



Eddystone Reefs Project 2020



Survey field report for the 2020 Eddystone Reefs Drop Down Video Survey Boxes 1 to 3.

Completed by: Cornwall Inshore Fisheries and Conservation Authority
(Cornwall IFCA)

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CIFCA_SAC_Edd_2020_DDV_Boxes1-3

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Summary

This report summarises the operations and data acquired during the 2020 drop down video (DDV) survey of the three project survey areas, located inside and outside of the Eddystone Reefs part of the Plymouth Sound to Start Point and Eddystone Special Area of Conservation (SAC). The survey was carried out over two days, on the 16th July and the 12th August 2020.

The aim of the survey was to collect high-quality video and still imagery from three identically sized survey boxes to enable a comparison of the epifaunal assemblages to be made following the prohibition of bottom towed fishing gear in the area of the treatment box (Box 1). Video and stills data were successfully collected from all three survey boxes, with six successful tows (tows 1 to 6) in each box. Two of the tows were repeats (Box 2 Tow 1b and Box 3 Tow 3b) due to losing comms to the camera and poor visibility. In total 20 video tows were completed which provided 07 hours 51 minutes and 5 seconds of video and 434 still images post Quality Control (QC). Sea conditions were favourable throughout the survey.

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1 Background and Introduction

Cornwall Inshore Fisheries and Conservation Authority (Cornwall IFCA), the Marine Conservation Society (MCS) and the University of Exeter Environment Sustainability Institute (ESI), are collaborating on a study in the Eddystone reefs (Figure 1) part of the Start Point to Plymouth Sound and Eddystone Special Area of Conservation (SAC). The project was initially funded by the Pigshed Trust between 2014 and 2016. Princess Yachts International of Plymouth funded the project from 2017 to 2019. Cornwall IFCA collected the data in 2020 with a view to it being stored and analysed and reported on in the future.

The aim of this study is to collect data over time to enable a comparison of the epifaunal assemblages by statistical analysis within areas that are open and closed to bottom towed gear using a treatment and two control survey boxes. The closure to bottom towed gears in parts of the Eddystone Reefs area of the Start Point to Plymouth Sound and Eddystone SAC was a result of the European Marine Site management measures that were introduced in January 2014 under the Closed Areas (European Marine Sites) No 2 Byelaw. The work carried out in 2020 was the seventh year of the study and replicated the previous year's survey. The data was from one treatment area that is within an area closed to bottom towed gears (Box 1) and two control areas where towed gears are allowed (Boxes 2 and 3) (Figure 1). Box 2 is close to the treatment area and Box 3 is further away. All sites were selected due to their similarity; they all have similar bathymetry, reef to the western side and have all been/are subject to towed gears.

1.1 Aims & Objectives

1.1.1 Aims

- Collect high quality video and still imagery from three identically sized survey boxes to enable a comparison of the epifaunal assemblages to be made following the prohibition of bottom towed fishing gear in the area of the treatment box (Box 1).

1.1.2 Objectives

- Complete drop-down video (DDV)/ stills imagery survey using the mapping European seabed habitats recommended operating guidelines for underwater video surveys (Coggan, 2007).
- Repeat camera tows carried out in 2014, 2015, 2016, 2017, 2018 and 2019 where possible.

2 Survey Operations

The survey was undertaken aboard the Research Vessel (R/V) Tiger Lily VI. Details of the vessel and the equipment used are provided in Appendix 1. Survey operations and protocols are described below.

2.1 Personnel

The surveys on the 16th July 2020 and 12th August 2020 consisted of one Scientific Officer and an independent skipper onboard and two scientific officers working remotely from home due to Coronavirus (COVID-19).

2.2 Personal Protective Equipment (PPE)

While working on deck all crew were required to wear lifejackets, personal location beacons (PLBs) and steel toe cap boots. Hard hats were worn during deployment and recovery of the DDV. There were no reported accidents or near misses on the day.

3 Methodology

Video and digital still imagery was acquired using a STR SeaSpyder drop camera system (Appendix 1). The survey was carried out in line with Mapping European Seabed Habitats (MESH) recommended operating guidelines for underwater video and photographic imaging techniques (MESH, 2008).

High definition footage of the seabed (with scaling lasers and dedicated lighting) was acquired, using the downward facing camera, in three survey boxes. Previous survey positions were already programmed into the vessel's Olex navigation plotter for navigation purposes. Six tows were completed in each survey box, following lines surveyed in previous years where possible.

Remote access software was used on both days to enable the home based Scientific officers to independently operate the SeaSpyder drop camera system controls and Hypack. Microsoft Teams was also used through each survey day to enable the home-based officers to maintain continuous communication with the survey crew aboard the vessel.

Prior to the deployment of the SeaSpyder for each tow, the video text overlay was checked and adjusted to display the survey name and tow number (e.g. "Cornwall IFCA_16/07/2020. Edd_DD V Box1_T1") and the GPS, heading and depth info was checked to ensure that it was updating correctly. The .jpeg file name prefix was checked and adjusted to display the survey name, tow number, time (UTC) and automatic image number (e.g. "CIFCA_Edd_1_T1_20200716__15_22_16__0076.JPG"). The SeaSpyder camera was deployed through the A-Frame at the stern of Tiger Lily and lashed securely to the starboard side of the vessel between tows.

The video was set to record once the camera was just above the seabed. Com Port A was set to log to record all positional information from the Hemisphere V500 GNSS GPS (Lat/ Long WGS84) for the entire tow. A target was

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created in Hypack Max Version 2019 to indicate the start of line (SOL); this was repeated at the end of line (EOL). The SeaSpyder was 'flown' with the frame legs just above the seabed for the tow. The camera frame was landed on the seabed every minute for a still image to be captured. Image separation varied slightly to ensure that the stills taken were of good quality (e.g. taken when the camera was focused on the seabed and the lens unobstructed) this sometimes led to a delay. Immediately upon having captured a still image a target was created in Hypack. Field notes were recorded for each target in Hypack such as survey box and tow number, speed over ground and real-time observations of substrate and taxa (comma delimited).

4 Data handling and analysis

Hypack targets were used in data processing to obtain exact still image locations. All position information was recorded in the Lat/Long WGS84 projection and taken from a single GPS (Furuno GP-32). GPS fixes were recorded using the Hemisphere V500 GNSS system on Tiger Lily. Hypack targets were extracted as a .txt file format and opened in Microsoft Excel (comma delimited). The Hypack 'logging' function was left running both survey days which outputs as a .RAW file. This data was opened with Microsoft Excel and cut to only include relevant strings of data such as date, time, position and depth. The data has not been extracted per tow but is available if required. Com Port A data was logged for the duration of each tow and saved in a .txt file format to the Topside PC.

Stills images from the SeaSpyder camera were initially stored on the internal computer (sub-surface), then on completion of each tow the still images were transferred to the SeaSpyder topside control unit using FileZilla and filed by tow number. Video files were captured to the SeaSpyder topside unit data drive (D:/). The stills and video files and were transferred from the topside unit to a WD Passport for transport and storage at the end of each survey day. The log sheets were worked on from the network and saved at the end of each day.

Image analysis was carried out post-survey with each still image being assessed in terms of quality with categories good, acceptable or poor as follows;

- Good: Clear, camera on seabed and sediment type and fauna distinguishable
- Acceptable: Can make out the sediment type and what fauna are present but not the best quality
- Poor: Can't make out the sediment type or what fauna is present

Any poor-quality images were not carried forward for further analysis. The Hypack target data for each tow was transferred to MapInfo Professional Version 17.0.2 and points were created to show the position of each still image (good and acceptable quality images only) and SOL/ EOL positions.

5 Cruise Narrative

All times are Universal Time Coordinated (UTC).

16th July 2020

R/V Tiger Lily departed Mylor at 06:15 on the 16/07/2020 with one Scientific Officer and an independent skipper on board. Two scientific officers worked remotely from home due to COVID-19. The vessel transited to Survey Box 3 first and the camera was deployed at 08:07. The first tow began at 08:21:30 and concluded at 08:47:10, with 24 still images captured (21 post QC). The second video tow ran from 09:29:54 to 09:09:56:10 with 26 stills captured (25 post QC). Tow 3 started at 10:08:41 but was aborted at 10:13:13 due to poor visibility and the vessel was re-positioned. Once re-positioned, tow 3b was started at 10:24:00 and finished at 10:51:29 with a total of 25 images captured. Once all tows were completed the vessel transited to Box 2.

The first tow in Box 2 was started at 11:27:42 but stopped early because comms to the camera were lost. Tow 1b started at 11:41:37 and finished at 12:09:11 with a total of 23 images. Tow 2 and Tow 3 commenced at 12:51:26 and 13:28:47 respectively with a total of 24 and 23 images captured. After the camera was recovered at 12:06 the vessel made way to Survey Box 1. The crew then had a break to attend an external meeting remotely whilst the vessel transited to Box 1.

The first tow in Survey Box 1 started at 15:16:34 and finished at 15:40:45 with 23 images. Tow 2 was conducted from 15:50:23 to 16:14:52 with 24 images captured and tow 3 started at 16:25:17 until 16:55:54 with 29 images captured. The camera was recovered to deck by 17:15 and Tiger Lily departed for Mylor, arriving alongside at 19:25.

12th August 2020

R/V Tiger Lily departed Mylor at 06:00 on the 12/08/2020 with one Scientific Officer and an independent skipper on board. Two scientific officers worked remotely from home due to COVID-19. The vessel transited to Survey Box 3 and at 08:30 the camera was deployed into the water. Tow 4 began at 08:34:58 and finished at 08:58:43 with 22 stills captured. Tow 5 began at 09:18:14 and finished at 09:42:16 with 23 images captured and tow 6 started at 10:02:05 and ended up 10:25:32 with 23 images captured. Tiger Lily the transited to survey box 2.

The three tows in survey box 2 (tow 4,5 and 6) ran smoothly and were conducted at 11:03:08, 11:39:47 and 12:53:27 with 24, 23 and 24 images captured.

The first tow in box 1 (tow 4) started at 13:38:38 and finished at 14:03:36 with 25 images captured. Tows 5 and 6 ran smoothly and were conducted at 14:15:18 and 14:53:34 with 24 images captured along each tow.

The camera was recovered to the deck and at 15:21 Tiger Lily departed the survey site and arrived in Mylor at 18:00.

6 Data acquisition

Seabed imagery was acquired for later assessment of the benthic epifaunal community within three survey boxes in the Start Point to Plymouth Sound and Eddystone SAC (Figure 1).

A drop down camera system was deployed at 18 stations, six in each survey box. High definition video footage and digital still images were captured during a single drop camera deployment at all stations. Two camera drops were required at two of the stations; Box 2 Tow 1b and Box 3 Tow 3b due to losing comms to the camera requiring a restart and poor visibility requiring the vessel to re-position. For each station video was recorded for a minimum length of 22

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minutes. The camera frame was landed on the seabed every minute and a still image taken. For vessel and equipment specifications see Appendix 1. Tow information including still image and video position are summarised in Appendix 2. The daily logs are shown in Appendix 3.

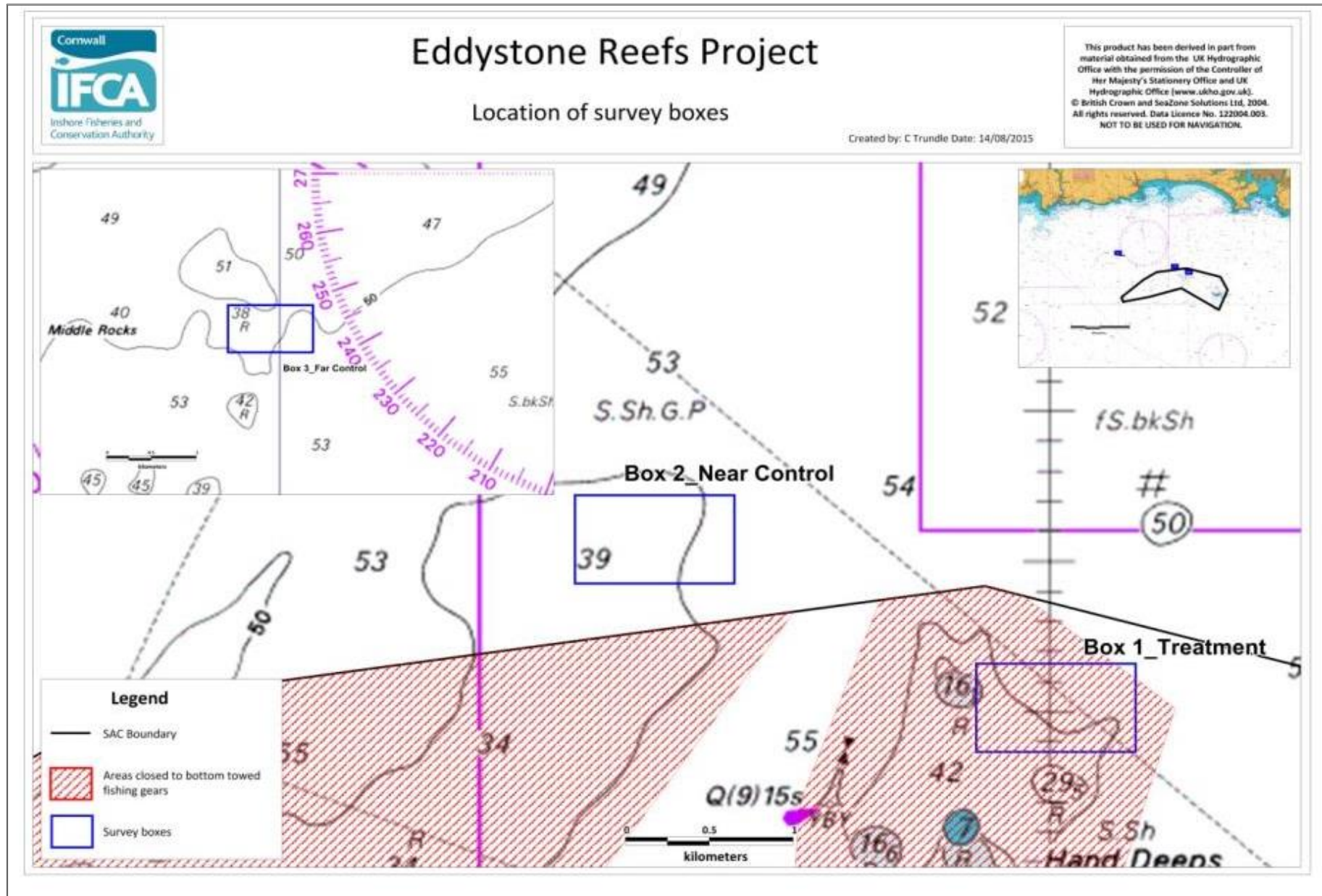


Figure 1: Location of the three survey boxes within the Start Point to Plymouth Sound and Eddystone SAC.

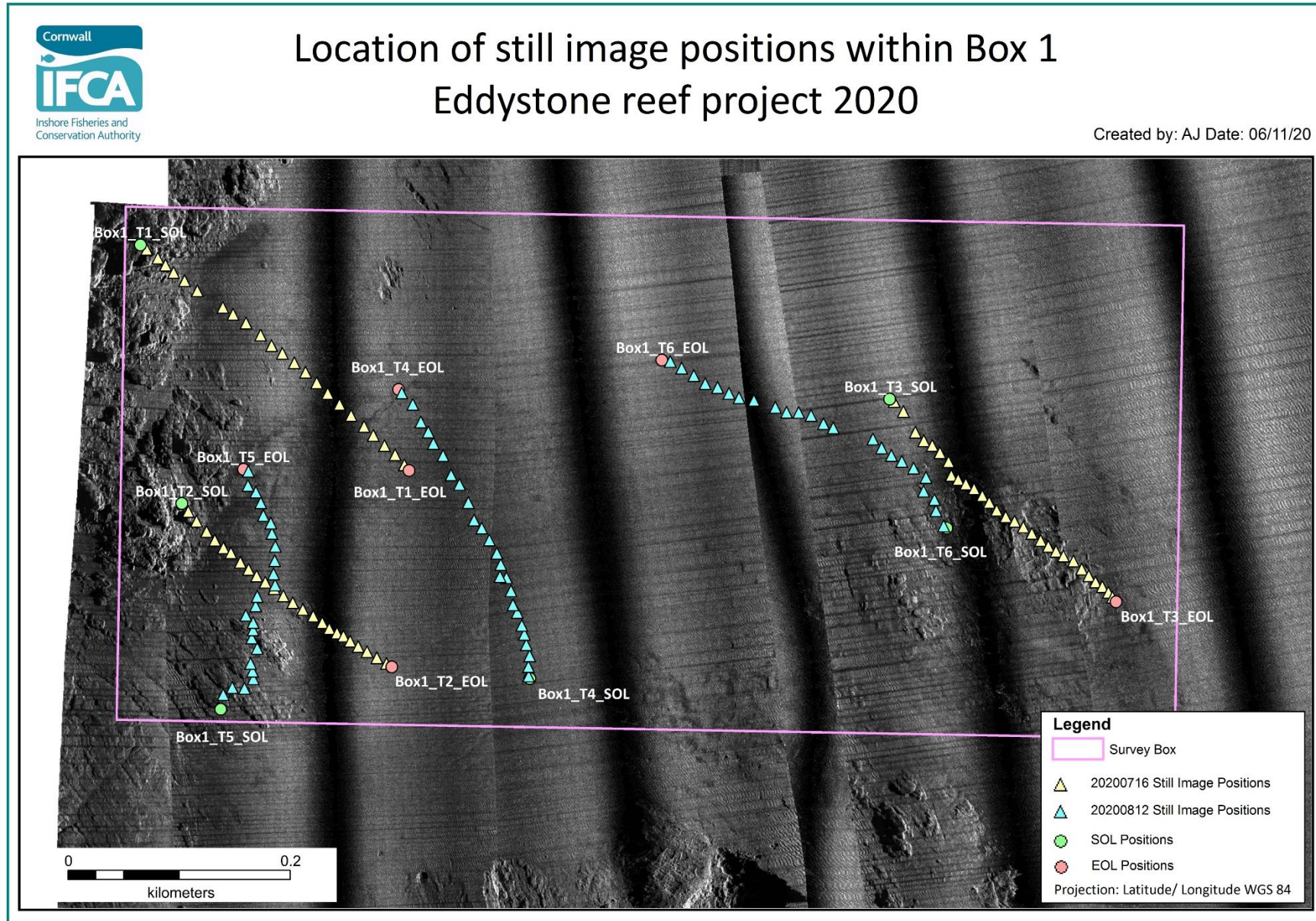


Figure 2: Location of still images taken in Survey Box 1 by Cornwall IFCA on the 16/07/2020 and the 12/08/2020.



