Eddystone Reefs Project 2022

Field report for the 2022 Eddystone Reefs Drop Down Video Survey Boxes 1 to 3

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Authors	**Date**	**Comment**	**Version**
S Sturgeon	17/07/2023	First draft	0.1
A Jenkin	20/02/2024	Update report template. Second draft	0.2
S Sturgeon	29/02/2024	QA	0.3
A Jenkin	29/02/2024	Amendments	Final

Summary

This report summarises the operations and data acquired during the 2022 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 one day, on the 21st July 2022.

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) with two control areas (Boxes 2 and 3). Video and stills data were successfully collected from all three survey boxes, with three tows in each box. In total nine video tows were completed which provided 3 hours 25 minutes and 28 seconds of video and 199 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), collaborated on a study in the Eddystone reefs 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 data in 2020 and 2022 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 2022 was the eighth year of the study and replicated the 2020 survey. No survey was carried out in 2021 due to the COVID-19 pandemic.

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, 2019 and 2020 where possible.

2 Methodology

2.1 Survey Area

The survey was carried out within three survey boxes, one inside the Eddystone reefs section of Start Point to Plymouth Sound and Eddystone SAC and two outside on the south coast of Cornwall (Figure 2).

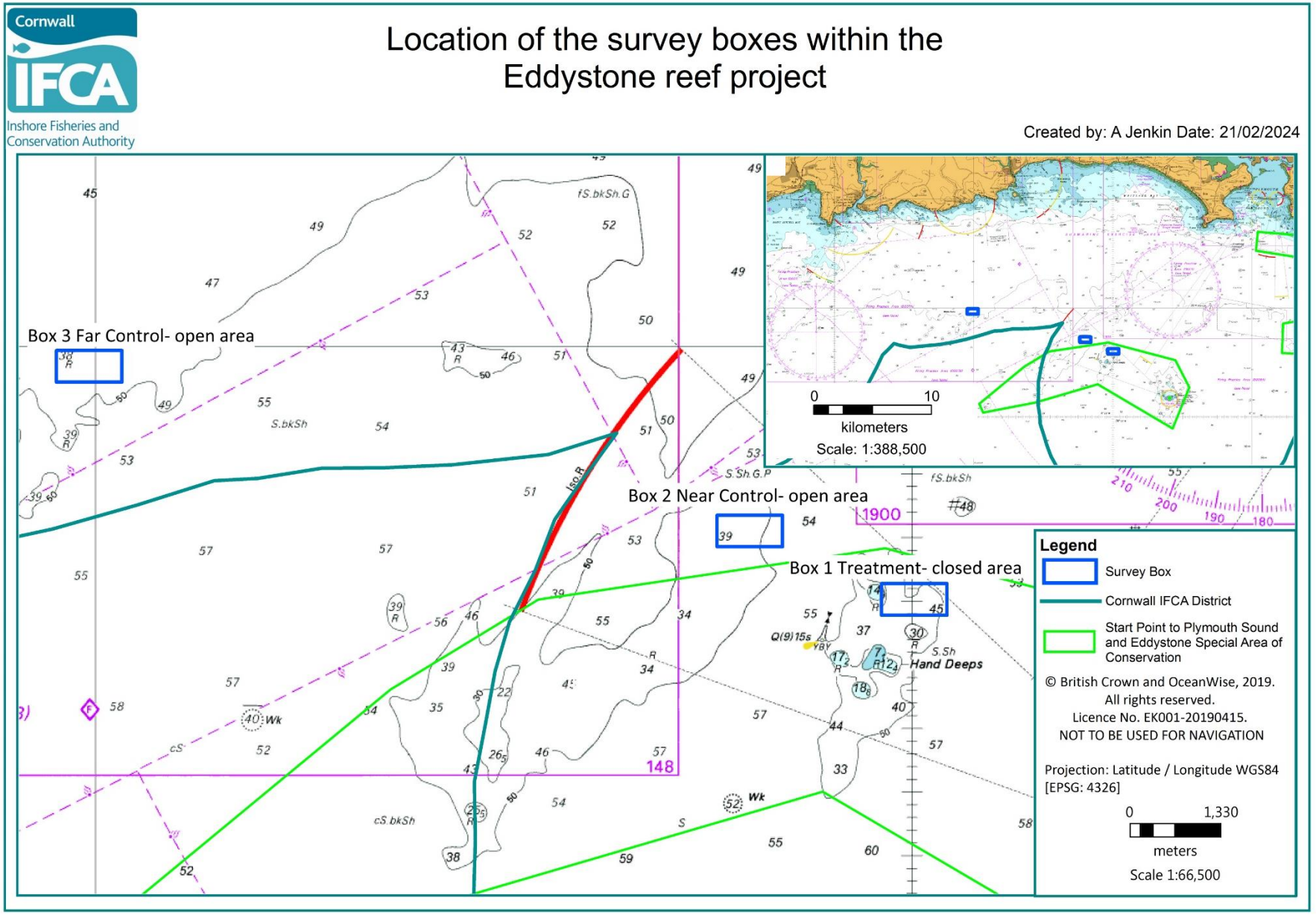

Figure 1: Location of the three survey boxes within and near the Start Point to Plymouth Sound and Eddystone SAC.

2.2 Survey Boxes

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. A total of three tows were planned in each of the three survey boxes located near the Eddystone.

2.3 Vessel Specifications

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.

2.4 Personnel

The crew during the survey day consisted of the Principal Scientific Officer, two Scientific Officers, an independent skipper onboard and a work experience student onboard. The crew roles consisted of operating the stills camera and video, running software Hypack, survey logs and operating the winch.

2.5 Personal Protective Equipment (PPE)

Life jackets with personal location beacons (PLBs) and steel toe capped waterproof boots were worn while working on deck. Hard hats were worn during deployment and recovery of the camera frame. There were no reported accidents or near misses during the survey.

2.6 Survey methodology

Video and digital still imagery was acquired using a STR SeaSpyder drop camera system (Appendix 2). 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).

The tows were planned at 200 m with a still image every 10 m at a speed of 0.5 knots aiming for 10 to 15 minutes per tow. Positions of historic tows were used to decide on the day where best to carry out tows taking weather conditions on the day into consideration. Target parameters were set in Hypack so that each time a target was created, a 10 m radius ring would be added. This was useful if the tide or wind moved the vessel off course so that still images were still taken at a regular interval.

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_21/07/2022. Edd DDV Box2_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, date, time (UTC) and automatic image number (e.g. “CIFCA_Edd_2_T1_20220721_11_28_30_0086”). 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.

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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 USBL GPS antenna (Lat/ Long WGS84) for the entire tow. A target was created in Hypack 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 10 m 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 image number, speed over ground and real-time observations of substrate and taxa (comma delimited) when possible.
For vessel and equipment specifications see Appendix 1 and Appendix 2.

2.7 Data handling

Hypack targets were used in data processing to obtain the exact time of each still image and the Easytrak Alpha USBL GPS log was used to obtain the exact location of each still image. All position information was recorded in the Lat/Long WGS84 projection and taken from a single GPS (USBL GPS antenna). GPS targets were recorded using the USBL GPS antenna set up on the wheelhouse roof of Tiger Lily. Hypack was set up to log a vessel position recorded every second and the Com Port A file was recording the USBL position from the camera for the duration of each tow. 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.

Still 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 site number. Video files were captured to the SeaSpyder topside unit data drive (D:/). The stills and video files 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 regularly throughout the day.

2.8 Data analysis

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

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Any poor-quality images were not carried forward for further analysis.

The position data for each tow were 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.

3 Results

3.1 Cruise Narrative

All times are Universal Time Coordinated (UTC).

21st July 2022

R/V Tiger Lily departed Mylor at 07:40 on the 21/07/2022 with the Principal Scientific Officer, two Scientific Officers, an independent skipper and a work experience student onboard. The vessel transited to the first site and the camera was deployed at 09:01. A total of nine tows were completed (three tows in each of the three boxes), obtaining 03:25:28 of video and 214 still images pre-QC (Table 1).

The camera was recovered to deck by 15:30 and Tiger Lily departed for Mylor, arriving alongside at 17:45.

High definition video footage and digital still images of the seabed (with scaling lasers and dedicated lighting) was acquired, using the downward facing camera, along three transects in each of the three survey boxes (1,2 and 3) (Figure 2, Figure 3 and Figure 4).

The daily logs are shown in Appendix 3. Tow information including still image and video position are summarised in Appendix 4.

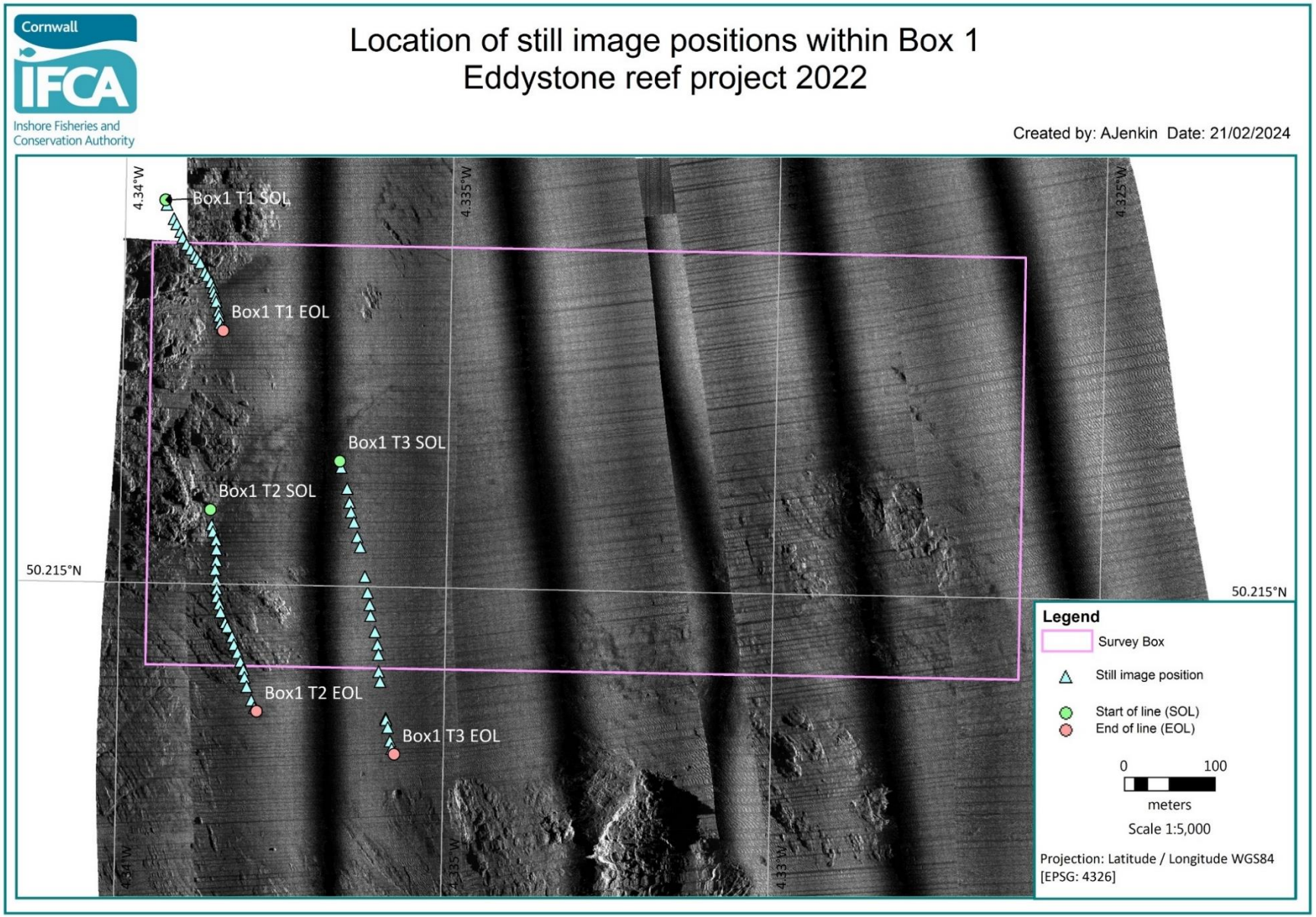

Figure 2: Still image positions within Survey Box 1 by Cornwall IFCA on the 21st July 2022.

