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MRV *Alba na Mara*

Survey 0619A

PROGRAMME

2-11 May 2019

Loading: Kyle of Lochalsh, 30 April 2019

Boarding: Kyle of Lochalsh, 01 May 2019

Unloading: Oban (NLB), 11 May 2019

In setting the survey programme and specific objectives, etc the Scientist-in-Charge needs to be aware of the restrictions on working hours and the need to build in adequate rest days and rest breaks as set out in Marine Scotland's Working Time Policy (Lab Notice 34/03). In addition, the Scientist-in-Charge must formally review the risk assessments for the survey with staff on-board before work is commenced.

In the interest of efficient data management it is now mandatory to return the survey report, to I Gibb and the Survey Summary Report (old ROSCOP form) to M Geldart, within four weeks of a survey ending. In the case of the Survey Summary Report a nil return is required, if appropriate.

Project: C44700, 20565, 10 days.

Sampling Gear & Equipment

- 1 x Seacam HD video camera (MSS to supply)
- 1 x Digital Stills camera - Kongsberg OE14-408 (Seatronics hire by SNH)
- 1 x Table drop frame (Seatronics hire by SNH)
- 4 x LED lights and cables (Seatronics hire by SNH)
- 2 x Line lasers + cables (MSS to supply)
- 1 x Armoured TV umbilical cable (MSS to supply) + spare
- 2 X Day Grab and grab table, 1mm sieves x 2
- 2 empty cages (stillages) for the storage of formalin samples

Overview

Survey 0619A serves work carried out by Scottish Natural Heritage and Marine Scotland investigating the distribution and condition of benthic habitats around Scotland. Data are required to underpin the management of marine protected areas and priority marine features, to meet commitments prescribed by the Scottish MPA Monitoring Strategy, and to potentially survey points raised during the PMF review consultation.

Objectives

1. To establish the current status of benthic habitat protected features in areas west of Uist, around Eigg, through the Sound of Jura, in Loch Alsh and in the Inner Sound, using quantitative drop-camera sampling and grab methods.
2. To collect seabed samples using the day grab for sediment size classification and for infaunal analysis. Collected infaunal samples will be stored in 4% formalin.

Sufficient areas have been identified to enable work to be carried out under a variety of weather conditions. Sampling intensity in the identified areas can be adjusted depending on conditions and speed of completion of sampling.

Embarkation

Scientists will join the vessel on 1 May in Kyle of Lochalsh. Weather permitting and after all vessel drills have been undertaken, *Alba na Mara* will head NW to the first study site in the Inner Sound on 2 of May. The order in which the vessel will undertake the survey work will be decided by the SIC in conjunction with the skipper.

Benthic survey

The survey will target the boxes highlighted in the figures below. Video station details are provided in Tables 1 and 2. Detailed maps of all boxes as well as grab station details will be provided before the survey.

Two types of survey will be conducted; gap-filling and repeat monitoring:

Gap filling

- Short (~10 mins) but deep drop-down videos in the boxes targeting northern sea fan and deep sponge communities (NSF boxes), cold water coral (CWC box) and fan mussels (FM boxes) in response to the PMF consultations. Most of those areas have little to no records (if they do it will be displayed in the maps) – the planned points are the start of drop down videos tows.
- In the tables can be found comments that justify the selection of the sampling points and the direction to follow when towing the camera (if possible, depending on conditions). The bearings have been chosen to sample over complex bathymetry to cover as many depths as possible. Some comments recommend to carry longer video tow to cover gentle longer slopes. If nothing is specified it indicates that it should be a short video tow in any direction.

Note: CWC box points have to be sampled as accurately as possible to assess the validity of historical records.

Repeat monitoring

- Monitoring boxes present in Loch Alsh and the Sounds of Mull (+Loch Sunart) where fishing management has been implemented- with approximately 3-6 long video tows across the full length/width of the boxes. The camera frame will be landed at regular intervals to allow still photographs to be taken along each video transect. Multiple possible starting points have been plotted in all these monitoring boxes to allow flexibility in the sampling. Points for short video tows have also been planned outside the monitoring boxes where some gap filling or presence check of PMFs was required.

The Alba 2019 survey will utilise the HD drop camera system deployed from the aft of the vessel. This system will be fitted with two line lasers to allow species densities to be estimated. Species type, density and substrate type (assessed visually) will be classified for each video transect post-survey.

Grab sampling will be conducted with a Day grab over the side of the vessel.

Operations

Daily scientific sampling will occur between 07:00 and 19:00 hours (all times UTC). Opportunities for the vessel to top up on freshwater will be taken opportunistically. However, *Alba na Mara* may be required to dock overnight at a suitable locality for this purpose. Scientific operations will cease on 10 May to allow sufficient time for the vessel to travel to Oban. Unloading will occur in Oban on the morning of the 11 May.

Normal contact will be maintained with the Laboratory.

Submitted:
P Boulcott
22 March 2019

Approved:
I Gibb
26 April 2019

Figure 1: Alba 2019 Survey plan overview with all sampling boxes.

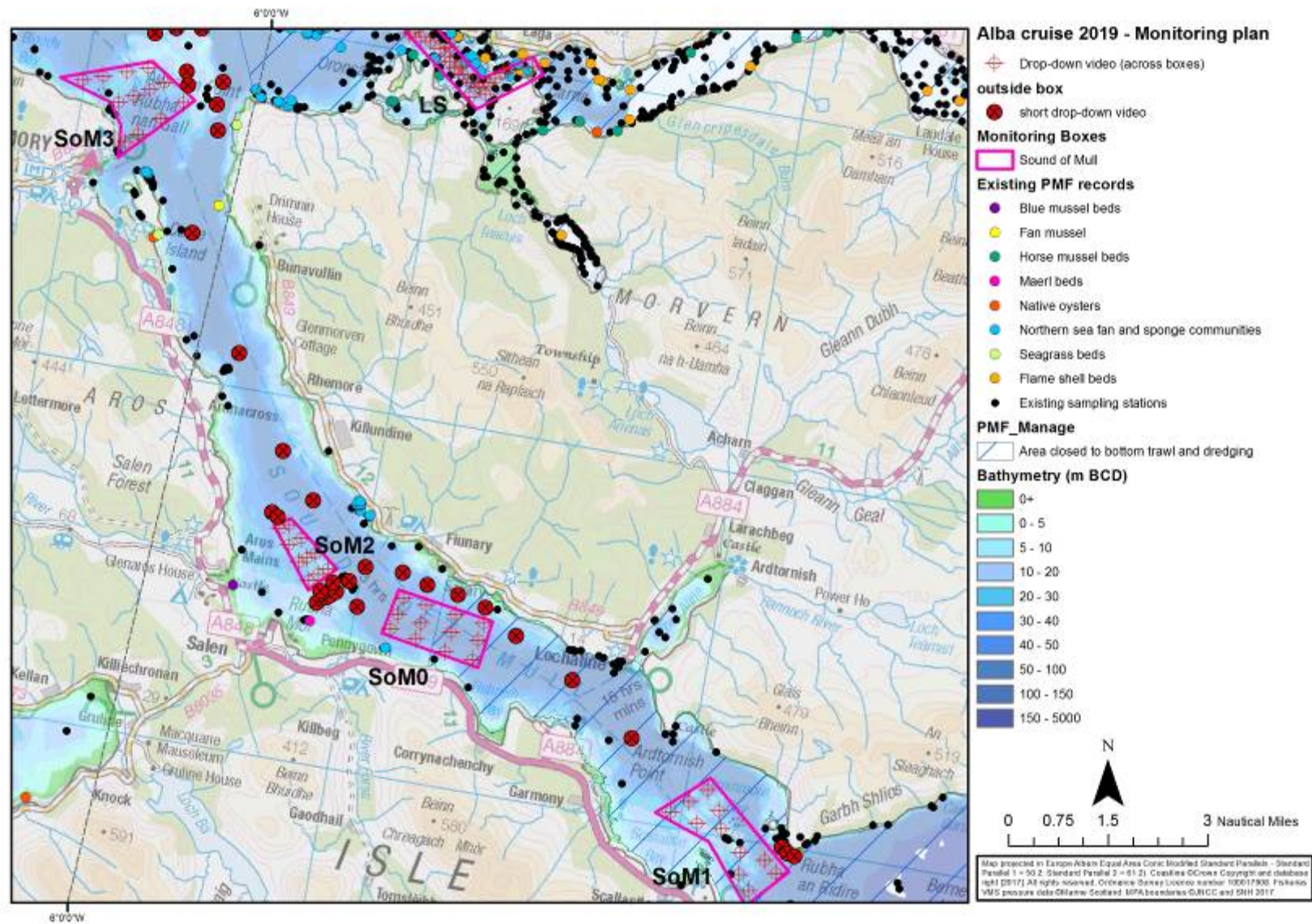


Figure 2: Sound of Mull monitoring plan overview.

