_A50_S84	-	2	00:10:10	-	59.97125778	-6.690291259
1517S_WTR_A50_S84	-	3	00:10:46	-	59.97113	-6.69043
1517S_WTR_A50_S84	-	4	00:11:13	-	59.97120029	-6.690558318
1517S_WTR_A50_S84	-	5	00:11:48	-	59.97106951	-6.690611241
1517S_WTR_A50_S84	-	6	00:12:15	-	59.97109268	-6.690673702
1517S_WTR_A50_S84	-	7	00:12:51	-	59.97096398	-6.69078206
1517S_WTR_A50_S84	-	8	00:12:54	-	59.9709002	-6.690705739
1517S_WTR_A50_S84	-	9	00:13:32	-	59.97083	-6.69087
1517S_WTR_A50_S84	-	10	00:14:09	-	59.97077	-6.69105
1517S_WTR_A50_S84	-	11	00:14:45	-	59.97069	-6.69122
1517S_WTR_A50_S84	-	12	00:15:13	-	59.97064867	-6.691410415
1517S_WTR_A50_S84	-	13	00:15:41	-	59.97048254	-6.691387249
1517S_WTR_A50_S84	-	14	00:16:13	-	59.97047442	-6.691628281
1517S_WTR_A50_S84	-	15	00:16:48	-	59.97038197	-6.691642014
1517S_WTR_A50_S84	-	16	00:17:19	-	59.97025444	-6.691858074
1517S_WTR_A50_S84	-	17	00:17:50	-	59.97019409	-6.69209023
1517S_WTR_A50_S84	-	18	00:18:31	-	59.96987337	-6.692352263
1517S_WTR_A50_S84	-	19	00:19:17	-	59.96985433	-6.692255914
1517S_WTR_A50_S84	-	20	00:20:13	-	59.96972	-6.69261
1517S_WTR_A50_S84	EOL	21	00:20:32	333	59.96967	-6.69280
1517S_WTR_A53_S85	SOL	1	01:17:58	348	60.00211206	-6.648161712
1517S_WTR_A53_S85	-	2	01:18:31	-	60.00205219	-6.648465871
1517S_WTR_A53_S85	-	3	01:19:13	-	60.00205052	-6.648750176
1517S_WTR_A53_S85	-	4	01:19:42	-	60.00212504	-6.648847798
1517S_WTR_A53_S85	-	5	01:20:08	-	60.00200413	-6.64907525
1517S_WTR_A53_S85	-	6	01:20:23	-	60.0020057	-6.649111446
1517S_WTR_A53_S85	-	7	01:20:49	-	60.0019567	-6.649366338

Station Name	SOL/EOL	Photo number	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_WTR_A53_S85	-	8	01:21:24	-	60.00187792	-6.649687731
1517S_WTR_A53_S85	-	9	01:21:50	-	60.00184	-6.64985
1517S_WTR_A53_S85	-	10	01:22:42	-	60.00182	-6.65009
1517S_WTR_A53_S85	-	11	01:23:25	-	60.00176557	-6.650248502
1517S_WTR_A53_S85	-	12	01:23:47	-	60.00171855	-6.650402621
1517S_WTR_A53_S85	-	13	01:24:23	-	60.00166615	-6.650557012
1517S_WTR_A53_S85	-	14	01:24:56	-	60.00159495	-6.650920991
1517S_WTR_A53_S85	-	15	01:25:45	-	60.00154763	-6.651157116
1517S_WTR_A53_S85	-	16	01:26:35	-	60.00142544	-6.651464405
1517S_WTR_A53_S85	EOL	17	01:27:03	349	60.00139546	-6.651691355
1517S_WTR_A48_S86	SOL	1	02:15:51	344	60.00378945	-6.719950446
1517S_WTR_A48_S86	-	2	02:16:33	-	60.003836	-6.720191
1517S_WTR_A48_S86	-	3	02:17:02	-	60.003847	-6.720381
1517S_WTR_A48_S86	-	4	02:17:34	-	60.003797	-6.720647
1517S_WTR_A48_S86	-	5	02:18:03	-	60.003786	-6.720806
1517S_WTR_A48_S86	-	6	02:18:54	-	60.00376	-6.72105
1517S_WTR_A48_S86	-	7	02:19:42	-	60.003738	-6.721330
1517S_WTR_A48_S86	-	8	02:20:04	-	60.00368	-6.72155
1517S_WTR_A48_S86	-	9	02:21:10	-	60.003607	-6.721987
1517S_WTR_A48_S86	-	10	02:21:52	-	60.003593	-6.721938
1517S_WTR_A48_S86	-	11	02:22:28	-	60.003499	-6.722405
1517S_WTR_A48_S86	-	12	02:23:14	-	60.003447	-6.722358
1517S_WTR_A48_S86	-	13	02:23:40	-	60.003457	-6.722971
1517S_WTR_A48_S86	-	14	02:24:24	-	60.003335	-6.722871
1517S_WTR_A48_S86	-	15	02:24:59	-	60.003366	-6.723336
1517S_WTR_A48_S86	-	16	02:25:13	-	60.003323	-6.723462
1517S_WTR_A48_S86	EOL	17	02:25:27	350	60.003329	-6.723439

Table 16. Summary metadata for 1517S camera chariot transect. Latitudes and longitudes are USBL derived. Shaded grey areas indicate where USBL positions were not available. In these instances, ship position was used instead.

Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCA01_S01	SOL	1	21/10/2017	12:04:00	475	61.9608	-0.6217
1517S_NEF_CCA01_S01	-	2	21/10/2017	12:09:36	476	61.9588	-0.6225
1517S_NEF_CCA01_S01	-	3	21/10/2017	12:14:19	478	61.9599	-0.6184
1517S_NEF_CCA01_S01	-	4	21/10/2017	12:19:08	478	61.9608	-0.6139
1517S_NEF_CCA01_S01	-	5	21/10/2017	12:21:44	479	61.9616	-0.6112
1517S_NEF_CCA01_S01	-	6	21/10/2017	12:23:12	479	61.9693	-0.5992
1517S_NEF_CCA01_S01	-	7	21/10/2017	12:27:21	479	61.9632	-0.6058
1517S_NEF_CCA01_S01	-	8	21/10/2017	12:33:24	481	61.9647	-0.6000
1517S_NEF_CCA01_S01	-	9	21/10/2017	12:37:53	482	61.9696	-0.5896
1517S_NEF_CCA01_S01	-	10	21/10/2017	12:42:12	480	61.9671	-0.5911
1517S_NEF_CCA01_S01	-	11	21/10/2017	12:46:32	482	61.9728	-0.5724
1517S_NEF_CCA01_S01	-	12	21/10/2017	12:50:18	483	61.9723	-0.5772
1517S_NEF_CCA01_S01	EOL	13	21/10/2017	12:52:23	481	61.9763	-0.5692
1517S_NEF_CCA02_S02	SOL	1	21/10/2017	13:57:53	424	61.9467	-0.4849
1517S_NEF_CCA02_S02	-	2	21/10/2017	14:03:04	424	61.9473	-0.4809
1517S_NEF_CCA02_S02	-	3	21/10/2017	14:08:26	422	61.9482	-0.4754
1517S_NEF_CCA02_S02	-	4	21/10/2017	14:14:11	422	61.955	-0.4575
1517S_NEF_CCA02_S02	-	5	21/10/2017	14:18:32	422	61.9492	-0.4651
1517S_NEF_CCA02_S02	-	6	21/10/2017	14:24:01	424	61.9498	-0.4594
1517S_NEF_CCA02_S02	-	7	21/10/2017	14:29:42	427	61.9506	-0.454
1517S_NEF_CCA02_S02	-	8	21/10/2017	14:36:55	425	61.9583	-0.4379
1517S_NEF_CCA02_S02	-	9	21/10/2017	14:42:15	422	61.9588	-0.432
1517S_NEF_CCA02_S02	-	10	21/10/2017	14:47:23	423	61.953	-0.4368
1517S_NEF_CCA02_S02	EOL	11	21/10/2017	14:52:39	422	61.9548	-0.4231
1517S_NEF_CCA03_S03	SOL	1	21/10/2017	15:47:35	471	62.006	-0.3256
1517S_NEF_CCA03_S03	-	2	21/10/2017	15:53:01	471	62.003	-0.3247
1517S_NEF_CCA03_S03	-	3	21/10/2017	15:57:30	472	62.0113	-0.3121

Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCA03_S03	-	4	21/10/2017	16:02:49	471	62.009	-0.3116
1517S_NEF_CCA03_S03	-	5	21/10/2017	16:07:10	471	62.0054	-0.3121
1517S_NEF_CCA03_S03	-	6	21/10/2017	16:12:07	469	62.0104	-0.3039
1517S_NEF_CCA03_S03	-	7	21/10/2017	16:17:20	469	62.0051	-0.284
1517S_NEF_CCA03_S03	-	8	21/10/2017	16:22:27	468	62.008	-0.2981
1517S_NEF_CCA03_S03	-	9	21/10/2017	16:27:18	471	62.0134	-0.2894
1517S_NEF_CCA03_S03	-	10	21/10/2017	16:34:49	472	62.015	-0.282
1517S_NEF_CCA03_S03	-	11	21/10/2017	16:42:01	474	62.0159	-0.2749
1517S_NEF_CCA03_S03	EOL	12	21/10/2017	16:42:32	473	62.0121	-0.2785
1517S_NEF_CCA04_S04	SOL	1	21/10/2017	17:47:20	427	61.9927	-0.1780
1517S_NEF_CCA04_S04	-	2	21/10/2017	17:53:34	428	61.9967	-0.1699
1517S_NEF_CCA04_S04	-	3	21/10/2017	17:58:08	428	61.9939	-0.1695
1517S_NEF_CCA04_S04	-	4	21/10/2017	18:02:37	426	61.9947	-0.1651
1517S_NEF_CCA04_S04	-	5	21/10/2017	18:07:06	428	61.9990	-0.1572
1517S_NEF_CCA04_S04	-	6	21/10/2017	18:12:07	428	62.0026	-0.1477
1517S_NEF_CCA04_S04	-	7	21/10/2017	18:16:33	428	62.0001	-0.1484
1517S_NEF_CCA04_S04	-	8	21/10/2017	18:21:27	429	61.9971	-0.1463
1517S_NEF_CCA04_S04	-	9	21/10/2017	18:25:29	429	62.0001	-0.1243
1517S_NEF_CCA04_S04	-	10	21/10/2017	18:32:34	427	61.9983	-0.1352
1517S_NEF_CCA04_S04	-	11	21/10/2017	18:35:41	430	61.9977	-0.1228
1517S_NEF_CCA04_S04	-	12	21/10/2017	18:37:18	429	61.9960	-0.1225
1517S_NEF_CCA04_S04	EOL	13	21/10/2017	18:40:12	431	62.0030	-0.1229
1517S_NEF_CCB01_S07	SOL	1	22/10/2017	07:53:48	482	61.7069	-1.1428
1517S_NEF_CCB01_S07	-	2	22/10/2017	07:59:01	479	61.7044	-1.1437
1517S_NEF_CCB01_S07	-	3	22/10/2017	08:04:01	478	61.7019	-1.1433
1517S_NEF_CCB01_S07	-	4	22/10/2017	08:09:01	475	61.6995	-1.1429
1517S_NEF_CCB01_S07	-	5	22/10/2017	08:14:01	473	61.6971	-1.1426
1517S_NEF_CCB01_S07	-	6	22/10/2017	08:19:04	477	61.6949	-1.1454
1517S_NEF_CCB01_S07	-	7	22/10/2017	08:24:07	473	61.6935	-1.1499

Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCB01_S07	-	8	22/10/2017	08:29:01	475	61.6923	-1.1549
1517S_NEF_CCB01_S07	-	9	22/10/2017	08:33:59	480	61.6915	-1.1595
1517S_NEF_CCB01_S07	-	10	22/10/2017	08:39:01	479	61.6896	-1.1629
1517S_NEF_CCB01_S07	-	11	22/10/2017	08:44:12	478	61.6878	-1.1656
1517S_NEF_CCB01_S07	-	12	22/10/2017	08:49:05	476	61.6860	-1.1680
1517S_NEF_CCB01_S07	EOL	13	22/10/2017	08:50:01	477	61.6855	-1.1685
1517S_NEF_CCB02_S08	SOL	1	22/10/2017	10:06:01	421	61.7185	-1.059
1517S_NEF_CCB02_S08	-	2	22/10/2017	10:11:01	423	61.7205	-1.0547
1517S_NEF_CCB02_S08	-	3	22/10/2017	10:16:12	426	61.7227	-1.0518
1517S_NEF_CCB02_S08	-	4	22/10/2017	10:20:59	427	61.7248	-1.0496
1517S_NEF_CCB02_S08	-	5	22/10/2017	10:25:59	428	61.7273	-1.0481
1517S_NEF_CCB02_S08	-	6	22/10/2017	10:30:59	428	61.7297	-1.0458
1517S_NEF_CCB02_S08	-	7	22/10/2017	10:36:01	429	61.7321	-1.0436
1517S_NEF_CCB02_S08	-	8	22/10/2017	10:40:59	429	61.7345	-1.0415
1517S_NEF_CCB02_S08	-	9	22/10/2017	10:46:01	429	61.7369	-1.0395
1517S_NEF_CCB02_S08	-	10	22/10/2017	10:51:04	431	61.7393	-1.0378
1517S_NEF_CCB02_S08	EOL	11	22/10/2017	10:56:01	430	61.7419	-1.0358
1517S_NEF_CCB03_S09	SOL	1	22/10/2017	11:44:48	469	61.8020	-0.9797
1517S_NEF_CCB03_S09	-	2	22/10/2017	11:52:18	472	61.8054	-0.9715
1517S_NEF_CCB03_S09	-	3	22/10/2017	11:57:36	474	61.8075	-0.9663
1517S_NEF_CCB03_S09	-	4	22/10/2017	12:05:25	475	61.8100	-0.9592
1517S_NEF_CCB03_S09	-	5	22/10/2017	12:08:33	474	61.8112	-0.9562
1517S_NEF_CCB03_S09	-	6	22/10/2017	12:14:03	473	61.8127	-0.9525
1517S_NEF_CCB03_S09	-	7	22/10/2017	12:20:40	478	61.8148	-0.9474
1517S_NEF_CCB03_S09	-	8	22/10/2017	12:24:39	480	61.8171	-0.9419
1517S_NEF_CCB03_S09	-	9	22/10/2017	12:29:14	481	61.8172	-0.9417
1517S_NEF_CCB03_S09	-	10	22/10/2017	12:30:04	481	61.8185	-0.9385
1517S_NEF_CCB03_S09	-	11	22/10/2017	12:35:25	481	61.8196	-0.9358
1517S_NEF_CCB03_S09	EOL	12	22/10/2017	12:40:05	480	61.8193	-0.9379

Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCB04_S10	SOL	1	22/10/2017	13:22:23	433	61.8398	-0.8223
1517S_NEF_CCB04_S10	-	2	22/10/2017	13:26:37	433	61.8412	-0.8199
1517S_NEF_CCB04_S10	-	3	22/10/2017	13:30:44	437	61.8427	-0.8169
1517S_NEF_CCB04_S10	-	4	22/10/2017	13:34:58	427	61.8440	-0.8133
1517S_NEF_CCB04_S10	-	5	22/10/2017	13:39:37	426	61.8455	-0.8089
1517S_NEF_CCB04_S10	-	6	22/10/2017	13:44:10	428	61.8470	-0.8045
1517S_NEF_CCB04_S10	-	7	22/10/2017	13:46:40	428	61.8481	-0.8019
1517S_NEF_CCB04_S10	-	8	22/10/2017	13:50:12	425	61.8492	-0.7983
1517S_NEF_CCB04_S10	-	9	22/10/2017	13:55:00	426	61.8526	-0.7808
1517S_NEF_CCB04_S10	-	10	22/10/2017	13:59:28	423	61.8527	-0.7892
1517S_NEF_CCB04_S10	-	11	22/10/2017	14:03:45	427	61.8566	-0.7731
1517S_NEF_CCB04_S10	EOL	12	22/10/2017	14:09:59	426	61.8567	-0.7799
1517S_NEF_CCA05_S11	SOL	1	22/10/2017	15:24:23	447	61.9585	-0.5127
1517S_NEF_CCA05_S11	-	2	22/10/2017	15:27:33	446	61.9575	-0.5183
1517S_NEF_CCA05_S11	-	3	22/10/2017	15:28:25	446	61.9577	-0.5173
1517S_NEF_CCA05_S11	-	4	22/10/2017	15:34:31	450	61.9593	-0.5113
1517S_NEF_CCA05_S11	EOL	5	22/10/2017	15:39:05	451	61.9609	-0.5065
1517S_NEF_CCD01_S12	SOL	1	22/10/2017	17:11:38	527	62.0211	-0.5113
1517S_NEF_CCD01_S12	-	2	22/10/2017	17:15:29	528	62.0215	-0.5093
1517S_NEF_CCD01_S12	-	3	22/10/2017	17:20:23	529	62.0223	-0.5049
1517S_NEF_CCD01_S12	-	4	22/10/2017	17:21:34	528	62.0226	-0.5015
1517S_NEF_CCD01_S12	-	5	22/10/2017	17:24:24	528	62.023	-0.4948
1517S_NEF_CCD01_S12	EOL	6	22/10/2017	17:28:58	529	62.0235	-0.4894
1517S_NEF_CCC04_S19	SOL	1	23/10/2017	08:00:57	529	62.0837	0.6304
1517S_NEF_CCC04_S19	-	2	23/10/2017	08:05:57	430	62.0861	0.6422
1517S_NEF_CCC04_S19	-	3	23/10/2017	08:10:59	427	62.0843	0.6398
1517S_NEF_CCC04_S19	-	4	23/10/2017	08:15:57	425	62.0806	0.6415
1517S_NEF_CCC04_S19	-	5	23/10/2017	08:21:01	430	62.0832	0.6507
1517S_NEF_CCC04_S19	-	6	23/10/2017	08:25:57	429	62.0832	0.6560

Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCC04_S19	-	7	23/10/2017	08:31:01	426	62.0835	0.6618
1517S_NEF_CCC04_S19	-	8	23/10/2017	08:36:01	421	62.0871	0.6716
1517S_NEF_CCC04_S19	-	9	23/10/2017	08:41:01	417	62.0877	0.6722
1517S_NEF_CCC04_S19	-	10	23/10/2017	08:46:02	416	62.0847	0.6787
1517S_NEF_CCC04_S19	EOL	11	23/10/2017	08:51:01	417	62.0861	0.6838
1517S_NEF_CCC03_S20	SOL	1	23/10/2017	10:11:00	477	62.1022	0.4704
1517S_NEF_CCC03_S20	-	2	23/10/2017	10:16:00	477	62.1028	0.4748
1517S_NEF_CCC03_S20	-	3	23/10/2017	10:21:08	477	62.1035	0.4806
1517S_NEF_CCC03_S20	-	4	23/10/2017	10:26:00	477	62.0998	0.4977
1517S_NEF_CCC03_S20	-	5	23/10/2017	10:31:00	477	62.1099	0.5011
1517S_NEF_CCC03_S20	-	6	23/10/2017	10:36:00	481	62.1095	0.5089
1517S_NEF_CCC03_S20	-	7	23/10/2017	10:41:00	484	62.1062	0.4992
1517S_NEF_CCC03_S20	-	8	23/10/2017	10:46:00	482	62.1071	0.5043
1517S_NEF_CCC03_S20	-	9	23/10/2017	10:51:00	482	62.1077	0.5088
1517S_NEF_CCC03_S20	-	10	23/10/2017	10:56:00	479	62.1072	0.5135
1517S_NEF_CCC03_S20	-	11	23/10/2017	11:01:10	474	62.1048	0.5239
1517S_NEF_CCC03_S20	EOL	12	23/10/2017	11:06:00	477	62.1056	0.5223
1517S_NEF_CCC02_S21	SOL	1	23/10/2017	12:22:56	423	62.0542	0.3052
1517S_NEF_CCC02_S21	-	2	23/10/2017	12:27:28	423	62.0596	0.3200
1517S_NEF_CCC02_S21	-	3	23/10/2017	12:34:42	423	62.0617	0.3244
1517S_NEF_CCC02_S21	-	4	23/10/2017	12:38:58	424	62.0558	0.3207
1517S_NEF_CCC02_S21	-	5	23/10/2017	12:44:00	427	62.0567	0.3264
1517S_NEF_CCC02_S21	-	6	23/10/2017	12:49:02	427	62.0601	0.3391
1517S_NEF_CCC02_S21	-	7	23/10/2017	12:53:06	425	62.0588	0.3366
1517S_NEF_CCC02_S21	-	8	23/10/2017	12:57:58	424	62.0595	0.3422
1517S_NEF_CCC02_S21	-	9	23/10/2017	13:02:02	426	62.0632	0.3521
1517S_NEF_CCC02_S21	EOL	10	23/10/2017	13:08:04	429	62.0631	0.3667