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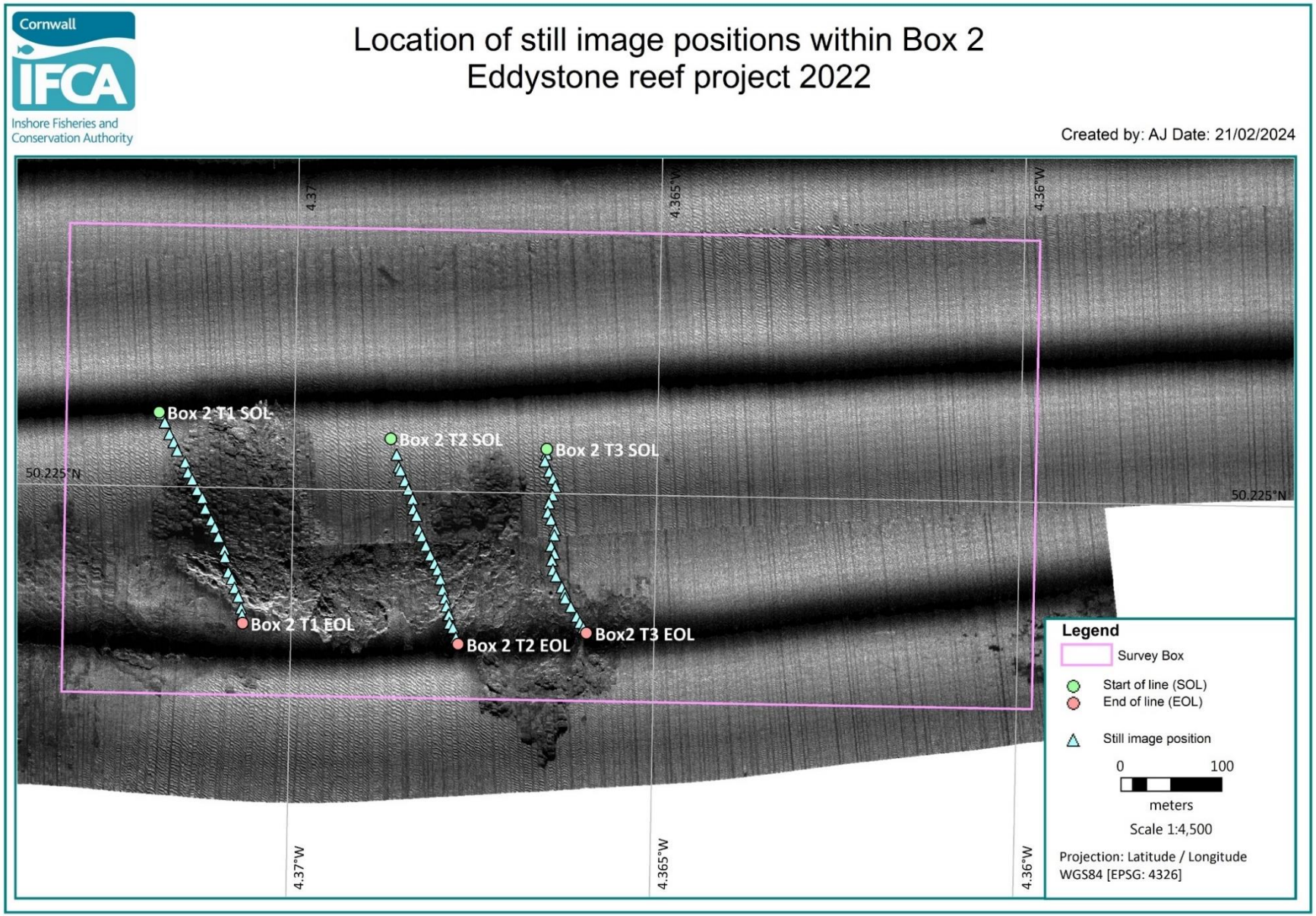

Figure 3: Still image positions within Survey Box 2 by Cornwall IFCA on the 21st July 2022.

Information Classification: PUBLIC

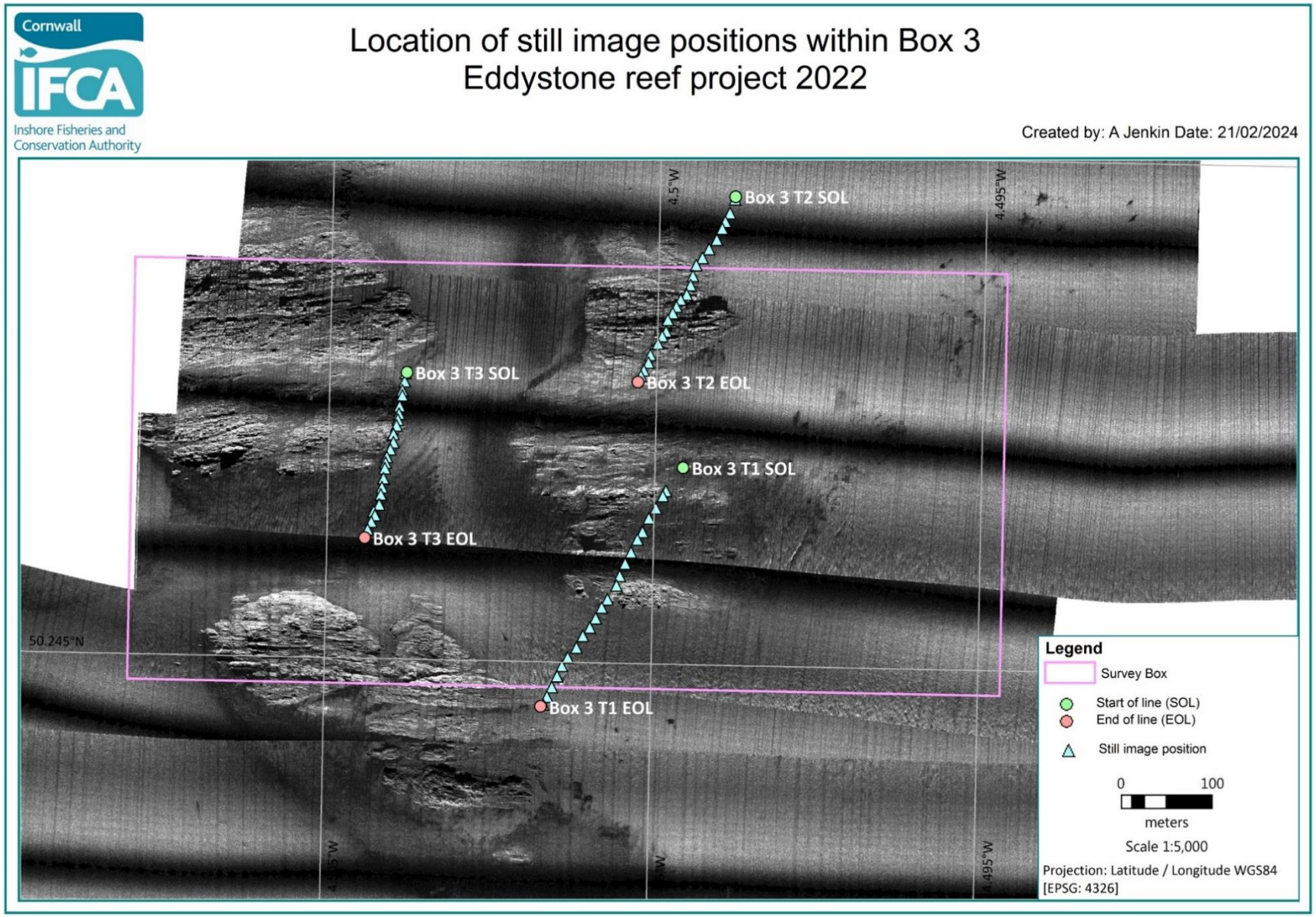

Figure 4: Still image positions within Survey Box 3 by Cornwall IFCA on the 21st July 2022.

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Table 1: Summary of video and still metadata and brief description of each tow from 21st July 2022

Date	Box	Tow	Video Start Time	Video End Time	Video Length	No. of Stills per QA	No. of Stills post QA	Comments
21/07/2022	3	T1	09:06:54	09:30:14	00:23:20	30	22	Started tow on bedrock and transitioned to coarse sediment and mixed sediment
21/07/2022	3	T2	09:43:28	10:05:12	00:21:44	23	22	Started tow on mixed sediment, transitioned to bedrock followed by mixed sediment at the end of the tow
21/07/2022	3	T3	10:17:36	10:39:38	00:22:02	25	22	Started tow on mixed sediment, transitioned to bedrock followed by mixed sediment at the end of the tow
21/07/2022	2	T1	11:21:09	11:43:07	00:21:58	22	22	Started tow on coarse sediment, transitioned to bedrock followed by coarse sediment at the end of the tow
21/07/2022	2	T2	12:33:16	12:56:48	00:23:32	24	24	Started tow on coarse sediment, transitioned to bedrock followed by coarse sediment at the end of the tow
21/07/2022	2	T3	13:07:20	13:30:21	00:23:01	23	23	Started tow on coarse sediment and transitioned to bedrock
21/07/2022	1	T1	13:51:08	14:13:33	00:22:25	23	21	Started tow on bedrock and transitioned to coarse sediment
21/07/2022	1	T2	14:22:13	14:45:29	00:23:16	22	22	Bedrock/ coarse sediment
21/07/2022	1	T3	14:56:15	15:20:25	00:24:10	22	21	Mixed sediment/ coarse sediment
Total	**9**				**03:25:28**	**214**	**199**	

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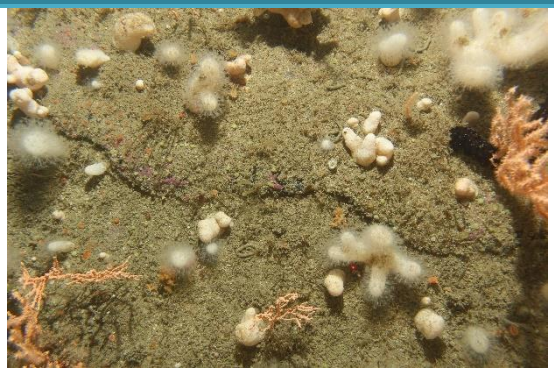
3.2 Representative Still Images

Representative still images from each tow at each site are shown in Table 2.

Table 2: Digital stills representative of the habitats recorded during the 2022 Eddystone survey

Box	Tow	Image 1	Image 2
1	T1		
1	T2		
1	T3		
2	T1		

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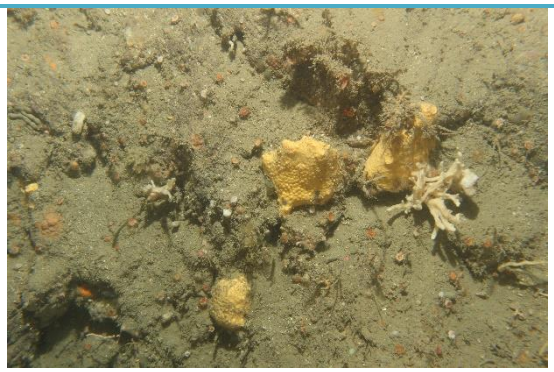
2	T2		
2	T3		
3	T1		
3	T2		
3	T3		

Information Classification: PUBLIC

4 Discussion

The survey was successful in collecting high quality still images and video which can be used to verify habitat types within the Eddystone.