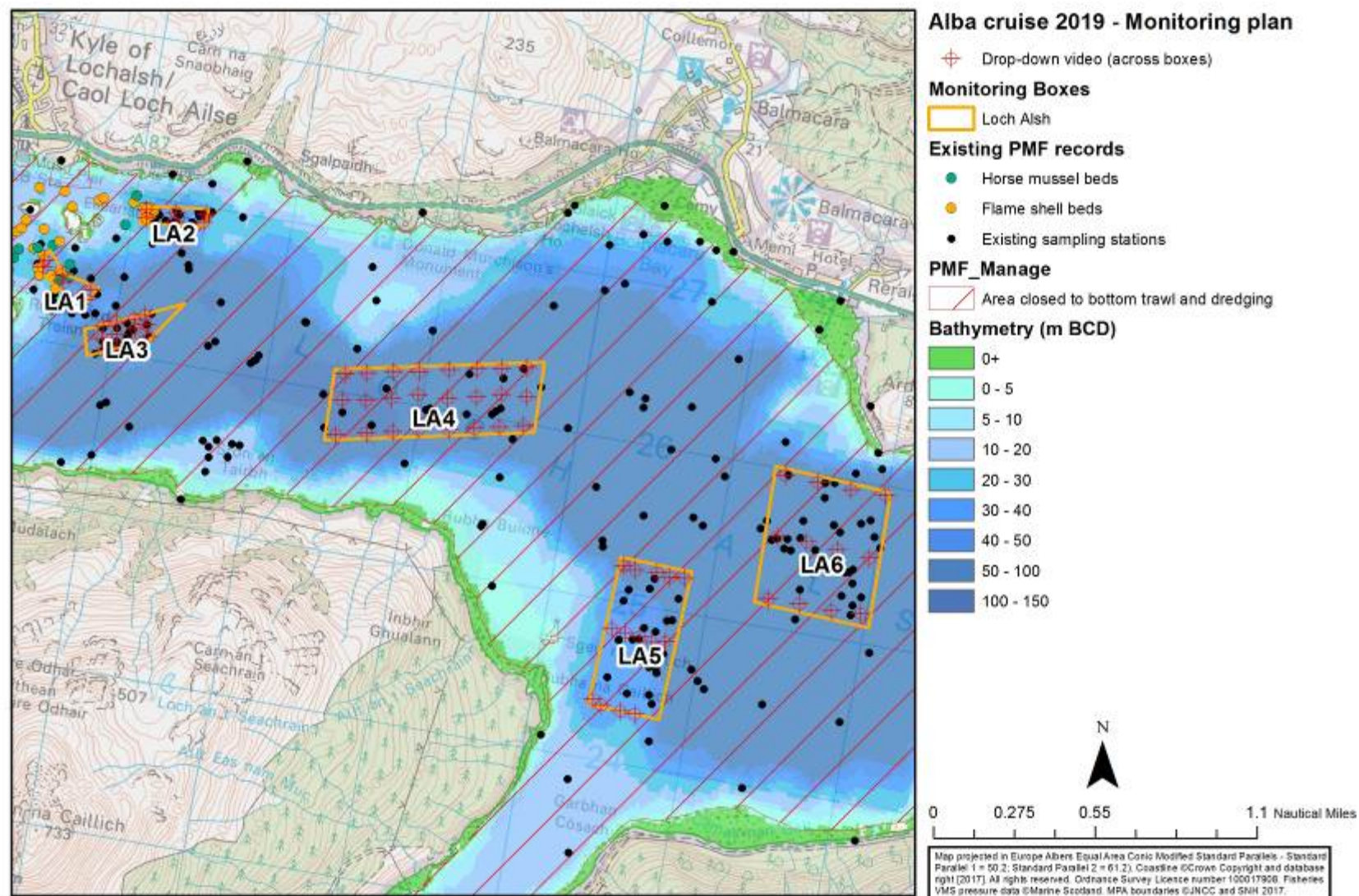


Figure 3: Loch Alsh monitoring plan overview.

Table 1: Video Sampling Stations details for the Gap filling monitoring boxes (FM,CWC,NSF).