Location of still image positions within Box 2 Eddystone reef project 2020

Created by: AJ Date: 06/11/2020

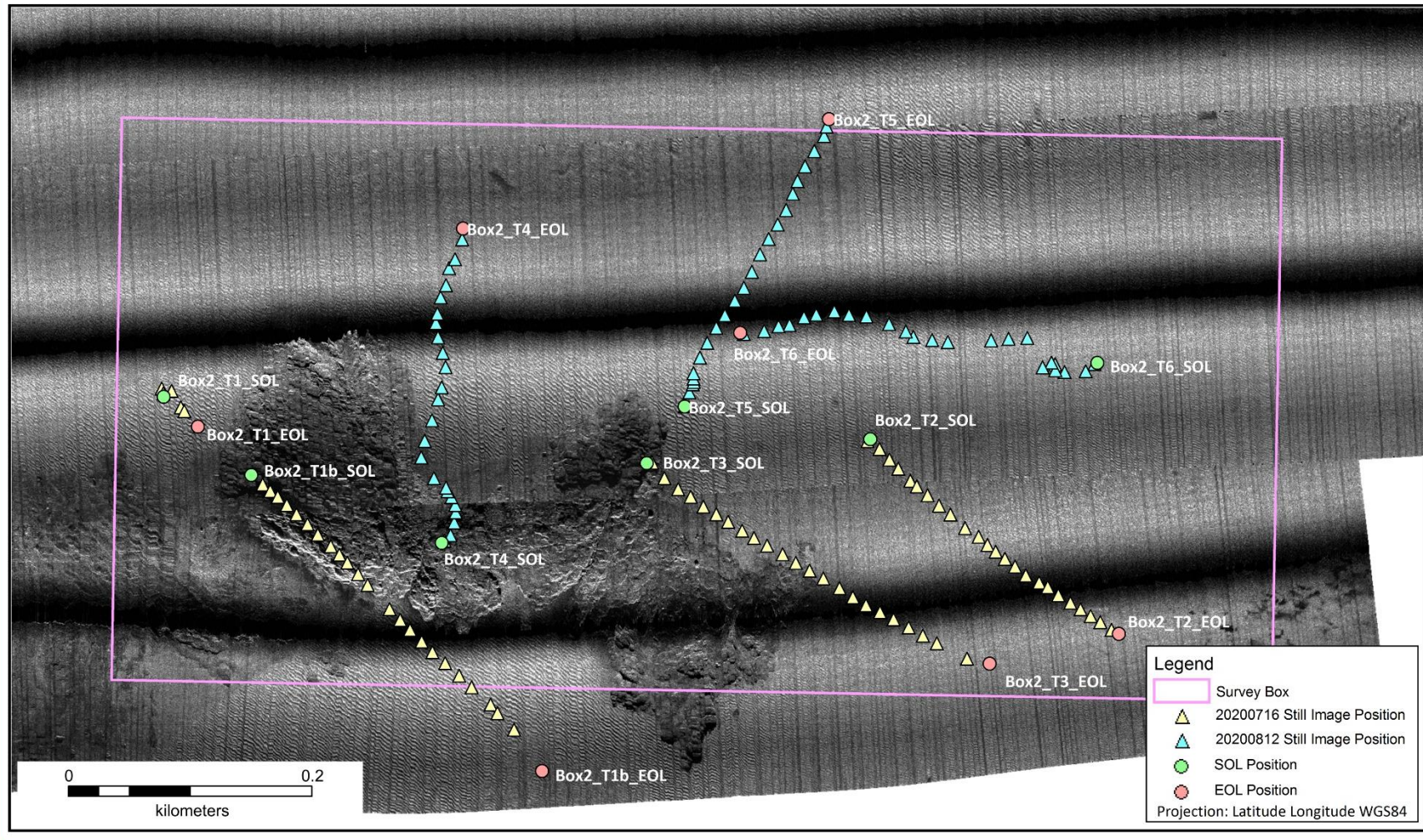


Figure 3: Location of still images taken in Survey Box 2 by Cornwall IFCA on the 16/07/2020 and the 12/08/2020.



Location of still image positions within Box 3 Eddystone reef project 2020

Created by: AJ Date: 06/11/2020

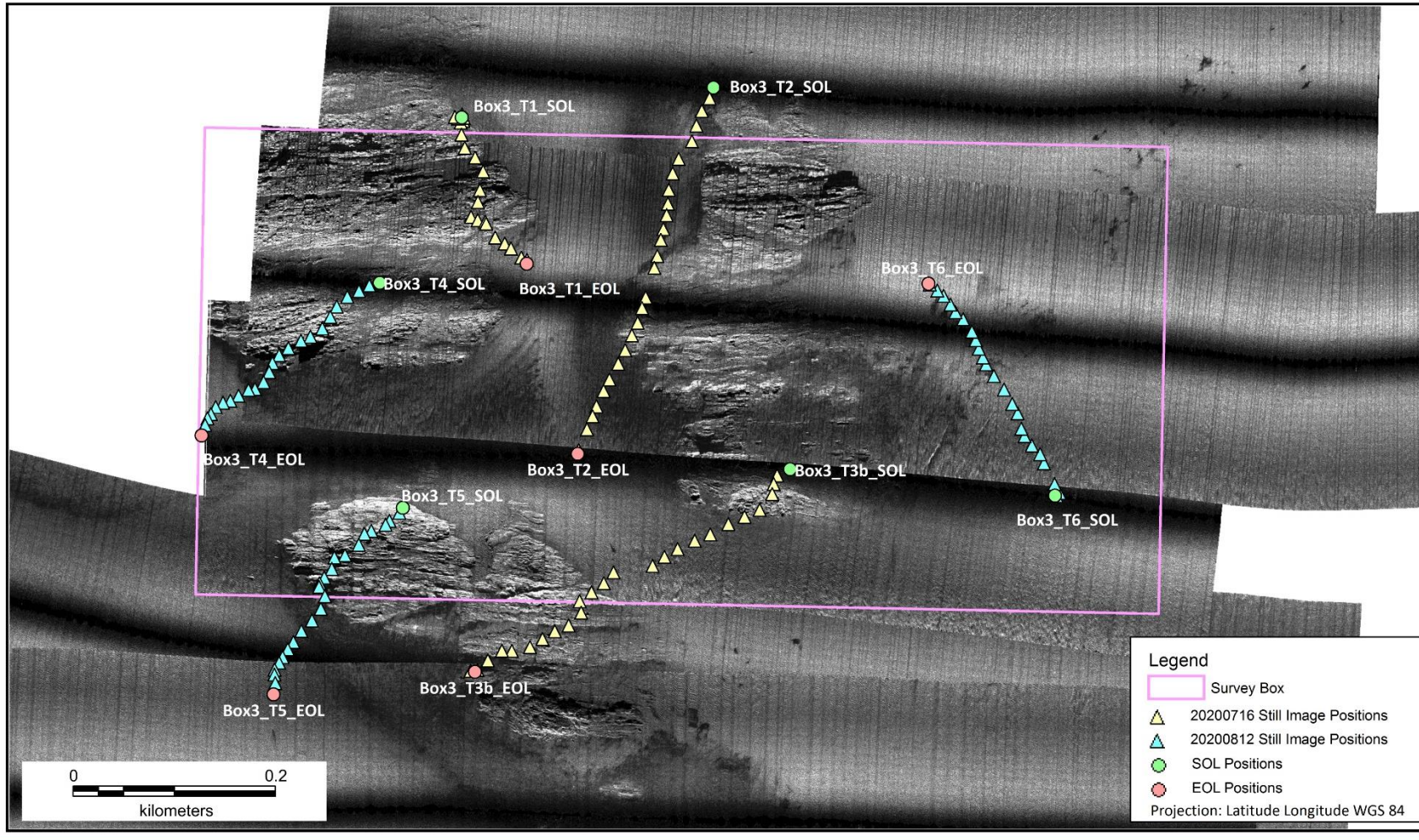


Figure 4: Location of still images taken in Survey Box 3 by Cornwall IFCA on the 16/07/2020 and the 12/08/2020.

7 References

Coggan, R., Mitchell, A., White, J. and Golding, N. 2007. Recommended operating guidelines (ROG) for underwater video and photographic imaging techniques. Report number: Video ROG v11, Affiliation: MESH, DOI: 10.13140/RG.2.1.1919.9206

8 Appendices

Appendix 1. Vessel and equipment used

R/V Tiger Lily VI

The survey was undertaken from Cornwall IFCA's Research Vessel (R/V) Tiger Lily VI (Annex Figure A). Tiger Lily VI is an MCA coded Cat 2 vessel. The vessel has been refitted for survey work and includes a purpose built survey station within the wheelhouse. R/V Tiger Lily VI has been fitted with an inverter and uninterruptable power supply (UPS) to provide stable, continuous 240 v power, NMEA outputs and a dedicated GPS with WAAS enabled. All times are recorded as UTC and taken from the same source as the position data. The clocks on all of the data capture PCs were synched prior to departing the vessel's mooring.



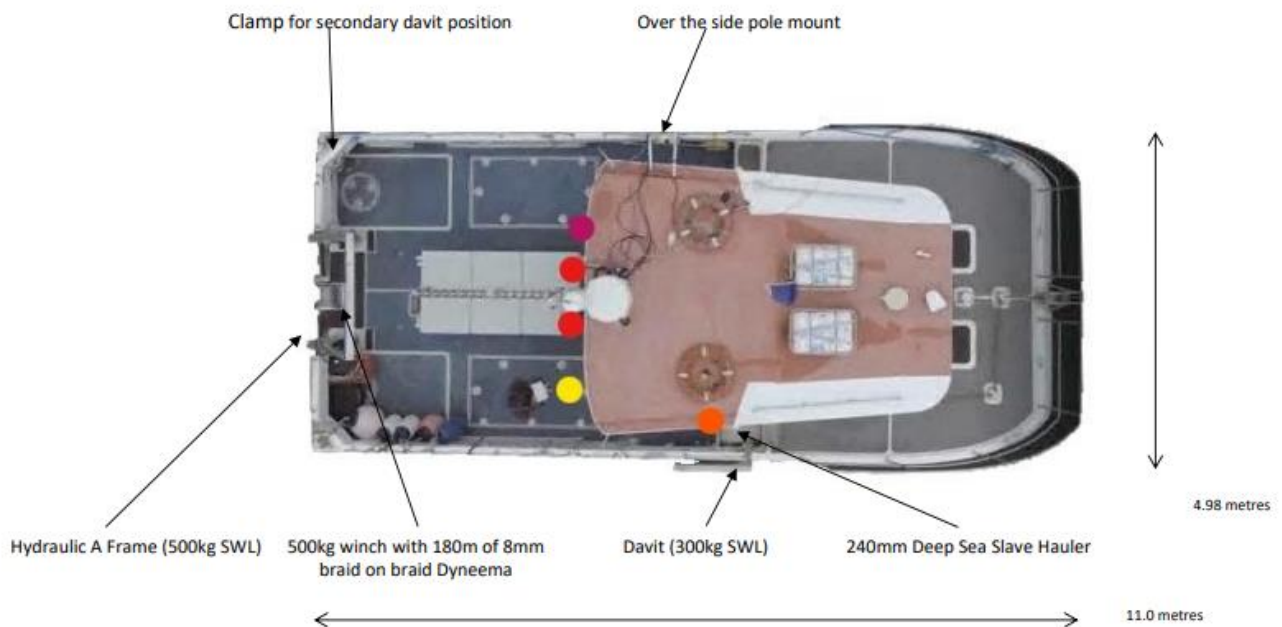
Annex Figure A: Cornwall IFCA's dedicated survey vessel, R/V Tiger Lily VI.

Builder	South Boats Ltd
Model	Island MkII
Built	2007
LOA	11.0m
Beam	4.98m
Draught	1.1m (aft)
Tonnage	c.10 tonnes
Area of operation	MCA Category 2
Call sign	MRWR7
MMSI Number	235054954
MECAL Certification number	M07WB0111059
Complement	14 (including min 2 crew)
Propulsion	2 x 450hp Iveco NEF series
Speed	Cruising: 16 – 18 knots Top: 24 – 26 knots
Range	c. 400 nautical miles

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240v AC supply	Victron 3Kw power inverter 5KvA Volvo-Perkins generator (All 240 AC power is accessed via APC Smart UPS C1500)
Stern Gantry	500kg SWL
Winch (on stern gantry)	Spencer Carter 0.5t with scrolling level wind
Slave hauler	Sea Winch 200m dia.
Electric line hauler	12v Spencer Carter Bandit
Positioning	Hemisphere V500 GNSS 3 x Furuno GP32
NMEA data outputs	4 x USB 4 x Serial 4 x banjo
Navigation	Olex with data export Knockle Hypack Max
Connectivity	SATFI 4G Mobile broadband

Positioning Software and Offsets



Equipment				Offset (m)		
NMEA Device	Plan Symbol	Make/Model	Offset Name	X (Forw'd)	Y (Port)	Z (+/-)
Navigation depth	●	Furuno Navnet	Furuno transducer	7.0m	0.75m	- 0.5m
GPS	●	Furuno GP32 x 2	Furuno mushroom antenna	4.8m	2.1m &	+ 3.5m
GPS	●	Furuno GP32	Furuno mushroom antenna	3.5m	0.5m	+ 2.0m
GNSS	●	Hemisphere V500	Main GPS	4.8m	3.0m	+ 2.5m

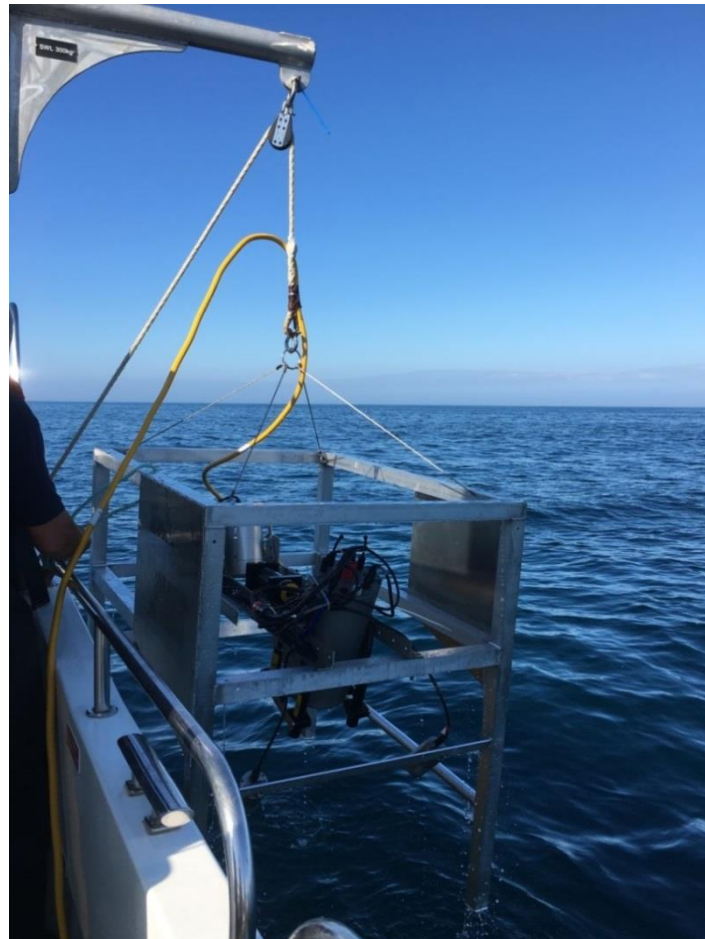
CIFCA_SAC_Edd_2020_DDV_Boxes1-3

STR SeaSpyder drop camera system

Details of the system are available online: <http://www.str-subsea.com/sales/str-SeaSpyder-drop-camera-system>.