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5 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

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6 Appendices

Appendix 1. Vessel specification

6.1 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. She is a South Boats 11 m Island MkII catamaran with twin IVECO 450hp engines; her Callsign is MRWR7. The general layout of Tiger Lily VI is shown in Appendix 1. The vessel has been refitted for survey work and includes a purpose built survey station within the wheelhouse, fitted with an inverter and uninterruptable power supply (UPS) to provide stable, continuous 240 v power, NMEA outputs and a dedicated Global Positioning System (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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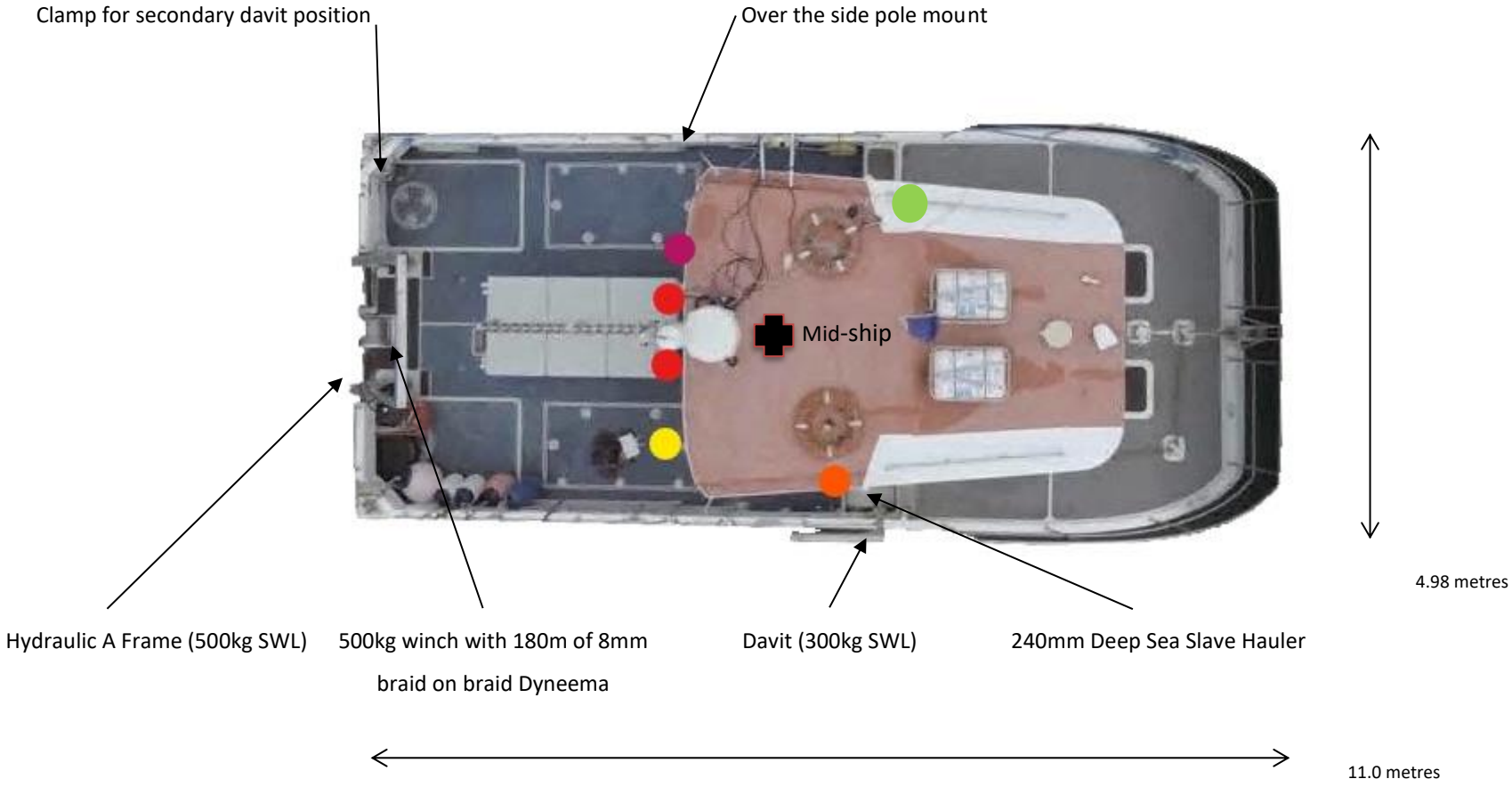
240v AC supply	Victron 3Kw power inverter 5KvA Volvo-Perkins generator (All 240 AC power is accessed via APC Smart UPS C1500)
Stern Gantry	500kg SWL
Winch (on stern gantry)	Spencer Carter 0.5t with scrolling level wind
Slave hauler	Sea Winch 200m dia.
Electric line hauler	12v Spencer Carter Bandit
Positioning	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

Information Classification: PUBLIC

Appendix 2. Equipment specification

6.2 Positioning Software and Offsets



Equipment				Offset (m)				
NMEA Device	**Plan Symbol**	**Make/Model**	**Offset Name**	**X (from bow)**	**X (mid-ship)**	**Y (from bow)**	**Y (mid-ship)**	**Z (from WL)**
Navigation depth sounder		Furuno Navnet	Furuno transducer	6.10m	-0.60m	0.40m	2.09m	- 0.50m
GPS		Furuno GP32 x 2	Furuno mushroom antenna	6.40m	-0.90m	2.30m/2.85m	0.19m/-0.36m	+ 4.25m
GPS		Furuno GP32	Furuno mushroom antenna	4.80m	0.70m	0.80m	1.69m	+ 2.90m
GNSS		Hemisphere V500	Main GPS	6.40m	-0.90m	3.20m	-0.71m	+ 3.85
Portable GPS antenna		Applied Acoustics Easytrak	Portable GPS					

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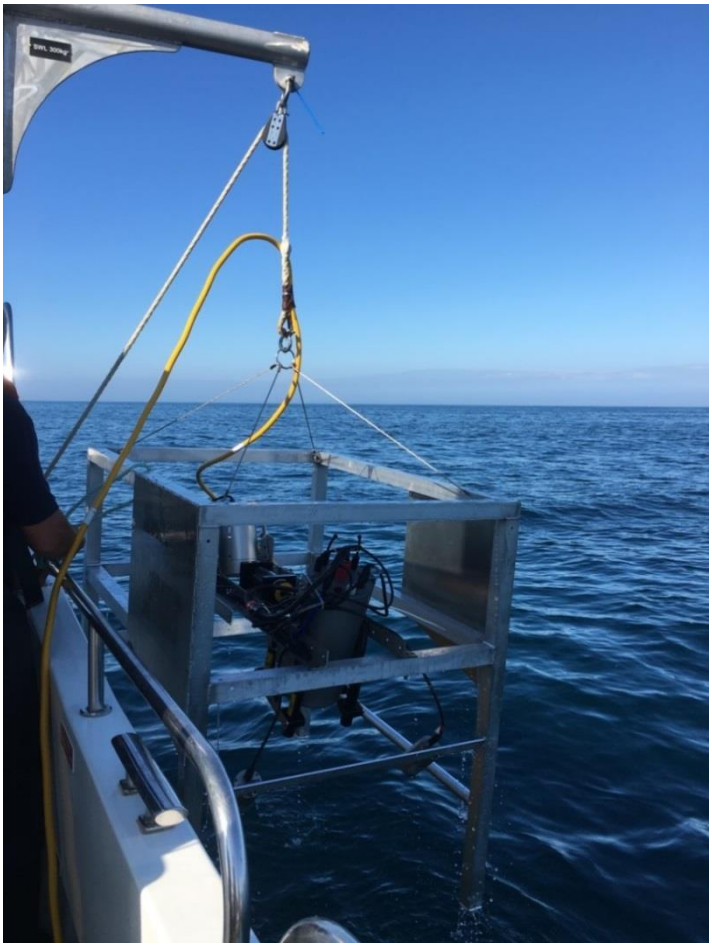
6.3 STR SeaSpyder drop camera system

Appendix Table A shows the camera system specification and **Error! Reference source not found.** shows the camera system on the starboard side of R/V Tiger Lily. Further details of the system are available online[1].

Appendix Table A: SeaSpyder Drop Camera specification

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	• 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



Appendix Figure A: Drop Down Video mounted camera system and frame used onboard R/V Tiger Lily

[1] Available from: https://www.str-subsea.com/products/geophysical-equipment/drop-camera-system/str-seaspyder-hd-drop-camera-system [Accessed 04/01/2024]

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6.4 Applied Acoustics Easytrak Alpha USBL

Appendix Table B shows the USBL system specification. Further details of the system are available online[2].

Appendix Table B: Applied Acoustics Easytrak Alpha USBL specification

Equipment	USBL System
Manufacturer	Applied Acoustics
Model	Easytrak Alpha 2665 Series
Range Resolution	10 cm
Position accuracy	2.0° RMS, 3.5% of slant range. Excluding effects due to GPS error, incorrect VOS, ray bending, compass, pitch and roll effects, and acceptable S/N ratio.
Heading sensor accuracy	<0.5° RMS
Tilt sensor accuracy	Accuracy ± <1.0° RMS Range ± 80°
Internal GPS / DGPS	SiRF Starlll Chip set Receiver <10m, 2D RMS <5m 2DRMS, SBAS (WAAS, EGNOS, MSAS…) corrected.

[2] Available from: https://www.aaetechnologiesgroup.com/applied-acoustics/products/easytrak-usbl-systems/easytrak-alpha-2665-alpha-portable-2655/ [Accessed 04/01/2024]

Information Classification: PUBLIC

Appendix 3. Daily Logs

21st July 2022

Project	Eddystone SAC (Year 8) DDV		**Survey code**	20220721_CIFCA_DDV_Edd		
Date	2022-07-21	**Coordinate reference system**	WGS84	**Weather**		
Location	Eddystone	**Position Fix**	Hemisphere V500 GNSS (GPS)	**Wind direction**	N	
Survey Type	DDV	**Horizontal Accuracy**	0.5 m	**Wind speed**	10mph	
Vessel	Tiger Lily VI	**Time zone**	UTC	**Beaufort scale**	3	
Skipper	David Raymond	**Depth reference system**	Lowest Astronomical Tide	**Cloud coverage**	3/8	
IFCA officers	Colin Trundle, Stephanie Sturgeon, Annie Jenkin			**Time recorded**	08:24	
Visitors	Work Experience Student			**Weather**		
Time depart Mylor	07:40	**Camera make and model**	STR SeaSpyder drop camera system.	**Wind direction**		*Data entered by*
Time return Mylor	17:45	**Height of camera**	0.6 m	**Wind speed**		AJ and SS (2022-07-21)
High water time	11:28 (UTC)	**Calibration Notes**	Laser scaling: horizontal (top) 200mm (bottom 210mm and vertical 210mm	**Beaufort scale**		
High water (m)	4.55 m	**Toolbox time**		**Cloud coverage**		*QA*
Tide recorded from	Plymouth	**Induction**	N/A	**Time recorded**		SS (2022-09-14) AJ (2024-02-16)
Description of survey	2022 Eddystone survey. Three tows in Boxes 1, 2 and 3					