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
NSF05	NSF + DS commties status check	50m	NSF05_1	NSF previous record + rocky substrate		57° 33.825' N	6° 57.570' W
	NSF + DS commties status check	50m+	NSF05_2	2 NSF previous records + rocky substrate		57° 33.504' N	6° 58.712' W
	NSF + DS commties status check	100m	NSF05_3	NSF previous record + rocky substrate		57° 32.930' N	6° 57.171' W
	NSF + DS commties gap filling	100m	NSF05_4	long video (15/20min) down gentle rocky slope	S	57° 32.338' N	6° 58.932' W
	NSF + DS commties gap filling	125m	NSF05_5	up gentle rocky seamount	S	57° 32.220' N	7° 0.546' W
	Fan mussel gap filling	100-125m	NSF05_6	twrds more complex bathy - Fan mussel search -	E	57° 32.812' N	7° 4.043' W
	NSF + DS commties gap filling	100m	NSF05_7	up towards a small rocky mount	SW	57° 32.976' N	7° 4.987' W
	NSF + DS commties gap filling	75m	NSF05_8	small rocky mount		57° 32.930' N	7° 5.759' W
	NSF + DS commties gap filling	75m	NSF05_9	long video (15/20min) down gentle rocky slope	S	57° 32.558' N	7° 5.063' W
	NSF + DS commties gap filling	100-125m	NSF05_10	rocky seabed with thin sed		57° 32.026' N	7° 5.595' W
	NSF + DS commties gap filling	75-100m	NSF05_11	twrds more complex bathy	SW	57° 32.162' N	7° 4.020' W
	Fan mussel gap filling	100-125m	NSF05_12	FM high prediction		57° 31.932' N	7° 2.844' W
	NSF + DS commties gap filling	75m	NSF05_13	large rocky mount	N	57° 31.535' N	7° 0.647' W
	Fan mussel gap filling	100-125m	NSF05_14	high prediction zone		57° 31.532' N	7° 3.176' W
	NSF + DS commties gap filling	125m	NSF05_15	up small rocky slope	W	57° 30.948' N	7° 3.158' W
	Fan mussel gap filling	125-150m	NSF05_16	high prediction for FM		57° 29.720' N	7° 1.043' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
NSF05	NSF + DS commties gap filling	~100m	NSF05_17	down gentle rocky slope	SW	57° 30.654' N	7° 2.120' W
	NSF + DS commties gap filling	75m	NSF05_18	down gentle rocky slope	E	57° 30.258' N	7° 3.100' W
	NSF + DS commties gap filling	75-100m	NSF05_19	complex rocky seabed structure for NSF		57° 30.865' N	7° 5.235' W
	NSF + DS commties gap filling	50-75m	NSF05_20	flat rocky seabed		57° 30.056' N	7° 4.616' W
	NSF + DS commties gap filling	75-100m	NSF05_21	rocky seabed		57° 30.559' N	7° 6.914' W
	NSF + DS commties gap filling	100-125m	NSF05_22	long video (15/20min) up long gentle rocky slope	W	57° 29.542' N	7° 3.076' W
	NSF + DS commties gap filling	75m	NSF05_23	rocky seabed		57° 29.655' N	7° 5.733' W
	NSF + DS commties gap filling	50-75m	NSF05_24	rocky seabed (avoid west - high dredging pressures)		57° 29.660' N	7° 7.490' W
	NSF + DS commties gap filling	75m	NSF05_25	North to south long mount with rocky seabed		57° 29.011' N	7° 4.541' W
	NSF + DS commties gap filling	75m	NSF05_26	long video (15/20min) down gentle rocky slope	SE	57° 28.639' N	7° 3.744' W
	Fan mussel gap filling	150-175m	NSF05_27	down gentle slope~high prediction for FM	E	57° 27.345' N	7° 1.671' W
	NSF + DS commties gap filling	100m	NSF05_28	small rocky mount	N,S	57° 27.739' N	7° 3.454' W
	NSF + DS commties gap filling	~75m	NSF05_29	rocky seabed		57° 28.036' N	7° 4.777' W
	NSF + DS commties gap filling	75m	NSF05_30	rocky seabed		57° 28.453' N	7° 6.254' W
	NSF + DS commties gap filling	50-75m	NSF05_31	up towards small rocky seamount	W or NW	57° 28.535' N	7° 7.936' W
	NSF + DS commties gap filling	75-100m	NSF05_32	complex rocky seabed structure for NSF		57° 27.767' N	7° 7.369' W
	NSF + DS commties gap filling	~75m	NSF05_33	long video (15/20min) down gentle rocky slope	S	57° 27.492' N	7° 6.265' W
	NSF + DS commties gap filling	100m	NSF05_34	small long mount with rocky seabed		57° 26.123' N	7° 3.190' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
NSF05	NSF + DS commties gap filling	125m	NSF05_35	rocky seabed	W,E	57° 26.307' N	7° 5.101' W
	NSF + DS commties gap filling	100-125m	NSF05_36	complex rocky seabed structure	S	57° 26.710' N	7° 8.529' W
	NSF + DS commties gap filling	125m	NSF05_37	long video (15-20mins) down very gentle rocky slope - more complex bathy	W	57° 26.202' N	7° 7.690' W
	NSF + DS commties gap filling	125-150m	NSF05_38	long video (15-20mins) twrds small rocky seamount		57° 25.420' N	7° 5.564' W
	NSF + DS commties gap filling	150m	NSF05_39	up large long mount with rocky seabed	W	57° 24.902' N	7° 4.839' W
	NSF + DS commties gap filling	75m	NSF05_40	long video (15/20min) down gentle rocky slope	E	57° 24.817' N	7° 6.173' W
	NSF + DS commties gap filling	100m	NSF05_41	rocky seabed		57° 25.392' N	7° 8.109' W
	NSF + DS commties gap filling	~100m	NSF05_42	up small gentle rocky slope	E	57° 24.688' N	7° 9.360' W
	NSF + DS commties gap filling	75m	NSF05_43	rocky seabed		57° 24.572' N	7° 7.111' W
	NSF + DS commties gap filling	75m	NSF05_44	rocky seabed		57° 24.201' N	7° 7.906' W
	NSF + DS commties gap filling	50-75m	NSF05_45	rocky seabed		57° 24.018' N	7° 9.645' W
	NSF + DS commties gap filling	75-100m	NSF05_46	up gentle rocky slope/ fishing pressures to the West	S	57° 23.340' N	7° 10.358' W
	NSF + DS commties gap filling	75-100m	NSF05_47	long video (15-20mins) down long gentle slope	E	57° 23.613' N	7° 5.750' W
	NSF + DS commties gap filling	~75m	NSF05_48	rocky seabed		57° 22.611' N	7° 7.396' W
	NSF + DS commties gap filling	100m	NSF05_49	complex rocky seabed structure for NSF		57° 22.462' N	7° 8.978' W
	NSF + DS commties gap filling	75m	NSF05_50	long video (10/15mins) down gentle rocky seamount slope	W	57° 22.184' N	7° 4.361' W
	NSF + DS commties gap filling	75m	NSF05_51	long video (15-20mins) down long gentle slope	W	57° 21.069' N	7° 3.971' W
	NSF + DS commties gap filling	75-100m	NSF05_52	long video (15-20mins) down long gentle slope	NE or W	57° 20.250' N	7° 4.171' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
NSF05	NSF + DS commties gap filling	75m	NSF05_53	small mounts on rocky seabed		57° 21.684' N	7° 9.650' W
	NSF + DS commties gap filling	75m	NSF05_54	down gentle rocky slope	SW	57° 21.089' N	7° 10.888' W
	NSF + DS commties gap filling	100-125m	NSF05_55	long video (15-20mins) down long gentle slope	SE	57° 20.766' N	7° 7.794' W
	NSF + DS commties gap filling	75m	NSF05_56	small rocky mounts		57° 20.179' N	7° 8.895' W
	NSF + DS commties gap filling	50-75m	NSF05_57	gentle rocky slope	SE	57° 20.454' N	7° 11.154' W
	NSF + DS commties gap filling	100m	NSF05_58	rocky seabed		57° 19.425' N	7° 9.410' W
	NSF + DS commties gap filling	75-100m	NSF05_59	complex rocky seabed structure		57° 19.142' N	7° 11.635' W
	NSF + DS commties gap filling	50-75m	NSF05_60	complex rocky seabed structure		57° 18.563' N	7° 7.585' W
	NSF + DS commties gap filling	75m	NSF05_61	small rocky mount		57° 17.722' N	7° 6.604' W
	NSF + DS commties gap filling	75-100m	NSF05_62	twrd slope - complex rocky seabed structure	N	57° 18.431' N	7° 5.812' W
	NSF + DS commties gap filling	75m	NSF05_63	rocky seabed		57° 17.932' N	7° 8.897' W
	NSF + DS commties gap filling	50m	NSF05_64	long video (15-20mins) down long gentle slope + dredging pressures	SE	57° 17.426' N	7° 9.905' W
	NSF + DS commties gap filling	100m	NSF05_65	rocky seabed		57° 16.730' N	7° 7.685' W
	NSF + DS commties gap filling	75-100m	NSF05_66	rocky seabed		57° 16.764' N	7° 5.861' W
	NSF + DS commties gap filling	125m	NSF05_67	twrds rocky seabed	S	57° 15.983' N	7° 9.052' W
	NSF + DS commties gap filling	~50m	NSF05_68	long video (15-20mins) down long gentle slope	SE	57° 16.153' N	7° 10.985' W
	NSF + DS commties gap filling	50-75m	NSF05_69	long video (15-20mins) down long gentle slope	SE	57° 15.051' N	7° 11.504' W
	NSF + DS commties gap filling	100m	NSF05_70	down rocky slope	SW	57° 14.908' N	7° 7.910' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
NSF05	NSF + DS commties gap filling	100m	NSF05_71	down rocky slope + complex seabed structure	S	57° 14.428' N	7° 5.930' W
	NSF + DS commties gap filling	~100m	NSF05_72	down gentle rocky slope	SW	57° 14.202' N	7° 6.900' W
	NSF + DS commties gap filling	100m	NSF05_73	up long gentle slope - avoid E~trawling pressures	W	57° 14.904' N	7° 10.264' W
	NSF + DS commties gap filling	75m	NSF05_74	rocky seabed		57° 14.275' N	7° 11.290' W
	NSF + DS commties gap filling	100-125m	NSF05_75	down gentle rocky seabed slope	E	57° 13.818' N	7° 8.939' W
	NSF + DS commties gap filling	100m	NSF05_76	long video (10/15mins) down long rocky slope - avoid south ~ trawling pressures	N	57° 13.053' N	7° 6.853' W
	NSF + DS commties gap filling	50-75m	NSF05_77	down rocky slope + high trawling pressures	E	57° 13.266' N	7° 13.607' W
	NSF + DS commties gap filling	50-75m	NSF05_78	down rocky slope + fishing pressures	E	57° 11.621' N	7° 13.271' W
	NSF + DS commties gap filling	50m	NSF05_79	down gentle roky slope + fishing pressures close by	SE	57° 10.924' N	7° 13.230' W
	NSF + DS commties gap filling	75m	NSF05_80	complex rocky seabed - avoid other direction~ dredging pressures	E	57° 9.644' N	7° 12.685' W
	NSF + DS commties gap filling	~100m	NSF05_81	rocky seabed +high fishing pressures	SW	57° 11.741' N	7° 11.238' W
	NSF + DS commties gap filling	50-75m	NSF05_82	rocky seabed + light fishing pressures		57° 10.212' N	7° 11.918' W
	NSF + DS commties gap filling	100-125m	NSF05_83	rocky seabed + light fishing pressures		57° 9.596' N	7° 9.960' W
	NSF + DS commties gap filling	100-125	NSF05_84	rocky seabed + light fishing pressures		57° 8.803' N	7° 9.864' W
	NSF + DS commties gap filling	75m	NSF05_85	long video (15/20mins)down long and gentle rocky slope + light fishing pressures	SE	57° 9.380' N	7° 11.663' W
	NSF + DS commties gap filling	~25m	NSF05_86	NSF previous records just in deeper waters + dredging pressures		57° 9.354' N	7° 14.753' W
	NSF + DS commties gap filling	~100m	NSF05_87	rocky seabed		57° 8.142' N	7° 9.195' W
	NSF + DS commties gap filling	100-125m	NSF05_88	down gentle rocky slope and complex seabed + light fishing pressures	SE	57° 8.708' N	7° 11.973' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
	NSF + DS commties gap filling	25m	NSF05_89	previous NSF record + fishing pressures		57° 8.737' N	7° 15.310' W
NSF08	NSF + DS commties gap filling	125	NSF08_1	rock with sin sediment	S	57° 30.102' N	6° 50.042' W
	NSF + DS commties gap filling	125m	NSF08_2	rock with sin sediment		57° 29.708' N	6° 48.615' W
	NSF + DS commties gap filling	100m	NSF08_3	rocky seabed		57° 28.690' N	6° 49.258' W
	NSF + DS commties gap filling	75m	NSF08_4	small rocky mount + dredging pressures		57° 28.789' N	6° 50.529' W
	NSF + DS commties gap filling	100m	NSF08_5	rocky seabed + dredging pressures		57° 29.240' N	6° 50.631' W
	NSF + DS commties gap filling	75-100m	NSF08_6	rock with sin sediment		57° 28.890' N	6° 49.672' W
	NSF + DS commties gap filling	75m	NSF08_7	more complex rocky seabed	S or SW	57° 28.141' N	6° 49.913' W
	NSF + DS commties gap filling	50m	NSF08_8	more complex rocky seabed		57° 27.860' N	6° 50.386' W
	NSF + DS commties gap filling	75-100m	NSF08_9	long video (10/15mins) down gentle long slope	W	57° 27.713' N	6° 51.544' W
	NSF + DS commties gap filling	75-100m	NSF08_10	rock with sin sediment + dredging pressures		57° 28.210' N	6° 50.734' W
	NSF + DS commties gap filling	75-100m	NSF08_11	rocky seabed		57° 27.198' N	6° 50.196' W
	NSF + DS commties gap filling	75-100m	NSF08_12	rocky seabedn (avoid west - no more rocky seabed prediction)		57° 27.217' N	6° 52.136' W
	NSF + DS commties gap filling	75-100m	NSF08_13	rocky seabed (avoid east - dredging pressures)		57° 27.054' N	6° 51.574' W
	NSF + DS commties gap filling	125-150m	NSF08_14	rock with sin sediment		57° 26.492' N	6° 52.135' W
	NSF + DS commties gap filling	75m	NSF08_15	small rocky mount (avoid north - dredging pressures)	S	57° 25.475' N	6° 52.484' W
	NSF + DS commties gap filling	75m	NSF08_16	rocky seabed (avoid north - dredging pressures)		57° 26.117' N	6° 50.962' W
	NSF + DS commties gap filling	100m	NSF08_17	rock with sin sediment	S	57° 25.832' N	6° 51.748' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
NSF08	NSF + DS commties gap filling	75- 100m	NSF08_ 18	rocky seabed		57° 26.123' N	6° 52.380' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 19	rocky seabed		57° 25.502' N	6° 51.306' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 20	rocky seabed		57° 25.091' N	6° 53.203' W
	NSF + DS commties gap filling	100m	NSF08_ 21	rock with sin sediment		57° 24.611' N	6° 51.895' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 22	rocky seabed		57° 24.469' N	6° 53.539' W
	NSF + DS commties gap filling	100- 125m	NSF08_ 23	rock with sin sediment		57° 24.060' N	6° 52.796' W
	NSF + DS commties gap filling	100- 125m	NSF08_ 24	rock with sin sediment		57° 23.860' N	6° 54.280' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 25	rock with sin sediment		57° 23.663' N	6° 52.501' W
	NSF + DS commties gap filling	75m	NSF08_ 26	small rocky mount		57° 23.028' N	6° 53.764' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 27	rock with sin sediment		57° 23.079' N	6° 54.438' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 28	rocky seabed		57° 22.688' N	6° 54.366' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 29	rocky seabed		57° 22.221' N	6° 53.885' W
	NSF + DS commties gap filling	75m	NSF08_ 30	rocky seabed		57° 21.654' N	6° 54.926' W
	NSF + DS commties gap filling	75m	NSF08_ 31	rocky seabed		57° 21.150' N	6° 55.075' W
	NSF + DS commties gap filling	100m	NSF08_ 32	rocky seabed		57° 22.076' N	6° 55.139' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 33	rock with sin sediment		57° 21.722' N	6° 54.215' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 34	rock with sin sediment		57° 21.631' N	6° 53.288' W
	NSF + DS commties gap filling	75- 100m	NSF08_ 35	rocky seabed		57° 22.643' N	6° 53.161' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
NSF08	NSF + DS commties gap filling	75-100m	NSF08_36	rocky seabed		57° 23.342' N	6° 53.404' W
	Fan mussel gap filling	100-125m	NSF08_37	high prediction		57° 21.338' N	6° 55.867' W
	Fan mussel gap filling	100-125m	NSF08_38	high prediction zone		57° 21.998' N	6° 55.706' W
	Fan mussel gap filling	125-150m	NSF08_39	down gentle slope + high prediction zone	W	57° 25.664' N	6° 53.490' W
CWC01	Cold water coral historical records	175m	CWC01_1	Use exact location to validate or not those records		57° 30.000' N	6° 55.002' W
	NSF + DS comms / CWC	150m+	CWC01_2	more complex seabed structure		57° 29.548' N	6° 54.213' W
	NSF + DS comms / CWC	150m+	CWC01_3	more complex seabed structure		57° 29.128' N	6° 54.951' W
NSF09	NSF + DS commties gap filling	75-100m	NSF09_1	rock with sin sediment		57° 19.484' N	6° 50.956' W
	NSF + DS commties gap filling	75-100m	NSF09_2	rock with sin sediment		57° 19.490' N	6° 51.872' W
	NSF + DS commties gap filling	75-100m	NSF09_3	rock with sin sediment		57° 19.059' N	6° 51.063' W
	NSF + DS commties gap filling	75-100m	NSF09_4	rocky seabed		57° 19.170' N	6° 51.914' W
	NSF + DS commties gap filling	75-100m	NSF09_5	rocky seabed		57° 18.956' N	6° 50.082' W
	NSF + DS commties gap filling	75-100m	NSF09_6	rocky seabed		57° 18.773' N	6° 50.505' W
	NSF + DS commties gap filling	75-100m	NSF09_7	rocky seabed		57° 18.247' N	6° 51.702' W
	NSF + DS commties gap filling	75-100m	NSF09_8	rocky seabed		57° 18.560' N	6° 52.279' W
	NSF + DS commties gap filling	75-100m	NSF09_9	rocky seabed		57° 17.691' N	6° 52.026' W
	NSF + DS commties gap filling	75-100m	NSF09_10	rock with sin sediment		57° 18.690' N	6° 51.108' W
	NSF + DS commties gap filling	75-100m	NSF09_11	rock with sin sediment		57° 18.047' N	6° 50.490' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
NSF09	NSF + DS commties gap filling	75-100m	NSF09_12	rock with sin sediment		57° 17.643' N	6° 50.645' W
	NSF + DS commties gap filling	75-100m	NSF09_13	rock with sin sediment		57° 18.031' N	6° 52.360' W
	NSF + DS commties gap filling	75-100m	NSF09_14	rock with sin sediment		57° 17.107' N	6° 52.591' W
	NSF + DS commties gap filling	75-100m	NSF09_15	rock with sin sediment		57° 17.264' N	6° 51.283' W
	NSF + DS commties gap filling	75-100m	NSF09_16	rock with sin sediment		57° 16.907' N	6° 50.778' W
	NSF + DS commties gap filling	75-100m	NSF09_17	rock with sin sediment		57° 16.798' N	6° 51.921' W
	NSF + DS commties gap filling	75-100m	NSF09_18	rock with sin sediment		57° 16.457' N	6° 52.627' W
	NSF + DS commties gap filling	75-100m	NSF09_19	rock with sin sediment		57° 16.514' N	6° 51.343' W
	NSF + DS commties gap filling	75-100m	NSF09_20	rock with sin sediment		57° 16.041' N	6° 52.571' W
	Fan mussel gap filling	75-100m	NSF09_21	high prediction zone		57° 19.673' N	6° 49.763' W
	Fan mussel gap filling	75-100m	NSF09_22	high prediction zone		57° 19.445' N	6° 50.162' W
	Fan mussel gap filling	75-100m	NSF09_23	high prediction zone		57° 19.317' N	6° 52.592' W
	Fan mussel gap filling	75-100m	NSF09_24	high prediction zone		57° 17.965' N	6° 52.779' W
	Fan mussel gap filling	75-100m	NSF09_25	high prediction zone		57° 17.344' N	6° 52.943' W
	Fan mussel gap filling	75-100m	NSF09_26	high prediction zone		57° 16.245' N	6° 53.240' W
NSF04	NSF + DS commties gap filling	50m	NSF04_1	rocky, no fishing pressures		56° 48.458' N	6° 5.335' W
	NSF + DS commties gap filling	20m	NSF04_2	down slope/complex bathy	E	56° 51.005' N	6° 13.590' W
	NSF + DS commties gap filling	30m	NSF04_3	twrds more complex bathy	S	56° 51.178' N	6° 13.738' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
NSF04	NSF + DS commties gap filling	50m	NSF04_4	up the slope - SHALLOW top (10m)	W	56° 51.374' N	6° 13.931' W
	NSF + DS commties gap filling	50m	NSF04_5	up gentle rocky slope	E	56° 48.252' N	6° 8.093' W
	NSF + DS commties gap filling	75m	NSF04_6	up gentle rocky slope	S	56° 48.548' N	6° 7.893' W
	NSF + DS commties gap filling	100m	NSF04_7	up gentle rocky slope	S	56° 48.932' N	6° 7.251' W
	NSF + DS commties gap filling	30m	NSF04_8	steep rock- going up the slope (to 20m)	S	56° 52.541' N	6° 1.818' W
	NSF + DS commties gap filling	30m	NSF04_9	steep rock- going up the slope (to 20m)	N	56° 52.220' N	6° 1.623' W
	NSF + DS commties gap filling	50m	NSF04_10	up gentle rocky slope	S	56° 47.803' N	6° 8.399' W
	NSF + DS commties gap filling	75m	NSF04_O_1	outside the box, down steep slope	S	56° 46.829' N	6° 5.321' W
	NSF + DS commties gap filling	75m	NSF04_11	up gentle rocky slope (shallow top ~10m)	NE	56° 47.109' N	6° 6.492' W
	NSF + DS commties gap filling	75m	NSF04_12	up rocky slope - high fishing pressures	NW	56° 52.600' N	6° 6.722' W
	NSF + DS commties gap filling	100m	NSF04_13	up rocky slope - high fishing pressures	N	56° 49.682' N	6° 6.247' W
	NSF + DS commties gap filling	50-75mm	NSF04_14	up rocky slope - Short	W	56° 53.356' N	6° 6.700' W
	NSF + DS commties gap filling	30m	NSF04_15	up rocky slope (shallow top ~10m)-fishing pressures	S	56° 47.415' N	6° 5.992' W
	NSF + DS commties gap filling	30m	NSF04_16	up rocky slope (shallow top ~10m)-fishing pressures	NW	56° 47.180' N	6° 6.165' W
FMA01	Fan mussel gap filling	100m	FMA01_1	down gentle slope (light fishing pressures)	SW	56° 49.438' N	6° 10.528' W
	Fan mussel gap filling	100m	FMA01_2	complex bathy		56° 47.993' N	6° 8.545' W
	Fan mussel gap filling	50m	FMA01_3	longer video (~10/15min) down gentle slope	W	56° 48.886' N	6° 9.792' W
	Fan mussel gap filling	100m	FMA01_4	longer video (~10/15min) down gentle slope (trawl pressure)	SW	56° 48.490' N	6° 9.825' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
FMA01	Fan mussel gap filling	125m	FMA01_5	longer video (~10/15min) down gentle slope (trawl pressure)	W	56° 47.990' N	6° 9.808' W
	Fan mussel gap filling	100m	FMA01_6	high prediction (trawl pressure)		56° 48.210' N	6° 9.036' W
	Fan mussel gap filling	200m	FMA01_7	longer video (~10/15min) up gentle slope + FM previous records	NE	56° 48.031' N	6° 10.376' W
	Fan mussel gap filling	150-175m	FMA01_8	high prediction		56° 48.588' N	6° 11.088' W
	Fan mussel gap filling	75m	FMA01_9	down short slope	E or S	56° 49.223' N	6° 11.598' W
	Fan mussel gap filling	100m	FMA01_10	FM previous records		56° 49.002' N	6° 11.019' W
	Fan mussel gap filling	100m	FMA01_11	up steep slope	W	56° 48.891' N	6° 11.631' W
	Fan mussel gap filling	1250m	FMA01_12	longer video (~10/15min) up or down long slope	W or E	56° 48.499' N	6° 10.514' W
	Fan mussel gap filling	125m	FMA01_13	longer video (~10/15min) up slope (derdging pressures twrds north)	N	56° 48.182' N	6° 11.412' W
	Fan mussel gap filling	125m	FMA01_14	longer video (~10/15min) down slope + FM previous records	S	56° 48.105' N	6° 11.873' W
	Fan mussel gap filling	50m	FMA01_15	longer video (~10/15min) down long slope (dredging pressure)	S or W	56° 47.990' N	6° 12.691' W
	Fan mussel gap filling	200m	FMA01_16	high prediction + deep flat area		56° 47.664' N	6° 12.250' W
	Fan mussel gap filling	200m	FMA01_17	high prediction + deep flat area		56° 47.839' N	6° 11.206' W
	Fan mussel gap filling	150-175m	FMA01_18	longer video (~10/15min) down long slope (trawling pressure)	NE	56° 47.439' N	6° 10.879' W
	Fan mussel gap filling	125m	FMA01_19	longer video (~10/15min) down long slope (trawling pressure)	SE	56° 47.458' N	6° 14.737' W
	Fan mussel gap filling	175m	FMA01_20	high prediction		56° 47.266' N	6° 12.395' W
	Fan mussel gap filling	200m	FMA01_21	high prediction + deep flat area		56° 47.222' N	6° 13.053' W
	Fan mussel gap filling	125m	FMA01_22	down slope (trawling pressure)	S	56° 47.742' N	6° 13.609' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
FMA01	Fan mussel gap filling	175-200m	FMA01_23	longer video (~10/15min) down gentle slope (trawling pressure)	S	56° 47.313' N	6° 14.167' W
	Fan mussel gap filling	100-125m	FMA01_24	complex bathy		56° 46.442' N	6° 12.538' W
	Fan mussel gap filling	50-75m	FMA01_25	longer video (~10/15min) down gentle slope (dredging pressure)	N or NE	56° 46.235' N	6° 11.820' W
	Fan mussel gap filling	125-150m	FMA01_26	Down slope + complex bathy	N	56° 46.740' N	6° 12.321' W
	Fan mussel gap filling	100m	FMA01_27	longer video (~10/15min) down gentle slope	NE	56° 46.645' N	6° 13.505' W
	Fan mussel gap filling	150m	FMA01_28	Down slope + complex bathy	N	56° 46.757' N	6° 12.904' W
	Fan mussel gap filling	150m	FMA01_29	Up slope	S	56° 47.056' N	6° 13.742' W
	Fan mussel gap filling	75m	FMA01_30	up steep slope + high prediction but strong fishing pressures	N	56° 49.544' N	6° 11.318' W
	Fan mussel gap filling	100m	FMA01_31	longer video (~10/15min) down gentle slope	N	56° 46.740' N	6° 11.774' W
	Fan mussel gap filling	100m	FMA01_32	Down steep slope	NW	56° 47.460' N	6° 11.843' W
	Fan mussel gap filling	50m	FMA01_33	Down gentle slope + light fishing pressures	N	56° 46.022' N	6° 12.491' W
	Fan mussel gap filling	200m	FMA01_34	twrds no fishing pressures + high prediction	S	56° 47.496' N	6° 13.051' W
	Fan mussel gap filling	175m	FMA01_35	high prediction + complex bathy		56° 48.232' N	6° 10.699' W
	Fan mussel gap filling	175m	FMA01_36	twrds high prediction + complex bathy but trawling pressure	E	56° 46.864' N	6° 14.667' W
FMA04	Fan mussel gap filling	75m	FMA04_1	longer video (~10/15min) down long and steep slope	SW	56° 55.549' N	6° 17.326' W
	Fan mussel gap filling	150-175m	FMA04_2	complex bathy + avoid south for high trawling pressures		56° 54.577' N	6° 17.785' W
	Fan mussel gap filling	100m	FMA04_3	longer video (~10/15min) down long and steep slope	NW	56° 54.793' N	6° 16.074' W
	Fan mussel gap filling	100-125m	FMA04_4	down short steep slope	SE	56° 55.357' N	6° 14.656' W