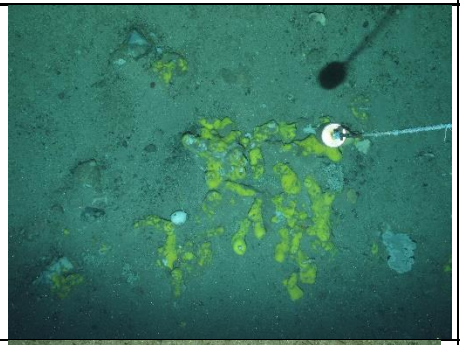
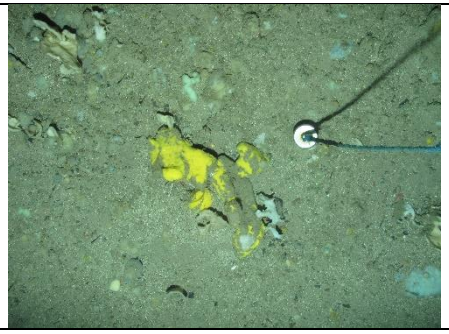
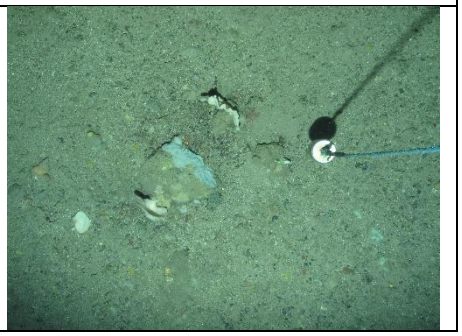
Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCC01_S22	SOL	1	23/10/2017	14:14:00	479	62.0676	0.1688
1517S_NEF_CCC01_S22	EOL	2	23/10/2017	14:18:00	478	62.0712	0.1594
1517S_NEF_CCA06_S23	SOL	1	24/10/2017	09:48:00	523	62.0426	-0.3427
1517S_NEF_CCA06_S23	-	2	24/10/2017	09:53:00	521	62.0405	-0.3419
1517S_NEF_CCA06_S23	-	3	24/10/2017	09:58:05	516	62.0385	-0.3398
1517S_NEF_CCA06_S23	-	4	24/10/2017	10:03:00	513	62.0366	-0.3389
1517S_NEF_CCA06_S23	-	5	24/10/2017	10:08:00	509	62.0346	-0.3363
1517S_NEF_CCA06_S23	-	6	24/10/2017	10:13:00	505	62.0328	-0.333
1517S_NEF_CCA06_S23	-	7	24/10/2017	10:18:00	501	62.0307	-0.3291
1517S_NEF_CCA06_S23	-	8	24/10/2017	10:23:00	500	62.029	-0.325
1517S_NEF_CCA06_S23	-	9	24/10/2017	10:28:00	498	62.0272	-0.3212
1517S_NEF_CCA06_S23	-	10	24/10/2017	10:33:00	496	62.0253	-0.3172
1517S_NEF_CCA06_S23	-	11	24/10/2017	10:38:00	494	62.0237	-0.3131
1517S_NEF_CCA06_S23	-	12	24/10/2017	10:43:17	487	62.0218	-0.3093
1517S_NEF_CCA06_S23	-	13	24/10/2017	10:48:00	482	62.0197	-0.3059
1517S_NEF_CCA06_S23	-	14	24/10/2017	10:55:00	476	62.0169	-0.3013
1517S_NEF_CCA06_S23	-	15	24/10/2017	11:00:00	480	62.0147	-0.2981
1517S_NEF_CCA06_S23	-	16	24/10/2017	11:05:00	469	62.0126	-0.2945
1517S_NEF_CCA06_S23	-	17	24/10/2017	11:06:18	467	62.012	-0.2937
1517S_NEF_CCA06_S23	-	18	24/10/2017	11:11:52	462	62.0099	-0.2906
1517S_NEF_CCA06_S23	-	19	24/10/2017	11:15:09	465	62.0085	-0.2887
1517S_NEF_CCA06_S23	-	20	24/10/2017	11:18:44	460	62.0069	-0.2865
1517S_NEF_CCA06_S23	-	21	24/10/2017	11:23:01	455	62.005	-0.2838
1517S_NEF_CCA06_S23	-	22	24/10/2017	11:28:25	453	62.0027	-0.2805
1517S_NEF_CCA06_S23	-	23	24/10/2017	11:33:00	451	62.0008	-0.2776
1517S_NEF_CCA06_S23	-	24	24/10/2017	11:38:07	446	61.9988	-0.2745
1517S_NEF_CCA06_S23	-	25	24/10/2017	11:42:40	445	61.997	-0.2717
1517S_NEF_CCA06_S23	-	26	24/10/2017	11:48:31	442	61.9947	-0.2682
1517S_NEF_CCA06_S23	-	27	24/10/2017	11:53:26	437	61.9927	-0.2649

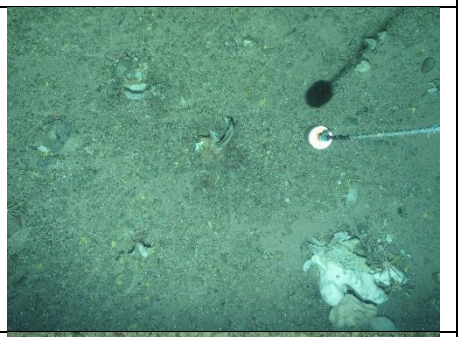
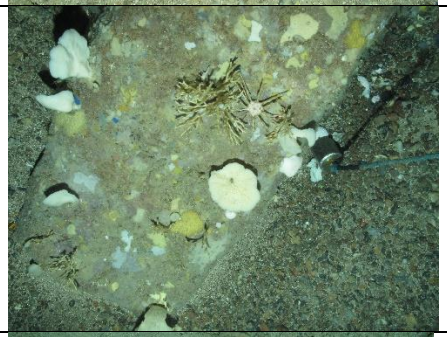
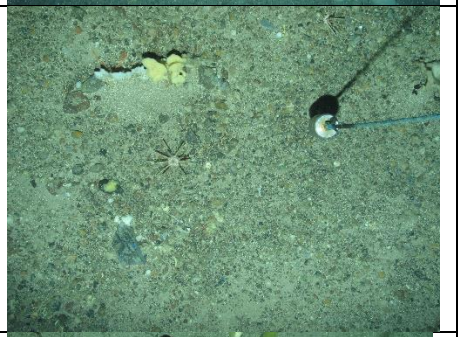
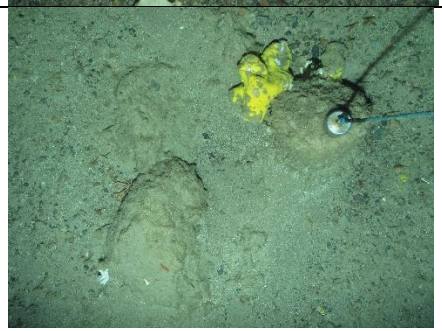
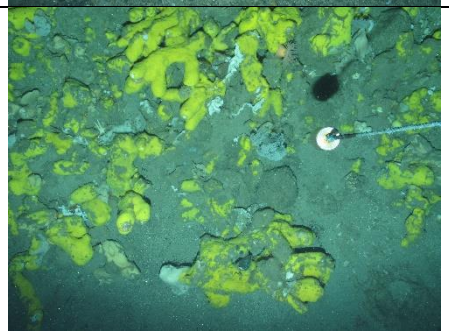
Station Name	SOL/EOL	Fix Number	Date	Time	Water Depth (m)	Latitude USBL	Longitude USBL
1517S_NEF_CCA06_S23	-	28	24/10/2017	11:58:20	430	61.9905	-0.2513
1517S_NEF_CCA06_S23	-	29	24/10/2017	12:02:52	430	61.9887	-0.2585
1517S_NEF_CCA06_S23	-	30	24/10/2017	12:07	427	61.9869	-0.2557
1517S_NEF_CCA06_S23	-	31	24/10/2017	12:12:16	421	61.9847	-0.2524
1517S_NEF_CCA06_S23	-	32	24/10/2017	12:18:00	417	61.9815	-0.2483
1517S_NEF_CCA06_S23	-	33	24/10/2017	12:23:11	412	61.9798	-0.2458
1517S_NEF_CCA06_S23	-	34	24/10/2017	12:28:15	412	61.9773	-0.2427
1517S_NEF_CCA06_S23	-	35	24/10/2017	12:32:30	406	61.975	-0.2399
1517S_NEF_CCA06_S23	-	36	24/10/2017	12:37:34	404	61.9729	-0.237
1517S_NEF_CCA06_S23	EOL	37	24/10/2017	12:41:06	400	61.9714	-0.2348
1517S_NEF_CCC01_S24	SOL	1	24/10/2017	14:23:42	476	62.0695	0.1747
1517S_NEF_CCC01_S24	-	2	24/10/2017	14:29:22	476	62.0686	0.1712
1517S_NEF_CCC01_S24	-	3	24/10/2017	14:35:34	476	62.0675	0.1661
1517S_NEF_CCC01_S24	-	4	24/10/2017	14:41:36	474	62.0664	0.1608
1517S_NEF_CCC01_S24	-	5	24/10/2017	14:46:28	474	62.0653	0.1563
1517S_NEF_CCC01_S24	-	6	24/10/2017	14:51:56	476	62.0641	0.1513
1517S_NEF_CCC01_S24	-	7	24/10/2017	14:57:14	476	62.0569	0.1259
1517S_NEF_CCC01_S24	-	8	24/10/2017	15:03:40	471	62.0618	0.1393
1517S_NEF_CCC01_S24	-	9	24/10/2017	15:07:36	473	62.0611	0.1350
1517S_NEF_CCC01_S24	-	10	24/10/2017	15:12:08	470	62.0604	0.1301
1517S_NEF_CCC01_S24	EOL	11	24/10/2017	15:15:38	473	62.0599	0.1265

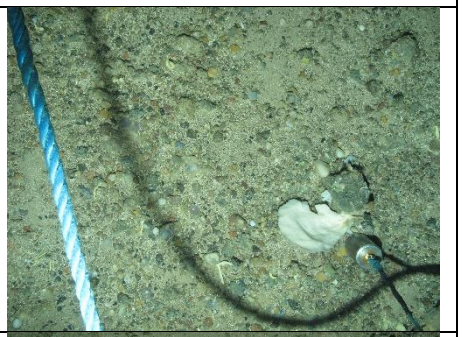
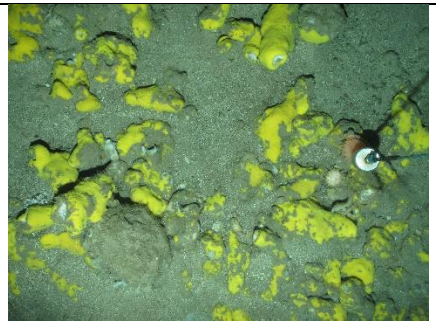
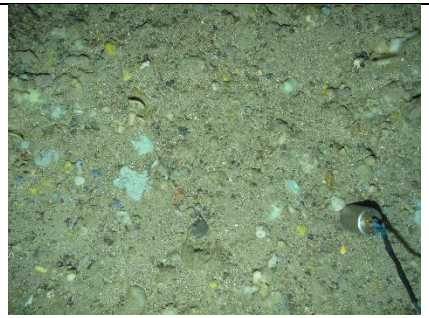
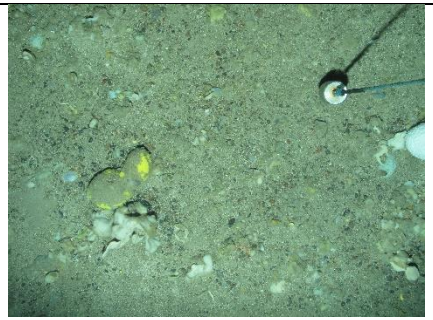
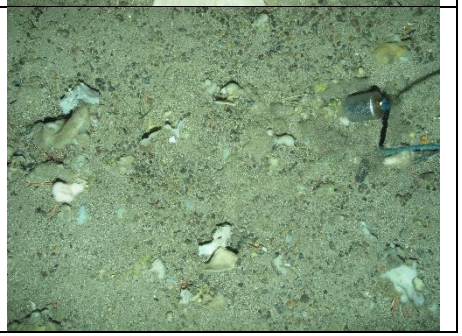
Appendix 2: Representative images of each drop-frame camera transect

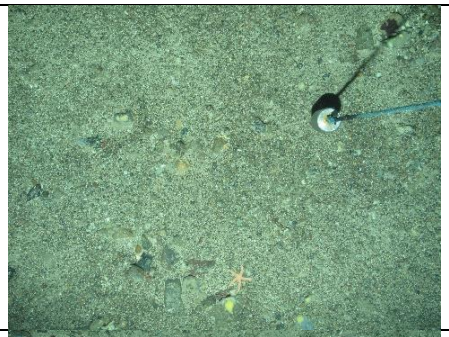
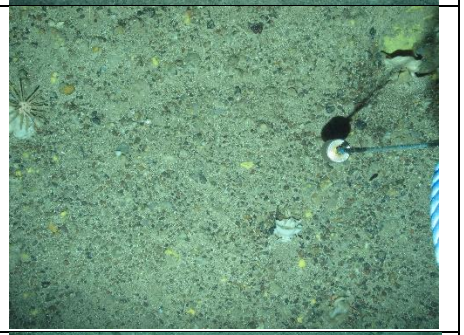
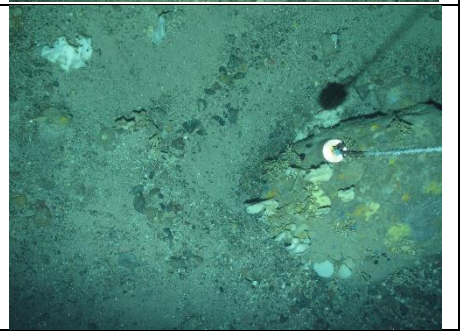
Boxes