Annex Figure B shows the camera system on the starboard side of R/V Tiger Lily.

Equipment	Camera System
Manufacturer	Subsea Technology & Rentals Ltd
Video	HD video 600 lines PAL
Stills	18 mega pixels
Height control	Video footage
Lighting	Four high density LED 20w lamps
Image scaling	4 Dual lasers for precise imagery scaling
Shutter control	Remote from deck
Additional info	<ul style="list-style-type: none"> • Full remote control of camera functions including automatic and manual focus control • 'On-the-fly' image download • High speed digital telemetry link to camera and sensors • High power underwater flash • Inbuilt compass and depth sensors



Annex Figure B: Drop Down Video mounted camera system and frame used onboard R/V Tiger Lily for the Eddystone Reefs Survey 2020

Appendix 2. Still and Video position data

Box 1 Tow 1

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
15:50:23	Box1_T2_SOL	50.215954	-4.338804	48.3				
15:51:12	CIFCA_Edd_1_T2_20200716_15_51_02_0094	50.215889	-4.338721	48.9	0.6	Mixed sediment	Good	
15:52:08	CIFCA_Edd_1_T2_20200716_15_52_06_0095	50.215812	-4.338615	50.1	0.7	Bedrock. Dead man's fingers, pink sea fan, porifera	Good	
15:53:17	CIFCA_Edd_1_T2_20200716_15_53_08_0096	50.215729	-4.338487	51	0.6	Bedrock. Pink sea fan, dead man's fingers, cup corals	Good	
15:54:18	CIFCA_Edd_1_T2_20200716_15_54_16_0097	50.215661	-4.338379	51.6	0.3	Bedrock. Dead man's fingers, cup corals, porifera	Good	
15:55:15	CIFCA_Edd_1_T2_20200716_15_55_13_0098	50.215602	-4.338269	52.6	0.6	Coarse sediment	Good	
15:56:04	CIFCA_Edd_1_T2_20200716_15_55_58_0099	50.215561	-4.338175	52	0.6	Mixed sediment and bedrock. Cup corals, porifera, dead man's fingers	Good	
15:57:15	CIFCA_Edd_1_T2_20200716_15_57_13_0100	50.215487	-4.338052	52.2	0.3	Coarse sediment and boulder. Pink sea fan, cup corals, hydroids	Good	
15:58:14	CIFCA_Edd_1_T2_20200716_15_58_12_0101	50.215430	-4.337948	53.2	0.7	Coarse sediment	Good	
15:59:15	CIFCA_Edd_1_T2_20200716_15_59_11_0102	50.215379	-4.337844	52.3	0.4	Coarse sediment	Good	
16:00:15	CIFCA_Edd_1_T2_20200716_16_00_13_0103	50.215330	-4.337734	53.2	0.3	Coarse sediment	Good	
16:01:15	CIFCA_Edd_1_T2_20200716_16_01_14_0104	50.215278	-4.337620	53.3	0.5	Mixed sediment	Good	
16:02:15	CIFCA_Edd_1_T2_20200716_16_02_13_0105	50.215223	-4.337503	53	0.5	Mixed sediment	Good	
16:03:15	CIFCA_Edd_1_T2_20200716_16_03_12_0106	50.215168	-4.337383	52.2	0.3	Mixed sediment. Branching sponge	Good	
16:04:13	CIFCA_Edd_1_T2_20200716_16_04_12_0107	50.215116	-4.337256	52.9	0.5	Mixed sediment	Good	
16:05:15	CIFCA_Edd_1_T2_20200716_16_05_13_0108	50.215064	-4.337122	53.5	0.5	Mixed sediment. Tube	Good	
16:06:19	CIFCA_Edd_1_T2_20200716_16_06_16_0109	50.215012	-4.337007	53.1	0.7	Mixed sediment	Good	
16:07:14	CIFCA_Edd_1_T2_20200716_16_07_12_0110	50.214966	-4.336916	52.6	0.5	Mixed sediment	Good	
16:08:13	CIFCA_Edd_1_T2_20200716_16_08_10_0111	50.214932	-4.336818	52.4	0.3	Coarse sediment	Good	
16:09:14	CIFCA_Edd_1_T2_20200716_16_09_14_0112	50.214907	-4.336737	53.3	0.7	Coarse sediment	Good	
16:10:15	CIFCA_Edd_1_T2_20200716_16_10_13_0113	50.214867	-4.336651	52.3	0.5	Coarse sediment	Good	
16:11:13	CIFCA_Edd_1_T2_20200716_16_11_12_0114	50.214825	-4.336547	52.9	0.3	Coarse sediment. Dead shell	Good	
16:12:14	CIFCA_Edd_1_T2_20200716_16_12_12_0115	50.214785	-4.336435	52.4	0.5	Coarse sediment. Hydroids	Good	
16:13:14	CIFCA_Edd_1_T2_20200716_16_13_12_0116	50.214737	-4.336311	53.4	0.8	Coarse sediment	Good	
16:14:17	CIFCA_Edd_1_T2_20200716_16_14_15_0117	50.214692	-4.336187	52.7	0.5	Coarse sediment	Good	
16:14:52	Box1_T2_EOL	50.214667	-4.336120	53.2				



Box 1 Tow 2

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
15:50:23	Box1_T2_SOL	50.215954	-4.338804	48.3				
15:51:12	CIFCA_Edd_1_T2_20200716_15_51_02_0094	50.215889	-4.338721	48.9	0.6	Mixed sediment	Good	
15:52:08	CIFCA_Edd_1_T2_20200716_15_52_06_0095	50.215812	-4.338615	50.1	0.7	Bedrock. Dead man's fingers, pink sea fan, porifera	Good	
15:53:17	CIFCA_Edd_1_T2_20200716_15_53_08_0096	50.215729	-4.338487	51	0.6	Bedrock. Pink sea fan, dead man's fingers, cup corals	Good	
15:54:18	CIFCA_Edd_1_T2_20200716_15_54_16_0097	50.215661	-4.338379	51.6	0.3	Bedrock. Dead man's fingers, cup corals, porifera	Good	
15:55:15	CIFCA_Edd_1_T2_20200716_15_55_13_0098	50.215602	-4.338269	52.6	0.6	Coarse sediment	Good	
15:56:04	CIFCA_Edd_1_T2_20200716_15_55_58_0099	50.215561	-4.338175	52	0.6	Mixed sediment and bedrock. Cup corals, porifera, dead man's fingers	Good	
15:57:15	CIFCA_Edd_1_T2_20200716_15_57_13_0100	50.215487	-4.338052	52.2	0.3	Coarse sediment and boulder. Pink sea fan, cup corals, hydroids	Good	
15:58:14	CIFCA_Edd_1_T2_20200716_15_58_12_0101	50.215430	-4.337948	53.2	0.7	Coarse sediment	Good	
15:59:15	CIFCA_Edd_1_T2_20200716_15_59_11_0102	50.215379	-4.337844	52.3	0.4	Coarse sediment	Good	
16:00:15	CIFCA_Edd_1_T2_20200716_16_00_13_0103	50.215330	-4.337734	53.2	0.3	Coarse sediment	Good	
16:01:15	CIFCA_Edd_1_T2_20200716_16_01_14_0104	50.215278	-4.337620	53.3	0.5	Mixed sediment	Good	
16:02:15	CIFCA_Edd_1_T2_20200716_16_02_13_0105	50.215223	-4.337503	53	0.5	Mixed sediment	Good	
16:03:15	CIFCA_Edd_1_T2_20200716_16_03_12_0106	50.215168	-4.337383	52.2	0.3	Mixed sediment. Branching sponge	Good	
16:04:13	CIFCA_Edd_1_T2_20200716_16_04_12_0107	50.215116	-4.337256	52.9	0.5	Mixed sediment	Good	
16:05:15	CIFCA_Edd_1_T2_20200716_16_05_13_0108	50.215064	-4.337122	53.5	0.5	Mixed sediment. Tube	Good	
16:06:19	CIFCA_Edd_1_T2_20200716_16_06_16_0109	50.215012	-4.337007	53.1	0.7	Mixed sediment	Good	
16:07:14	CIFCA_Edd_1_T2_20200716_16_07_12_0110	50.214966	-4.336916	52.6	0.5	Mixed sediment	Good	
16:08:13	CIFCA_Edd_1_T2_20200716_16_08_10_0111	50.214932	-4.336818	52.4	0.3	Coarse sediment	Good	
16:09:14	CIFCA_Edd_1_T2_20200716_16_09_14_0112	50.214907	-4.336737	53.3	0.7	Coarse sediment	Good	
16:10:15	CIFCA_Edd_1_T2_20200716_16_10_13_0113	50.214867	-4.336651	52.3	0.5	Coarse sediment	Good	
16:11:13	CIFCA_Edd_1_T2_20200716_16_11_12_0114	50.214825	-4.336547	52.9	0.3	Coarse sediment. Dead shell	Good	
16:12:14	CIFCA_Edd_1_T2_20200716_16_12_12_0115	50.214785	-4.336435	52.4	0.5	Coarse sediment. Hydroids	Good	
16:13:14	CIFCA_Edd_1_T2_20200716_16_13_12_0116	50.214737	-4.336311	53.4	0.8	Coarse sediment	Good	
16:14:17	CIFCA_Edd_1_T2_20200716_16_14_15_0117	50.214692	-4.336187	52.7	0.5	Coarse sediment	Good	
16:14:52	Box1_T2_EOL	50.214667	-4.336120	53.2				

Box 1 Tow 3

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
16:25:17	Box1_T3_SOL	50.216897	-4.329900	54.6				
16:25:43	CIFCA_Edd_1_T3_20200716_16_25_37_0118	50.216878	-4.329843	54.4	0.4	Coarse sediment. Hydroids	Good	
16:26:48	CIFCA_Edd_1_T3_20200716_16_26_47_0119	50.216798	-4.329725	55.1	0.3	Mixed sediment	Good	
16:27:45	CIFCA_Edd_1_T3_20200716_NA					Image didn't take		
16:28:47	CIFCA_Edd_1_T3_20200716_16_28_45_0120	50.216634	-4.329569	54.9	0.3	Coarse sediment	Good	
16:29:47	CIFCA_Edd_1_T3_20200716_16_29_44_0121	50.216566	-4.329461	55.2	0.5	Mixed sediment	Good	
16:30:46	CIFCA_Edd_1_T3_20200716_16_30_44_0122	50.216529	-4.329353	54.9	0.4	Mixed sediment. Hydroids	Good	
16:31:46	CIFCA_Edd_1_T3_20200716_16_31_44_0123	50.216471	-4.329255	54.4	0.3	Mixed sediment	Good	
16:32:49	CIFCA_Edd_1_T3_20200716_16_32_47_0124	50.216400	-4.329144	54.4	0.5	Mixed sediment. Sediment waves	Good	
16:33:50	CIFCA_Edd_1_T3_20200716_16_33_49_0125	50.216290	-4.329105	54.9	0.4	Mixed sediment	Good	
16:34:46	CIFCA_Edd_1_T3_20200716_16_34_44_0126	50.216258	-4.329019	54.2	0.5	Mixed sediment	Good	
16:35:50	CIFCA_Edd_1_T3_20200716_16_35_45_0127	50.216225	-4.328920	53.3	0.5	Mixed sediment	Good	
16:36:45	CIFCA_Edd_1_T3_20200716_16_36_42_0128	50.216186	-4.328816	53.4	0.4	Bedrock. Hydroids, pink sea fan, cup corals	Good	
16:37:46	CIFCA_Edd_1_T3_20200716_16_37_44_0129	50.216132	-4.328711	53.8	0.6	Mixed sediment, pebbles and cobbles. Pink sea fan, cup corals	Good	
16:38:45	CIFCA_Edd_1_T3_20200716_16_38_43_0130	50.216078	-4.328621	53.6	0.8	Mixed sediment, pebbles and cobbles. Pink sea fan, cup corals, hydroids	Good	
16:39:47	CIFCA_Edd_1_T3_20200716_16_39_44_0131	50.216016	-4.328526	52.8	0.3	Mixed sediment, pebbles and cobbles. Pink sea fan, cup corals, porifera	Good	
16:40:49	CIFCA_Edd_1_T3_20200716_16_40_45_0132	50.215965	-4.328411	51.4	0.6	Bedrock. Pink sea fan, cup corals, dead man's fingers, spiny starfish, hydroids	Good	
16:41:47	CIFCA_Edd_1_T3_20200716_16_41_45_0133	50.215929	-4.328298	51.8	0.5	Bedrock. Sea squirt, cup corals, starfish, dead man's fingers, hydroids	Good	
16:42:48	CIFCA_Edd_1_T3_20200716_16_42_45_0134	50.215885	-4.328186	51.5	0.5	Bedrock. Pink sea fan, cup corals, porifera	Good	
16:43:50	CIFCA_Edd_1_T3_20200716_16_43_47_0135	50.215833	-4.328077	50.2	0.3	Bedrock. Pink sea fan, dead man's fingers, cup corals, sea squirt, feather star	Good	
16:44:56	CIFCA_Edd_1_T3_20200716_16_44_51_0136	50.215779	-4.327963	50.9	0.4	Bedrock. <i>Cliona</i> , dead man's fingers, urchin, feather star. Anthropogenic: cloth	Good	
16:45:51	CIFCA_Edd_1_T3_20200716_16_45_45_0137	50.215732	-4.327867	50.9	0.5	Bedrock. Pink sea fan, dead man's fingers, cup corals	Acceptable	Camera off seabed
16:46:47	CIFCA_Edd_1_T3_20200716_16_46_45_0138	50.215694	-4.327769	52	0.2	Bedrock. Pink sea fan, dead man's fingers, cup corals, hydroids	Good	
16:47:42	CIFCA_Edd_1_T3_20200716_16_47_38_0139	50.215657	-4.327674	51.3	0.5	Edge of bedrock. Urchin, feather star, cup corals, pink sea fan	Acceptable	Sediment in water column
16:48:50	CIFCA_Edd_1_T3_20200716_16_48_49_0140	50.215619	-4.327547	52.1	0.5	Bedrock. Pink sea fan, dead man's fingers, cup corals, sea cucumber	Good	
16:49:50	CIFCA_Edd_1_T3_20200716_16_49_47_0141	50.215555	-4.327439	53.3	0.6	Bedrock. Pink sea fan, dead man's fingers, urchin, cup corals	Good	
16:50:52	CIFCA_Edd_1_T3_20200716_16_50_52_0142	50.215501	-4.327350	55.1	0.7	Bedrock. Pink sea fan, dead man's fingers, porifera cup corals	Acceptable	Camera off seabed
16:51:57	CIFCA_Edd_1_T3_20200716_16_52_02_0143	50.215452	-4.327264	56.3	0.4	Boulders. Pink sea fan, porifera, hydroids, cup corals, tube	Good	
16:53:03	CIFCA_Edd_1_T3_20200716_16_52_58_0144	50.215416	-4.327175	56.7	0.3	Mixed sediment. Pink sea fan cup corals, hydroids	Good	
16:54:05	CIFCA_Edd_1_T3_20200716_16_54_03_0145	50.215371	-4.327099	56.5	0.3	Coarse sediment. Hydroids	Good	
16:55:02	CIFCA_Edd_1_T3_20200716_16_55_00_0146	50.215331	-4.327045	56.9	0.4	Mixed sediment. Hydroids	Good	
16:55:54	Box1_T3_EOL	50.215295	-4.326998	57.3				