Time	Type	Details/description
06:20		On board, setting up
07:40		Depart Mylor
08:25		On site
09:01	DDV	Deploying camera frame. Camera in water
09:06:54	DDV	Box 3 Tow 1 SOL
09:30:14	DDV	Box 3 Tow 1 EOL
09:43:28	DDV	Box 3 Tow 2 SOL
10:05:12	DDV	Box 3 Tow 2 EOL
10:17:36	DDV	Box 3 Tow 3 SOL
10:39:38	DDV	Box 3 Tow 3 EOL
11:21:09	DDV	Box 2 Tow 1 SOL
11:43:07	DDV	Box 2 Tow 1 EOL
11:45		Lunch break
12:33:16	DDV	Box 2 Tow 2 SOL
12:56:48	DDV	Box 2 Tow 2 EOL
13:07:20	DDV	Box 2 Tow 3 SOL
13:30:21	DDV	Box 2 Tow 3 EOL
13:51:08	DDV	Box 1 Tow 1 SOL
14:13:33	DDV	Box 1 Tow 1 EOL
14:22:13	DDV	Box 1 Tow 2 SOL
14:45:29	DDV	Box 1 Tow 2 EOL
14:56:15	DDV	Box 1 Tow 3 SOL

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15:20:25	DDV	Box 1 Tow 3 EOL
15:21	DDV	Recover camera
15:30	DDV	Camera onboard
15:33		Depart site
17:45		Arrive Mylor
18:00		Depart vessel

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Appendix 4. Still and Video position data

Box 1 Tow 1

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	13:51:08	**SOL depth (m)**	39.9	**Video file name(s)**	CIFCA_Edd_1_T1_20220721_VID_13_51_06
Date	21/07/2022	**EOL Time (hh:mm:ss)**	14:13:33	**EOL depth (m)**	50.4	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:22:25	**Number of stills pre QC**	23	**Com port A file**	N/A
Site ID	Box 1	**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)**	0.23	**Camera operator**	SS
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	AJ
Started tow on bedrock and transitioned to coarse sediment							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
13:51:08	Box1 Tow 1 SOL	50.218755	-4.339393	39.9	0.2			
13:51:48	CIFCA_Edd_1_T1_20220721_13_51_48_0148.JPG	50.218710	-4.339370	38.5	0.2	Bedrock. Dead mans fingers, urchins, velvet swimming crab, Porifera	Acceptable	Camera off seabed
13:53:01	CIFCA_Edd_1_T1_20220721_13_53_00_0149.JPG	N/A	N/A	N/A	N/A		Poor	Out of focus
13:54:03	CIFCA_Edd_1_T1_20220721_13_54_00_0150.JPG	50.218572	-4.339262	36.3	0.2	Bedrock. Pink sea fan, dead mans fingers, cup corals, sea cucumber, Porifera	Good	
13:55:00	CIFCA_Edd_1_T1_20220721_13_55_00_0151.JPG	50.218522	-4.339218	36.5	0.3	Bedrock. Pink sea fan, dead mans fingers, sea cucumber, jewel anemones	Good	
13:56:04	CIFCA_Edd_1_T1_20220721_13_56_04_0152.JPG	50.218447	-4.339155	37.0	0.3	Bedrock. Dead mans fingers, jewel anemones	Acceptable	Camera on edge of rock
13:57:00	CIFCA_Edd_1_T1_20220721_13_57_00_0153.JPG	50.218388	-4.339123	38.2	0.3	Bedrock. Dead mans fingers, cup corals, hydroids, sea cucumber, spiny starfish	Good	
13:58:02	CIFCA_Edd_1_T1_20220721_13_58_02_0154.JPG	50.218322	-4.339063	38:89	0.2	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
13:59:03	CIFCA_Edd_1_T1_20220721_13_59_02_0155.JPG	50.218275	-4.338998	39.0	0.2	Bedrock. Pink sea fan, dead mans fingers, starfish, cup corals	Good	
14:00:01	CIFCA_Edd_1_T1_20220721_14_00_01_0156.JPG	50.218218	-4.338940	38.1	0.2	Bedrock. Pink sea fan, dead mans fingers, sea cucumber	Good	
14:01:00	CIFCA_Edd_1_T1_20220721_14_01_00_0157.JPG	50.218187	-4.338900	39.0	0.3	Bedrock. Pink sea fan, cup corals, sea cucumber, dead mans fingers	Good	
14:02:01	CIFCA_Edd_1_T1_20220721_14_02_01_0158.JPG	50.218145	-4.338847	38.3	0.3	Bedrock. *Cliona,* pink sea fan, Porifera, jewel anemones	Good	
14:03:03	CIFCA_Edd_1_T1_20220721_14_03_03_0159.JPG	50.218057	-4.338773	39.5	0.3	Bedrock. Pink sea fan, sea cucumbers, dead mans fingers	Good	
14:04:01	CIFCA_Edd_1_T1_20220721_14_04_01_0160.JPG	50.218017	-4.338735	41.1	0.2	Bedrock. Pink sea fan, spiny starfish, urchin, Porifera, cup corals	Good	
14:05:01	CIFCA_Edd_1_T1_20220721_14_05_01_0161.JPG	50.217957	-4.338678	46.0	0.2	Bedrock. Pink sea fan, dead man's fingers, jewel anemones	Good	
14:05:05	CIFCA_Edd_1_T1_20220721_14_05_05_0162.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
14:06:02	CIFCA_Edd_1_T1_20220721_14_06_02_0163.JPG	50.217903	-4.338643	46.5	0.2	Bedrock. Pink sea fan, Dead mans fingers, cup corals	Good	
14:07:07	CIFCA_Edd_1_T1_20220721_14_07_06_0164.JPG	50.217857	-4.338632	48.1	0.2	Bedrock. Urchin, Porifera, cup corals, sea cucumber. Cable/ rope	Good	
14:08:02	CIFCA_Edd_1_T1_20220721_14_08_03_0165.JPG	50.217810	-4.338602	48.8	0.3	Bedrock. Urchin, sea cucumber, Porifera, cup corals, dead man's fingers	Good	
14:08:59	CIFCA_Edd_1_T1_20220721_14_08_58_0166.JPG	50.217765	-4.338593	50.2	0.3	Coarse sediment. Tube worms	Good	
14:10:01	CIFCA_Edd_1_T1_20220721_14_10_02_0167.JPG	50.217672	-4.338557	50.6	0.2	Coarse sediment. Tube worms	Good	
14:11:07	CIFCA_Edd_1_T1_20220721_14_11_07_0168.JPG	50.217623	-4.338545	50.6	0.2	Coarse sediment	Good	
14:12:08	CIFCA_Edd_1_T1_20220721_14_12_09_0169.JPG	50.217553	-4.338525	50.8	0.3	Coarse sediment	Good	
14:13:00	CIFCA_Edd_1_T1_20220721_14_12_58_0170.JPG	50.217513	-4.338487	51.9	0.3	Coarse sediment	Good	
14:13:33	Box1 Tow 1 EOL	50.217483	-4.338478	50.4	0.3			

Information Classification: PUBLIC

Box 1 Tow 2

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	14:22:13	**SOL depth (m)**	49.7	**Video file name(s)**	CIFCA_Edd_1_T2_20220721_VID_14_22_11
Date	21/07/2022	**EOL Time (hh:mm:ss)**	14:45:29	**EOL depth (m)**	51.1	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:23:16	**Number of stills pre QC**	22	**Com port A file**	ComPortA_Edd_1_T2_20220721_1422
Site ID	Box 1	**GPS recorded from**	Hemisphere V500 GNSS	**Number of stills post QC**	22	**Winch operator**	CT
Tow ID	Tow 2	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.32	**Camera operator**	SS
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	AJ
Bedrock/ coarse sediment							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
14:22:13	Box1_T2_SOL	50.215727	-4.338625	49.7	0.3			
14:22:57		N/A	N/A	50.5	0.3	Image didn't take		
14:24:06	CIFCA_Edd_1_T2_20220721_14_24_06_0171.JPG	50.215577	-4.338603	50.7	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers, sea cucumber	Good	
14:25:03	CIFCA_Edd_1_T2_20220721_14_25_03_0172.JPG	50.215512	-4.338580	50.5	0.3	Bedrock. Dead mans fingers, cup corals	Good	
14:26:04	CIFCA_Edd_1_T2_20220721_14_26_04_0173.JPG	50.215430	-4.338530	50.5	0.4	Coarse sediment. Pink sea fan	Good	
14:27:02	CIFCA_Edd_1_T2_20220721_14_27_01_0174.JPG	50.215338	-4.338523	50.6	0.4	Coarse sediment	Good	
14:28:03	CIFCA_Edd_1_T2_20220721_14_28_03_0175.JPG	50.215228	-4.338518	50.7	0.4	Coarse sediment	Good	
14:29:03	CIFCA_Edd_1_T2_20220721_14_29_02_0176.JPG	50.215140	-4.338538	50.6	0.3	Coarse sediment. Dead mans fingers, juv. pink sea fan	Good	
14:30:04	CIFCA_Edd_1_T2_20220721_14_30_03_0177.JPG	50.215035	-4.338518	50.1	0.3	Coarse sediment	Good	
14:31:08	CIFCA_Edd_1_T2_20220721_14_31_08_0178.JPG	50.214952	-4.338510	50.0	0.3	Edge of bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:32:04	CIFCA_Edd_1_T2_20220721_14_32_04_0179.JPG	50.214873	-4.338503	50.0	0.4	Coarse sediment	Good	
14:33:03	CIFCA_Edd_1_T2_20220721_14_33_03_0180.JPG	50.214802	-4.338467	49.3	0.3	Bedrock. Pink sea fan, sea cucumber, cup corals	Good	
14:34:03	CIFCA_Edd_1_T2_20220721_14_34_03_0181.JPG	50.214725	-4.338442	49.3	0.4	Coarse sediment	Good	
14:35:03	CIFCA_Edd_1_T2_20220721_14_35_04_0182.JPG	50.214620	-4.338370	48.0	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:36:02	CIFCA_Edd_1_T2_20220721_14_36_01_0183.JPG	50.214580	-4.338338	48.5	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals, hydroids	Good	
14:37:06	CIFCA_Edd_1_T2_20220721_14_37_06_0184.JPG	50.214485	-4.338262	48.1	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:38:04	CIFCA_Edd_1_T2_20220721_14_38_04_0185.JPG	50.214408	-4.338228	48.6	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:39:03	CIFCA_Edd_1_T2_20220721_14_39_03_0186.JPG	50.214330	-4.338173	48.3	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:40:00	CIFCA_Edd_1_T2_20220721_14_40_00_0187.JPG	50.214243	-4.338125	50.2	0.3	Coarse sediment	Good	
14:41:08	CIFCA_Edd_1_T2_20220721_14_41_07_0188.JPG	50.214162	-4.338080	49.4	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
14:42:04	CIFCA_Edd_1_T2_20220721_14_42_02_0189.JPG	50.214088	-4.338060	49.5	0.4	Bedrock. Pink sea fan, dead mans fingers, cup corals, lightbulb seasquirt	Good	
14:43:03	CIFCA_Edd_1_T2_20220721_14_43_01_0190.JPG	50.213998	-4.338023	50.1	0.4	Coarse sediment	Good	
14:44:08	CIFCA_Edd_1_T2_20220721_14_44_08_0191.JPG	50.213867	-4.337948	51.1	0.4	Coarse sediment	Good	
14:45:02	CIFCA_Edd_1_T2_20220721_14_45_01_0192.JPG	50.213793	-4.337902	51.2	0.4	Coarse sediment	Good	
14:45:29	Box1_T2_EOL	50.213760	-4.337867	51.1	0.4			