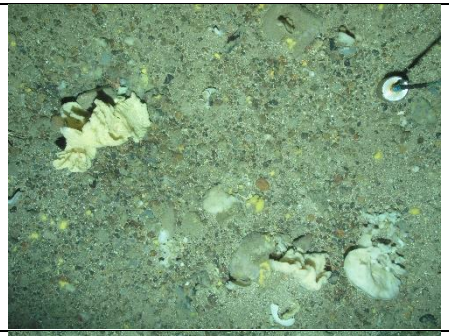
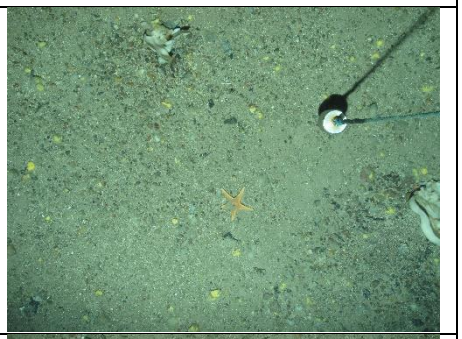
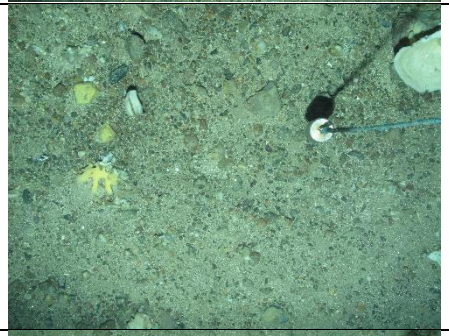
Box A

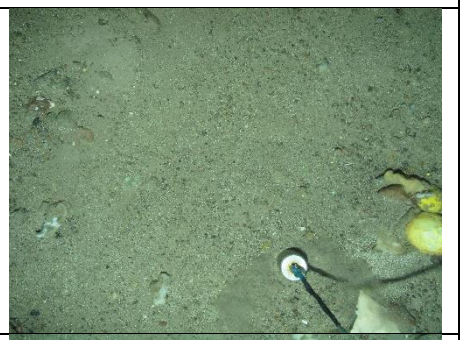
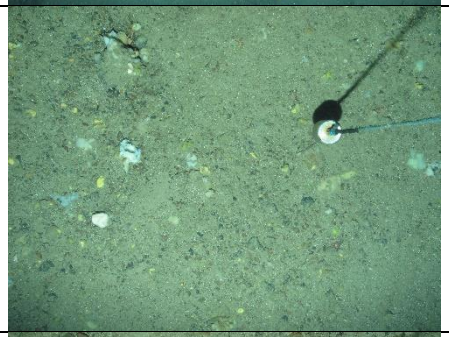
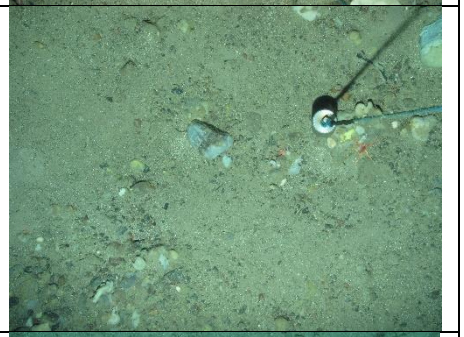
Station name & description	Image 1	Image 2	Image 3
A01 – Mixed fine sediments with occasional cobbles and boulders. Numerous tube worms, squat lobsters, various sponges in different growth forms: yellow, white, pale. Few sponge aggregations.			
A02 – Mixed sediments with occasional boulders. Squat lobsters, red fish, cushion stars and various sponges in a variety of growth forms: white, yellow, blue and silt-covered.			

Station name & description	Image 1	Image 2	Image 3
A03 – Mixed sediments and gravels with frequent cobbles and boulders. Pencil urchins, starfish and various sponges in a variety of growth forms: white, yellow and blue.			
A04 – Mixed gravels with frequent cobbles and boulders. Pencil urchins, starfish and various sponges in a variety of growth forms: white, yellow and blue.			
A05 – Mixed sediments and gravels with frequent cobbles and boulders. Soft coral (Nephyts?), anemonies, cushion star, various sponges in a variety of growth forms: white, yellow, blue and silty massive. Sponge aggregations.			

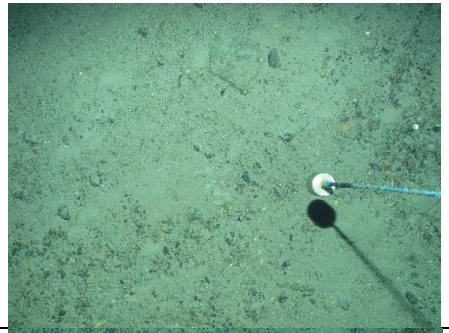
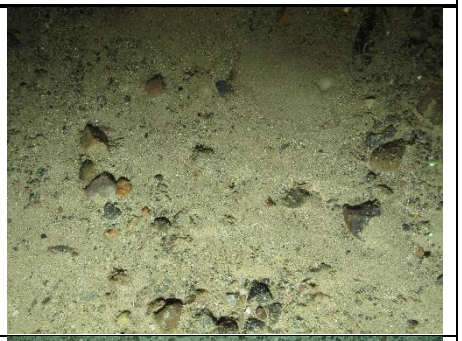
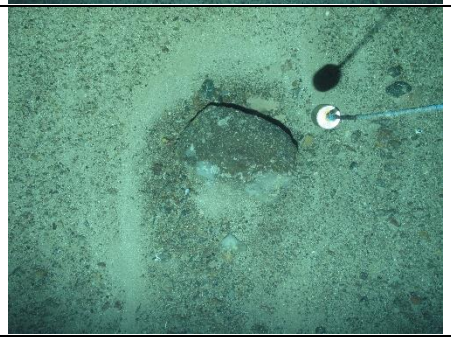
Station name & description	Image 1	Image 2	Image 3
A06 – Mixed gravels with occasional cobbles. Rope in all images. Pencil urchins, cushion star, squat lobster, anemone, variety of sponges in different growth forms: white, blue yellow, pale.			
A07 – Mixed fine sediments with cobbles. Squat lobsters, numerous tube worms, hermit crab, brittlestar, urchins, fish (torsk?), variety of sponges in different growth forms: white, blue, yellow, pale. Sponge aggregations.			
A08 – Mixed sediments with cobbles and occasional boulders. Pencil urchins, squat lobsters, tube worms, variety of sponges in different growth forms: white, blue, yellow, pale.			

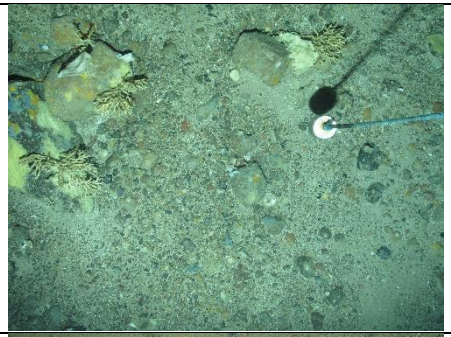
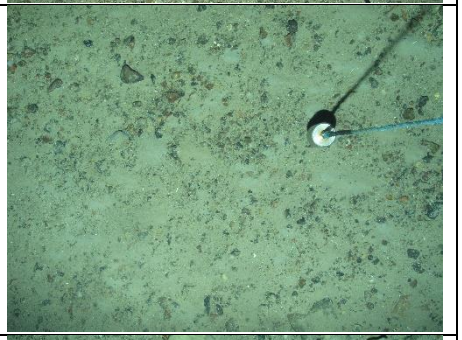
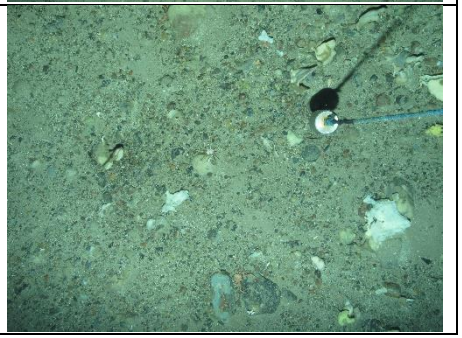
Station name & description	Image 1	Image 2	Image 3
A09 – Mixed gravel and cobbles with occasional boulders. Pencil urchins, sea cucumber, starfish and occasional sponges if different growth forms: white, blue and yellow.			
A10 – Mixed gravels and cobbles with occasional boulders. Pencil urchins, starfish, squat lobster, variety of sponges in different growth forms: white, yellow and blue.			
A11 – Mixed gravels with cobbles and occasional boulders. Pencil urchins, squat lobster and sponges of different growth forms: white, yellow and blue.			

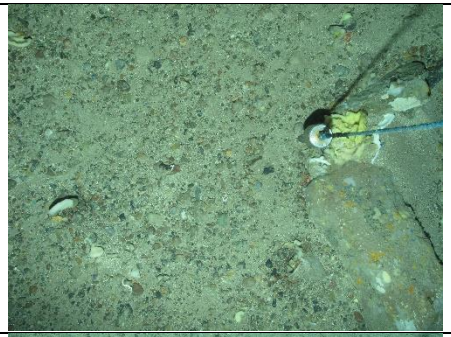
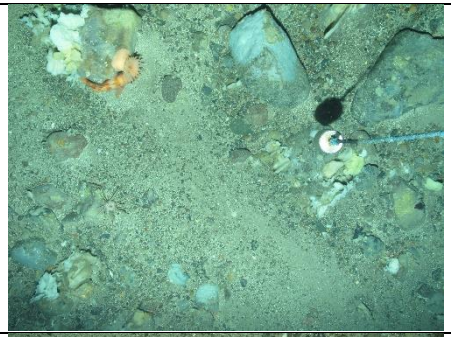
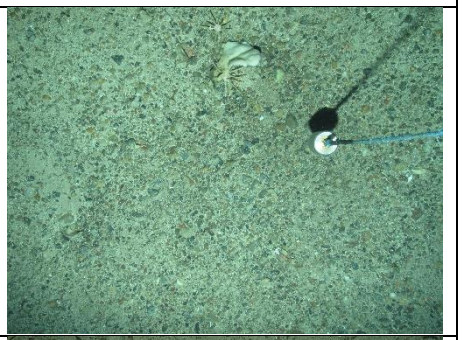
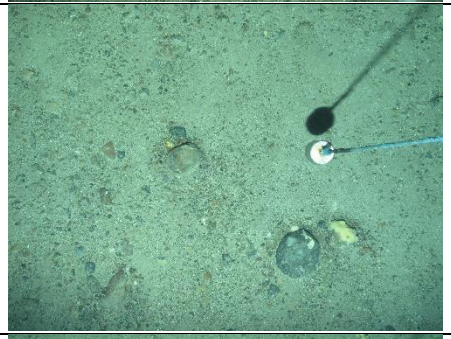
Station name & description	Image 1	Image 2	Image 3
A12 – Mixed sediment with cobbles and occasional boulders. Pencil urchins, squat lobster, starfish, variety of sponges with different growth forms: blue, white and yellow.			
A13 – Mixed sediment with cobbles. Pencil urchins, starfish, cushion stars, squat lobsters and variety of sponges with different growth forms: white, yellow.			
A14 – Mixed sediments with cobbles and occasional boulders. Pencil urchins and sponges with different growth forms: large oscula white, yellow.			