Box	Aim	Depth	Station	Note	Direction s	Lat	Long
FMA04	Fan mussel gap filling	125-150m	FMA04_5	longer video (~10/15min) down long slope	W	56° 54.174' N	6° 16.180' W
	Fan mussel gap filling	175m+	FMA04_6	longer video (10/15mins) up gentle slope + complex bathy all around	N	56° 54.861' N	6° 16.970' W
	Fan mussel gap filling	50m	FMA04_7	down slope	E	56° 53.916' N	6° 16.599' W
	Fan mussel gap filling	50-70m	FMA04_8	longer video (10/15mins) up gentle slope + complex bathy all around	N	56° 54.289' N	6° 18.227' W
	Fan mussel gap filling	100-125m	FMA04_9	high prediction - simple bathy		56° 54.284' N	6° 14.217' W
	Fan mussel gap filling	150m	FMA04_10	longer video (10/15mins) up gentle slope +	NE	56° 53.447' N	6° 14.817' W
	Fan mussel gap filling	75m	FMA04_11	complex bathy	W	56° 54.247' N	6° 16.917' W
	Fan mussel gap filling	125-150	FMA04_12	flat high prediction zone (mudflat area) any direction is great	NW	56° 53.824' N	6° 14.741' W
	Fan mussel gap filling	100-125m	FMA04_13	down slope but complex bathy all around	SW	56° 54.876' N	6° 17.560' W
	Fan mussel gap filling	125-150m	FMA04_14	high prediction zone + complex bathy		56° 55.181' N	6° 17.533' W
	Fan mussel gap filling	150m	FMA04_15	high prediction zone + complex bathy		56° 54.656' N	6° 16.803' W
	Fan mussel gap filling	100-125m	FMA04_16	high prediction zone + complex bathy		56° 53.688' N	6° 16.226' W
	Fan mussel gap filling	150-175m	FMA04_17	high prediction zone + complex bathy		56° 53.299' N	6° 15.866' W
	Fan mussel gap filling	125-175m	FMA04_18	high prediction zone + complex bathy		56° 54.257' N	6° 15.437' W
	Fan mussel gap filling	125-150m	FMA04_19	high prediction zone + complex bathy		56° 55.299' N	6° 13.222' W
	Fan mussel gap filling	150-175m	FMA04_20	high prediction zone + complex bathy		56° 54.705' N	6° 18.264' W
	Fan mussel gap filling	125-150m	FMA04_21	high prediction zone + complex bathy		56° 54.556' N	6° 15.500' W
	Fan mussel gap filling	150m	FMA04_22	up steep slope	W	56° 53.028' N	6° 15.721' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
FMA05	Fan mussel gap filling	75m	FMA05_1	long video (10/15mins) down gentle long slope	NE	57° 20.181' N	5° 53.499' W
	Fan mussel gap filling	200m	FMA05_2	up long slope	NE	57° 20.433' N	5° 52.743' W
	Fan mussel gap filling	150m	FMA05_3	up long slope	NE	57° 20.357' N	5° 52.288' W
	Fan mussel gap filling	50m	FMA05_4	long video (10/15mins) down gentle long slope	SW	57° 20.960' N	5° 52.570' W
	Fan mussel gap filling	100-125m	FMA05_5	down slope	NE	57° 20.135' N	5° 52.939' W
	Fan mussel gap filling	150m	FMA05_6	down slope	W	57° 19.986' N	5° 52.465' W
	Fan mussel gap filling	200m+	FMA05_7	down slope	W	57° 20.198' N	5° 51.747' W
	Fan mussel gap filling	200m	FMA05_9	complex bathy		57° 19.755' N	5° 51.815' W
	Fan mussel gap filling	150m	FMA05_10	up long slope	E	57° 20.024' N	5° 51.508' W
	Fan mussel gap filling	50m	FMA05_11	long video (10/15mins) down long slope	SW	57° 20.183' N	5° 51.180' W
	Fan mussel gap filling	75m	FMA05_12	long video (10/15mins) down gentle long slope	E	57° 19.657' N	5° 53.113' W
	Fan mussel gap filling	75m	FMA05_13	long video (10/15mins) down long slope	SW	57° 19.855' N	5° 51.123' W
	Fan mussel gap filling	150m+	FMA05_14	complex bathy		57° 19.480' N	5° 52.119' W
	Fan mussel gap filling	175m	FMA05_15	long video (10/15mins) up long slope	NE	57° 19.484' N	5° 51.350' W
	Fan mussel gap filling	200m	FMA05_16	long video (10/15mins) up gentle long slope	NE	57° 19.341' N	5° 50.845' W
	Fan mussel gap filling	50m	FMA05_17	long video (10/15mins) down long slope	SW	57° 19.696' N	5° 50.910' W
	Fan mussel gap filling	200m+	FMA05_18	deep flat area		57° 19.275' N	5° 51.481' W
	Fan mussel gap filling	150-175m	FMA05_19	down gentle slope	SE	57° 19.171' N	5° 52.328' W