Information Classification: PUBLIC

Box 1 Tow 3

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	14:56:15	**SOL depth (m)**	52.8	**Video file name(s)**	CIFCA_Edd_1_T3_20220721_VID_14_56_14
Date	21/07/2022	**EOL Time (hh:mm:ss)**	15:20:25	**EOL depth (m)**	50.9	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:24:10	**Number of stills pre QC**	22	**Com port A file**	ComPortA_Edd_1_T3_20220721_1456
Site ID	Box 1	**GPS recorded from**	Hemisphere V500 GNSS	**Number of stills post QC**	21	**Winch operator**	CT
Tow ID	Tow 3	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.47	**Camera operator**	SS
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	AJ
Mixed sediment/ coarse sediment							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
14:56:15	Box1_T3_SOL	50.216225	-4.336660	52.8	0.4			
14:56:53	CIFCA_Edd_1_T3_20220721_14_56_54_0193.JPG	50.216162	-4.336638	52.8	0.4	Mixed sediment	Good	
14:57:53		N/A	N/A	52.7	0.4	Image didn't take		
14:58:51	CIFCA_Edd_1_T3_20220721_14_58_50_0194.JPG	50.215957	-4.336540	52.7	0.4	Mixed sediment. Cup corals, hydroids	Acceptable	
15:00:04	CIFCA_Edd_1_T3_20220721_14_59_54_0195.JPG	50.215820	-4.336500	52.8	0.4	Mixed sediment	Good	
15:01:00	CIFCA_Edd_1_T3_20220721_15_01_00_0196.JPG	50.215727	-4.336473	52.9	0.5	Mixed sediment	Good	
15:01:56	CIFCA_Edd_1_T3_20220721_15_01_56_0197.JPG	50.215627	-4.336428	52.7	0.5	Mixed sediment. Pink sea fan	Good	
15:02:56	CIFCA_Edd_1_T3_20220721_15_02_56_0198.JPG	50.215485	-4.336373	52.5	0.6	Mixed sediment	Good	
15:03:55	CIFCA_Edd_1_T3_20220721_15_03_53_0199.JPG	50.215388	-4.336325	52.8	0.5	Mixed sediment	Good	
15:05:09		N/A	N/A	52.6	0.5	Image didn't take		
15:05:53	CIFCA_Edd_1_T3_20220721_15_05_52_0200.JPG	50.215097	-4.336245	52.7	0.4	Coarse sediment. Goldsinny wrasse, hydroids	Good	
15:06:56	CIFCA_Edd_1_T3_20220721_15_06_56_0201.JPG	50.214942	-4.336200	52.5	0.5	Mixed sediment	Good	
15:07:52	CIFCA_Edd_1_T3_20220721_15_07_53_0202.JPG	50.214822	-4.336165	52.5	0.5	Mixed sediment	Good	
15:08:52	CIFCA_Edd_1_T3_20220721_15_08_52_0203.JPG	50.214715	-4.336148	52.4	0.4	Mixed sediment	Good	
15:09:53	CIFCA_Edd_1_T3_20220721_15_09_53_0204.JPG	50.214558	-4.336075	52.4	0.5	Mixed sediment	Good	
15:10:52	CIFCA_Edd_1_T3_20220721_15_10_51_0205.JPG	50.214432	-4.336035	52.5	0.5	Mixed sediment. Hydroids	Good	
15:11:53	CIFCA_Edd_1_T3_20220721_15_11_53_0206.JPG	50.214335	-4.336017	51.9	0.5	Mixed sediment	Good	
15:12:55	CIFCA_Edd_1_T3_20220721_15_12_55_0207.JPG	50.214167	-4.336008	51.7	0.4	Mixed sediment. Hydroids	Good	
15:13:50	CIFCA_Edd_1_T3_20220721_15_13_50_0208.JPG	50.214070	-4.335985	51.7	0.5	Mixed sediment	Good	
15:14:51		N/A	N/A	51.6	0.5	Image didn't take		
15:15:51	CIFCA_Edd_1_T3_20220721_15_15_51_0209.JPG	N/A	N/A	N/A	N/A		Poor	Out of focus
15:16:57	CIFCA_Edd_1_T3_20220721_15_16_53_0210.JPG	50.213713	-4.335888	51.6	0.4	Mixed sediment. Hydroids	Good	
15:17:08	CIFCA_Edd_1_T3_20220721_15_17_08_0211.JPG	50.213698	-4.335885	51.6	0.4	Mixed sediment	Acceptable	Camera off seabed
15:17:55	CIFCA_Edd_1_T3_20220721_15_17_54_0212.JPG	50.213622	-4.335853	51.2	0.5	Coarse sediment	Good	
15:18:54	CIFCA_Edd_1_T3_20220721_15_18_53_0213.JPG	50.213490	-4.335818	51.4	0.3	Coarse sediment	Good	
15:19:54	CIFCA_Edd_1_T3_20220721_15_19_54_0214.JPG	50.213417	-4.335790	51.2	0.5	Mixed sediment	Good	
15:20:25	Box1_T3_EOL	50.213362	-4.335752	50.9	1.0			

Information Classification: PUBLIC

Box 2 Tow 1

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	11:21:09	**SOL depth (m)**	52.4	**Video file name(s)**	CIFCA_Edd_2_T1_20220721_VID_11_21_07
Date	21/07/2022	**EOL Time (hh:mm:ss)**	11:43:07	**EOL depth (m)**	51.1	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:21:58	**Number of stills pre QC**	22	**Com port A file**	ComPortA_Edd_2_T1_20220721_1120
Site ID	Box 2	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	22	**Winch operator**	CT
Tow ID	Tow 1	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.36	**Camera operator**	AJ
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	SS
Started tow on coarse sediment, transitioned to bedrock followed by coarse sediment at the end of the tow							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
11:21:09	Box 2 Tow 1 SOL	50.225655	-4.371863	52.4	0.3			
11:21:33	CIFCA_Edd_2_T1_20220721_11_21_32_0079.JPG	50.225638	-4.371833	51.7	0.3	Coarse sediment	Good	
11:22:33	CIFCA_Edd_2_T1_20220721_11_22_32_0080.JPG	50.225565	-4.371785	51.2	0.4	Coarse sediment. Cup corals, pink sea fan, hydroids	Good	
11:23:35	CIFCA_Edd_2_T1_20220721_11_23_34_0081.JPG	50.225465	-4.371717	49.7	0.3	Coarse sediment. Cup corals, pink sea fan, starfish, spiny starfish	Good	
11:24:31	CIFCA_Edd_2_T1_20220721_11_24_32_0082.JPG	50.225393	-4.371655	48.7	0.4	Coarse sediment. Pink sea fan, dead mans fingers, cup corals	Acceptable	Sediment in water column
11:25:32	CIFCA_Edd_2_T1_20220721_11_25_33_0083.JPG	50.225320	-4.371607	47.8	0.6	Coarse sediment. Pink sea fan, dead mans fingers, cup corals	Good	
11:26:40	CIFCA_Edd_2_T1_20220721_11_26_40_0084.JPG	50.225217	-4.371492	46.3	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:27:34	CIFCA_Edd_2_T1_20220721_11_27_33_0085.JPG	50.225128	-4.371452	45.6	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:28:30	CIFCA_Edd_2_T1_20220721_11_28_30_0086.JPG	50.225065	-4.371392	44.8	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals, sea cucumbers	Good	
11:29:31	CIFCA_Edd_2_T1_20220721_11_29_31_0087.JPG	50.224975	-4.371323	44.5	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:30:32	CIFCA_Edd_2_T1_20220721_11_30_33_0088.JPG	50.224905	-4.371248	45.0	0.4	Bedrock. Dead mans fingers, Porifera	Good	
11:31:33	CIFCA_Edd_2_T1_20220721_11_31_34_0089.JPG	50.224810	-4.371207	43.8	0.5	Bedrock. Pink sea fan, Dead mans fingers, cup corals	Good	
11:32:33	CIFCA_Edd_2_T1_20220721_11_32_33_0090.JPG	50.224710	-4.371123	43.7	0.4	Bedrock. Pink sea fan, dead mans fingers, urchin, cup corals	Good	
11:33:30	CIFCA_Edd_2_T1_20220721_11_33_29_0091.JPG	50.224645	-4.371067	43.6	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:34:30	CIFCA_Edd_2_T1_20220721_11_34_30_0092.JPG	50.224563	-4.371018	43.6	0.3	Bedrock. Cup corals, dead mans fingers	Good	
11:35:30	CIFCA_Edd_2_T1_20220721_11_35_29_0093.JPG	50.224453	-4.370935	43.9	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:36:32	CIFCA_Edd_2_T1_20220721_11_36_30_0094.JPG	50.224387	-4.370923	43.9	0.4	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:37:38	CIFCA_Edd_2_T1_20220721_11_37_37_0095.JPG	50.224255	-4.370875	43.3	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Acceptable	Camera falling
11:38:39	CIFCA_Edd_2_T1_20220721_11_38_38_0096.JPG	50.224197	-4.370823	44.8	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
11:39:33	CIFCA_Edd_2_T1_20220721_11_39_34_0097.JPG	50.224115	-4.370783	44.0	0.3	Bedrock. Dead mans fingers, jewel anemones	Good	
11:40:43	CIFCA_Edd_2_T1_20220721_11_40_43_0098.JPG	50.224038	-4.370730	45.6	0.4	Bedrock. Dead mans fingers, Porifera	Good	
11:41:26		N/A	N/A	47.3	0.4	Image didn't take		
11:41:55	CIFCA_Edd_2_T1_20220721_11_41_56_0099.JPG	50.223937	-4.370688	48.4	0.4	Bedrock. Pink sea fan, jewel anemones	Good	
11:42:34	CIFCA_Edd_2_T1_20220721_11_42_32_0100.JPG	50.223875	-4.370675	50.5	0.4	Coarse sediment	Good	
11:43:07	Box 2 Tow 1 EOL	50.223805	-4.370665	51.1	0.4			