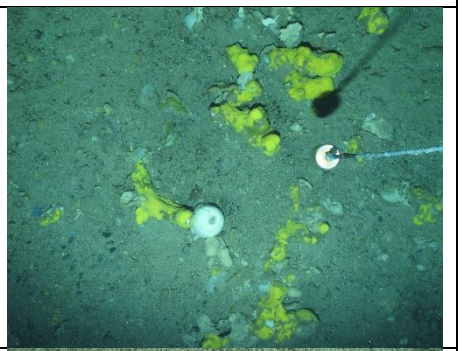
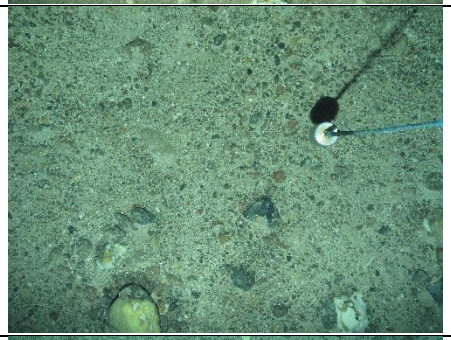
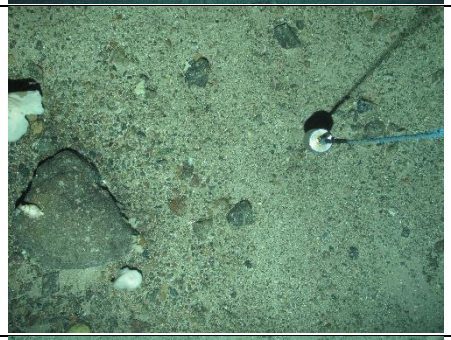
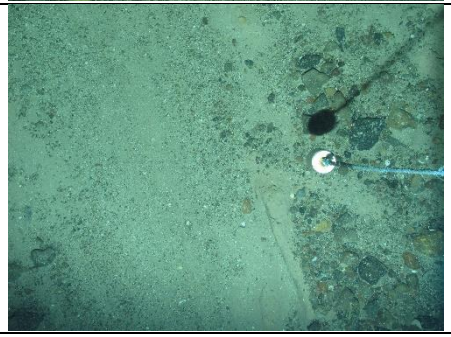
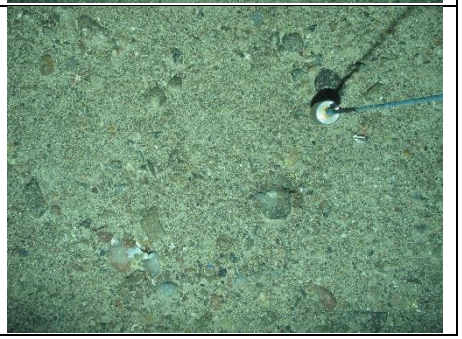
Station name & description	Image 1	Image 2	Image 3
A15 – Mixed sediments with cobbles and occasional boulders and sand slicks. Squat lobster, starfish, cushion star and sponges with different growth forms: white, pale and yellow.			
A16 – Mixed fine sediments with cobbles. Squat lobsters, sponges of different growth forms: white, yellow and blue.			
A17 – Mixed sediment with cobbles and occasional boulders. Tube worms (?), anemone, sponges of different growth forms: yellow, white, pale.			

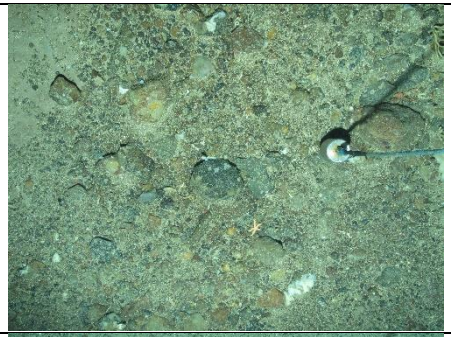
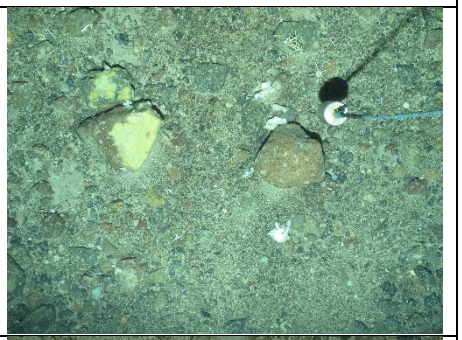
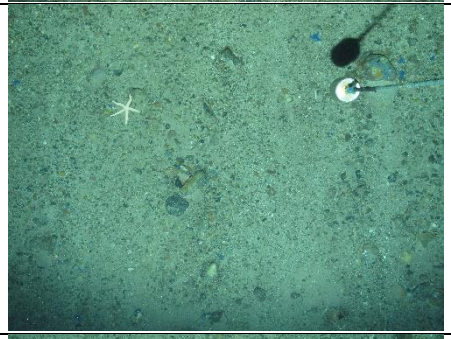
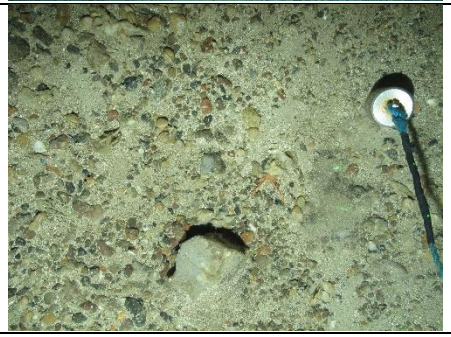
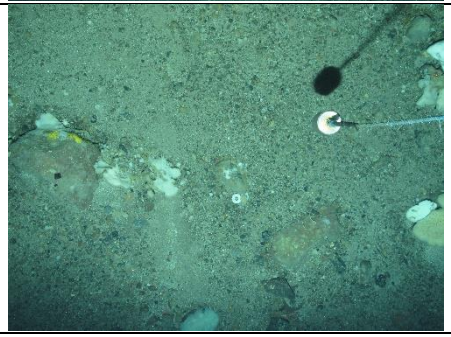
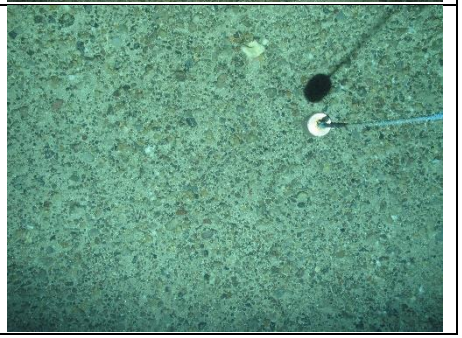
Box B

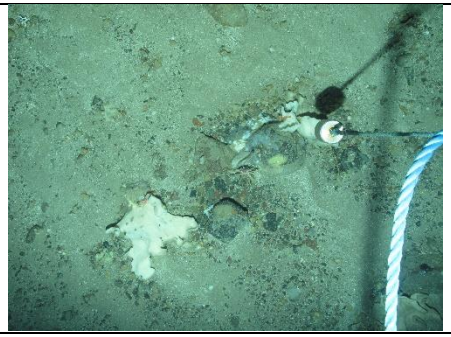
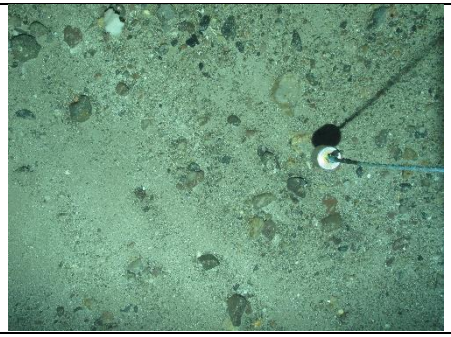
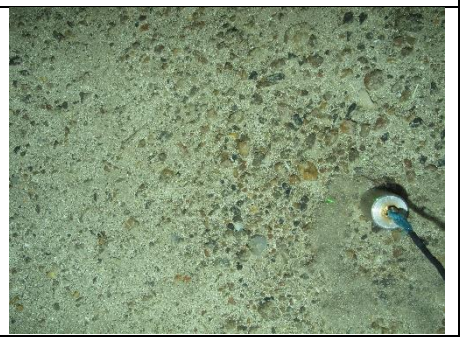
Station name & description	Image 1	Image 2	Image 3
B01 – Mixed sediment with cobbles and occasional large rocks. Brittle stars and tube worms (?).			
B02 – Mixed sediment with gravel. Pencil urchins, fish, squat lobster, sponges of different growth forms: white, pale.			
B03 – Mixed sediment with gravel and occasional boulders and sand slicks. Pencil urchins, sea cucumbers, hard coral, tube worms, bivalves, sponges of different growth forms: yellow, white.			

Station name & description	Image 1	Image 2	Image 3
B04 – Mixed sediment with gravel and occasional boulders. Hard and soft coral, pencil urchins, squat lobster, sea cucumbers, tube worms, sponges of different growth forms: yellow, white, blue, pale.			
B05 – Mixed sediment with some gravel and occasional boulders. Sea stars, anemones, squat lobster, brittle stars, gastropods, yellow and white sponges.			
B06 – Mixed sediment with cobbles and occasional large rocks. Pencil urchins, squat lobsters, gastropods, tube worms, brittle stars, sponges of different growth forms: yellow, white, blue, pale.			

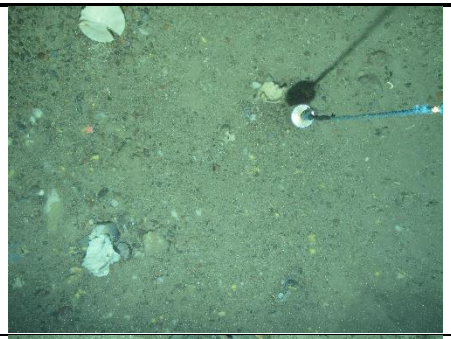
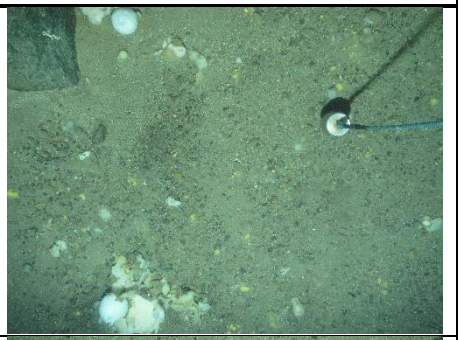
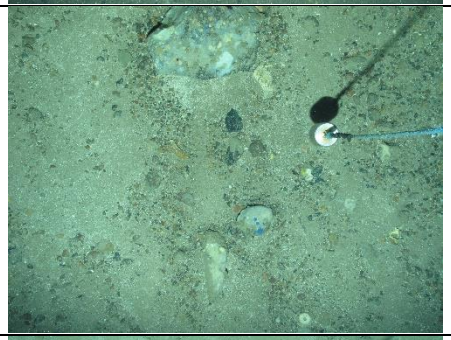
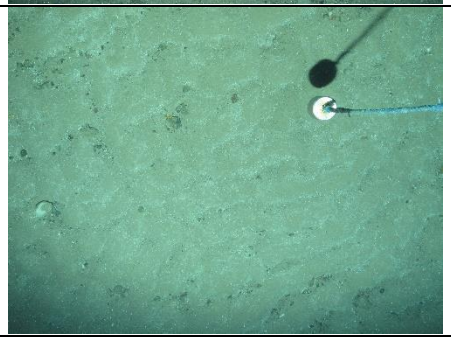
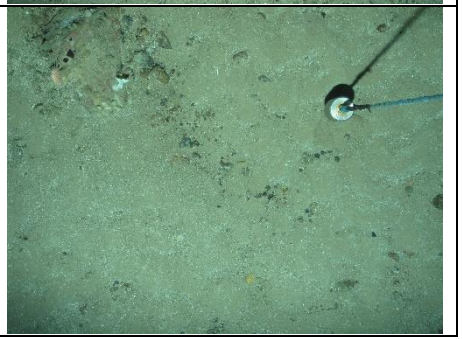
Station name & description	Image 1	Image 2	Image 3
B07 – Mixed sediment with gravel and occasional boulders. Pencil urchins, fish, anemones, squat lobsters, bivalves, tube worms, sponges of different growth forms: yellow, white, blue, pale.			
B08 – Mixed sediment with gravel and occasional boulders. Pencil urchins, polychaete, squat lobsters, bivalves, hermit crab, tusk shells, sponges of different growth forms: yellow, white, pale.			
B09 – Mixed sediment with some gravel and sand slicks. Pencil urchins, squat lobsters, tusk shells (?), soft coral, basket star, sea star, sponges of different growth forms: yellow, white, pale.			