Box	Aim	Depth	Station	Note	Directions	Lat	Long
FMA05	Fan mussel gap filling	200m	FMA05_20	up gentle slope	N	57° 18.955' N	5° 51.813' W
	Fan mussel gap filling	150m	FMA05_21	complex bathy	SE	57° 22.257' N	5° 55.125' W
	Fan mussel gap filling	50-75m	FMA05_22	long video (10/15mins) down long slope	NW	57° 21.903' N	5° 53.598' W
	Fan mussel gap filling	150m	FMA05_23	long video (10/15mins) up long gentle slope	NW	57° 21.641' N	5° 54.598' W
	Fan mussel gap filling	~120m	FMA05_24	complex bathy	NW	57° 21.515' N	5° 54.068' W
	Fan mussel gap filling	150m	FMA05_25	complex bathy	E	57° 21.782' N	5° 54.883' W
	Fan mussel gap filling	100-125m	FMA05_26	complex bathy	NW	57° 21.296' N	5° 53.825' W
	Fan mussel gap filling	100m	FMA05_28	down gentle slope	NW	57° 21.107' N	5° 54.564' W
	Fan mussel gap filling	150m	FMA05_29	up slope	SE	57° 20.939' N	5° 53.776' W
	Fan mussel gap filling	75m	FMA05_30	long video (10/15mins) down long slope	W	57° 20.980' N	5° 52.991' W
	Fan mussel gap filling	50m	FMA05_31	long video (10/15mins) down long slope	W	57° 21.307' N	5° 53.183' W
	Fan mussel gap filling	100m	FMA05_32	high prediction + complex bathy	SW	57° 20.760' N	5° 52.727' W
	Fan mussel gap filling	175m	FMA05_33	up gentle slope	W	57° 20.697' N	5° 53.334' W
	Fan mussel gap filling	200m	FMA05_34	long video (10/15mins) up long gentle slope	W	57° 20.529' N	5° 53.112' W
	Fan mussel gap filling	125m+	FMA05_35	high prediction zone + complex bathy		57° 22.111' N	5° 54.460' W
	Fan mussel gap filling	150m	FMA05_36	up a gentle slope (twrds a mount)	S	57° 22.557' N	5° 54.575' W
	Fan mussel gap filling	100m	FMA05_37	high prediction zone + complex bathy		57° 22.268' N	5° 53.940' W