Information Classification: PUBLIC

Box 2 Tow 2

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	12:33:16	**SOL depth (m)**	53.3	**Video file name(s)**	CIFCA_Edd_2_T2_20220721_VID_12_33_14
Date	21/07/2022	**EOL Time (hh:mm:ss)**	12:56:48	**EOL depth (m)**	48.7	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:23:32	**Number of stills pre QC**	24	**Com port A file**	ComPortA_Edd_2_T2_20220721_1232
Site ID	Box 2	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	24	**Winch operator**	CT
Tow ID	Tow 2	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.29	**Camera operator**	SS
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	AJ
Started tow on coarse sediment, transitioned to bedrock followed by coarse sediment at the end of the tow							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
12:33:16	Box 2 Tow 2 SOL	50.225457	-4.368670	53.3	0.3			
12:34:17	Image didn't take	50.225395	-4.368648	53.2	0.3	Coarse sediment	Good	
12:35:17	CIFCA_Edd_2_T2_20220721_12_35_16_0101.JPG	50.225318	-4.368587	52.7	0.3	Coarse sediment	Good	
12:36:16	CIFCA_Edd_2_T2_20220721_12_36_16_0102.JPG	50.225210	-4.368555	52.3	0.4	Coarse sediment	Good	
12:37:16	CIFCA_Edd_2_T2_20220721_12_37_16_0103.JPG	50.225180	-4.368528	53.0	0.3	Coarse sediment	Good	
12:38:14	CIFCA_Edd_2_T2_20220721_12_38_14_0104.JPG	50.225088	-4.368468	52.3	0.3	Coarse sediment	Good	
12:39:17	CIFCA_Edd_2_T2_20220721_12_39_18_0105.JPG	50.225013	-4.368418	49.5	0.3	Bedrock. Pink sea fan, urchin, cup corals, hydroids, Porifera	Good	
12:40:16	CIFCA_Edd_2_T2_20220721_12_40_16_0106.JPG	50.224930	-4.368357	47.8	0.3	Bedrock. Ross coral, *Cliona*, Dead man's fingers, hydroids, cup corals, nudibranch	Good	
12:41:26	CIFCA_Edd_2_T2_20220721_12_41_26_0107.JPG	50.224840	-4.368342	46.0	0.3	Bedrock. Pink sea fan, Dead man's fingers, cup corals	Acceptable	Camera on tilt
12:42:15	CIFCA_Edd_2_T2_20220721_12_42_15_0108.JPG	50.224782	-4.368298	46.0	0.3	Bedrock. Pink sea fan, Dead man's fingers, hydroids, ross coral, sea squirts	Good	
12:42:16	CIFCA_Edd_2_T2_20220721_12_42_16_0109.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
12:43:27	CIFCA_Edd_2_T2_20220721_12_43_28_0110.JPG	50.224660	-4.368260	47.1	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers	Good	
12:44:18	CIFCA_Edd_2_T2_20220721_12_44_17_0111.JPG	50.224603	-4.368217	47.1	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers, starfish	Good	
12:45:16	CIFCA_Edd_2_T2_20220721_12_45_17_0112.JPG	50.224520	-4.368162	46.6	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers	Good	
12:46:18	CIFCA_Edd_2_T2_20220721_12_46_16_0113.JPG	50.224435	-4.368102	45.5	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers. *Cliona*	Good	
12:47:21	CIFCA_Edd_2_T2_20220721_12_47_20_0114.JPG	50.224363	-4.368037	44.9	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers	Good	
12:48:14	CIFCA_Edd_2_T2_20220721_12_48_14_0115.JPG	50.224308	-4.367995	45.8	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals, pout	Good	
12:49:24	CIFCA_Edd_2_T2_20220721_12_49_23_0116.JPG	50.224225	-4.367953	46.3	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
12:50:20	CIFCA_Edd_2_T2_20220721_12_50_21_0117.JPG	50.224133	-4.367918	46.4	0.3	Bedrock. Cup corals, Cliona, dead mans fingers	Good	
12:51:19	CIFCA_Edd_2_T2_20220721_12_51_19_0118.JPG	50.224057	-4.367887	45.9	0.2	Bedrock. Dead mans fingers	Good	
12:52:19	CIFCA_Edd_2_T2_20220721_12_52_18_0119.JPG	50.223988	-4.367865	46.0	0.3	Bedrock. Pink sea fan, dead mans fingers	Good	
12:53:20	CIFCA_Edd_2_T2_20220721_12_53_20_0120.JPG	50.223910	-4.367837	46.8	0.3	Edge of bedrock. Pink sea fan, cup corals, dead mans fingers	Good	
12:53:39	CIFCA_Edd_2_T2_20220721_12_53_35_0121.JPG	50.223912	-4.367828	46.8	0.3	Bedrock. Pink sea fan, cup corals, dead mans fingers, lobster on edge of image	Acceptable	Silt cloud
12:54:29	CIFCA_Edd_2_T2_20220721_12_54_27_0122.JPG	50.223837	-4.367817	47.5	0.3	Mixed sediment	Good	
12:55:18	CIFCA_Edd_2_T2_20220721_12_55_16_0123.JPG	50.223798	-4.367768	46.9	0.3	Bedrock. Pink sea fan, dead mans fingers, cup corals	Good	
12:56:16	CIFCA_Edd_2_T2_20220721_12_56_15_0124.JPG	50.223712	-4.367725	48.0	0.3	Coarse sediment	Good	
12:56:48	Box 2 Tow 2 EOL	50.223655	-4.367695	48.7	0.2			

Information Classification: PUBLIC

Box 2 Tow 3

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	13:07:20	**SOL depth (m)**	51.9	**Video file name(s)**	CIFCA_Edd_2_T3_20220721_VID_13_07_19
Date	21/07/2022	**EOL Time (hh:mm:ss)**	13:30:21	**EOL depth (m)**	50.1	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:23:01	**Number of stills pre QC**	23	**Com port A file**	ComPortA_Edd_2_T3_20220721_1307
Site ID	Box 2	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	23	**Winch operator**	CT
Tow ID	Tow 3	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.29	**Camera operator**	SS
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	AJ
Started tow on coarse sediment and transitioned to bedrock							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
13:07:20	Box 2 Tow 3 SOL	50.225392	-4.366522	51.9	0.6			
13:07:50	CIFCA_Edd_2_T3_20220721_13_07_49_0125.JPG	50.225347	-4.366527	53.8	0.2	Coarse sediment	Good	
13:08:50	CIFCA_Edd_2_T3_20220721_13_08_49_0126.JPG	50.225283	-4.366545	52.6	0.3	Coarse sediment	Good	
13:09:47	CIFCA_Edd_2_T3_20220721_13_09_47_0127.JPG	50.225193	-4.366483	53.2	0.2	Coarse sediment	Good	
13:10:51	CIFCA_Edd_2_T3_20220721_13_10_51_0128.JPG	50.225132	-4.366427	52.7	0.3	Coarse sediment	Good	
13:11:50	CIFCA_Edd_2_T3_20220721_13_11_50_0129.JPG	50.225062	-4.366395	52.8	0.7	Coarse sediment. Brittlestars	Good	
13:12:48	CIFCA_Edd_2_T3_20220721_13_12_48_0130.JPG	50.224985	-4.366433	53.5	0.2	Coarse sediment. Brittlestars	Good	
13:13:50	CIFCA_Edd_2_T3_20220721_13_13_50_0131.JPG	50.224913	-4.366478	53.3	0.3	Coarse sediment. Brittlestars	Good	
13:14:50	CIFCA_Edd_2_T3_20220721_13_14_50_0132.JPG	50.224833	-4.366493	53.1	0.3	Coarse sediment. Brittlestars	Good	
13:15:50	CIFCA_Edd_2_T3_20220721_13_15_48_0133.JPG	50.224770	-4.366447	52.9	0.1	Coarse sediment. Brittlestars, hydroids	Good	
13:16:49	CIFCA_Edd_2_T3_20220721_13_16_49_0134.JPG	50.224682	-4.366388	52.7	0.5	Coarse sediment. Brittlestars	Good	
13:17:50	CIFCA_Edd_2_T3_20220721_13_17_48_0135.JPG	50.224632	-4.366398	53.6	0.4	Coarse sediment	Good	
13:18:54	CIFCA_Edd_2_T3_20220721_13_18_47_0136.JPG	50.224538	-4.366442	52.0	0.2	Coarse sediment	Good	
13:19:57	CIFCA_Edd_2_T3_20220721_13_19_51_0137.JPG	50.224470	-4.366392	52.4	0.3	Mixed sediment. Hydroids	Good	
13:20:51	CIFCA_Edd_2_T3_20220721_13_20_50_0138.JPG	50.224410	-4.366427	52.8	0.3	Mixed sediment. Hydroids	Good	
13:21:50	CIFCA_Edd_2_T3_20220721_13_21_51_0139.JPG	50.224325	-4.366408	53.1	0.3	Mixed sediment. Hydroids	Good	
13:22:49	CIFCA_Edd_2_T3_20220721_13_22_50_0140.JPG	50.224270	-4.366365	52.9	0.2	Mixed sediment. Hydroids	Good	
13:23:52	CIFCA_Edd_2_T3_20220721_13_23_54_0141.JPG	50.224175	-4.366280	52.5	0.3	Mixed sediment. Hydroids	Good	
13:24:50	CIFCA_Edd_2_T3_20220721_13_24_51_0142.JPG	50.224118	-4.366240	52.9	0.3	Mixed sediment. Pink sea fan, cup corals, hydroids	Good	
13:25:52	CIFCA_Edd_2_T3_20220721_13_25_52_0143.JPG	50.224078	-4.366232	52.5	0.3	Bedrock. Pink sea fan, cup corals, dead man's fingers	Good	
13:26:55	CIFCA_Edd_2_T3_20220721_13_26_55_0144.JPG	50.224003	-4.366153	52.0	0.3	Bedrock. Cup corals, urchin	Good	
13:28:00	CIFCA_Edd_2_T3_20220721_13_28_00_0145.JPG	50.223918	-4.366070	51.1	0.3	Bedrock. Hydroids	Acceptable	Camera on edge of rock
13:28:52	CIFCA_Edd_2_T3_20220721_13_28_51_0146.JPG	50.223865	-4.366022	52.5	0.3	Edge of bedrock. Pink sea fan, cup corals, spiny starfish, hydroids	Good	
13:29:49	CIFCA_Edd_2_T3_20220721_13_29_49_0147.JPG	50.223820	-4.365973	51.6	0.2	Bedrock. Pink sea fan, cup corals, hydroids	Good	
13:30:21	Box 2 Tow 3 EOL	50.223773	-4.365933	50.1	0.3			

Information Classification: PUBLIC

Box 3 Tow 1

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	09:06:54	**SOL depth (m)**	53.6	**Video file name(s)**	CIFCA_Edd_3_T1_20220721_VID_09_06_54
Date	21/07/2022	**EOL Time (hh:mm:ss)**	09:30:14	**EOL depth (m)**	54.2	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:23:20	**Number of stills pre QC**	30	**Com port A file**	ComPortA_Edd_3_T1_20220721_0905
Site ID	Box 3	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	22	**Winch operator**	CT
Tow ID	Tow 1	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	0.4	**Camera operator**	Work experience student supervised
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	SS
Started tow on bedrock and transitioned to coarse sediment and mixed sediment							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
09:06:54	Box 3 Tow 1 SOL	50.246930	-4.499570	53.6	0.3			
09:08:05		50.246807	-4.499705	52.3	0.3	Image didn't take		
09:08:59	CIFCA_Edd_3_T1_20220721_09_08_59_0001.JPG	50.246700	-4.499825	53.2	0.4	Bedrock. Cup corals, pink sea fan, Porifera, light bulb sea squirt, hydroids	Good	
09:09:58	CIFCA_Edd_3_T1_20220721_09_09_57_0002.JPG	50.246648	-4.499872	53.7	0.4	Bedrock. Cup corals, urchin, hydroids	Good	
09:10:59	CIFCA_Edd_3_T1_20220721_09_10_59_0003.JPG	50.246528	-4.499973	53.1	0.4	Mixed sediment. Cup coral.	Good	
09:11:56	CIFCA_Edd_3_T1_20220721_09_11_56_0004.JPG	50.246427	-4.500077	51.4	0.3	Bedrock. Cup corals, pink sea fan, hydroids, *Mesacmaea mitchellii*, Porifera, monkey puzzle bryozoa	Good	
09:13:06	CIFCA_Edd_3_T1_20220721_09_13_07_0005.JPG	50.246293	-4.500172	50.7	0.4	Bedrock. *Cliona*, cup corals, Porifera, hydroids, ascidians	Good	
09:14:00	CIFCA_Edd_3_T1_20220721_09_14_00_0006.JPG	50.246218	-4.500247	51.3	0.4	Bedrock. Cup corals, pink sea fan, Porifera, *Cliona*, *Tethya citrina*, *Henricia oculata*, hydroids	Good	
09:14:53	CIFCA_Edd_3_T1_20220721_09_14_52_0007.JPG	50.246090	-4.500342	51.1	0.4	Bedrock. Cup corals, pink sea fan, Porifera, *Cliona*, *Tethya citrina,* dead mans fingers, ascidians	Good	
09:15:55	CIFCA_Edd_3_T1_20220721_09_15_55_0008.JPG	N/A	N/A	N/A	N/A	Bedrock. Cup corals, pink sea fan, hydroids, dead mans fingers, Porifera, Topknot, cotton spinner, goldsinny wrasse	Poor	Duplicate. Camera off seabed
09:15:58	CIFCA_Edd_3_T1_20220721_09_15_57_0009.JPG	50.245978	-4.500427	51.3	0.3	Bedrock. Cup corals, pink sea fan, hydroids, dead mans fingers, Porifera, Topknot, cotton spinner	Good	
09:16:54	CIFCA_Edd_3_T1_20220721_09_16_52_0010.JPG	50.245857	-4.500507	52.6	0.5	Bedrock. Cup corals, pink sea fan, hydroids, dead mans fingers, Porifera, cotton spinners	Good	
09:17:58	CIFCA_Edd_3_T1_20220721_09_17_58_0011.JPG	50.245762	-4.500553	53.5	0.5	Mixed sediment. Pink sea fan, juvenile fish sp., bryozoan	Good	
09:18:57	CIFCA_Edd_3_T1_20220721_09_18_57_0012.JPG	50.245625	-4.500687	54.3	0.4	Coarse sediment.	Good	
09:19:53	CIFCA_Edd_3_T1_20220721_09_19_53_0013.JPG	50.245543	-4.500773	54.5	0.5	Coarse sediment. Porifera, hydroids	Good	
09:20:56	CIFCA_Edd_3_T1_20220721_09_20_55_0014.JPG	50.245437	-4.500862	54.1	0.4	Coarse sediment.	Good	
09:21:48	CIFCA_Edd_3_T1_20220721_09_21_48_0015.JPG	N/A	N/A	N/A	N/A	Coarse sediment. Anemone sp., hydroids	Poor	Camera off seabed
09:21:57	CIFCA_Edd_3_T1_20220721_09_22_01_0016.JPG	50.245345	-4.500948	54.4	0.4	Coarse sediment.	Acceptable	Sediment in water column
09:22:55	CIFCA_Edd_3_T1_20220721_09_22_53_0017.JPG	50.245262	-4.501053	54.7	0.5	Mixed sediment. *Mesacmaea mitchellii,* ascidian	Good	
09:23:53	CIFCA_Edd_3_T1_20220721_09_23_53_0018.JPG	50.245145	-4.501147	54.2	0.4	Mixed sediment.	Good	
09:23:54	CIFCA_Edd_3_T1_20220721_09_23_54_0019.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:24:53	CIFCA_Edd_3_T1_20220721_09_24_49_0020.JPG	50.245047	-4.501277	54.8	0.3	Mixed sediment.	Good	
09:24:52	CIFCA_Edd_3_T1_20220721_09_24_52_0021.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:24:53	CIFCA_Edd_3_T1_20220721_09_24_53_0022.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:25:54	CIFCA_Edd_3_T1_20220721_09_25_52_0023.JPG	50.244963	-4.501363	54.9	0.5	Mixed sediment.	Good	