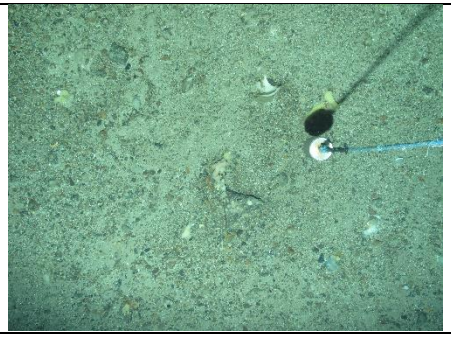
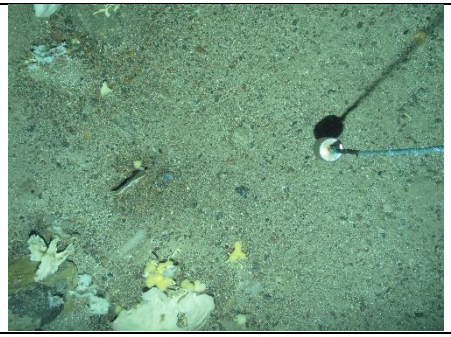
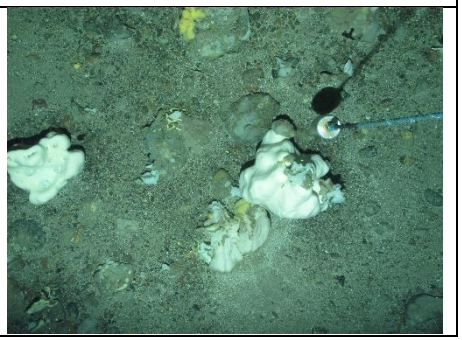
Station name & description	Image 1	Image 2	Image 3
B10 – Mixed sediment with gravel, occasional boulders and sand slicks. Pencil urchins, sea urchin, squat lobsters, brittle stars, hard and soft coral, the worms, crab, sea stars, fish, hermit crabs, sponges of different growth forms: yellow, white, blue, pale.			
B11 – Mixed sediment with cobbles and occasional boulders. Pencil urchins, squat lobsters, hard coral, sea stars, hermit crab, anemone, sponges of different growth forms: yellow, white, blue, pale.			
B12 – Mixed sediment with cobbles, occasional boulders and sand slicks. Pencil urchins, squat lobsters, fish, hard coral, sponges of different growth forms: yellow, white.			

Station name & description	Image 1	Image 2	Image 3
B13 – Mixed sediment with gravel and frequent boulders. Pencil urchins, squat lobsters, sea stars, hard coral, sponges of different growth forms: yellow, white.			
B14 – Mixed sediment with gravel and frequent boulders. Fish, tube worms, sea urchins, squat lobsters, sea stars, hard coral, basket star, sponges of different growth forms: yellow, white, blue.			
B15 – Mixed sediment with gravel and occasional large rocks. Squat lobsters, pencil urchins, tube worms, sea stars, sponges of different growth forms: yellow, white, blue.			

Station name & description	Image 1	Image 2	Image 3
B16 – Mixed sediments with some gravel and occasional boulders and sand slicks. Squat lobsters, sea urchins, bivalves, hard coral, shrimp, sponges of different growth forms: yellow, white.			

Box C

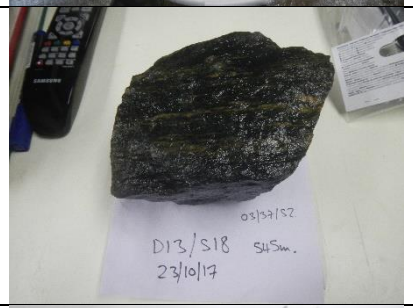
Station name & description	Image 1	Image 2	Image 3
C01 – Mixed sediments with gravel and occasional boulders and sandy areas. Squat lobsters, sea urchins, sea stars, tube worms, sponges of different growth forms: yellow, white, blue.			
C03 – Mixed sediments with gravel, large rocks and sand slicks. Squat lobsters, shrimps, anemones, sponges of different growth forms: yellow, white, blue.			
C04 – Extensive sand ripples with some gravel and occasional boulders. Anemone, sea urchin, tusk shells, sponges of different growth forms: yellow, white, blue.			

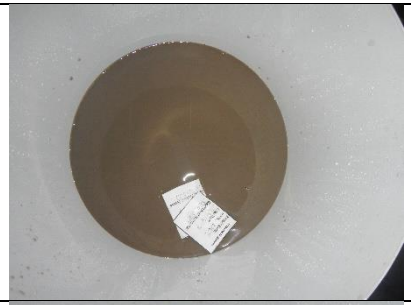
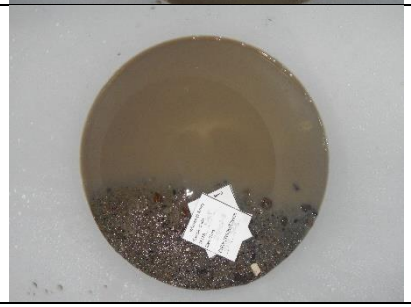
Station name & description	**Image 1**	**Image 2**	**Image 3**
C13 – Mixed sediment with gravel and sandy patches. Squat lobsters, hard coral, fish, sea stars, tusk shells, pencil urchins, sea cucumber, sponges of different growth forms: yellow, white, blue, black.			

Appendix 3: Representative images of each grab sample

North-east Faroe Shetland Channel - Box D

Station name	Sample	0.5 mm sieve (image 1)	0.25 mm sieve (image 2)
D02_S17 – Subtidal clay, coarse material and cobbles			
D10_S16 – Subtidal sand and gravel on top layer with subtidal mud underneath			
D11_S15 – Gravel and sand overlying mud			

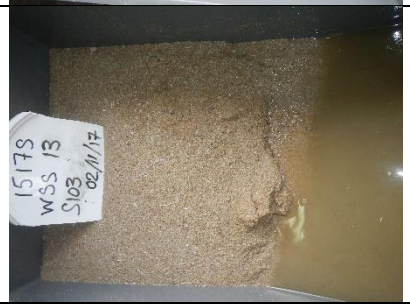
Station name	Sample	0.5 mm sieve (image 1)	0.25 mm sieve (image 2)
D12_S13 – Sand with gravel, pebbles and overlaying mud			
D13_S18 – Only PSA sample taken			
D20_S14 – Mid and coarse sediment, gravel and pebbles			

Station name	Sample	0.5 mm sieve (image 1)	0.25 mm sieve (image 2)
D30_S29 – Mixed sediments but predominantly clay			
D31_S28 – Muddy sand/mixed			
D32_S27 – Sandy mud with pebbles and gravel			

West of Shetland Shelf

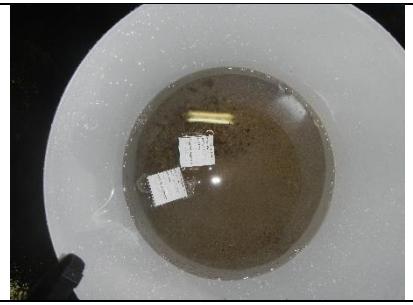
Station name	Sample	0.5 mm sieve
01_S95 – Gravelly sand		
04_S96 – Shelly sand		
06_S97 – Gravelly sand		

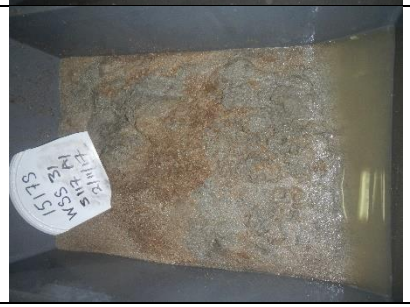
Station name	Sample	0.5 mm sieve
08_S100 – Coarse sediment with shell fragments		
09_S98 – Shelly fine sand		
10_S91 – Coarse sand and gravel		

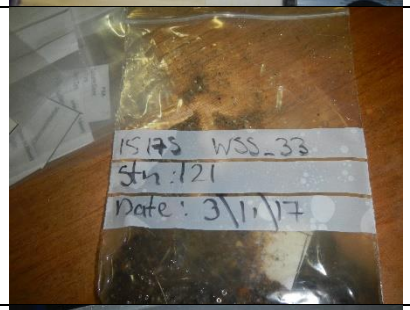
Station name	Sample	0.5 mm sieve
11_S88		
12_S99 – Coarse sand and shells		
13_S103 – Shelly sand		

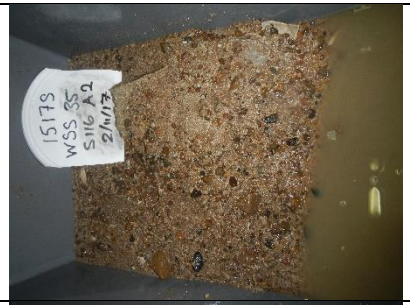
Station name	Sample	0.5 mm sieve
14_S89 – Coarse sand and gravel		
15_S106 – Pebbles and sand		
17_S102 – Coarse sediment with shell fragments		

Station name	Sample	0.5 mm sieve
19_S104 – Shelly, gravelly coarse sand		
20_S107 – Shelly coarse sand and gravel		
21_S108	Failed to obtain grab sample after three unsuccessful attempts.	
22_S111 – Coarse sand and shell		

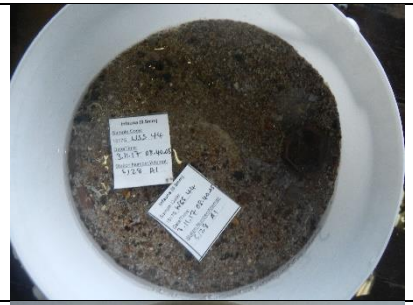
Station name	Sample	0.5 mm sieve
24_S119 – Coarse gravelly sand		
25_S112 – Coarse sand and shell fragments		
28_S120 – Coarse sand with cobbles		

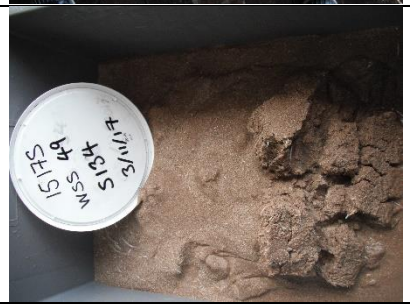
Station name	Sample	0.5 mm sieve
29_S113 – Coarse shelly sand		
30_S115 – Coarse shelly sand		
31_S117 – Gravelly shelly sand		

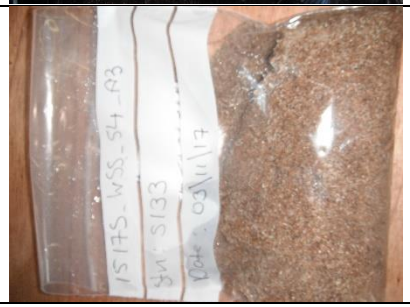
Station name	Sample	0.5 mm sieve
32_S123 – Only PSA sample taken		
33_S121 – Only PSA sample taken		
34_S114 – Coarse shelly sand		