Table 2: Video Sampling station details for repeat monitoring boxes – Loch Alsh and Sound of Mull

Box	Aim	Depth	Station	Note	Lat	Long
LA6	Replicate 2015 monitoring record	50-75m	LA6_1	Long video tow (20mins) / across the box	57° 16.319' N	5° 37.059' W
	Replicate 2015 monitoring record	75-100m	LA6_3	Long video tow (20mins) / across the box	57° 15.910' N	5° 37.047' W
	Replicate 2015 monitoring record	75m	LA6_2	Long video tow (20mins) / across the box	57° 16.099' N	5° 37.073' W
	Replicate 2015 monitoring record	75-100m	LA6_6	Long video tow (20mins) / across the box	57° 15.898' N	5° 37.230' W
	Replicate 2015 monitoring record	75-100m	LA6_4	Long video tow (20mins) / across the box	57° 16.311' N	5° 37.280' W
	Replicate 2015 monitoring record	75-100m	LA6_5	Long video tow (20mins) / across the box	57° 16.103' N	5° 37.280' W
	Replicate 2015 monitoring record	75-100m	LA6_9	Long video tow (20mins) / across the box	57° 15.895' N	5° 37.438' W
	Replicate 2015 monitoring record	50-75m	LA6_7	Long video tow (20mins) / across the box	57° 16.311' N	5° 37.495' W
	Replicate 2015 monitoring record	75-100m	LA6_8	Long video tow (20mins) / across the box	57° 16.107' N	5° 37.479' W
	Replicate 2015 monitoring record	75-100m	LA6_12	Long video tow (20mins) / across the box	57° 15.888' N	5° 37.633' W
	Replicate 2015 monitoring record	50-75m	LA6_10	Long video tow (20mins) / across the box	57° 16.310' N	5° 37.701' W
	Replicate 2015 monitoring record	75-100m	LA6_11	Long video tow (20mins) / across the box	57° 16.103' N	5° 37.666' W
LA5	Replicate 2015 monitoring record	50-75m	LA5_1	Long video tow (20mins) / across the box	57° 15.670' N	5° 38.211' W
	Replicate 2015 monitoring record	50-75m	LA5_2	Long video tow (20mins) / across the box	57° 15.887' N	5° 38.269' W
	Replicate 2015 monitoring record	50-75m	LA5_3	Long video tow (20mins) / across the box	57° 15.892' N	5° 38.354' W
	Replicate 2015 monitoring record	50-75m	LA5_4	Long video tow (20mins) / across the box	57° 15.884' N	5° 38.491' W
	Replicate 2015 monitoring record	50-75m	LA5_5	Long video tow (20mins) / across the box	57° 15.891' N	5° 38.564' W

Box	Aim	Depth	Station	Note	Lat	Long
	Replicate 2015 monitoring record	50-75m	LA5_6	Long video tow (20mins) / across the box	57° 15.894' N	5° 38.177' W
	Replicate 2015 monitoring record	25-50m	LA5_7	Long video tow (20mins) / across the box	57° 15.659' N	5° 38.287' W
	Replicate 2015 monitoring record	25-50m	LA5_8	Long video tow (20mins) / across the box	57° 15.409' N	5° 38.294' W
	Replicate 2015 monitoring record	25-50m	LA5_9	Long video tow (20mins) / across the box	57° 15.668' N	5° 38.372' W
	Replicate 2015 monitoring record	25-50m	LA5_10	Long video tow (20mins) / across the box	57° 15.408' N	5° 38.385' W
	Replicate 2015 monitoring record	25-50m	LA5_11	Long video tow (20mins) / across the box	57° 15.670' N	5° 38.463' W
	Replicate 2015 monitoring record	25-50m	LA5_12	Long video tow (20mins) / across the box	57° 15.415' N	5° 38.510' W
	Replicate 2015 monitoring record	25-50m	LA5_13	Long video tow (20mins) / across the box	57° 15.673' N	5° 38.552' W
	Replicate 2015 monitoring record	25-50m	LA5_14	Long video tow (20mins) / across the box	57° 15.427' N	5° 38.568' W
LA4	Replicate 2015 monitoring record	100m	LA4_20	Long video tow (20mins) / across the box	57° 16.240' N	5° 40.379' W
	Replicate 2015 monitoring record	100m	LA4_21	Long video tow (20mins) / across the box	57° 16.133' N	5° 40.329' W
	Replicate 2015 monitoring record	100m	LA4_22	Long video tow (20mins) / across the box	57° 16.312' N	5° 40.547' W
	Replicate 2015 monitoring record	100m	LA4_23	Long video tow (20mins) / across the box	57° 16.224' N	5° 40.526' W
	Replicate 2015 monitoring record	100m	LA4_24	Long video tow (20mins) / across the box	57° 16.104' N	5° 40.516' W
	Replicate 2015 monitoring record	75-100m	LA4_5	Long video tow (20mins) / across the box	57° 16.360' N	5° 39.559' W
	Replicate 2015 monitoring record	75-100m	LA4_8	Long video tow (20mins) / across the box	57° 16.334' N	5° 39.706' W
	Replicate 2015 monitoring record	75-100m	LA4_9	Long video tow (20mins) / across the box	57° 16.229' N	5° 39.675' W
	Replicate 2015 monitoring record	75-100m	LA4_11	Long video tow (20mins) / across the box	57° 16.308' N	5° 39.879' W