Information Classification: PUBLIC

09:25:53	CIFCA_Edd_3_T1_20220721_09_25_53_0024.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:26:54	CIFCA_Edd_3_T1_20220721_09_26_52_0025.JPG	50.244862	-4.501435	54.8	0.5	Mixed sediment. Cup coral.	Good	
09:26:54	CIFCA_Edd_3_T1_20220721_09_26_54_0026.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:27:54	CIFCA_Edd_3_T1_20220721_09_27_50_0027.JPG	50.244755	-4.501512	54.5	0.3	Mixed sediment. Hydroids	Good	
09:27:53	CIFCA_Edd_3_T1_20220721_09_27_53_0028.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:28:56	CIFCA_Edd_3_T1_20220721_09_28_56_0029.JPG	50.244660	-4.501582	54.0	0.3	Mixed sediment, fringing bedrock. Hydroids, monkey puzzle bryozoa, *Mesacmaea mitchellii*, cup coral	Good	
09:29:52	CIFCA_Edd_3_T1_20220721_09_29_53_0030.JPG	50.244583	-4.501640	54.5	0.3	Mixed sediment. Juvenile red gurnard	Good	
09:30:14	Box 3 Tow 1 EOL	50.244563	-4.501678	54.2	0.3			

Information Classification: PUBLIC

Box 3 Tow 2

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	09:43:28	**SOL depth (m)**	54.6	**Video file name(s)**	CIFCA_Edd_3_T2_20220721_VID_09_43_28	
Date	21/07/2022	**EOL Time (hh:mm:ss)**	10:05:12	**EOL depth (m)**	52.7	**Hypack track file**	HypackLog_Edd_20220721	
Vessel	Tiger Lily VI	**Length of video**	00:21:44	**Number of stills pre QC**	23	**Com port A file**	ComPortA_Edd_3_T2_20220721_0943	
Site ID	Box 3	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	22	**Winch operator**	CT	
Tow ID	Tow 2	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	3.7	**Camera operator**	AJ	
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	SS	
Started tow on mixed sediment, transitioned to bedrock followed by mixed sediment at the end of the tow								

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
09:43:28	Box 3 Tow 2 SOL	50.249597	-4.498848	54.6	0.4			
09:43:48	CIFCA_Edd_3_T2_20220721_09_43_46_0031.JPG	50.249570	-4.498857	54.5	0.4	Mixed sediment.	Good	
09:44:51	CIFCA_Edd_3_T2_20220721_09_44_47_0032.JPG	50.249435	-4.498930	54.0	0.3	Mixed sediment. Common dragonet	Good	
09:45:47	CIFCA_Edd_3_T2_20220721_09_45_47_0033.JPG	50.249350	-4.498998	54.2	0.5	Mixed sediment.	Good	
09:46:46	CIFCA_Edd_3_T2_20220721_09_46_47_0034.JPG	50.249282	-4.499045	53.3	0.4	Mixed sediment.	Good	
09:47:48	CIFCA_Edd_3_T2_20220721_09_47_48_0035.JPG	50.249172	-4.499123	54.0	0.4	Mixed sediment. Pink sea fan, juvenile fish sp.	Good	
09:47:50	CIFCA_Edd_3_T2_20220721_09_47_50_0036.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:48:49	CIFCA_Edd_3_T2_20220721_09_48_49_0037.JPG	50.249078	-4.499240	53.2	0.4	Mixed sediment. Hydroids, monkey puzzle bryozoa, cup corals	Good	
09:49:47	CIFCA_Edd_3_T2_20220721_09_49_47_0038.JPG	50.248992	-4.499338	52.9	0.4	Mixed sediment. Hydroids, pink sea fan, cup corals	Good	
09:50:50	CIFCA_Edd_3_T2_20220721_09_50_50_0039.JPG	50.248917	-4.499432	51.7	0.3	Bedrock. Cup corals, porifera, pink sea fan, bryozoan, hydroids	Good	
09:51:47	CIFCA_Edd_3_T2_20220721_09_51_47_0040.JPG	50.248813	-4.499478	51.0	0.4	Bedrock. Cup corals, pink sea fan, hydroids, *Mesacmaea mitchellii*, goby sp.	Good	
09:52:50	CIFCA_Edd_3_T2_20220721_09_52_49_0041.JPG	50.248720	-4.499512	50.1	0.5	Bedrock. Cup corals, porifera, *Porella compressa,* monkey puzzle bryozoa, hydroids	Good	
09:53:48	CIFCA_Edd_3_T2_20220721_09_53_49_0042.JPG	50.248628	-4.499567	50.2	0.3	Bedrock. Cup corals, *Cliona*, *Tethya citrina*, porifera, pink sea fan, bryozoan, hydroids	Good	
09:54:53	CIFCA_Edd_3_T2_20220721_09_54_54_0043.JPG	50.248577	-4.499658	49.6	0.3	Bedrock. Cup corals, porifera, monkey puzzle bryozoa, hydroids, tube worm, light bulb sea squirt, *Asterias rubens*	Good	
09:55:47	CIFCA_Edd_3_T2_20220721_09_55_48_0044.JPG	50.248508	-4.499722	49.1	0.2	Bedrock. Cup corals, pink sea fan, porifera, hydroids, juvenile fish sp.	Good	
09:56:48	CIFCA_Edd_3_T2_20220721_09_56_48_0045.JPG	50.248445	-4.499775	48.6	0.5	Edge of bedrock. Cup corals, pink sea fan, dead mans fingers, porifera, ascidian, hydroids	Good	
09:57:45	CIFCA_Edd_3_T2_20220721_09_57_45_0046.JPG	50.248377	-4.499847	48.7	0.4	Bedrock. Cup corals, *Cliona*, porifera, pink sea fan, monkey puzzle bryozoa, hydroids	Good	
09:58:50	CIFCA_Edd_3_T2_20220721_09_58_51_0047.JPG	50.248262	-4.499870	49.4	0.3	Bedrock. Cup corals, pink sea fan, dead mans fingers, red sea fingers, monkey puzzle bryozoa, porifera, light bulb sea squirt, *Cliona*, spiny starfish, hydroids, feather star	Acceptable	Sediment in water column
09:59:48	CIFCA_Edd_3_T2_20220721_09_59_48_0048.JPG	50.248215	-4.499930	50.2	0.4	Bedrock. Cup corals, *Cliona*, dead mans fingers, porifera, pink sea fan, monkey puzzle bryozoa, light bulb sea squirt, hydroids	Good	
10:00:49	CIFCA_Edd_3_T2_20220721_10_00_50_0049.JPG	50.248142	-4.499992	51.7	0.5	Bedrock. Cup corals, pink sea fan, porifera, spiny starfish, hydroids	Acceptable	Sediment in water column
10:01:49	CIFCA_Edd_3_T2_20220721_10_01_48_0050.JPG	50.248030	-4.500105	51.7	0.3	Mixed sediment. Hydroids, pink sea fan, cup corals, monkey puzzle bryozoa	Good	
10:02:47	CIFCA_Edd_3_T2_20220721_10_02_47_0051.JPG	50.247953	-4.500132	51.9	0.3	Mixed sediment. Cup corals, Red tubeworm	Good	
10:03:49	CIFCA_Edd_3_T2_20220721_10_03_49_0052.JPG	50.247877	-4.500200	52.0	0.3	Bedrock. Cup corals, pink sea fan, dead mans fingers, *Polymastia boletiformis*, monkey puzzle bryozoa, hydroids	Good	
10:04:43	CIFCA_Edd_3_T2_20220721_10_04_43_0053.JPG	50.247823	-4.500245	53.0	0.3	Mixed sediment. Cup corals, *Cliona*	Good	
10:05:12	Box 3 Tow 2 EOL	50.247762	-4.500288	52.7	0.3			