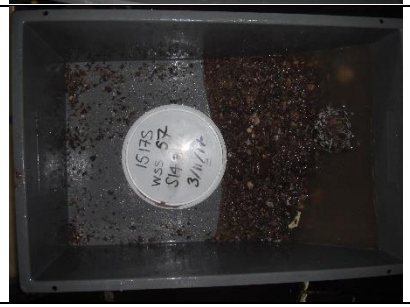
Station name	Sample	0.5 mm sieve
35_S116 – Pebbly, gravelly sand		
36_S124 – Coarse sand		
37_S122	Failed to obtain grab sample after three unsuccessful attempts.	
38_S129 – Coarse sand, gravel and a few small cobbles		

Station name	Sample	0.5 mm sieve
40_S125 – Coarse and fine sand		
41_S138 – Gravelly shelly sand		
43_S130 – Shelly sand		

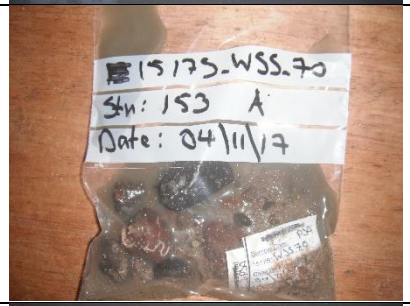
Station name	Sample	0.5 mm sieve
44_S128 – Gravelly sand (coarse)		
45_S126 – Shelly sand		
46_S137 – Coarse sand		

Station name	Sample	0.5 mm sieve
47_S139 – Coarse sediment and pebbles		
48_S132 – Coarse sand with some cobbles		
49_S134		

Station name	Sample	0.5 mm sieve
50_S136 – Coarse shelly sand and gravel		
53_S131 – Shelly sand		
54_S133 – Only PSA sample taken		

Station name	Sample	0.5 mm sieve
55_S135		
56_S147 – Shelly sand with gravel		
57_S145 – Slightly sandy gravel with shell fragments and pebbles		
59_S151	Failed to obtain grab sample after three unsuccessful attempts.	

Station name	Sample	0.5 mm sieve
62_S158 – Sand with pebbles		
64_S152 – Clean fine sand		
65_S150	Failed to obtain grab sample after three unsuccessful attempts.	
66_S155 – Pebbly sand with some cobbles		

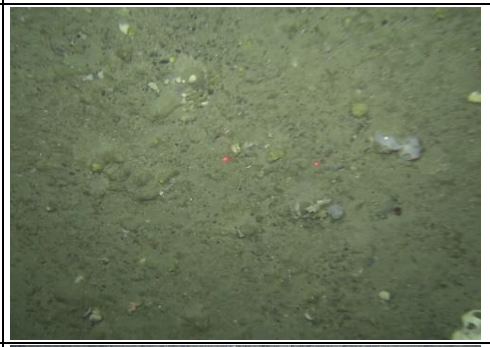
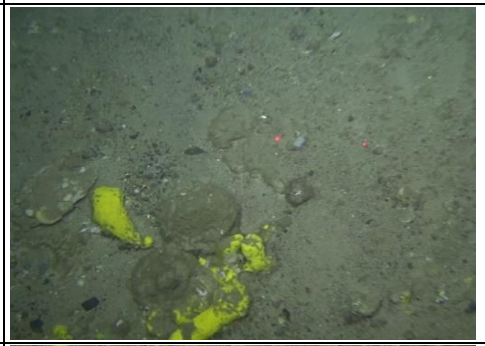
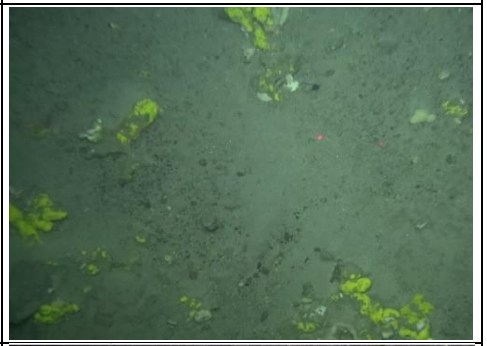
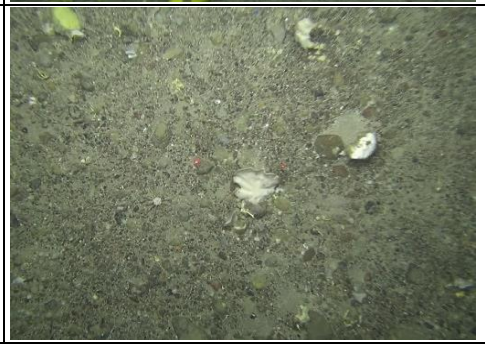
Station name	Sample	0.5 mm sieve
67_S157 – Pebbly sand		
70_S153 – Only PSA samples taken		
71_S154 – Coarse pebbly sand		

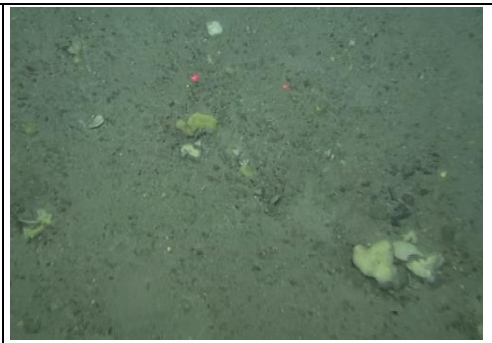
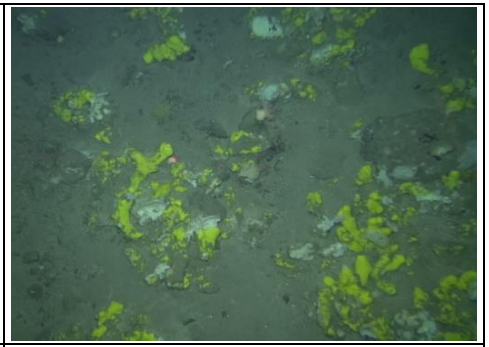
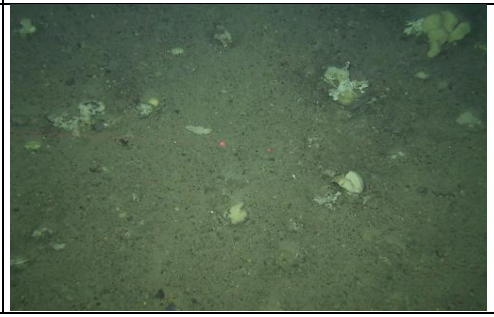
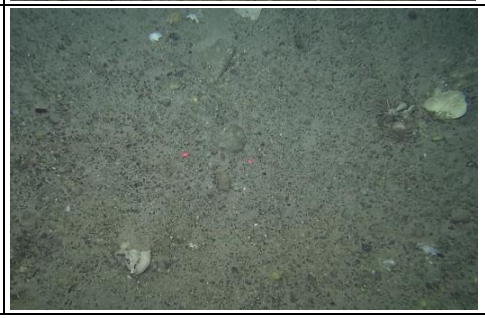
Station name	Sample	0.5 mm sieve
72_S156 – Coarse gravelly sand with some cobbles		

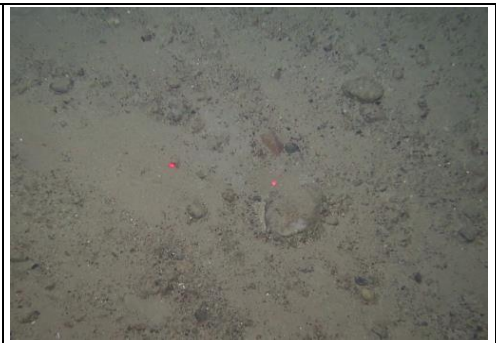
Appendix 4: Representative images from camera chariot transects

Boxes

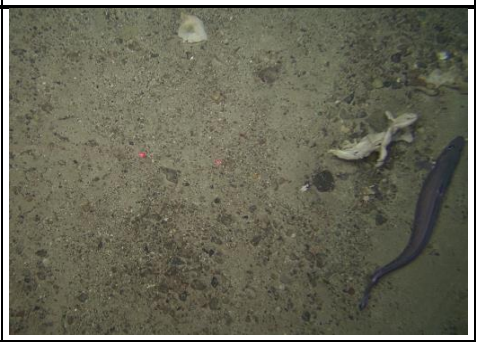
Box A

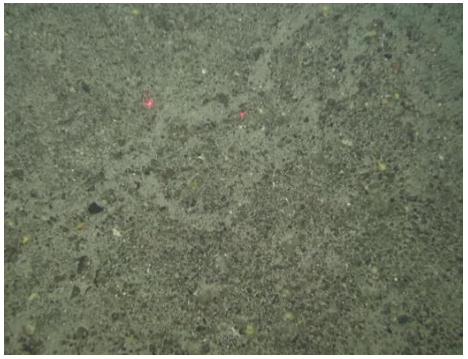
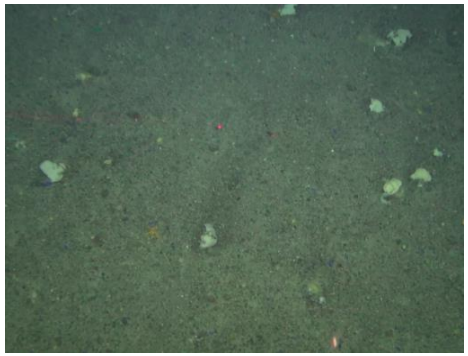
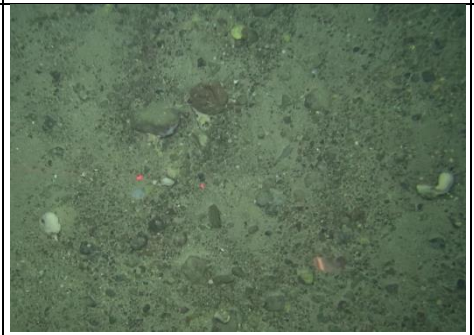
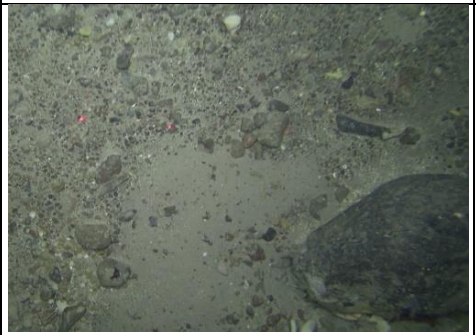
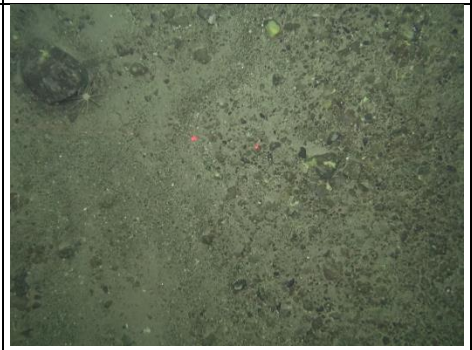
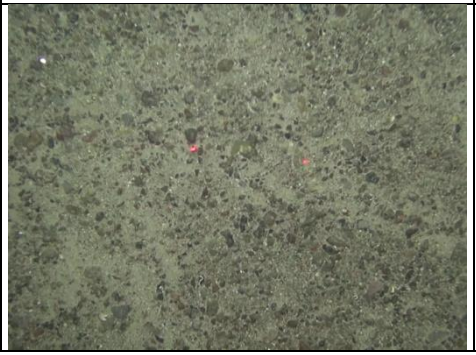
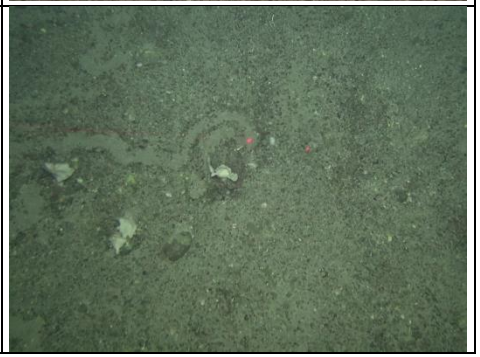
Station name & description	Image 1	Image 2	Image 3
A01 – Mixed fine sediments with cobbles and occasional boulders. Fish, sea stars, crabs. Variety of sponges in different growth forms: yellow, white, pale and blue. Few sponge aggregations.			
A02 – Mixed fine sediments with occasional cobbles and boulders. Fish, sea stars, crabs, squat lobsters, tube worms and sponges. Variety of sponge growth forms, predominately white.			