Box 1 Tow 4

Project Code	2020_CIFCA_EDD_DD_V	SOL Time (hh:mm:ss)	13:38:38	SOL depth (m)	51.5	Video file name(s)	CIFCA_Edd_1_T4_20200812_VID_13_38_34	
Date	2020-08-12	EOL Time (hh:mm:ss)	14:03:36	EOL depth (m)	53.2	Hypack track file	HypackLog_Edd_20200812	
Vessel	Tiger Lily	Length of video	00:24:58	Number of stills pre-QC	25	Com port A file	ComPortA_Edd_1_T4_20200812_1336	
Site ID	Box 1	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	25	Winch operator	CT	
Tow ID	Tow 4	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	SS	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	56	Data recorder	AJ	
Direction: NW, Current: Drifting north and using engine, Habitat: Coarse/mixed sediment throughout.								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
13:38:38	Box1_T4_SOL	50.214592	-4.334375	51.5				
13:39:01	CIFCA_Edd_1_T4_20200812_13_39_00_0140	50.214612	-4.334390	52.9	0.6	Mixed sediment, shell. Hydroids	Good	
13:40:08	CIFCA_Edd_1_T4_20200812_13_40_06_0141	50.214687	-4.334397	52.4	0.3	Coarse sediment	Good	
13:41:07	CIFCA_Edd_1_T4_20200812_13_41_06_0142	50.214775	-4.334384	52.6	0.5	Coarse sediment. Hydroids, tube	Good	
13:42:10	CIFCA_Edd_1_T4_20200812_13_42_06_0143	50.214864	-4.334427	52.5	0.3	Mixed sediment, shell. Hydroids	Good	
13:43:08	CIFCA_Edd_1_T4_20200812_13_43_07_0144	50.214948	-4.334455	52.1	0.7	Mixed sediment, shell	Good	
13:44:08	CIFCA_Edd_1_T4_20200812_13_44_12_0145	50.215019	-4.334490	52.2	0.5	Mixed sediment	Acceptable	Camera off the seabed
13:45:10	CIFCA_Edd_1_T4_20200812_13_45_09_0146	50.215123	-4.334549	52.5	0.4	Mixed sediment, shell. Hydroids	Good	
13:46:08	CIFCA_Edd_1_T4_20200812_13_46_07_0147	50.215183	-4.334605	52.2	0.5	Mixed sediment, shell	Good	
13:47:10	CIFCA_Edd_1_T4_20200812_13_47_08_0148	50.215295	-4.334633	53.0	0.3	Mixed sediment, shell	Good	
13:48:14	CIFCA_Edd_1_T4_20200812_13_48_08_0149	50.215401	-4.334693	51.7	0.4	Mixed sediment, shell	Good	
13:49:09	CIFCA_Edd_1_T4_20200812_13_49_06_0150	50.215410	-4.334776	52.8	0.6	Coarse sediment	Good	
13:50:09	CIFCA_Edd_1_T4_20200812_13_50_09_0151	50.215507	-4.334768	52.7	0.4	Mixed sediment, shell	Good	
13:51:07	CIFCA_Edd_1_T4_20200812_13_51_07_0152	50.215597	-4.334819	52.7	0.2	Coarse sediment	Good	
13:52:07	CIFCA_Edd_1_T4_20200812_13_52_11_0153	50.215702	-4.334916	53.0	0.5	Mixed sediment. Hydroids.	Acceptable	Camera off the seabed
13:53:13	CIFCA_Edd_1_T4_20200812_13_53_12_0154	50.215797	-4.335017	53.1	0.6	Mixed sediment, shell	Good	
13:54:08	CIFCA_Edd_1_T4_20200812_13_54_08_0155	50.215861	-4.335114	53.2	0.6	Coarse sediment	Good	
13:55:09	CIFCA_Edd_1_T4_20200812_13_55_08_0156	50.216002	-4.335191	53.2	0.3	Coarse sediment	Good	
13:56:14	CIFCA_Edd_1_T4_20200812_13_56_12_0157	50.216146	-4.335306	53.3	0.7	Mixed sediment, pebbles. Scallop	Good	
13:57:07	CIFCA_Edd_1_T4_20200812_13_57_06_0158	50.216221	-4.335414	53.4	0.9	Coarse sediment	Good	
13:58:09	CIFCA_Edd_1_T4_20200812_13_58_09_0159	50.216376	-4.335521	53.2	0.6	Coarse sediment	Good	
13:59:13	CIFCA_Edd_1_T4_20200812_13_59_12_0160	50.216473	-4.335644	53.4	0.6	Mixed sediment. Tracks	Good	
14:00:11	CIFCA_Edd_1_T4_20200812_14_00_12_0161	50.216565	-4.335712	53.2	1	Mixed sediment, shell. Tubes	Good	
14:01:11	CIFCA_Edd_1_T4_20200812_14_01_09_0162	50.216644	-4.335808	53.1	0.7	Mixed sediment	Good	
14:02:09	CIFCA_Edd_1_T4_20200812_14_02_08_0163	50.216785	-4.335913	53.1	0.6	Coarse sediment	Good	
14:03:08	CIFCA_Edd_1_T4_20200812_14_03_06_0164	50.216876	-4.336054	53.1	0.6	Coarse sediment. Hydroids	Good	
14:03:36	Box1_T4_EOL	50.216903	-4.336096	53.2				




Box 1 Tow 5

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	14:15:18	SOL depth (m)	49	Video file name(s)	CIFCA_Edd_1_T5_20200812_VID_14_15_16
Date	2020-08-12	EOL Time (hh:mm:ss)	14:41:44	EOL depth (m)	51.8	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:26:26	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_1_T5_20200812_1415
Site ID	Box 1	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	24	Winch operator	CT
Tow ID	Tow 5	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	SS
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	50	Data recorder	AJ
Direction: N, Current: Drifting north and using engine, Habitat: Reef initially moving to Coarse/mixed sediment.							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
14:15:18	Box1_T5_SOL	50.214300	-4.338268	49.0				
14:16:07	CIFCA_Edd_1_T5_20200812_14_16_06_0165	50.214418	-4.338238	47.6	0.7	Mixed sediment, pebbles, cobbles	Good	
14:17:16	CIFCA_Edd_1_T5_20200812_14_17_15_0166	50.214477	-4.338127	48.2	0.5	Bedrock. Pink sea fan, dead man's fingers, cup corals	Good	
14:18:12	CIFCA_Edd_1_T5_20200812_14_18_15_0167	50.214471	-4.337973	49.2	0.5	Bedrock. Urchin, dead man's fingers, pink sea fan, <i>Cliona</i> , Porifera	Good	
14:19:19	CIFCA_Edd_1_T5_20200812_14_19_15_0168	50.214550	-4.337864	48.8	0.3	Bedrock. Pink sea fan, dead man's fingers, cup corals, hydroids	Good	
14:20:19	CIFCA_Edd_1_T5_20200812_14_20_17_0169	50.214611	-4.337875	47.9	0.6	Bedrock. Dead man's fingers, pink sea fan, Porifera, hydroids, cup corals, <i>Cliona</i>	Good	
14:21:18	CIFCA_Edd_1_T5_20200812_14_21_16_0170	50.214673	-4.337901	47.2	0.3	Bedrock. Hydroids, Porifera, dead man's fingers, cup corals	Good	
14:22:28	CIFCA_Edd_1_T5_20200812_NA					Image didn't take		
14:23:20	CIFCA_Edd_1_T5_20200812_14_23_18_0171	50.214796	-4.337820	47.6	0.2	Bedrock. Pink sea fan, Porifera, cup corals, dead man's fingers	Good	
14:24:30	CIFCA_Edd_1_T5_20200812_14_24_18_0172	50.214878	-4.337892	50.6	0.3	Coarse sediment	Good	
14:25:19	CIFCA_Edd_1_T5_20200812_14_25_16_0173	50.214943	-4.337877	51.1	0.3	Mixed sediment, shell	Good	
14:26:23	CIFCA_Edd_1_T5_20200812_14_26_16_0174	50.215004	-4.337879	51.1	0.3	Mixed sediment, shell	Good	
14:27:22	CIFCA_Edd_1_T5_20200812_14_27_18_0175	50.215060	-4.337972	51.5	0.9	Mixed sediment. Pink sea fan, dead man's fingers, hydroids	Good	
14:28:20	CIFCA_Edd_1_T5_20200812_14_28_19_0176	50.215138	-4.337850	51.6	0.5	Coarse sediment	Good	
14:29:21	CIFCA_Edd_1_T5_20200812_14_29_18_0177	50.215214	-4.337833	51.8	0.2	Coarse sediment	Good	
14:31:09	CIFCA_Edd_1_T5_20200812_14_31_07_0178	50.215309	-4.337609	54.0	N/A	Coarse sediment. Remote access disconnected	Good	
14:32:09	CIFCA_Edd_1_T5_20200812_14_32_16_0179	50.215398	-4.337633	54.2	N/A	Coarse sediment. Remote access disconnected	Good	
14:33:23	CIFCA_Edd_1_T5_20200812_14_33_18_0180	50.215504	-4.337621	52.3	0.6	Coarse sediment	Good	
14:34:25	CIFCA_Edd_1_T5_20200812_14_34_23_0181	50.215620	-4.337616	52.2	1	Mixed sediment, pebbles	Good	
14:35:23	CIFCA_Edd_1_T5_20200812_14_35_16_0182	50.215724	-4.337662	52.1	0.5	Mixed sediment, pebbles	Good	
14:36:16	CIFCA_Edd_1_T5_20200812_14_36_14_0183	50.215808	-4.337677	52.3	0.5	Mixed sediment. Hydroids, cup corals	Good	
14:37:19	CIFCA_Edd_1_T5_20200812_14_37_17_0184	50.215867	-4.337774	52.0	0.6	Coarse sediment	Good	
14:38:17	CIFCA_Edd_1_T5_20200812_14_38_15_0185	50.215969	-4.337809	52.0	0.6	Coarse sediment. Hydroids, ross coral	Good	
14:39:25	CIFCA_Edd_1_T5_20200812_14_39_23_0186	50.216055	-4.337874	51.6	0.6	Coarse sediment. Hydroids	Good	
14:40:18	CIFCA_Edd_1_T5_20200812_14_40_15_0187	50.216106	-4.337975	51.9	0.9	Coarse sediment. Hydroids	Good	
14:41:20	CIFCA_Edd_1_T5_20200812_14_41_18_0188	50.216222	-4.337971	51.9	0.3	Coarse sediment. Hydroids	Good	
14:41:44	Box1_T5_EOL	50.216238	-4.338035	51.8				

Box 1 Tow 6

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	14:53:34	SOL depth (m)	50.8	Video file name(s)	CIFCA_Edd_1_T6_20200812_VID_14_53_30	
Date	2020-08-12	EOL Time (hh:mm:ss)	15:20:41	EOL depth (m)	52.8	Hypack track file	HypackLog_Edd_20200812	
Vessel	Tiger Lily	Length of video	00:27:07	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_1_T6_20200812_1453	
Site ID	Box 1	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	24	Winch operator	CT	
Tow ID	Tow 6	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	SS	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	52	Data recorder	AJ	

Direction: NW, Current: Drifting NW, Habitat: Reef initially moving to Coarse/mixed sediment

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
14:53:34	Box1_T6_SOL	50.215865	-4.329152	50.7				
14:53:50	CIFCA_Edd_1_T6_20200812_14_53_49_0189	50.215882	-4.329191	51.1	0.7	Bedrock. Pink sea fan, cup corals, dead man's fingers		
14:55:03	CIFCA_Edd_1_T6_20200812_14_55_03_0190	50.216002	-4.329292	51.9	0.4	Mixed sediment.	Good	
14:55:59	CIFCA_Edd_1_T6_20200812_14_55_57_0191	50.216092	-4.329314	52.9	0.6	Bedrock. Hydroids, pink sea fan, cup corals	Good	
14:56:58	CIFCA_Edd_1_T6_20200812_14_56_56_0192	50.216159	-4.329452	52.9	0.3	Mixed sediment, pebbles, cobbles	Acceptable	Silt cloud
14:57:59	CIFCA_Edd_1_T6_20200812_14_57_56_0193	50.216271	-4.329426	52.4	0.6	Coarse sediment	Good	
14:59:03	CIFCA_Edd_1_T6_20200812_14_59_03_0194	50.216344	-4.329582	52.0	0.8	Bedrock. Hydroids, cup corals, jewel anemones	Good	
15:00:03	CIFCA_Edd_1_T6_20200812_15_00_00_0195	50.216397	-4.329732	53.7	0.6	Mixed sediment, shell. Hydroids	Good	
15:00:58	CIFCA_Edd_1_T6_20200812_15_00_56_0196	50.216443	-4.329865	53.7	0.6	Mixed sediment, shell	Good	
15:01:59	CIFCA_Edd_1_T6_20200812_15_01_59_0197	50.216501	-4.329990	53.8	0.7	Mixed sediment, shell	Good	
15:02:58	CIFCA_Edd_1_T6_20200812_15_02_56_0198	50.216572	-4.330101	53.6	0.6	Mixed sediment, pebbles, shell	Good	
15:03:00						CT headset out of batteries. Communicating with CT via skipper		
15:06:09	CIFCA_Edd_1_T6_20200812_15_06_08_0199	50.216656	-4.330606	53.2	0.8	Mixed sediment, pebbles	Good	
15:06:57	CIFCA_Edd_1_T6_20200812_15_06_56_0200	50.2166893	-4.330730	55.2	0.7	Mixed sediment, pebbles. Tube	Good	
15:08:04	CIFCA_Edd_1_T6_20200812_15_08_01_0201	50.216753	-4.330887	53.4	0.6	Mixed sediment, pebbles	Good	
15:09:00	CIFCA_Edd_1_T6_20200812_15_08_59_0202	50.216776	-4.331045	53.3	0.5	Mixed sediment, pebbles. Hydroids	Good	
15:09:58	CIFCA_Edd_1_T6_20200812_15_09_57_0203	50.216776	-4.331199	53.3	0.7	Mixed sediment, pebbles	Good	
15:10:57	CIFCA_Edd_1_T6_20200812_15_10_57_0204	50.216813	-4.331340	53.2	0.2	Mixed sediment, pebbles	Good	
15:11:59	CIFCA_Edd_1_T6_20200812_NA					Image didn't take		
15:12:55	CIFCA_Edd_1_T6_20200812_15_12_53_0205	50.216866	-4.331612	52.5	0.3	Mixed sediment, pebbles. Hydroids, hermit crab	Good	
15:14:02	CIFCA_Edd_1_T6_20200812_15_13_51_0206	50.216884	-4.331800	52.6	0.4	Mixed sediment, pebbles. Hydroids	Good	
15:14:56	CIFCA_Edd_1_T6_20200812_15_14_53_0207	50.216919	-4.331927	52.6	0.4	Mixed sediment, pebbles. Hydroids	Good	
15:15:56	CIFCA_Edd_1_T6_20200812_15_15_53_0208	50.216965	-4.332074	53.0	0.2	Mixed sediment, pebbles. Hydroids . Pipefish	Good	
15:16:52	CIFCA_Edd_1_T6_20200812_15_16_50_0209	50.216994	-4.332229	52.6	0.6	Mixed sediment, pebbles. Hydroids . Brittlestar, long legged spider crab	Good	
15:17:54	CIFCA_Edd_1_T6_20200812_15_17_52_0210	50.217058	-4.332376	53.0	0.4	Mixed sediment, pebbles. Hydroids	Good	
15:18:59	CIFCA_Edd_1_T6_20200812_15_19_00_0211	50.217117	-4.332532	52.9	0.5	Mixed sediment, pebbles. Hydroids	Good	
15:20:03	CIFCA_Edd_1_T6_20200812_15_20_00_0212	50.217168	-4.332676	53.2	0.5	Mixed sediment, pebbles. Hydroids	Good	
15:20:41	Box1_T6_EOL	50.217178	-4.332782	52.8				

Box 2 Tow 1

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	11:27:42	SOL depth (m)	52.3	Video file name(s)	CIFCA_Edd_2_T1_20200716_VID_10_23_54	
Date	16/07/2020	EOL Time (hh:mm:ss)	11:35:01	EOL depth (m)	51	Hypack track file	HypackLog_Edd_20200716	
Vessel	Tiger Lily	Length of video	00:07:19	Number of stills pre-QC	5	Com port A file	ComPortA_Edd_2_T1_20200716_1127	
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	5	Winch operator	CT	
Tow ID	Tow 1	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.3	Camera operator	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS	
Coarse sediment. Lost comms to the camera so tow cut short and camera restarted								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
11:27:42	Box2_T1_SOL	50.225262	-4.372596	52.3				
11:28:49	CIFCA_Edd_2_T1_20200716_11_28_58_0078	50.225322	-4.372622	51.5	0.3	Coarse sediment	Good	
11:29:51	CIFCA_Edd_2_T1_20200716_11_29_56_0079	50.225287	-4.372600	52	0.6	Coarse sediment	Good	
11:30:50	CIFCA_Edd_2_T1_20200716_11_30_56_0080	50.225306	-4.372507	51.2	0.4	Coarse sediment	Good	
11:31:53	CIFCA_Edd_2_T1_20200716_NA					Image didn't take		
11:32:21	CIFCA_Edd_2_T1_20200716_11_32_27_0081	50.225187	-4.372396	52	0.2	Coarse sediment	Good	
11:32:50	CIFCA_Edd_2_T1_20200716_11_32_56_0082	50.225158	-4.372357	51.8	0.2	Coarse sediment	Good	
11:34:10		50.225098	-4.372265	51.6		Lost coms to camera		
11:35:01	Box2_T1_EOL	50.225047	-4.372197	51		Rebooting camera		