Information Classification: PUBLIC

Box 3 Tow 2

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	09:43:28	**SOL depth (m)**	54.6	**Video file name(s)**	CIFCA_Edd_3_T2_20220721_VID_09_43_28
Date	21/07/2022	**EOL Time (hh:mm:ss)**	10:05:12	**EOL depth (m)**	52.7	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:21:44	**Number of stills pre QC**	23	**Com port A file**	ComPortA_Edd_3_T2_20220721_0943
Site ID	Box 3	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	22	**Winch operator**	CT
Tow ID	Tow 2	**Time recorded from**	Hemisphere V500 GNSS	**Avg vessel speed (kts)**	3.7	**Camera operator**	AJ
Description of tow (direction/ current/ tides/ overall habitat)				**Approx cable out (m)**		**Data recorder**	SS
Started tow on mixed sediment, transitioned to bedrock followed by mixed sediment at the end of the tow							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
09:43:28	Box 3 Tow 2 SOL	50.249597	-4.498848	54.6	0.4			
09:43:48	CIFCA_Edd_3_T2_20220721_09_43_46_0031.JPG	50.249570	-4.498857	54.5	0.4	Mixed sediment.	Good	
09:44:51	CIFCA_Edd_3_T2_20220721_09_44_47_0032.JPG	50.249435	-4.498930	54.0	0.3	Mixed sediment. Common dragonet	Good	
09:45:47	CIFCA_Edd_3_T2_20220721_09_45_47_0033.JPG	50.249350	-4.498998	54.2	0.5	Mixed sediment.	Good	
09:46:46	CIFCA_Edd_3_T2_20220721_09_46_47_0034.JPG	50.249282	-4.499045	53.3	0.4	Mixed sediment.	Good	
09:47:48	CIFCA_Edd_3_T2_20220721_09_47_48_0035.JPG	50.249172	-4.499123	54.0	0.4	Mixed sediment. Pink sea fan, juvenile fish sp.	Good	
09:47:50	CIFCA_Edd_3_T2_20220721_09_47_50_0036.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
09:48:49	CIFCA_Edd_3_T2_20220721_09_48_49_0037.JPG	50.249078	-4.499240	53.2	0.4	Mixed sediment. Hydroids, monkey puzzle bryozoa, cup corals	Good	
09:49:47	CIFCA_Edd_3_T2_20220721_09_49_47_0038.JPG	50.248992	-4.499338	52.9	0.4	Mixed sediment. Hydroids, pink sea fan, cup corals	Good	
09:50:50	CIFCA_Edd_3_T2_20220721_09_50_50_0039.JPG	50.248917	-4.499432	51.7	0.3	Bedrock. Cup corals, porifera, pink sea fan, bryozoan, hydroids	Good	
09:51:47	CIFCA_Edd_3_T2_20220721_09_51_47_0040.JPG	50.248813	-4.499478	51.0	0.4	Bedrock. Cup corals, pink sea fan, hydroids, *Mesacmaea mitchellii*, goby sp.	Good	
09:52:50	CIFCA_Edd_3_T2_20220721_09_52_49_0041.JPG	50.248720	-4.499512	50.1	0.5	Bedrock. Cup corals, porifera, *Porella compressa,* monkey puzzle bryozoa, hydroids	Good	
09:53:48	CIFCA_Edd_3_T2_20220721_09_53_49_0042.JPG	50.248628	-4.499567	50.2	0.3	Bedrock. Cup corals, *Cliona*, *Tethya citrina*, porifera, pink sea fan, bryozoan, hydroids	Good	
09:54:53	CIFCA_Edd_3_T2_20220721_09_54_54_0043.JPG	50.248577	-4.499658	49.6	0.3	Bedrock. Cup corals, porifera, monkey puzzle bryozoa, hydroids, tube worm, light bulb sea squirt, *Asterias rubens*	Good	
09:55:47	CIFCA_Edd_3_T2_20220721_09_55_48_0044.JPG	50.248508	-4.499722	49.1	0.2	Bedrock. Cup corals, pink sea fan, porifera, hydroids, juvenile fish sp.	Good	
09:56:48	CIFCA_Edd_3_T2_20220721_09_56_48_0045.JPG	50.248445	-4.499775	48.6	0.5	Edge of bedrock. Cup corals, pink sea fan, dead mans fingers, porifera, ascidian, hydroids	Good	
09:57:45	CIFCA_Edd_3_T2_20220721_09_57_45_0046.JPG	50.248377	-4.499847	48.7	0.4	Bedrock. Cup corals, *Cliona*, porifera, pink sea fan, monkey puzzle bryozoa, hydroids	Good	
09:58:50	CIFCA_Edd_3_T2_20220721_09_58_51_0047.JPG	50.248262	-4.499870	49.4	0.3	Bedrock. Cup corals, pink sea fan, dead mans fingers, red sea fingers, monkey puzzle bryozoa, porifera, light bulb sea squirt, *Cliona*, spiny starfish, hydroids, feather star	Acceptable	Sediment in water column
09:59:48	CIFCA_Edd_3_T2_20220721_09_59_48_0048.JPG	50.248215	-4.499930	50.2	0.4	Bedrock. Cup corals, *Cliona*, dead mans fingers, porifera, pink sea fan, monkey puzzle bryozoa, light bulb sea squirt, hydroids	Good	
10:00:49	CIFCA_Edd_3_T2_20220721_10_00_50_0049.JPG	50.248142	-4.499992	51.7	0.5	Bedrock. Cup corals, pink sea fan, porifera, spiny starfish, hydroids	Acceptable	Sediment in water column
10:01:49	CIFCA_Edd_3_T2_20220721_10_01_48_0050.JPG	50.248030	-4.500105	51.7	0.3	Mixed sediment. Hydroids, pink sea fan, cup corals, monkey puzzle bryozoa	Good	
10:02:47	CIFCA_Edd_3_T2_20220721_10_02_47_0051.JPG	50.247953	-4.500132	51.9	0.3	Mixed sediment. Cup corals, Red tubeworm	Good	
10:03:49	CIFCA_Edd_3_T2_20220721_10_03_49_0052.JPG	50.247877	-4.500200	52.0	0.3	Bedrock. Cup corals, pink sea fan, dead mans fingers, *Polymastia boletiformis*, monkey puzzle bryozoa, hydroids	Good	
10:04:43	CIFCA_Edd_3_T2_20220721_10_04_43_0053.JPG	50.247823	-4.500245	53.0	0.3	Mixed sediment. Cup corals, *Cliona*	Good	
10:05:12	Box 3 Tow 2 EOL	50.247762	-4.500288	52.7	0.3			

Information Classification: PUBLIC

Box 3 Tow 3

Project Code	2022_CIFCA_EDD_DDV	**SOL Time (hh:mm:ss)**	10:17:36	**SOL depth (m)**	52.6	**Video file name(s)**	CIFCA_Edd_3_T3_20220721_VID_10_17_36
Date	21/07/2022	**EOL Time (hh:mm:ss)**	10:39:38	**EOL depth (m)**	53.5	**Hypack track file**	HypackLog_Edd_20220721
Vessel	Tiger Lily VI	**Length of video**	00:22:02	**Number of stills pre QC**	25	**Com port A file**	ComPortA_Edd_3_T3_20220721_1016
Site ID	Box 3	**GPS recorded from**	Applied Acoustics EasyTrak Alpha USBL GPS Antenna	**Number of stills post QC**	22	**Winch operator**	CT
Tow ID	Tow 3	**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)**		**Data recorder**	SS
Started tow on mixed sediment, transitioned to bedrock followed by mixed sediment at the end of the tow							

Time	File name	Lat	Long	Depth (m)	Speed (kts)	Comments / description	Quality	Reason
10:17:36	Box 3 Tow 3 SOL	50.247810	-4.503822	52.6	0.3			
10:17:56	CIFCA_Edd_3_T3_20220721_10_17_55_0054.JPG	50.247803	-4.503843	52.2	0.2	Mixed sediment. Cup corals, hydroids, *Mesacmaea mitchellii*, monkey puzzle bryozoa	Good	
10:19:06	CIFCA_Edd_3_T3_20220721_10_19_06_0055.JPG	50.247723	-4.503855	51.5	0.3	Bedrock. Cup corals, porifera, pink sea fan, monkey puzzle bryozoa, hydroids	Good	
10:20:16	CIFCA_Edd_3_T3_20220721_10_20_16_0056.JPG	50.247633	-4.503888	50.9	0.4	Bedrock. Cup corals, porifera, monkey puzzle bryozoa, hydroids	Good	
10:21:08	CIFCA_Edd_3_T3_20220721_10_21_07_0057.JPG	50.247583	-4.503888	50.7	0.3	Bedrock. Cup corals, pink sea fan, porifera, spiny starfish, hydroids, dead mans fingers, monkey puzzle bryozoa	Good	
10:22:08	CIFCA_Edd_3_T3_20220721_10_22_08_0058.JPG	50.247478	-4.503925	50.2	0.3	Coarse sediment.	Good	
10:23:06	CIFCA_Edd_3_T3_20220721_10_23_06_0059.JPG	50.247403	-4.503933	49.6	0.3	Bedrock. Cup corals, pink sea fan, porifera, *Parazoanthus axinellae, Polymastia boletiformis*	Good	
10:24:00	CIFCA_Edd_3_T3_20220721_10_23_59_0060.JPG	50.247345	-4.503948	49.7	0.3	Bedrock. Cup corals, porifera, *Cliona*, hydroids, light bulb sea squirt, monkey puzzle bryozoa, pink sea fan, *Homarus gammarus*	Good	
10:25:06	CIFCA_Edd_3_T3_20220721_10_25_05_0061.JPG	50.247288	-4.503967	49.7	0.3	Bedrock. Cup corals, red sea fingers, porifera, *Cliona*, hydroids	Good	
10:26:08	CIFCA_Edd_3_T3_20220721_10_26_07_0062.JPG	50.247203	-4.504012	50.4	0.3	Bedrock. Cup corals, porifera, pink sea fan, hydroids, *Polymastia boletiformis,* possible *Axinella infundibuliformis*	Good	
10:27:07	CIFCA_Edd_3_T3_20220721_10_27_07_0063.JPG	50.247122	-4.504010	50.7	0.2	Bedrock. Cup corals, pink sea fan, hydroids, light bulb sea squirt, red sea fingers, *Tethya citrina, Axinella dissimilis, Holothuria forskali*	Good	
10:28:05	CIFCA_Edd_3_T3_20220721_10_28_05_0064.JPG	50.247052	-4.504055	52.3	0.3	Bedrock. Pink sea fan, cup corals	Good	
10:28:06	CIFCA_Edd_3_T3_20220721_10_28_06_0065.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
10:29:09	CIFCA_Edd_3_T3_20220721_10_29_07_0066.JPG	50.246978	-4.504107	52.4	0.2	Coarse sediment	Good	
10:30:07	CIFCA_Edd_3_T3_20220721_10_30_06_0067.JPG	50.246920	-4.504123	52.3	0.3	Bedrock. Pink sea fan, cup corals	Good	
10:31:05	CIFCA_Edd_3_T3_20220721_10_31_05_0068.JPG	50.246867	-4.504133	53.3	0.3	Mixed sediment	Good	
10:32:16	CIFCA_Edd_3_T3_20220721_10_32_14_0069.JPG	50.246767	-4.504150	52.1	0.4	Mixed sediment	Good	
10:32:16	CIFCA_Edd_3_T3_20220721_10_32_16_0070.JPG	N/A	N/A	N/A	N/A		Poor	Duplicate
10:33:04	CIFCA_Edd_3_T3_20220721_10_33_03_0071.JPG	50.246680	-4.504170	51.9	0.3	Mixed sediment	Good	
10:34:03	CIFCA_Edd_3_T3_20220721_10_34_03_0072.JPG	50.246608	-4.504187	52.7	0.3	Mixed sediment. Hydroids	Good	
10:35:02	CIFCA_Edd_3_T3_20220721_10_35_04_0073.JPG	50.246510	-4.504208	52.6	0.5	Mixed sediment. Hydroids	Good	
10:36:05	CIFCA_Edd_3_T3_20220721_10_36_05_0074.JPG	50.246442	-4.504292	53.2	0.3	Mixed sediment. Flatfish	Good	
10:37:05	CIFCA_Edd_3_T3_20220721_10_37_02_0075.JPG			53.4	0.3	Mixed sediment. Hydroids	Poor	Duplicate
10:37:06	CIFCA_Edd_3_T3_20220721_10_37_06_0076.JPG	50.246403	-4.504268	53.4	0.3	Mixed sediment. Hydroids	Good	
10:38:04	CIFCA_Edd_3_T3_20220721_10_38_04_0077.JPG	50.246340	-4.504323	52.9	0.3	Mixed sediment. Hydroids	Good	
10:39:09	CIFCA_Edd_3_T3_20220721_10_39_09_0078.JPG	50.246263	-4.504378	52.9	0.3	Mixed sediment. Hydroids	Good	
10:39:38	Box 3 Tow 3 EOL	50.246183	-4.504420	53.5	0.3			