A03 – Mixed fine sediments with cobbles and occasional boulders. Sea Stars, tube worms, sponges of different growth forms: yellow white, pale. Few sponge aggregations.			
A04 – Mixed fine sediments with cobbles and occasional boulders. Fish, sea stars, tube worms, sponges of different growth forms: predominately white and pale but occasional blue and yellow.			
A05 – Mixed fine sediment with cobbles and occasional boulders. Fish, sea stars, tube worms, squat lobsters, sponges of different growth forms: yellow, white, pale.			

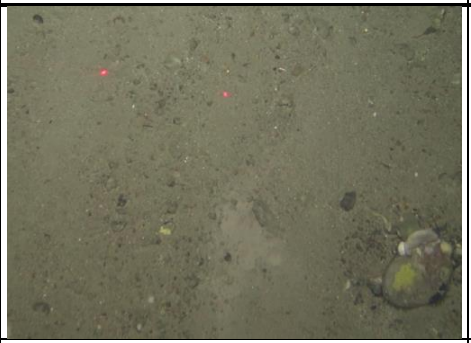
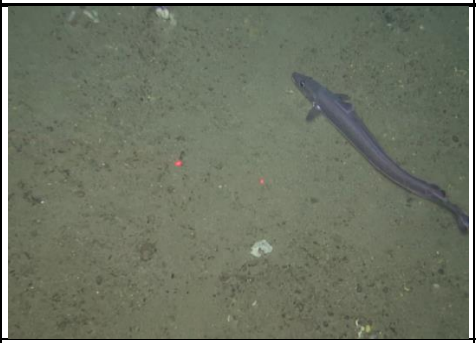
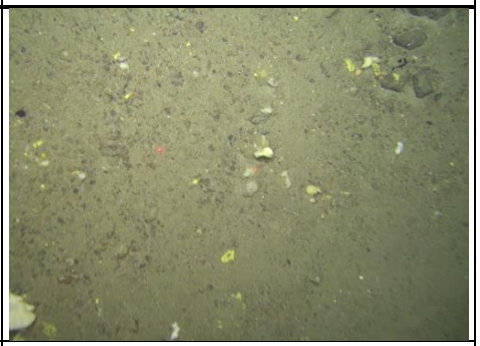
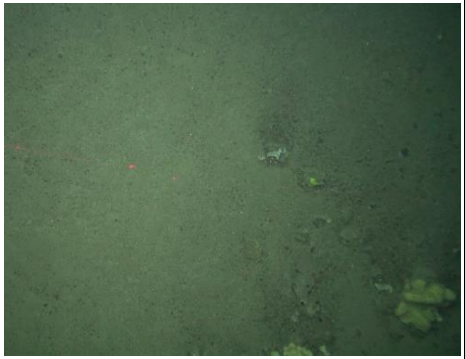
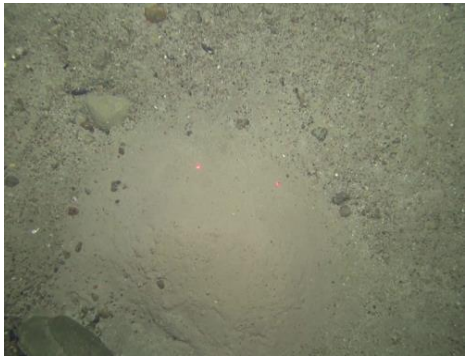
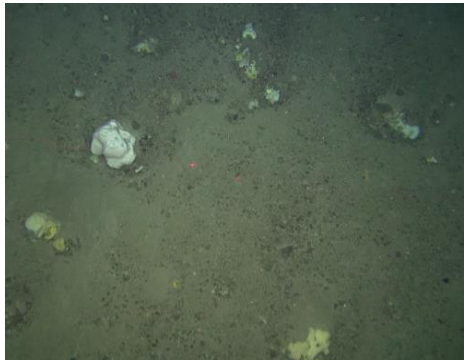
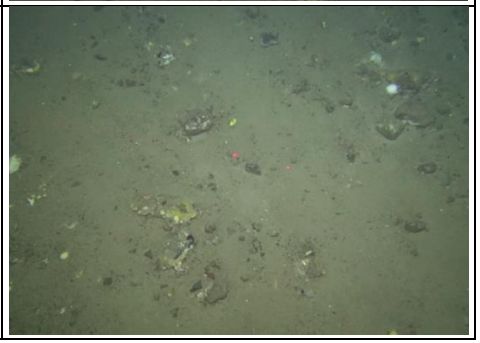
A06 – Mixed fine, sand sediment, and occasional cobbles and boulders. Fish, urchins, sea stars, sponges of different growth forms: yellow, white, pale and blue. Occasional sponge aggregation.			

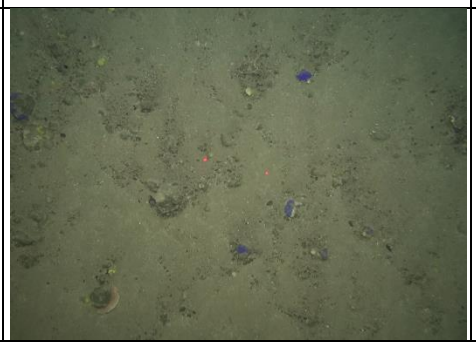
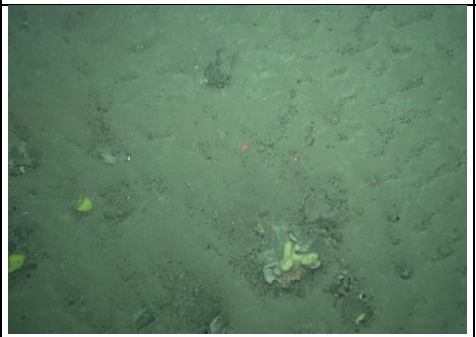
Box B

Station name & description	**Image 1**	**Image 2**	**Image 3**
B01 – Mixed fine sediment and gravels with cobbles and boulders. Occasional large rocks. Fish, urchins, hard coral, tube worms, sponges of different growth forms: yellow, white and pale.			

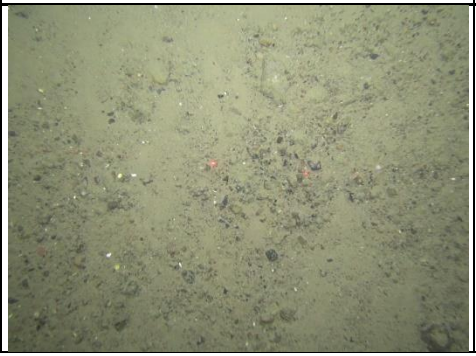
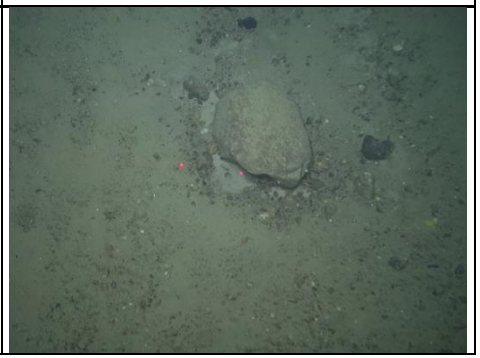
Station name & description	Image 1	Image 2	Image 3
B02 – Mixed fine sediment and gravels with cobbles and occasional boulders. Fish, urchins, anemones, sea stars, variety of sponge growth forms: yellow, white, pale. blue sponge.			
B03 – Mixed fine and gravelly sediment with cobbles and boulders. Fish, pencil urchins, variety of sponge growth forms: white, pale.			
B04 – Mixed fine sediment and gravel with cobbles and boulders. Fish, urchins, sea stars, variety of sponge growth forms: white, yellow and pale.			

Box C

Station name & description	Image 1	Image 2	Image 3
C01– Mixed fine sediment with gravel, cobbles and boulders. Fish, urchins, crabs, variety of sponge growth forms: white, pale, yellow and blue.			
C02 – Mixed fine sediment with gravel, cobbles and boulders. Fish, sea stars, variety of sponge growth forms: yellow, pale and white.			
C03 – Mixed fine sediment with gravel, cobbles and boulders. Fish, urchins, variety of sponge growth forms: yellow, pale, white and blue.			

Station name & description	Image 1	Image 2	Image 3
C04 – Mixed fine sediment with occasional cobbles and boulders. Fish, sea cucumbers, variety of sponge growth forms: yellow, pale, white and blue.			

Box D

Station name & description	Image 1	Image 2	Image 3
D01 – Mixed fine sediment and gravel with cobbles and boulders. Fish, sea stars, variety of sponge growth forms: yellow, pale and white.			

Appendix 5: Vessel and equipment used (additional information)

Vessel

For more information on MRV Scotia, please see:
http://www.scotland.gov.uk/Topics/marine/science/scienceops/vessels-technology/vessels/scotia

Sonar Ranger 2 Ultra-Short Base Line (USBL) acoustic transponder

For information on USBL system used, please see:
http://www.sonardyne.com/products/positioning/ranger2.html

Equipment configuration and calibration:

Camera

Camera	Viewing angle (nominal) deg	Viewing angle horizontal (deg)	Viewing angle vertical (deg)	Aspect ratio	Field width (mm) at range 1.25m	Field height (mm) at range 1.25m
Kongsberg OE-14-408 (Digital Stills)	62 (diagonal)	50	38	4:3	1125	870
SubC Control HD 1Cam Alpha	60 (horizontal)	60	34	16:9	1100	625

Digital stills camera configuration	
Focus	1m (fixed)
Aperture	F8 AP
Mode/Shutter	Manual/Priority Aperture
ISO	200
Flash	1/8 +2
Resolution	RAW and JPEG
HD camera configuration	
File format	.M2TS
Image quality	HD-FH
Filename = recording start date and time	YYMMDDHHMMSS (eg 30/08/13 00:21:21)
Recording capacity	96GB (available time ~7h 50m)
Frame rate	50p (progressive)
Laser projectors	4 spot, 63mm apart. 2 line, 400mm apart

Other

- USBL system did not require calibration.
- Navigation data (ship's position) is from the vessels main system (i.e. GPS aerial). Offsets were not applied.
- Positional data for the USBL was supplied from the ship’s multibeam system and is corrected (to within 1m) for the drop keel, where the USBL transceiver is located. Therefore, the USBL is corrected for its location. Vessel heading was supplied from the same source, and the motion reference for the USBL was supplied from the USBL unit.

Appendix 6: Breakdown of survey operation time

Activity	Hours Spent
Mob/demob	**11:30**
Offshore calibrations	**02:30**
Total operation sampling	**182:15**
Equipment/downtime	**04:00**
Waiting on weather	**83:30**
Transit	**36:45**
Standby port	**04:00**
Transit within survey area	**08:30**
Half-landing	**24:00**
SNH contingency work	**63:00**
Total:	**480:00**