Box 2 Tow 1b

Project Code	2020_CIFCA_EDD_DD_V	SOL Time (hh:mm:ss)	11:41:37	SOL depth (m)	43.6	Video file name(s)	CIFCA_Edd_2_T1b_20200716_VID_11_41_36	
Date	16/07/2020	EOL Time (hh:mm:ss)	12:09:11	EOL depth (m)	50.1	Hypack track file	HypackLog_Edd_20200716	
Vessel	Tiger Lily	Length of video	00:27:34	Number of stills pre-QC	23	Com port A file	ComPortA_Edd_2_T1b_20200716_1141	
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	23	Winch operator	CT	
Tow ID	Tow 1b	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS	
Started on bedrock reef, transitioned to bedrock reef then coarse sediment								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
11:41:37	Box2_T1b_SOL	50.224699	-4.371573	43.6				
11:42:59	CIFCA_Edd_2_T1b_20200716_11_42_59_0001	50.224631	-4.371438	42.6	0.3	Bedrock. Dead man's fingers	Acceptable	Camera off seabed
11:43:54	CIFCA_Edd_2_T1b_20200716_11_43_51_0002	50.224583	-4.371352	42.2	0.2	Bedrock. Pink sea fan, dead man's fingers, sea cucumber	Good	
11:44:47	CIFCA_Edd_2_T1b_20200716_11_44_44_0003	50.224541	-4.371264	42.7	0.6	Bedrock. Dead man's fingers, sea cucumber, urchin	Good	
11:45:44	CIFCA_Edd_2_T1b_20200716_11_45_42_0004	50.224482	-4.371157	42.6	0.3	Bedrock. Dead man's fingers, pink sea fan, starfish	Good	
11:46:40	CIFCA_Edd_2_T1b_20200716_11_46_38_0005	50.224415	-4.371043	42	0.8	Bedrock. Dead man's fingers, pink sea fan, sea cucumber	Good	
11:47:40	CIFCA_Edd_2_T1b_20200716_11_47_36_0006	50.224344	-4.370915	42.4	0.3	Bedrock. Dead man's fingers, pink sea fan	Good	
11:48:42	CIFCA_Edd_2_T1b_20200716_11_48_41_0007	50.224269	-4.370795	43.2	0.3	Bedrock. Dead man's fingers, pink sea fan, porifera	Good	
11:49:56	CIFCA_Edd_2_T1b_20200716_11_49_56_0008	50.224185	-4.370643	43.8	0.3	Bedrock. Cup corals, pink sea fan	Acceptable	Camera off seabed
11:50:51	CIFCA_Edd_2_T1b_20200716_11_50_50_0009	50.224124	-4.370541	43.3	0.8	Bedrock. Dead man's fingers, pink sea fan, porifera	Good	
11:51:46	CIFCA_Edd_2_T1b_20200716_11_51_47_0010	50.224066	-4.370448	43.6	0.8	Bedrock. <i>Cliona</i> , dead man's fingers, porifera	Good	
11:52:50	CIFCA_Edd_2_T1b_20200716_11_52_48_0011	50.223983	-4.370323	46	0.6	Bedrock. Urchin, porifera	Good	
11:53:44	CIFCA_Edd_2_T1b_20200716_11_53_43_0012	50.223906	-4.370211	47.8	0.7	Bedrock. <i>Cliona</i> , dead man's fingers, cup corals, sea cucumber	Good	
11:54:43	CIFCA_Edd_2_T1b_20200716_NA					Image didn't take		
11:55:46	CIFCA_Edd_2_T1b_20200716_11_55_45_0013	50.223731	-4.369954	47.2	0.5	Coarse sediment	Good	
11:56:44	CIFCA_Edd_2_T1b_20200716_11_56_40_0014	50.223652	-4.369830	46.9	0.4	Coarse sediment	Good	
11:57:42	CIFCA_Edd_2_T1b_20200716_11_57_40_0015	50.223581	-4.369713	48.6	0.3	Coarse sediment	Good	
11:58:42	CIFCA_Edd_2_T1b_20200716_11_58_41_0016	50.223497	-4.369577	50.4	0.7	Coarse sediment	Good	
11:59:42	CIFCA_Edd_2_T1b_20200716_11_59_41_0017	50.223420	-4.369452	50.3	0.5	Coarse sediment	Good	
12:00:43	CIFCA_Edd_2_T1b_20200716_12_00_39_0018	50.223341	-4.369304	50.3	0.5	Coarse sediment	Good	
12:01:49	CIFCA_Edd_2_T1b_20200716_12_01_48_0019	50.223250	-4.369139	50.2	0.6	Coarse sediment	Good	
12:02:50	CIFCA_Edd_2_T1b_20200716_12_02_48_0020	50.223167	-4.368993	50.2	0.5	Coarse sediment	Good	
12:04:17	CIFCA_Edd_2_T1b_20200716_12_04_17_0021	50.223041	-4.368772	50.2	0.3	Coarse sediment	Good	
12:04:50	CIFCA_Edd_2_T1b_20200716_12_04_48_0022	50.222981	-4.368691	50.1	0.8	Coarse sediment	Good	
12:06:09	CIFCA_Edd_2_T1b_20200716_12_06_06_0023	50.222860	-4.368497	50	0.5	Coarse sediment	Good	
12:06:38	Box2_T1b_NA	50.222823	-4.368442	50		Video couldn't be stopped remotely, EOL position delayed		
12:09:11	Box2_T1b_EOL	50.222561	-4.368166	50.1				



Box 2 Tow 2

Project Code	2020_CIFCA_EDD_DD	SOL Time (hh:mm:ss)	12:51:26	SOL depth (m)	53.6	Video file name(s)	CIFCA_Edd_2_T2_20200716_VID_12_51_26
Date	16/07/2020	EOL Time (hh:mm:ss)	13:16:41	EOL depth (m)	57.6	Hypack track file	HypackLog_Edd_20200716
Vessel	Tiger Lily	Length of video	00:25:15	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_2_T2_20200716_1251
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	24	Winch operator	CT
Tow ID	Tow 2	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.4	Camera operator	SS
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	AJ
Coarse sediment							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
12:51:26	Box2_T2_SOL	50.225046	-4.364459	53.6				
12:51:52	CIFCA_Edd_2_T2_20200716_12_51_48_0024	50.225030	-4.364490	54.4	0.6	Coarse sediment	Good	
12:53:00	CIFCA_Edd_2_T2_20200716_12_52_58_0025	50.224975	-4.364351	54.3	0.4	Coarse sediment	Good	
12:54:01	CIFCA_Edd_2_T2_20200716_12_53_59_0026	50.224898	-4.364234	54.6	0.2	Coarse sediment	Good	
12:55:00	CIFCA_Edd_2_T2_20200716_12_54_58_0027	50.224833	-4.364130	53.8	0.2	Coarse sediment. King scallop	Good	
12:56:18	CIFCA_Edd_2_T2_20200716_12_56_26_0028	50.224745	-4.363989	54.3	0.8	Coarse sediment	Acceptable	Camera off seabed
12:56:58	CIFCA_Edd_2_T2_20200716_12_56_56_0029	50.224705	-4.363914	55	0.8	Coarse sediment	Good	
12:58:01	CIFCA_Edd_2_T2_20200716_12_57_59_0030	50.224641	-4.363789	54.2	0.1	Coarse sediment	Good	
12:59:04	CIFCA_Edd_2_T2_20200716_12_59_02_0031	50.224566	-4.363654	55.6	0.1	Coarse sediment	Good	
13:00:11	CIFCA_Edd_2_T2_20200716_13_00_08_0032	50.224502	-4.363523	54.2	0.5	Coarse sediment	Acceptable	Camera off seabed
13:01:41	CIFCA_Edd_2_T2_20200716_13_01_39_0033	50.224405	-4.363350	55.3	0.4	Coarse sediment. Starfish	Good	
13:03:01	CIFCA_Edd_2_T2_20200716_13_02_59_0034	50.224343	-4.363193	55.3	0.5	Coarse sediment	Good	
13:04:02	CIFCA_Edd_2_T2_20200716_13_03_58_0035	50.224283	-4.363089	56	0.5	Coarse sediment	Good	
13:04:59	CIFCA_Edd_2_T2_20200716_13_04_57_0036	50.224235	-4.362993	56.1	0.5	Coarse sediment	Good	
13:05:58	CIFCA_Edd_2_T2_20200716_13_06_01_0037	50.224184	-4.362886	56.3	0.6	Coarse sediment. Seven armed Starfish	Good	
13:06:59	CIFCA_Edd_2_T2_20200716_13_06_57_0038	50.224129	-4.362767	56.1	0.7	Coarse sediment	Good	
13:07:59	CIFCA_Edd_2_T2_20200716_13_07_58_0039	50.224065	-4.362641	56	0.5	Coarse sediment	Good	
13:09:04	CIFCA_Edd_2_T2_20200716_13_09_00_0040	50.224014	-4.362488	56.7	0.5	Coarse sediment	Good	
13:09:59	CIFCA_Edd_2_T2_20200716_13_09_58_0041	50.223982	-4.362388	56.6	0.5	Coarse sediment	Good	
13:10:58	CIFCA_Edd_2_T2_20200716_13_11_00_0042	50.223924	-4.362263	56.3	0.5	Coarse sediment	Good	
13:11:59	CIFCA_Edd_2_T2_20200716_13_11_57_0043	50.223869	-4.362123	56.9	0.5	Coarse sediment	Good	
13:12:57	CIFCA_Edd_2_T2_20200716_13_12_56_0044	50.223823	-4.362007	57	0.2	Coarse sediment	Good	
13:13:57	CIFCA_Edd_2_T2_20200716_13_13_55_0045	50.223775	-4.361888	57.3	0.2	Coarse sediment	Good	
13:14:59	CIFCA_Edd_2_T2_20200716_13_14_57_0046	50.223731	-4.361776	56.3	0.2	Coarse sediment	Good	
13:16:04	CIFCA_Edd_2_T2_20200716_13_16_01_0047	50.223675	-4.361644	57.2	0.1	Coarse sediment. Spiny starfish	Good	
13:16:41	Box2_T2_EOL	50.223648	-4.361559	57.6				

Box 2 Tow 3

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
13:28:47	Box2_T3_sol	50.224840	-4.367026	54.3				
13:29:24	CIFCA_Edd_2_T3_20200716_13_29_19_0048	50.224844	-4.366963	54	0.7	Mixed sediment	Good	
13:30:28	CIFCA_Edd_2_T3_20200716_13_30_28_0049	50.224731	-4.366820	54.3	0.3	Mixed sediment	Good	
13:31:32	CIFCA_Edd_2_T3_20200716_13_31_31_0050	50.224652	-4.366659	54.3	0.6	Coarse sediment	Good	
13:32:31	CIFCA_Edd_2_T3_20200716_13_32_29_0051	50.224598	-4.366514	54.1	0.4	Coarse sediment	Good	
13:33:30	CIFCA_Edd_2_T3_20200716_13_33_27_0052	50.224527	-4.366365	53.7	0.5	Mixed sediment. Hydroids	Good	
13:34:31	CIFCA_Edd_2_T3_20200716_13_34_29_0053	50.224473	-4.366216	54.3	0.2	Mixed sediment. Hydroids	Good	
13:35:30	CIFCA_Edd_2_T3_20200716_13_35_27_0054	50.224419	-4.366078	54.2	0.7	Mixed sediment	Good	
13:36:32	CIFCA_Edd_2_T3_20200716_13_36_29_0055	50.224355	-4.365914	54	0.6	Coarse sediment	Good	
13:37:30	CIFCA_Edd_2_T3_20200716_13_37_28_0056	50.224303	-4.365776	53.6	0.3	Coarse sediment. Spiny starfish	Good	
13:38:29	CIFCA_Edd_2_T3_20200716_13_38_28_0057	50.224249	-4.365623	53	0.4	Coarse sediment	Good	
13:39:36	CIFCA_Edd_2_T3_20200716_13_39_32_0058	50.224187	-4.365444	53.3	0.6	Mixed sediment	Good	
13:40:31	CIFCA_Edd_2_T3_20200716_13_40_29_0059	50.224126	-4.365290	54.4	0.3	Bedrock. Pink sea fans, cup corals, hydroids	Good	
13:41:28	CIFCA_Edd_2_T3_20200716_13_41_26_0060	50.224071	-4.365131	54.9	0.5	Mixed sediment. Hydroids	Good	
13:42:31	CIFCA_Edd_2_T3_20200716_13_42_26_0061	50.224015	-4.364971	54.3	0.4	Mixed sediment. Hydroids	Good	
13:43:39	CIFCA_Edd_2_T3_20200716_13_43_33_0062	50.223945	-4.364783	54.7	0.5	Mixed sediment. Hydroids	Good	
13:44:34	CIFCA_Edd_2_T3_20200716_13_44_32_0063	50.223880	-4.364626	55.2	0.4	Mixed sediment. Hydroids	Good	
13:45:30	CIFCA_Edd_2_T3_20200716_13_45_28_0064	50.223824	-4.364474	55.4	0.4	Mixed sediment. Hydroids	Good	
13:46:29	CIFCA_Edd_2_T3_20200716_13_46_26_0065	50.223774	-4.364311	55.5	0.3	Mixed sediment. Hydroids	Good	
13:47:29	CIFCA_Edd_2_T3_20200716_13_47_26_0066	50.223724	-4.364153	55.9	0.4	Mixed sediment	Good	
13:48:32	CIFCA_Edd_2_T3_20200716_13_48_29_0067	50.223666	-4.363979	55.7	0.6	Mixed sediment	Good	
13:49:30	CIFCA_Edd_2_T3_20200716_13_49_27_0068	50.223607	-4.363813	55.7	0.4	Mixed sediment. Hydroids	Good	
13:50:28	CIFCA_Edd_2_T3_20200716_13_50_26_0069	50.223554	-4.363650	56.1	0.7	Mixed sediment. Cloak anemone on hermit crab	Good	
13:51:31	CIFCA_Edd_2_T3_20200716_NA					Image didn't take		
13:52:32	CIFCA_Edd_2_T3_20200716_13_52_29_0070	50.223445	-4.363301	56.6	0.9	Mixed sediment	Good	
13:54:12	Box2_T3_EOL	50.223411	-4.363040	56.9				

Box 2 Tow 4

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	11:03:08	SOL depth (m)	47.8	Video file name(s)	CIFCA_Edd_2_T4_20200812_VID_11_03_06
Date	2020-08-12	EOL Time (hh:mm:ss)	11:26:55	EOL depth (m)	52.8	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:23:47	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_2_T4_20200812_1102
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	24	Winch operator	CT
Tow ID	Tow 4	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	53	Data recorder	SS
Direction: N, Current: None, Habitat: Bedrock reef, skirting along edge into coarse sediment.							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
11:03:08	Box2_T4_SOL	50.224225	-4.369369	47.8				
11:03:47	CIFCA_Edd_2_T4_20200812_11_03_45_0069	50.224242	-4.369335	48.1	0.4	Bedrock. Porifera, hydroids, dead man's fingers	Good	
11:04:36	CIFCA_Edd_2_T4_20200812_11_04_34_0070	50.224283	-4.369268	48.4	0.7	Bedrock. Pink sea fan, dead man's fingers, Porifera, cup corals	Good	
11:05:35	CIFCA_Edd_2_T4_20200812_11_05_34_0071	50.224377	-4.369229	49.5	0.3	Bedrock. Sea cucumber, cup corals	Good	
11:06:43	CIFCA_Edd_2_T4_20200812_11_06_41_0072	50.224452	-4.369212	50.6	0.2	Bedrock. Cup corals, Porifera	Acceptable	Camera on back legs
11:07:38	CIFCA_Edd_2_T4_20200812_11_07_37_0073	50.224505	-4.369219	51.5	0.5	Mixed sediment, cobbles, boulders. Pink sea fan, hydroids, cup corals	Good	
11:08:34	CIFCA_Edd_2_T4_20200812_11_08_32_0074	50.224562	-4.369266	52.9	0.2	Mixed sediment, pebbles, cobbles. Cup corals, hydroids	Good	
11:09:30	CIFCA_Edd_2_T4_20200812_11_09_28_0075	50.224606	-4.369311	51.7	0.2	Mixed sediment, pebbles, cobbles. Hydroids, cup corals	Good	
11:10:31	CIFCA_Edd_2_T4_20200812_11_10_29_0076	50.224632	-4.369331	51.6	0.6	Mixed sediment, cobbles. Hydroids	Good	
11:11:32	CIFCA_Edd_2_T4_20200812_11_11_30_0077	50.224700	-4.369470	52.0	0.7	Mixed sediment, cobbles, boulders. Cup corals, hydroids	Good	
11:12:34	CIFCA_Edd_2_T4_20200812_11_12_34_0078	50.224850	-4.369622	53.4	0.5	Coarse sediment, pebbles	Good	
11:13:30	CIFCA_Edd_2_T4_20200812_11_13_29_0079	50.224974	-4.369586	53.3	0.6	Coarse sediment, pebbles	Good	
11:14:31	CIFCA_Edd_2_T4_20200812_11_14_32_0080	50.225126	-4.369506	53.4	0.7	Coarse sediment, pebbles. Spiny starfish	Good	
11:15:31	CIFCA_Edd_2_T4_20200812_11_15_30_0081	50.225280	-4.369439	53.3	0.6	Coarse sediment, pebbles	Good	
11:16:30	CIFCA_Edd_2_T4_20200812_11_16_29_0082	50.225368	-4.369400	53.2	0.6	Coarse sediment, pebbles	Good	
11:17:31	CIFCA_Edd_2_T4_20200812_11_17_30_0083	50.225518	-4.369359	53.2	0.4	Coarse sediment, pebbles	Good	
11:18:30	CIFCA_Edd_2_T4_20200812_11_18_28_0084	50.225623	-4.369395	53.2	0.2	Coarse sediment, pebbles	Good	
11:19:34	CIFCA_Edd_2_T4_20200812_11_19_30_0085	50.225736	-4.369452	52.9	0.5	Coarse sediment, pebbles	Good	
11:20:31	CIFCA_Edd_2_T4_20200812_11_20_31_0086	50.225843	-4.369482	52.7	0.5	Coarse sediment, pebbles. Scallop	Good	
11:21:29	CIFCA_Edd_2_T4_20200812_11_21_27_0087	50.225909	-4.369466	52.4	0.4	Coarse sediment, pebbles. Anemone, Scallop	Good	
11:22:30	CIFCA_Edd_2_T4_20200812_11_22_29_0088	50.226031	-4.369431	52.9	0.4	Coarse sediment, pebbles	Good	
11:23:33	CIFCA_Edd_2_T4_20200812_11_23_31_0089	50.226120	-4.369373	52.5	0.5	Coarse sediment, pebbles	Good	
11:24:33	CIFCA_Edd_2_T4_20200812_11_24_31_0090	50.226247	-4.369341	52.8	0.7	Coarse sediment, pebbles. Brittlestars	Good	
11:25:35	CIFCA_Edd_2_T4_20200812_11_25_34_0091	50.226313	-4.369275	52.5	0.5	Coarse sediment, pebbles. Hydroids	Good	
11:26:34	CIFCA_Edd_2_T4_20200812_11_26_33_0092	50.226460	-4.369196	53.0	0.8	Coarse sediment, pebbles. Brittlestars	Good	
11:26:55	Box2_T4_EOL	50.226541	-4.369189	52.8				