Box	Aim	Depth	Station	Note	Lat	Long
	Replicate 2015 monitoring record	75-100m	LA4_12	Long video tow (20mins) / across the box	57° 16.204' N	5° 39.831' W
	Replicate 2015 monitoring record	75-100m	LA4_13	Long video tow (20mins) / across the box	57° 16.373' N	5° 40.090' W
	Replicate 2015 monitoring record	75-100m	LA4_14	Long video tow (20mins) / across the box	57° 16.299' N	5° 40.064' W
	Replicate 2015 monitoring record	75-100m	LA4_16	Long video tow (20mins) / across the box	57° 16.355' N	5° 40.251' W
	Replicate 2015 monitoring record	75-100m	LA4_17	Long video tow (20mins) / across the box	57° 16.267' N	5° 40.224' W
	Replicate 2015 monitoring record	75-100m	LA4_19	Long video tow (20mins) / across the box	57° 16.331' N	5° 40.410' W
	Replicate 2015 monitoring record	75-100m	LA4_18	Long video tow (20mins) / across the box	57° 16.157' N	5° 40.173' W
	Replicate 2015 monitoring record	50-75m	LA4_1	Long video tow (20mins) / across the box	57° 16.468' N	5° 39.436' W
	Replicate 2015 monitoring record	50-75m	LA4_2	Long video tow (20mins) / across the box	57° 16.374' N	5° 39.400' W
	Replicate 2015 monitoring record	50-75m	LA4_3	Long video tow (20mins) / across the box	57° 16.275' N	5° 39.376' W
	Replicate 2015 monitoring record	50-75m	LA4_4	Long video tow (20mins) / across the box	57° 16.447' N	5° 39.592' W
	Replicate 2015 monitoring record	50-75m	LA4_6	Long video tow (20mins) / across the box	57° 16.253' N	5° 39.525' W
	Replicate 2015 monitoring record	50-75m	LA4_7	Long video tow (20mins) / across the box	57° 16.426' N	5° 39.741' W
	Replicate 2015 monitoring record	50-75m	LA4_10	Long video tow (20mins) / across the box	57° 16.404' N	5° 39.914' W
	Replicate 2015 monitoring record	50-75m	LA4_15	Long video tow (20mins) / across the box	57° 16.182' N	5° 40.016' W
LA3	Replicate 2015 monitoring record	75-100m	LA3_1	Long video tow (20mins) / across the box	57° 16.353' N	5° 41.856' W
	Replicate 2015 monitoring record	50-75m	LA3_2	Long video tow (20mins) / across the box	57° 16.324' N	5° 41.830' W
	Replicate 2015 monitoring record	50-75m	LA3_3	Long video tow (20mins) / across the box	57° 16.286' N	5° 41.802' W

Box	Aim	Depth	Station	Note	Lat	Long
	Replicate 2015 monitoring record	50-75m	LA3_4	Long video tow (20mins) / across the box	57° 16.333' N	5° 41.915' W
	Replicate 2015 monitoring record	50-75m	LA3_5	Long video tow (20mins) / across the box	57° 16.303' N	5° 41.897' W
	Replicate 2015 monitoring record	50-75m	LA3_6	Long video tow (20mins) / across the box	57° 16.256' N	5° 41.897' W
	Replicate 2015 monitoring record	50-75m	LA3_7	Long video tow (20mins) / across the box	57° 16.309' N	5° 42.021' W
	Replicate 2015 monitoring record	50-75m	LA3_8	Long video tow (20mins) / across the box	57° 16.270' N	5° 42.000' W
	Replicate 2015 monitoring record	50-75m	LA3_9	Long video tow (20mins) / across the box	57° 16.231' N	5° 41.986' W
	Replicate 2015 monitoring record	50-75m	LA3_10	Long video tow (20mins) / across the box	57° 16.288' N	5° 42.098' W
	Replicate 2015 monitoring record	50-75m	LA3_11	Long video tow (20mins) / across the box	57° 16.245' N	5° 42.086' W
	Replicate 2015 monitoring record	50-75m	LA3_12	Long video tow (20mins) / across the box	57° 16.207' N	5° 42.058' W
LA1	Replicate 2015 monitoring record	25-50m	LA1_1	Long video tow (20mins) / across the box	57° 16.459' N	5° 42.547' W
	Replicate 2015 monitoring record	50-75m	LA1_5	Long video tow (20mins) / across the box	57° 16.395' N	5° 42.219' W
	Replicate 2015 monitoring record	25-50m	LA1_3	Long video tow (20mins) / across the box	57° 16.425' N	5° 42.421' W
	Replicate 2015 monitoring record	25-50m	LA1_6	Long video tow (20mins) / across the box	57° 16.362' N	5° 42.238' W
	Replicate 2015 monitoring record	25-50m	LA1_4	Long video tow (20mins) / across the box	57° 16.400' N	5° 42.401' W
	Replicate 2015 monitoring record	25-50m	LA1_2	Long video tow (20mins) / across the box	57° 16.436' N	5° 42.548' W
LA2	Replicate 2015 monitoring record	25-50m	LA2_6	Long video tow (20mins) / across the box	57° 16.705' N	5° 41.626' W
	Replicate 2015 monitoring record	25-50m	LA2_1	Long video tow (20mins) / across the box	57° 16.731' N	5° 41.619' W
	Replicate 2015 monitoring record	25-50m	LA2_2	Long video tow (20mins) / across the box	57° 16.716' N	5° 41.809' W

Box	Aim	Depth	Station	Note	Lat	Long
	Replicate 2015 monitoring record	25-50m	LA2_3	Long video tow (20mins) / across the box	57° 16.701' N	5° 41.994' W
	Replicate 2015 monitoring record	25-50m	LA2_4	Long video tow (20mins) / across the box	57° 16.674' N	5° 41.982' W
	Replicate 2015 monitoring record	25-50m	LA2_5	Long video tow (20mins) / across the box	57° 16.683' N	5° 41.808' W
Som3	Monitoring fishery management zone	30-50m	SoM3_1	Long video tow (20mins) / across the box	56° 38.642' N	6° 4.811' W
	Monitoring fishery management zone	30-50m	SoM3_2	Long video tow (20mins) / across the box	56° 38.442' N	6° 3.710' W
	Monitoring fishery management zone	~70m	SoM3_3	Long video tow (20mins) / across the box	56° 37.883' N	6° 3.282' W
	Monitoring fishery management zone	30-50m	SoM3_4	Long video tow (20mins) / across the box	56° 38.765' N	6° 4.286' W
	Monitoring fishery management zone	~50m	SoM3_5	Long video tow (20mins) / across the box	56° 38.583' N	6° 3.341' W
	Monitoring fishery management zone	70-100m	SoM3_6	Long video tow (20mins) / across the box	56° 38.036' N	6° 2.989' W
	Monitoring fishery management zone	~20m	SoM3_7	Long video tow (20mins) / across the box	56° 38.912' N	6° 3.670' W
	Monitoring fishery management zone	~50m	SoM3_8	Long video tow (20mins) / across the box	56° 38.734' N	6° 2.961' W
	Monitoring fishery management zone	~50m	SoM3_9	Long video tow (20mins) / across the box	56° 38.353' N	6° 2.477' W
	Monitoring fishery management zone	~20m	SoM3_10	Long video tow (20mins) / across the box	56° 39.045' N	6° 3.133' W
	Monitoring fishery management zone	20-30m	SoM3_11	Long video tow (20mins) / across the box	56° 38.881' N	6° 2.610' W
	Monitoring fishery management zone	20-30m	SoM3_12	Long video tow (20mins) / across the box	56° 38.651' N	6° 1.980' W
	Monitoring fishery management zone	70-100m	SoM2_10	Long video tow (20mins) / across the box	56° 32.356' N	5° 55.225' W
Som2	Monitoring fishery management zone	30-50m	SoM2_1	Long video tow (20mins) / across the box	56° 32.774' N	5° 56.753' W
	Monitoring fishery management zone	30-50m	SoM2_2	Long video tow (20mins) / across the box	56° 32.865' N	5° 56.532' W

Box	Aim	Depth	Station	Note	Lat	Long
Som2	Monitoring fishery management zone	20-30m	SoM2_3	Long video tow (20mins) / across the box	56° 32.569' N	5° 56.425' W
	Monitoring fishery management zone	30-50m	SoM2_4	Long video tow (20mins) / across the box	56° 32.706' N	5° 56.130' W
	Monitoring fishery management zone	30-50m	SoM2_5	Long video tow (20mins) / across the box	56° 32.356' N	5° 56.046' W
	Monitoring fishery management zone	20-30m	SoM2_6	Long video tow (20mins) / across the box	56° 32.440' N	5° 55.860' W
	Monitoring fishery management zone	30-50m	SoM2_7	Long video tow (20mins) / across the box	56° 32.535' N	5° 55.658' W
	Monitoring fishery management zone	~30m	SoM2_8	Long video tow (20mins) / across the box	56° 32.115' N	5° 55.661' W
	Monitoring fishery management zone	~30m	SoM2_9	Long video tow (20mins) / across the box	56° 32.235' N	5° 55.457' W
Som0	Monitoring fishery management zone	50-70m	SoM0_1	Long video tow (20mins) / across the box	56° 31.681' N	5° 53.190' W
	Monitoring fishery management zone	70-10mm	SoM0_2	Long video tow (20mins) / across the box	56° 31.930' N	5° 53.097' W
	Monitoring fishery management zone	50-70m	SoM0_3	Long video tow (20mins) / across the box	56° 32.185' N	5° 53.032' W
	Monitoring fishery management zone	30-50m	SoM0_4	Long video tow (20mins) / across the box	56° 32.158' N	5° 52.390' W
	Monitoring fishery management zone	70-100m	SoM0_5	Long video tow (20mins) / across the box	56° 31.877' N	5° 52.419' W
	Monitoring fishery management zone	50-70m	SoM0_6	Long video tow (20mins) / across the box	56° 31.628' N	5° 52.462' W
	Monitoring fishery management zone	50-70m	SoM0_7	Long video tow (20mins) / across the box	56° 32.119' N	5° 51.551' W
	Monitoring fishery management zone	~100m	SoM0_8	Long video tow (20mins) / across the box	56° 31.849' N	5° 51.572' W
	Monitoring fishery management zone	30-50m	SoM0_9	Long video tow (20mins) / across the box	56° 31.544' N	5° 51.604' W
	Monitoring fishery management zone	30-50m	SoM0_10	Long video tow (20mins) / across the box	56° 32.085' N	5° 50.751' W
	Monitoring fishery management zone	~100m	SoM0_11	Long video tow (20mins) / across the box	56° 31.820' N	5° 50.787' W