Box 2 Tow 5

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	11:39:47	SOL depth (m)	50.7	Video file name(s)	CIFCA_Edd_2_T5_20200812_VID_11_39_40
Date	2020-08-12	EOL Time (hh:mm:ss)	12:02:15	EOL depth (m)	54.4	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:22:28	Number of stills pre-QC	23	Com port A file	ComPortA_Edd_2_T5_20200812_1139
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	23	Winch operator	CT
Tow ID	Tow 5	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	55	Data recorder	SS
Direction: NE, Current: None - used engine, Habitat: Coarse sediment throughout.							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
11:39:47	Box2_T5_SOL	50.225262	-4.366603	50.7				
11:39:59	CIFCA_Edd_2_T5_20200812_11_39_57_0093	50.225265	-4.366599	52.4	0.7	Coarse sediment, pebbles	Good	
11:40:54	CIFCA_Edd_2_T5_20200812_11_40_52_0094	50.225366	-4.366551	52.9	0.7	Coarse sediment, pebbles	Good	
11:41:51	CIFCA_Edd_2_T5_20200812_11_41_51_0095	50.225425	-4.366512	52.5	0.3	Coarse sediment, pebbles	Good	
11:42:54	CIFCA_Edd_2_T5_20200812_11_42_52_0096	50.225444	-4.366503	52.9	0.5	Coarse sediment, pebbles. Spiny starfish	Good	
11:43:54	CIFCA_Edd_2_T5_20200812_11_43_52_0097	50.225468	-4.366506	53.7	0.2	Coarse sediment, pebbles	Good	
11:44:51	CIFCA_Edd_2_T5_20200812_11_44_52_0098	50.225508	-4.366507	53.7	0.4	Coarse sediment, pebbles. Hydroids	Good	
11:45:53	CIFCA_Edd_2_T5_20200812_11_45_53_0099	50.225622	-4.366436	53.6	0.7	Coarse sediment, pebbles. Hydroids	Good	
11:46:52	CIFCA_Edd_2_T5_20200812_11_46_51_0100	50.225732	-4.366354	53.6	0.5	Coarse sediment, pebbles	Good	
11:47:55	CIFCA_Edd_2_T5_20200812_11_47_51_0101	50.225844	-4.366254	53.5	0.3	Coarse sediment, pebbles. Scallop	Good	
11:48:56	CIFCA_Edd_2_T5_20200812_11_48_53_0102	50.225938	-4.366158	53.8	0.6	Coarse sediment, pebbles	Good	
11:49:54	CIFCA_Edd_2_T5_20200812_11_49_52_0103	50.226046	-4.366047	53.8	0.5	Coarse sediment, pebbles. Seven arm starfish	Good	
11:50:53	CIFCA_Edd_2_T5_20200812_11_50_51_0104	50.226142	-4.365946	53.7	0.5	Coarse sediment, pebbles	Good	
11:51:54	CIFCA_Edd_2_T5_20200812_11_51_52_0105	50.226260	-4.365856	53.7	0.8	Coarse sediment, pebbles	Good	
11:52:55	CIFCA_Edd_2_T5_20200812_11_52_51_0106	50.226391	-4.365767	53.8	0.7	Coarse sediment, pebbles. Hydroids	Good	
11:53:51	CIFCA_Edd_2_T5_20200812_11_53_50_0107	50.226504	-4.365670	53.7	0.5	Coarse sediment, pebbles	Good	
11:54:52	CIFCA_Edd_2_T5_20200812_11_54_51_0108	50.226612	-4.365569	54.0	0.5	Coarse sediment, pebbles. Hydroids	Good	
11:55:51	CIFCA_Edd_2_T5_20200812_11_55_51_0109	50.226720	-4.365477	54.0	0.5	Coarse sediment, pebbles	Good	
11:56:52	CIFCA_Edd_2_T5_20200812_11_56_51_0110	50.226840	-4.365402	54.0	0.5	Coarse sediment, pebbles. Spiny starfish	Good	
11:57:53	CIFCA_Edd_2_T5_20200812_11_57_52_0111	50.226934	-4.365351	54.3	0.8	Coarse sediment, pebbles	Good	
11:58:53	CIFCA_Edd_2_T5_20200812_11_58_52_0112	50.227043	-4.365267	54.3	0.8	Coarse sediment, pebbles. Hydroids	Good	
11:59:51	CIFCA_Edd_2_T5_20200812_11_59_51_0113	50.227158	-4.365164	54.0	0.4	Coarse sediment, pebbles. Hydroids	Good	
12:00:58	CIFCA_Edd_2_T5_20200812_12_00_57_0114	50.227270	-4.365056	53.8	0.2	Coarse sediment, pebbles	Good	
12:01:53	CIFCA_Edd_2_T5_20200812_12_01_52_0115	50.227339	-4.365029	54.4	0.4	Coarse sediment, pebbles	Good	
12:02:15	Box2_T5_EOL	50.227394	-4.365003	54.4				

Box 2 Tow 6

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	12:53:27	SOL depth (m)	54.9	Video file name(s)	CIFCA_Edd_2_T6_20200812_VID_12_53_24
Date	2020-08-12	EOL Time (hh:mm:ss)	13:19:45	EOL depth (m)	52.7	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:26:18	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_2_T6_20200812_1253
Site ID	Box 2	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	24	Winch operator	CT
Tow ID	Tow 6	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	SS
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	56	Data recorder	AJ
Mixed sediment							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
12:53:27	Box2_T6_SOL	50.225638	-4.361865	54.9				
12:53:49	CIFCA_Edd_2_T6_20200812_12_53_48_0116	50.225629	-4.361896	54.9	0.5	Coarse sediment, pebbles. Long legged spider crab	Good	
12:54:58	CIFCA_Edd_2_T6_20200812_12_54_57_0117	50.225575	-4.361997	53.8	0.4	Coarse sediment, pebbles	Good	
12:56:00	CIFCA_Edd_2_T6_20200812_12_55_58_0118	50.225565	-4.362239	54.9	0.1	Coarse sediment, pebbles	Good	
12:56:59	CIFCA_Edd_2_T6_20200812_12_56_57_0119	50.225621	-4.362349	54.0	0.9	Coarse sediment, pebbles	Good	
12:58:00	CIFCA_Edd_2_T6_20200812_12_57_57_0120	50.225578	-4.362346	54.5	0.3	Coarse sediment, pebbles	Good	
12:59:00	CIFCA_Edd_2_T6_20200812_12_58_59_0121	50.225634	-4.362391	54.5	0.4	Coarse sediment, pebbles	Good	
12:59:57	CIFCA_Edd_2_T6_20200812_12_59_56_0122	50.225597	-4.362493	53.9	0.2	Coarse sediment, pebbles	Good	
13:01:01	CIFCA_Edd_2_T6_20200812_NA					Image didn't take		
13:01:57	CIFCA_Edd_2_T6_20200812_13_01_58_0123	50.225812	-4.362674	54.3	0.4	Coarse sediment, pebbles	Good	
13:03:09	CIFCA_Edd_2_T6_20200812_13_03_08_0124	50.225802	-4.362890	54.1	0.6	Coarse sediment, pebbles	Good	
13:04:16	CIFCA_Edd_2_T6_20200812_13_04_15_0125	50.225789	-4.363090	53.8	0.7	Coarse sediment, pebbles	Good	
13:05:21	CIFCA_Edd_2_T6_20200812_NA					Image didn't take		
13:06:22	CIFCA_Edd_2_T6_20200812_13_05_20_0126	50.225770	-4.363588	53.6	1	Coarse sediment, pebbles	Good	
13:07:19	CIFCA_Edd_2_T6_20200812_13_07_17_0127	50.225782	-4.363768	53.6	0.5	Coarse sediment, pebbles. Scallop	Good	
13:08:21	CIFCA_Edd_2_T6_20200812_13_08_21_0128	50.225804	-4.363985	53.5	0.2	Coarse sediment, pebbles. Hydroids	Good	
13:09:24	CIFCA_Edd_2_T6_20200812_13_09_22_0129	50.225842	-4.364072	52.4	0.3	Coarse sediment, pebbles	Good	
13:10:22	CIFCA_Edd_2_T6_20200812_13_10_21_0130	50.225894	-4.364267	53.1	0.4	Coarse sediment, pebbles	Acceptable	Silt cloud
13:11:26	CIFCA_Edd_2_T6_20200812_13_11_24_0131	50.225949	-4.364531	53.6	0.5	Coarse sediment, pebbles	Good	
13:12:20	CIFCA_Edd_2_T6_20200812_13_12_22_0132	50.225958	-4.364731	53.5	0.6	Coarse sediment, pebbles	Acceptable	Camera off seabed
13:13:20	CIFCA_Edd_2_T6_20200812_13_13_20_0133	50.225981	-4.364901	53.5	0.8	Coarse sediment, pebbles	Good	
13:14:20	CIFCA_Edd_2_T6_20200812_13_14_19_0134	50.225954	-4.365107	53.7	0.5	Coarse sediment, pebbles	Good	
13:15:24	CIFCA_Edd_2_T6_20200812_13_15_27_0135	50.225932	-4.365248	53.3	0.3	Coarse sediment, pebbles. Anthropogenic: tape	Good	
13:16:22	CIFCA_Edd_2_T6_20200812_13_16_21_0136	50.225874	-4.365413	53.3	0.2	Coarse sediment, pebbles	Good	
13:17:21	CIFCA_Edd_2_T6_20200812_13_17_20_0137	50.225864	-4.365538	53.1	0.7	Coarse sediment, pebbles	Good	
13:18:24	CIFCA_Edd_2_T6_20200812_13_18_22_0138	50.225827	-4.365704	52.6	0.5	Coarse sediment, pebbles. Tube worm	Good	
13:19:25	CIFCA_Edd_2_T6_20200812_13_19_22_0139	50.225804	-4.365938	53.3	0.6	Coarse sediment, pebbles	Good	
13:19:45	Box2_T6_EOL	50.225811	-4.365979	52.7				

Box 3 Tow 1

Project Code	2020_CIFCA_EDD_DD_V	SOL Time (hh:mm:ss)	08:21:30	SOL depth (m)	48.8	Video file name(s)	CIFCA_Edd_3_T1_20200716_V ID_08_21_22	
Date	16/07/2020	EOL Time (hh:mm:ss)	08:47:10	EOL depth (m)	51.3	Hypack track file	HypackLog_Edd_20200716	
Vessel	Tiger Lily	Length of video	00:25:40	Number of stills pre-QC	24	Com port A file	ComPortA_Edd_3_T1_20200716_0816	
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	21	Winch operator	CT	
Tow ID	Tow 1	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS	
Started on bedrock reef and finished on sand								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
08:21:30	Box3_T1_SOL	50.249028	-4.504455	48.8				
08:22:49	CIFCA_Edd_3_T1_20200716_08_22_54_0001	50.249060	-4.504470	49.4			Poor	Bad vis
08:23:47	CIFCA_Edd_3_T1_20200716_08_23_53_0002	50.248989	-4.504500	49.4			Poor	Bad vis
08:24:51	CIFCA_Edd_3_T1_20200716_08_24_51_0003	50.249052	-4.504454			Bedrock. Cup corals, pink sea fan, porifera	Acceptable	Camera off seabed
08:27:18	CIFCA_Edd_3_T1_20200716_08_27_24_0004	50.248999	-4.504436	49.9	0.2		Poor	Bad vis
08:27:52	CIFCA_Edd_3_T1_20200716_08_27_56_0005	50.248997	-4.504433	50	0.4	Bedrock. Dead man's fingers, cup corals, porifera, pink sea fan	Good	
08:28:38	CIFCA_Edd_3_T1_20200716_08_28_45_0006	50.249023	-4.504429	50	0.2	Bedrock. Dead man's fingers, porifera, pink sea fan	Good	
08:29:42	CIFCA_Edd_3_T1_20200716_08_29_49_0007	50.248981	-4.504469	49.3	0.2	Bedrock. Pink sea fan, cup corals	Acceptable	Camera off seabed
08:30:46	CIFCA_Edd_3_T1_20200716_08_30_52_0008	50.249016	-4.504511	49.1	0.3	Bedrock. Sea cucumber, cup corals	Acceptable	Camera off seabed
08:31:43	CIFCA_Edd_3_T1_20200716_08_31_49_0009	50.249029	-4.504552	49.2	0.9	Bedrock. Cup corals, dead man's fingers, pink sea fan	Acceptable	Camera off seabed
08:32:44	CIFCA_Edd_3_T1_20200716_08_32_49_0010	50.248873	-4.504454	48.7	0.1	Bedrock. Porifera	Acceptable	Camera off seabed
08:33:45	CIFCA_Edd_3_T1_20200716_08_33_49_0011	50.248757	-4.504405	48.6	0.2	Bedrock	Acceptable	Camera falling
08:34:44	CIFCA_Edd_3_T1_20200716_08_34_50_0012	50.248672	-4.504260	50.1	0.8	Bedrock. Cup corals	Acceptable	Camera off seabed
08:35:41	CIFCA_Edd_3_T1_20200716_08_35_47_0013	50.248552	-4.504143	48	0.7	Coarse sand. Hydroids	Good	
08:36:43	CIFCA_Edd_3_T1_20200716_08_36_49_0014	50.248385	-4.504183	46.8	0.4	Bedrock. Pink sea fan, hydroids, porifera	Good	
08:37:42	CIFCA_Edd_3_T1_20200716_08_37_49_0015	50.248280	-4.504207	46.6	0.5	Bedrock. Pink sea fan, cup corals, sea cucumber	Acceptable	Camera off seabed
08:38:40	Box3_T1_Net	50.248167	-4.504301	45.9		Anthropogenic - fishing net on sea bed		
08:39:00	CIFCA_Edd_3_T1_20200716_08_39_09_0016	50.248147	-4.504298	46.2	0.3	Bedrock. Pink sea fan, porifera	Good	
08:39:43	CIFCA_Edd_3_T1_20200716_08_39_51_0017	50.248119	-4.504206	45.9	0.3	Mixed sediment and bedrock. Sea squirt	Acceptable	Camera off seabed
08:40:41	CIFCA_Edd_3_T1_20200716_08_40_47_0018	50.248107	-4.504100	46.3	0.8	Bedrock. Pink sea fan, porifera, cup corals, cup sponge	Good	
08:41:41	CIFCA_Edd_3_T1_20200716_08_41_47_0019	50.248089	-4.504089	46.3	0.8	Bedrock. Pink sea fan, starfish, cup corals	Good	
08:42:47	CIFCA_Edd_3_T1_20200716_08_42_53_0020	50.247969	-4.503959	49.3	0.4	Bedrock. Pink sea fan, sea cucumber, cup sponge	Acceptable	Camera off seabed
08:43:43	CIFCA_Edd_3_T1_20200716_08_43_49_0021	50.247917	-4.503824	50.5	0.5	Bedrock. Cup corals, dead man's fingers, branching sponge	Good	
08:44:46	CIFCA_Edd_3_T1_20200716_08_44_56_0022	50.247874	-4.503738	51	0.8	Mixed sediment	Acceptable	Camera off seabed
08:45:44	CIFCA_Edd_3_T1_20200716_08_45_50_0023	50.247794	-4.503592	51.4	0.3	Coarse sand	Good	
08:46:41	CIFCA_Edd_3_T1_20200716_08_46_47_0024	50.247775	-4.503513	51.5	0.4	Coarse sand	Good	
08:47:10	Box3_T1_EOL	50.247743	-4.503514	51.3				