Box	Aim	Depth	Station	Note	Lat	Long
	Monitoring fishery management zone	~70m	SoM0_1 2	Long video tow (20mins) / across the box	56° 31.510' N	5° 50.829' W
Som1	Monitoring fishery management zone	20-30m	SoM1_1	Long video tow (20mins) / across the box	56° 29.961' N	5° 44.608' W
	Monitoring fishery management zone	50-70m	SoM1_2	Long video tow (20mins) / across the box	56° 30.176' N	5° 44.178' W
	Monitoring fishery management zone	~50m	SoM1_3	Long video tow (20mins) / across the box	56° 30.407' N	5° 43.762' W
	Monitoring fishery management zone	~20m	SoM1_4	Long video tow (20mins) / across the box	56° 29.885' N	5° 43.830' W
	Monitoring fishery management zone	~20m	SoM1_5	Long video tow (20mins) / across the box	56° 30.138' N	5° 43.333' W
	Monitoring fishery management zone	10-20m	SoM1_6	Long video tow (20mins) / across the box	56° 29.886' N	5° 43.167' W
	Monitoring fishery management zone	10-20m	SoM1_7	Long video tow (20mins) / across the box	56° 29.604' N	5° 42.520' W
	Monitoring fishery management zone	20-30m	SoM1_8	Long video tow (20mins) / across the box	56° 29.283' N	5° 42.409' W
	Monitoring fishery management zone	~100m	SoM1_9	Long video tow (20mins) / across the box	56° 29.576' N	5° 41.823' W
	Monitoring fishery management zone	30-50m	SoM1_10	Long video tow (20mins) / across the box	56° 29.076' N	5° 42.051' W
	Monitoring fishery management zone	100-150m	SoM1_11	Long video tow (20mins) / across the box	56° 29.422' N	5° 41.434' W
LS	Monitoring fishery management zone	20-30m	LS_20	Long video tow (20mins) / across the box	56° 39.708' N	5° 54.369' W
	Monitoring fishery management zone	30-50m	LS_1	Long video tow (20mins) / across the box	56° 40.250' N	5° 53.500' W
	Monitoring fishery management zone	30-50m	LS_2	Long video tow (20mins) / across the box	56° 40.172' N	5° 53.634' W
	Monitoring fishery management zone	30-50m	LS_3	Long video tow (20mins) / across the box	56° 40.063' N	5° 53.795' W
	Monitoring fishery management zone	30-50m	LS_4	Long video tow (20mins) / across the box	56° 39.977' N	5° 53.972' W
	Monitoring fishery management zone	50-70m	LS_5	Long video tow (20mins) / across the box	56° 39.888' N	5° 54.180' W

Box	Aim	Depth	Station	Note	Lat	Long
LS	Monitoring fishery management zone	50-70m	LS_6	Long video tow (20mins) / across the box	56° 39.931' N	5° 54.418' W
	Monitoring fishery management zone	50-70m	LS_7	Long video tow (20mins) / across the box	56° 40.005' N	5° 54.702' W
	Monitoring fishery management zone	50-70m	LS_8	Long video tow (20mins) / across the box	56° 40.072' N	5° 54.951' W
	Monitoring fishery management zone	30-50m	LS_9	Long video tow (20mins) / across the box	56° 40.152' N	5° 55.127' W
	Monitoring fishery management zone	20-30m	LS_10	Long video tow (20mins) / across the box	56° 40.229' N	5° 55.276' W
	Monitoring fishery management zone	~50m	LS_11	Long video tow (20mins) / across the box	56° 40.310' N	5° 55.473' W
	Monitoring fishery management zone	50-70m	LS_12	Long video tow (20mins) / across the box	56° 40.386' N	5° 55.764' W
	Monitoring fishery management zone	70-100m	LS_13	Long video tow (20mins) / across the box	56° 40.423' N	5° 56.052' W
	Monitoring fishery management zone	70-100m	LS_14	Long video tow (20mins) / across the box	56° 40.432' N	5° 56.373' W
	Monitoring fishery management zone	70-100m	LS_15	Long video tow (20mins) / across the box	56° 40.554' N	5° 56.160' W
	Monitoring fishery management zone	70-100m	LS_16	Long video tow (20mins) / across the box	56° 40.363' N	5° 55.223' W
	Monitoring fishery management zone	30-50m	LS_17	Long video tow (20mins) / across the box	56° 40.132' N	5° 54.788' W
	Monitoring fishery management zone	30-50m	LS_18	Long video tow (20mins) / across the box	56° 39.797' N	5° 53.973' W
	Monitoring fishery management zone	~50m	LS_19	Long video tow (20mins) / across the box	56° 40.356' N	5° 52.878' W
outside box	PMF filling gap	30-50m	O_1	10 mins video tow	56° 32.987' N	5° 57.072' W
	PMF filling gap	30-50m	O_2	10 mins video tow	56° 32.939' N	5° 56.889' W
	PMF filling gap	~10m	O_3	10 mins video tow	56° 31.819' N	5° 55.331' W
	PMF filling gap	10-20m	O_4	10 mins video tow	56° 31.923' N	5° 55.111' W

Box	Aim	Depth	Station	Note	Lat	Long
outside box	PMF filling gap	10-20m	O_5	10 mins video tow	56° 31.972' N	5° 55.011' W
	PMF filling gap	20-30m	O_6	10 mins video tow	56° 32.044' N	5° 54.884' W
	PMF filling gap	30-50m	O_7	10 mins video tow	56° 32.246' N	5° 54.589' W
	PMF filling gap	10-20m	O_8	10 mins video tow	56° 32.001' N	5° 55.297' W
	PMF filling gap	~20m	O_9	10 mins video tow	56° 32.167' N	5° 55.011' W
	PMF filling gap	20-30m	O_10	10 mins video tow	56° 29.817' N	5° 41.448' W
	PMF filling gap	20-30m	O_11	10 mins video tow	56° 29.749' N	5° 41.262' W
	PMF filling gap	30-50m	O_12	10 mins video tow	56° 29.735' N	5° 41.045' W
	PMF filling gap	50-70m	O_13	10 mins video tow	56° 33.920' N	5° 57.153' W
	PMF filling gap	~70m	O_14	10 mins video tow	56° 33.298' N	5° 56.053' W
	PMF filling gap	70-100m	O_15	10 mins video tow	56° 35.194' N	5° 58.930' W
	PMF filling gap	70-100m	O_16	10 mins video tow	56° 36.789' N	6° 0.926' W
	PMF filling gap	~100m	O_17	10 mins video tow	56° 31.552' N	5° 48.042' W
	PMF filling gap	~100m	O_18	10 mins video tow	56° 30.905' N	5° 46.102' W
	PMF filling gap	30-50m	O_19	10 mins video tow	56° 31.899' N	5° 54.227' W
	PMF filling gap	70-100m	O_20	10 mins video tow	56° 32.507' N	5° 54.237' W
	PMF filling gap	20-30m	O_21	10 mins video tow	56° 32.553' N	5° 53.214' W
	PMF filling gap	30-50m	O_22	10 mins video tow	56° 32.459' N	5° 52.482' W

Box	Aim	Depth	Station	Note	Lat	Long
	PMF filling gap	20-30m	O_23	10 mins video tow	56° 32.413' N	5° 51.609' W
	PMF filling gap	20-30m	O_24	10 mins video tow	56° 32.318' N	5° 50.804' W
	PMF filling gap	30-50m	O_25	10 mins video tow	56° 32.010' N	5° 49.812' W
	PMF search from diver observation	30m	O_26	10 mins tow/PMF consultation- diver feedback	56° 39.793' N	6° 1.960' W
	PMF search from diver observation	30m	O_27	10 mins tow/PMF consultation- diver feedback	56° 39.714' N	6° 2.643' W
	PMF search from diver observation	30m	O_28	10 mins tow/PMF consultation- diver feedback	56° 39.570' N	6° 3.179' W
	PMF search from diver observation	20m	O_29	10 mins tow/PMF consultation- diver feedback	56° 39.115' N	6° 2.089' W
	PMF search from diver observation	20m	O_30	10 mins tow/PMF consultation- diver feedback	56° 38.921' N	6° 1.966' W
	PMF search from diver observation	30-50m	O_31	10 mins tow/PMF consultation- diver feedback	56° 39.094' N	6° 1.056' W
	PMF search from diver observation	30-50m	O_32	10 mins tow/PMF consultation- diver feedback	56° 38.740' N	6° 1.078' W
	PMF search from diver observation	30-50m	O_33	10 mins tow/PMF consultation- diver feedback	56° 38.367' N	6° 0.893' W