CIFCA_SAC_Edd_2020_DDV_Boxes1-3

Box 3 Tow 2

Project Code	2020_CIFCA_EDD_DD	SOL Time (hh:mm:ss)	09:29:54	SOL depth (m)	51.9	Video file name(s)	CIFCA_Edd_3_T2_20200716_VID_09_29_44	
Date	16/07/2020	EOL Time (hh:mm:ss)	09:56:10	EOL depth (m)	52.2	Hypack track file	HypackLog_Edd_20200716	
Vessel	Tiger Lily	Length of video	00:26:16	Number of stills pre-QC	26	Com port A file	ComPortA_Edd_3_T2_20200716_0929	
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	25	Winch operator	CT	
Tow ID	Tow 2	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS	
Started on fine sediment and transitioned to mixed sediment								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
09:29:54	Box3_T2_SOL	50.249338	-4.500975	51.9		3 scallop dredge vessels working nearby		
09:30:42	CIFCA_Edd_3_T2_20200716_09_30_48_0025	50.249240	-4.501026	51.1	0.6	Fine sediment	Acceptable	Bad vis
09:31:45	CIFCA_Edd_3_T2_20200716_09_31_48_0026	50.249128	-4.501131	51.7	0.5	Fine sediment	Acceptable	Bad vis
09:32:43	CIFCA_Edd_3_T2_20200716_09_32_50_0027	50.248997	-4.501202	51.8	0.6	Fine sediment	Acceptable	Bad vis
09:33:43	CIFCA_Edd_3_T2_20200716_09_33_49_0028	50.248856	-4.501259	51.4	0.9	Fine sediment	Acceptable	Bad vis
09:34:46	CIFCA_Edd_3_T2_20200716_09_34_52_0029	50.248698	-4.501437	51.4	0.6	Fine sediment	Acceptable	Bad vis
09:35:43	CIFCA_Edd_3_T2_20200716_09_35_48_0030	50.248569	-4.501518	51.3	0.5	Fine sediment	Acceptable	Bad vis
09:36:44	CIFCA_Edd_3_T2_20200716_09_36_50_0031	50.248422	-4.501565	51.3	0.7	Fine sediment	Good	
09:37:42	CIFCA_Edd_3_T2_20200716_09_37_50_0032	50.248298	-4.501574	51.4	0.6	Fine sediment	Good	
09:38:42	CIFCA_Edd_3_T2_20200716_09_38_49_0033	50.248197	-4.501589	51.2	0.3	Fine sediment	Good	
09:39:43	CIFCA_Edd_3_T2_20200716_09_39_50_0034	50.248074	-4.501630	51.2	0.4	Fine sediment	Good	
09:40:40	CIFCA_Edd_3_T2_20200716_09_40_46_0035	50.247978	-4.501663	51.3	0.5	Fine sediment	Good	
09:41:41	CIFCA_Edd_3_T2_20200716_09_41_48_0036	50.247832	-4.501708	51.6	0.6	Fine sediment	Good	
09:42:41	CIFCA_Edd_3_T2_20200716_09_42_49_0037	50.247729	-4.501746	51.4	0.7	Mixed sediment	Good	
09:43:39	CIFCA_Edd_3_T2_20200716_09_43_53_0038	50.247630	-4.501796	51.3	0.8		Poor	Bad vis
09:44:41	CIFCA_Edd_3_T2_20200716_09_44_48_0039	50.247465	-4.501857	51.3	0.3	Fine sediment	Good	
09:45:43	CIFCA_Edd_3_T2_20200716_09_45_49_0040	50.247370	-4.501906	51.2	0.4	Fine sediment	Good	
09:46:42	CIFCA_Edd_3_T2_20200716_09_46_51_0041	50.247239	-4.501961	51.2	0.2	Fine sediment	Good	
09:47:44	CIFCA_Edd_3_T2_20200716_09_47_51_0042	50.247126	-4.502038	51.2	0.5	Fine sediment	Good	
09:48:42	CIFCA_Edd_3_T2_20200716_09_48_48_0043	50.246993	-4.502125	51.5	0.6	Fine sediment	Good	
09:49:43	CIFCA_Edd_3_T2_20200716_09_49_49_0044	50.246872	-4.502218	51.5	0.4	Fine sediment. Tubes	Good	
09:50:42	CIFCA_Edd_3_T2_20200716_09_50_48_0045	50.246731	-4.502336	51.7	0.6	Mixed sediment	Good	
09:51:43	CIFCA_Edd_3_T2_20200716_09_51_49_0046	50.246627	-4.502414	51.9	0.7	Mixed sediment	Good	
09:52:42	CIFCA_Edd_3_T2_20200716_09_52_49_0047	50.246491	-4.502508	52	0.3	Mixed sediment	Good	
09:53:47	CIFCA_Edd_3_T2_20200716_09_53_53_0048	50.246401	-4.502560	51.2	0.5	Mixed sediment	Good	
09:54:41	CIFCA_Edd_3_T2_20200716_09_54_52_0049	50.246286	-4.502634	52.2	0.5	Mixed sediment. Hydroids	Good	
09:55:52	CIFCA_Edd_3_T2_20200716_09_55_58_0050	50.246097	-4.502740	52.3	0.5	Mixed sediment	Good	
09:56:10	Box3_T2_EOL	50.246066	-4.502756	52.2				



Box 3 Tow 3

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	10:08:41	SOL depth (m)	52.9	Video file name(s)	CIFCA_Edd_3_T3_20200716_VID_10_08_41	
Date	16/07/2020	EOL Time (hh:mm:ss)	10:13:14	EOL depth (m)	52.5	Hypack track file		
Vessel	Tiger Lily	Length of video	00:04:33	Number of stills pre-QC	2	Com port A file	ComPortA_Edd_3_T3_20200716_1008	
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	0	Winch operator	CT	
Tow ID	Tow 1	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.2	Camera operator	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS	
Poor visibility, transect aborted and vessel re-positioned								
Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
10:08:41	Box3_T3_SOL	50.248549	-4.495353	52.9				
10:09:52	CIFCA_Edd_3_T3_20200716__10_09_59__0051	50.248423	-4.495543	52.9	0.3		Poor	Bad vis
10:11:29	CIFCA_Edd_3_T3_20200716__10_11_36__0052	50.248437	-4.495733	52.6	0.1		Poor	Bad vis
10:13:14	Box3_T3_EOL	50.248304	-4.495940	52.5		Transect aborted due to bad vis. Re-positioning vessel		



Box 3 Tow 3b

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	10:24:00	SOL depth (m)	51.3	Video file name(s)	CIFCA_Edd_3_T3b_20200716_VID_10_23_54
Date	16/07/2020	EOL Time (hh:mm:ss)	10:51:29	EOL depth (m)	51.6	Hypack track file	
Vessel	Tiger Lily	Length of video	00:27:29	Number of stills pre-QC	25	Com port A file	ComPortA_Edd_3_T3b_20200716_1023
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	25	Winch operator	CT
Tow ID	Tow 3b	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.5	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	N/A	Data recorder	SS
Started on bedrock and transitioned to mixed sediment							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
10:24:00	Box3_T3b_SOL	50.245969	-4.499808	51.3				
10:25:04	CIFCA_Edd_3_T3b_20200716_10_25_10_0053	50.245910	-4.499984	51.3	0.3	Bedrock. Dead man's fingers, pink sea fan, cup corals	Good	
10:26:05	CIFCA_Edd_3_T3b_20200716_10_26_11_0054	50.245834	-4.500032	50.1	0.4	Bedrock. Pink sea fan, cup corals	Good	
10:27:08	CIFCA_Edd_3_T3b_20200716_10_27_14_0055	50.245744	-4.500050	50	0.7	Bedrock and mixed sediment. Cup corals, pink sea fan	Acceptable	Camera off seabed
10:28:05	CIFCA_Edd_3_T3b_20200716_10_28_13_0056	50.245602	-4.500219	50.9	0.5	Bedrock. Pink sea fan	Acceptable	Camera off seabed
10:29:03	CIFCA_Edd_3_T3b_20200716_10_29_10_0057	50.245539	-4.500426	52.6	0.5	Coarse sediment	Good	
10:30:03	CIFCA_Edd_3_T3b_20200716_10_30_10_0058	50.245470	-4.500647	52.9	0.3	Coarse sediment. Hydroids	Good	
10:31:07	CIFCA_Edd_3_T3b_20200716_10_31_16_0059	50.245377	-4.500896	53.5	0.3	Mixed sediment	Good	
10:32:02	CIFCA_Edd_3_T3b_20200716_10_32_09_0060	50.245316	-4.501109	53.1	0.2	Mixed sediment	Good	
10:33:04	CIFCA_Edd_3_T3b_20200716_10_33_11_0061	50.245241	-4.501343	53.5	0.5	Mixed sediment	Good	
10:34:04	CIFCA_Edd_3_T3b_20200716_10_34_10_0062	50.245169	-4.501524	53.8	0.2	Mixed sediment	Good	
10:35:06	CIFCA_Edd_3_T3b_20200716_10_35_13_0063	50.245086	-4.501685	53.5	0.6	Mixed sediment. Burrows	Good	
10:36:08	CIFCA_Edd_3_T3b_20200716_NA					Image didn't take		
10:37:04	CIFCA_Edd_3_T3b_20200716_10_37_10_0064	50.245022	-4.502226	53.4	0.4	Mixed sediment. Burrows	Good	
10:38:03	CIFCA_Edd_3_T3b_20200716_10_38_09_0065	50.244924	-4.502357	53.5	0.5	Mixed sediment	Good	
10:39:04	CIFCA_Edd_3_T3b_20200716_10_39_05_0066	50.244841	-4.502526	52	0.1	Mixed sediment	Good	
10:40:05	CIFCA_Edd_3_T3b_20200716_10_40_11_0067	50.244761	-4.502687	49.8	0.4	Bedrock. Pink sea fan, cup corals	Good	
10:41:08	CIFCA_Edd_3_T3b_20200716_10_41_13_0068	50.244660	-4.502662	49.6	0.6	Bedrock. Cup corals, hydroids	Good	
10:42:08	CIFCA_Edd_3_T3b_20200716_10_42_15_0069	50.244544	-4.502834	50.2	0.9	Bedrock. Pink sea fan, cup corals	Good	
10:43:04	CIFCA_Edd_3_T3b_20200716_10_43_10_0070	50.244489	-4.503023	50.7	0.5	Coarse sand	Good	
10:44:06	CIFCA_Edd_3_T3b_20200716_10_44_12_0071	50.244419	-4.503190	50.2	0.3	Bedrock. Cup corals, branching sponge	Good	
10:45:07	CIFCA_Edd_3_T3b_20200716_10_45_13_0072	50.244345	-4.503362	50.3	0.5	Bedrock. Cup corals, urchin	Good	
10:46:13	CIFCA_Edd_3_T3b_20200716_10_46_20_0073	50.244308	-4.503613	50.5	0.4	Bedrock. Cup corals, pink sea fan, branching sponge	Good	
10:47:04	CIFCA_Edd_3_T3b_20200716_10_47_10_0074	50.244308	-4.503752	50.9	0.6	Bedrock. Cup corals, pink sea fan, hydroids	Good	
10:48:05	CIFCA_Edd_3_T3b_20200716_10_48_11_0075	50.244219	-4.503941	52	0.5	Mixed sediment	Good	
10:49:03	CIFCA_Edd_3_T3b_20200716_10_49_09_0076	50.244133	-4.504082	52.1	0.7	Fine sediment	Good	
10:50:15	CIFCA_Edd_3_T3b_20200716_10_50_22_0077	50.244124	-4.504178	51.6	0.5	Mixed sediment	Good	
10:51:29	Box3_T3b_EOL	50.244117	-4.504119	12.4		Video stopped near surface		

Box 3 Tow 4

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	08:34:58	SOL depth (m)	45.7	Video file name(s)	CIFCA_Edd_3_T4_20200812_VID_08_34_57
Date	2020-08-12	EOL Time (hh:mm:ss)	08:58:43	EOL depth (m)	36	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:23:45	Number of stills pre-QC	22	Com port A file	ComPortA_Edd_3_T4_20200812_0834
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	22	Winch operator	CT
Tow ID	Tow 4	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.4	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	55	Data recorder	SS
Direction: SW, Current: None, Habitat: Bedrock reef to mixed sediment.							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
08:34:58	Box3_T4_SOL	50.247547	-4.505547	47.1				
08:36:28	CIFCA_Edd_3_T4_20200812_08_36_28_0001	50.247520	-4.505689	47.3	0.5	Bedrock. Cup corals, sea cucumber, hydroids, pink sea fan	Good	
08:37:30	CIFCA_Edd_3_T4_20200812_08_37_30_0002	50.247470	-4.505830	47.5	0.5	Bedrock. Porifera, sea cucumber, cup corals	Good	
08:38:37	CIFCA_Edd_3_T4_20200812_08_38_36_0003	50.247416	-4.505991	47.2	0.4	Bedrock. Pink sea fan, cup corals	Good	
08:39:37	CIFCA_Edd_3_T4_20200812_08_39_36_0004	50.247329	-4.506135	47.1	0.3	Bedrock. Pink sea fan, sea cucumber, Porifera, cup corals	Good	
08:40:35	CIFCA_Edd_3_T4_20200812_08_40_29_0005	50.247235	-4.506221	46.1	0.6	Mixed sediment. Pink sea fan, cup corals	Good	
08:41:33	CIFCA_Edd_3_T4_20200812_08_41_32_0006	50.247131	-4.506329	47.8	0.5	Bedrock. Porifera, cup corals, pink sea fan, Nudibranch?	Good	
08:42:42	CIFCA_Edd_3_T4_20200812_08_42_33_0007	50.247056	-4.506493	47.5	0.5	Bedrock. Cup corals, Porifera, hydroids	Good	
08:43:33	CIFCA_Edd_3_T4_20200812_08_43_32_0008	50.247018	-4.506621	47.8	0.5	Bedrock. Urchin, cup corals	Good	
08:44:34	CIFCA_Edd_3_T4_20200812_08_44_34_0009	50.246952	-4.506794	49.0	0.5	Bedrock. Pink sea fan, Porifera, sea cucumber, cup corals	Good	
08:45:30	CIFCA_Edd_3_T4_20200812_08_45_29_0010	50.246887	-4.506921	51.2	0.3	Coarse sand. Hydroids, anemones	Good	
08:46:31	CIFCA_Edd_3_T4_20200812_08_46_30_0011	50.246816	-4.507011	51.2	0.3	Coarse sand	Good	
08:47:30	CIFCA_Edd_3_T4_20200812_08_47_29_0012	50.246735	-4.507053	52.3	0.5	Coarse sand	Good	
08:48:29	CIFCA_Edd_3_T4_20200812_08_48_27_0013	50.246646	-4.507128	51.7	0.5	Mixed sediment, shell. Tube worm	Good	
08:49:28	CIFCA_Edd_3_T4_20200812_08_49_26_0014	50.246583	-4.507245	51.6	0.3	Mixed sediment, shell	Good	
08:50:27	CIFCA_Edd_3_T4_20200812_08_50_25_0015	50.246574	-4.507334	52.2	0.5	Mixed sediment	Good	
08:51:30	CIFCA_Edd_3_T4_20200812_08_51_29_0016	50.246520	-4.507470	51.9	0.3	Mixed sediment, shell	Good	
08:52:27	CIFCA_Edd_3_T4_20200812_08_52_25_0017	50.246474	-4.507585	51.9	0.4	Mixed sediment. Hydroids	Good	
08:53:26	CIFCA_Edd_3_T4_20200812_08_53_25_0018	50.246456	-4.507684	52.2	0.2	Mixed sediment	Good	
08:54:29	CIFCA_Edd_3_T4_20200812_08_54_28_0019	50.246416	-4.507786	52.5	0.3	Mixed sediment. Hydroids	Good	
08:55:27	CIFCA_Edd_3_T4_20200812_08_55_26_0020	50.246352	-4.507849	52.0	0.5	Mixed sediment. Hydroids	Good	
08:56:26	CIFCA_Edd_3_T4_20200812_08_56_25_0021	50.246315	-4.507895	51.9	0.4	Mixed sediment. Hydroids	Good	
08:57:32	CIFCA_Edd_3_T4_20200812_08_57_30_0022	50.246256	-4.507926	52.0	0.5	Mixed sediment. Hydroids	Good	
08:58:09		50.246199	-4.507934	48.6		EOL delayed due to time lag with remote connection and video		
08:58:43	Box3_T4_EOL	50.246162	-4.507973	36.0				

Box 3 Tow 5

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	09:18:14	SOL depth (m)	49.3	Video file name(s)	CIFCA_Edd_3_T5_20200812_VID_09_18_36
Date	2020-08-12	EOL Time (hh:mm:ss)	09:42:16	EOL depth (m)	54	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:24:02	Number of stills pre-QC	23	Com port A file	ComPortA_Edd_3_T5_20200812_0918
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	23	Winch operator	CT
Tow ID	Tow 5	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.4	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	57	Data recorder	SS
Direction: SW, Current: None, Habitat: Bedrock reef to mixed sediment.							



Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
09:18:40	Box3_T5_SOL	50.245557	-4.505163	49.3				
09:19:16	CIFCA_Edd_3_T5_20200812_09_19_11_0023	50.245512	-4.505211	47.9	0.3	Bedrock. Cup corals, Porifera, dead man's fingers	Acceptable	Camera off seabed
09:20:35	CIFCA_Edd_3_T5_20200812_09_20_34_0024	50.245438	-4.505344	47.6	0.4	Bedrock. Cup corals, pink sea fan, dead man's fingers	Acceptable	Camera off seabed
09:21:36	CIFCA_Edd_3_T5_20200812_09_21_33_0025	50.245404	-4.505398	47.4	0.5	Bedrock. Cup corals, Porifera, dead man's fingers	Acceptable	Camera off seabed
09:22:38	CIFCA_Edd_3_T5_20200812_09_22_37_0026	50.245346	-4.505595	48.6	0.2	Mixed sediment. Pink sea fan, Porifera, cup corals	Good	
09:23:32	CIFCA_Edd_3_T5_20200812_09_23_31_0027	50.245319	-4.505688	48.8	0.4	Bedrock. Porifera, Cup corals, <i>Cliona</i>	Good	
09:24:34	CIFCA_Edd_3_T5_20200812_09_24_33_0028	50.245221	-4.505762	48.0	0.4	Bedrock. Pink sea fan, ross coral, red sea fingers, <i>Cliona</i>	Good	
09:25:40	CIFCA_Edd_3_T5_20200812_09_25_38_0029	50.245125	-4.505952	47.2	0.3	Bedrock. Sea cucumber, dead man's fingers.	Acceptable	Camera off seabed
09:26:37	CIFCA_Edd_3_T5_20200812_09_26_37_0030	50.245105	-4.506097	48.2	0.5	Bedrock. Cup corals, Porifera	Good	
09:27:36	CIFCA_Edd_3_T5_20200812_09_27_35_0031	50.245003	-4.506132	48.6	0.7	Bedrock. Cup corals, Porifera, <i>Cliona</i>	Good	
09:28:33	CIFCA_Edd_3_T5_20200812_09_28_31_0032	50.244925	-4.506234	49.5	0.3	Bedrock. Spiny starfish, hydroids, cup corals	Good	
09:29:31	CIFCA_Edd_3_T5_20200812_09_29_29_0033	50.244873	-4.506298	51.1	0.3	Bedrock. Cup corals, hydroids, pink sea fan	Acceptable	Camera off seabed
09:30:29	CIFCA_Edd_3_T5_20200812_09_30_29_0034	50.244840	-4.506301	51.5	0.8	Sand. Burrows, anemone, tracks	Good	
09:31:30	CIFCA_Edd_3_T5_20200812_09_31_32_0035	50.244760	-4.506219	51.4	0.3	Sand. Hydroids, tracks	Good	
09:32:33	CIFCA_Edd_3_T5_20200812_09_32_33_0036	50.244648	-4.506273	52.6	0.7	Sand	Good	
09:33:31	CIFCA_Edd_3_T5_20200812_09_33_30_0037	50.244542	-4.506391	53.1	0.6	Sand	Good	
09:34:32	CIFCA_Edd_3_T5_20200812_09_34_31_0038	50.244447	-4.506535	53.3	0.5	Mixed sediment	Good	
09:35:29	CIFCA_Edd_3_T5_20200812_09_35_30_0039	50.244346	-4.506644	53.7	0.3	Mixed sediment	Good	
09:36:30	CIFCA_Edd_3_T5_20200812_09_36_30_0040	50.244283	-4.506719	52.8	0.4	Mixed sediment	Good	
09:37:32	CIFCA_Edd_3_T5_20200812_09_37_29_0041	50.244213	-4.506787	53.8	0.2	Mixed sediment. Hydroids	Good	
09:38:30	CIFCA_Edd_3_T5_20200812_09_38_32_0042	50.244163	-4.506835	52.6	0.3	Mixed sediment	Good	
09:39:31	CIFCA_Edd_3_T5_20200812_09_39_30_0043	50.244100	-4.506896	52.6	0.4	Mixed sediment	Good	
09:40:29	CIFCA_Edd_3_T5_20200812_09_40_31_0044	50.244055	-4.506896	53.1	0.5	Mixed sediment	Good	
09:41:32	CIFCA_Edd_3_T5_20200812_09_41_31_0045	50.243981	-4.506882	52.6	0.5	Mixed sediment	Good	
09:42:16	Box3_T5_EOL	50.243882	-4.506902	54.0				

Box 3 Tow 6

Project Code	2020_CIFCA_EDD_DDV	SOL Time (hh:mm:ss)	10:02:05	SOL depth (m)	54.4	Video file name(s)	CIFCA_Edd_3_T6_20200812_VID_10_02_03
Date	2020-08-12	EOL Time (hh:mm:ss)	10:25:32	EOL depth (m)	54.8	Hypack track file	HypackLog_Edd_20200812
Vessel	Tiger Lily	Length of video	00:23:27	Number of stills pre-QC	23	Com port A file	ComPortA_Edd_3_T6_20200812_1000
Site ID	Box 3	GPS recorded from	Hemisphere V500 GNSS	Number of stills post QC	23	Winch operator	CT
Tow ID	Tow 6	Time recorded from	Hemisphere V500 GNSS	Avg vessel speed (kts)	0.4	Camera operator	AJ
Description of tow (direction/ current/ tides/ overall habitat)				Approx. cable out (m)	56	Data recorder	SS
Direction: NW, Current: None, Habitat: Mixed sediment.							




Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
10:02:05	Box3_T6_SOL	50.245782	-4.496129	54.4				
10:02:26	CIFCA_Edd_3_T6_20200812_10_02_22_0046	50.245779	-4.496107	53.7	0.3	Mixed sediment. Tubes	Good	
10:03:09	CIFCA_Edd_3_T6_20200812_10_03_09_0047	50.245806	-4.496068	54.7	0.1	Mixed sediment	Good	
10:04:13	CIFCA_Edd_3_T6_20200812_10_04_12_0048	50.245883	-4.496139	54.6	0.2	Mixed sediment. Hydroids	Good	
10:05:14	CIFCA_Edd_3_T6_20200812_NA					Image didn't take		
10:06:11	CIFCA_Edd_3_T6_20200812_10_06_07_0049	50.246066	-4.496292	54.3	0.1	Mixed sediment	Good	
10:07:09	CIFCA_Edd_3_T6_20200812_10_07_07_0050	50.246145	-4.496347	54.0	0.5	Mixed sediment	Good	
10:08:13	CIFCA_Edd_3_T6_20200812_10_08_10_0051	50.246221	-4.496463	54.3	0.4	Mixed sediment	Good	
10:09:15	CIFCA_Edd_3_T6_20200812_10_09_14_0052	50.246303	-4.496568	54.2	0.3	Mixed sediment	Good	
10:10:12	CIFCA_Edd_3_T6_20200812_10_10_10_0053	50.246369	-4.496616	53.9	0.4	Mixed sediment	Good	
10:11:15	CIFCA_Edd_3_T6_20200812_10_11_10_0054	50.246504	-4.496671	54.9	0.5	Mixed sediment. Hydroids, tubes	Good	
10:12:09	CIFCA_Edd_3_T6_20200812_10_12_08_0055	50.246586	-4.496747	54.9	0.7	Mixed sediment. Burrows	Good	
10:13:13	CIFCA_Edd_3_T6_20200812_10_13_16_0056	50.246713	-4.496864	54.9	0.7	Mixed sediment. Burrows	Good	
10:14:13	CIFCA_Edd_3_T6_20200812_10_14_13_0057	50.246830	-4.497010	55.0	0.4	Mixed sediment. Hydroids, burrows	Good	
10:15:22	CIFCA_Edd_3_T6_20200812_10_15_10_0058	50.246932	-4.497121	54.9	0.5	Mixed sediment. Hydroids	Good	
10:16:06	CIFCA_Edd_3_T6_20200812_10_16_05_0059	50.246994	-4.497167	54.9	0.5	Mixed sediment. Hydroids	Acceptable	Silt cloud
10:17:11	CIFCA_Edd_3_T6_20200812_10_17_09_0060	50.247070	-4.497225	55.0	0.2	Mixed sediment. Brittlestar	Good	
10:18:12	CIFCA_Edd_3_T6_20200812_10_18_10_0061	50.247145	-4.497270	54.4	0.3	Mixed sediment	Good	
10:19:10	CIFCA_Edd_3_T6_20200812_10_19_09_0062	50.247220	-4.497328	55.0	0.3	Mixed sediment. Hydroids	Good	
10:20:13	CIFCA_Edd_3_T6_20200812_10_20_13_0063	50.247327	-4.497451	54.9	0.3	Mixed sediment. Tubes	Good	
10:21:14	CIFCA_Edd_3_T6_20200812_10_21_12_0064	50.247389	-4.497559	54.9	0.4	Mixed sediment. Anemone	Good	
10:22:10	CIFCA_Edd_3_T6_20200812_10_22_08_0065	50.247456	-4.497629	54.8	0.4	Mixed sediment	Good	
10:23:11	CIFCA_Edd_3_T6_20200812_10_23_10_0066	50.247531	-4.497728	54.3	0.3	Mixed sediment. Hydroids	Good	
10:24:08	CIFCA_Edd_3_T6_20200812_10_24_07_0067	50.247578	-4.497816	54.7	0.2	Mixed sediment	Good	
10:25:09	CIFCA_Edd_3_T6_20200812_10_25_09_0068	50.247631	-4.497924	53.9	0.3	Mixed sediment. Hydroids	Good	
10:25:32	Box3_T6_EOL	50.247638	-4.497942	54.8				

CIFCA_SAC_Edd_2020_DDV_Boxes1-3

Appendix 3. Daily Logs

16th July 2020


Project	2020_CIFCA_EDD_DDV		Survey code	20200716_CIFCA_DDV_Edd			
Date	2020-07-16	Coordinate reference system	WGS84	Weather			
Location	Eddystone	Position Fix	Hemisphere V500 GNSS (GPS)	Wind direction	NW		
Survey Type	DDV	Horizontal Accuracy	0.5 m	Wind speed	6-12 mph		
Vessel	Tiger Lily	Time zone	UTC	Beaufort scale	3 (sea state 1)		
Skipper	David Raymond	Depth reference system	Lowest Astronomical Tide	Cloud coverage	8/8		
IFCA officers	Colin Trundle, Stephanie Sturgeon, Annie Jenkin			Time recorded	07:44		
Visitors	None			Weather			
Time depart Mylor	06:15	Camera make and model	STR SeaSpyder drop camera system.	Wind direction	NW		<i>Data entered by</i>
Time return Mylor	19:25	Height of camera	0.6 m	Wind speed	9-12 mph		AJ (2020-08-06)
High water time	14:11 (UTC)	Calibration Notes	Laser scaling: horizontal 210 mm, vertical 200 mm	Beaufort scale	2		
High water (m)	4.46 m	Toolbox time	07:45	Cloud coverage	8/8	QA	
Tide recorded from	Plymouth	Induction	Not required	Time recorded	11:00	AJ (2020-08-06)	
Description of survey	Day one of the 2020 Eddystone survey. Completed four tows in Box 3 (one repeat), Box 2 (one repeat) and three tows in Box 1						
Time	Type	Details/description					
05:30		On board, setting up					
06:15		Depart Mylor					
08:07	DDV	Deploying camera frame. Camera in water					
08:21:30	DDV	Box3_T1_SOL. First 10 images all in same area as low drift speed					
08:47:10	DDV	Box3_T1_EOL					
09:29:54	DDV	Box3_T2_SOL					
09:56:10	DDV	Box3_T2_EOL					
10:08:41	DDV	Box3_T3_SOL					
10:13:14	DDV	Box3_T3_EOL. Bad visibility.					
10:24:00	DDV	Box3_T3b_SOL. Repositioned tow.					
10:51:29	DDV	Box3_T3b_EOL					
11:27:42	DDV	Box2_T1_SOL					
11:35:01	DDV	Box2_T1_EOL. Lost coms to camera. Reboot.					
11:41:37	DDV	Box2_T1b_SOL					
12:09:11	DDV	Box2_T1b_EOL					
12:15		Lunch break					
12:48		Camera in water					
12:51:26	DDV	Box2_T2_SOL					
13:16:41	DDV	Box2_T2_EOL					
13:28:47	DDV	Box2_T3_SOL					
13:54:12	DDV	Box2_T3_EOL					

CIFCA_SAC_Edd_2020_DDV_Boxes1-3

14:15		External meeting
15:14	DDV	Camera in water
15:16:34	DDV	Box1_T1_SOL
15:24		Comms lost to camera briefly
15:40:45	DDV	Box1_T1_EOL
15:50:00	DDV	Box1_T2_SOL
16:14:00	DDV	Box1_T2_EOL
16:20:24		Dolphins (50.216968, -4.330511)
16:25:17	DDV	Box1_T3_SOL
16:55:54	DDV	Box1_T3_EOL
18:15		Depart site
19:25		Arrive Mylor
19:40		Depart vessel

CIFCA_SAC_Edd_2020_DDV_Boxes1-3

12th August 2020

Project	2020_CIFCA_EDD_DDV		Survey code	20200812_CIFCA_DDV_Edd		
Date	2020-08-12	Coordinate reference system	WGS84	Weather		
Location	Eddystone	Position Fix	Hemisphere V500 GNSS (GPS)	Wind direction	NW	
Survey Type	DDV	Horizontal Accuracy	0.5 m	Wind speed	2-7	
Vessel	Tiger Lily	Time zone	UTC	Beaufort scale	1	
Skipper	David Raymond	Depth reference system	Lowest Astronomical Tide	Cloud coverage	1/8. Vis average.	
IFCA officers	Colin Trundle, Stephanie Sturgeon, Annie Jenkin			Time recorded	08:23	
Visitors	None			Weather		
Time depart Mylor	06:40	Camera make and model	STR SeaSpyder drop camera system.	Wind direction	E	<i>Data entered by</i>
Time return Mylor	18:00	Height of camera	0.6 m	Wind speed	5-10	AJ/SS (20-08-12)
High water time	11:57	Calibration Notes	Laser scaling: horizontal 210 mm, vertical 200 mm	Beaufort scale	1	
High water (m)	4.36m	Toolbox time	06:30	Cloud coverage	1/8. Vis average.	QA
Tide recorded from	Plymouth (Devonport)	Induction	Not required	Time recorded	13:22	AJ (2020-11-03)
Description of survey	Day two of the 2020 Eddystone survey. Three tows in Boxes 1, 2 and 3					
Time	Type	Details/description				
06:00		On board, setting up				
06:40		Depart Mylor				
08:06:45		Common dolphins x 6 (50.246131, -4.511608)				
08:18		Arrive on site, Box 3				
08:20		Checking drift direction				
08:30		Camera in water				
08:32		Hypack log started				
08:34:58	DDV	Box3_T4_SOL				
08:58:43	DDV	Box3_T4_EOL				
09:18:14	DDV	Box3_T5_SOL				
09:42:16	DDV	Box3_T5_EOL				
10:02:05	DDV	Box3_T6_SOL				
10:13:59		Tuna. 100m ahead of vessel from the bow (vessel heading 343° (50.246801, -4.496976)				
10:25:32	DDV	Box3_T6_EOL				
10:27		Steam to Box 2				
11:03:08	DDV	Box2_T4_SOL				
11:26:55	DDV	Box2_T4_EOL				
11:39:47	DDV	Box2_T5_SOL				
12:02:15	DDV	Box2_T5_EOL				
12:07		Lunch				
12:49		Camera in water				
12:53:27	DDV	Box2_T6_SOL				

CIFCA_SAC_Edd_2020_DDV_Boxes1-3

13:19:45	DDV	Box2_T6_EOL
13:22		Steam to Box 1
13:38:38	DDV	Box1_T4_SOL
14:03:36	DDV	Box1_T4_EOL
14:15:18	DDV	Box1_T5_SOL
14:41:44	DDV	Box1_T5_EOL
14:53:34	DDV	Box1_T6_SOL
15:03:00		Onboard bluetooth headset batteries ran out. Communicating with winch operator via skipper
15:20:41	DDV	Box1_T6_EOL
15:21:00	DDV	Camera recovered to surface
15:35		Start transit to Mylor
18:00		Arrive Mylor