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FV Lady Nicola UL 584

Survey: Drop-down video survey of seabed habitats and Priority Marine Features in South Arran and the Clyde Sea

REPORT

02 - 07 September 2018

Loading: Troon, 01 September 2018

Boarding: Troon, 02 September 2018, Brodick 03 - 07 September

Unloading: Troon, 07 September 2018

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.

Personnel	Organisation	Role
G. Course	Seascope Fisheries Research	SIC
G. Pasco	Seascope Fisheries Research	
R. Sinclair	Scottish Natural Heritage	02 - 04 September
L. Wright	Scottish Natural Heritage	05 - 06 September

Project: 5 days

Gear

DDV camera frame, umbilicals (300m + 100m), camera system, lights and control unit.

SNH camera sledge (backup – not used), GoPro™ Hero 4 camera in housing, lights, 80m umbilical, surface control unit, GPS

Background and Objectives

This is a partnership project between Marine Scotland (MS) and Scottish Natural Heritage (SNH) and is funded through the European Maritime and Fisheries Fund (EMFF). This survey is one of several planned for 2018 and 2019 working in collaboration with fishermen to collect information on seabed habitats within and adjacent to Scottish Marine Protected Areas (MPAs). More information on the project can be found at: <https://www2.gov.scot/Topics/marine/marine-environment/mpanetwork/MPAmonitoring/EMFFproject>.

The objectives for this survey were:

- To undertake a programme of targeted DDV sampling of Priority Marine Features (PMFs) including maerl beds and seagrass beds (planned survey areas shown as polygons in Figure 1) in the South Arran MPA and adjacent waters, focussing on shallow, nearshore areas.

The focus of the sampling was to carry out targeted surveys of seabed habitats. The footage will be used to confirm habitat presence, extent and current status of such features. The survey builds upon work in previous years to refine the habitat maps for the area.

Narrative

Scientists joined the vessel at Troon on 04 September, and thereafter operated out of Brodick.

The plan was to deploy the DDV system from the fishing vessel at or near to pre-identified coordinates within the survey polygons in Figure 1. The planned survey positions were manually entered into the vessel navigation system each day as bulk loading of positions was not possible. During operation, the camera frame was lowered over the side of the vessel using the winch/haul and positioned just above the seabed. A live feed of the standard definition (SD) video signal was provided to the surface control unit (SCU) located in the wheelhouse, and red-line lasers enabled the field of view to be judged. The live video feed to the wheelhouse was visible to the skipper and winch operator, to help with locating the camera above the seabed and orientating the vessel during tows.

The vessel was allowed to drift in the direction of the prevailing current or wind for approximately 5 minutes. Longer or shorter runs were appropriate in some situations depending on the local conditions and habitats encountered. Vessel speed in general was approximately 0.5kn during tows. 'Snapshot' still images of the seabed were taken at intervals to get a clearer image of the seabed type and flora/fauna. The SCU displayed live SD video with time/date stamp, GPS location (when operating) and camera depth. LED lighting level was controlled from the SCU and was generally kept at maximum. High Definition (HD) video and still photos were stored in the camera for later downloading. SD video with overlay was recorded directly on the SCU.

Sample location and other metadata were recorded on paper forms throughout the survey, with forms stored ashore at the end of each survey day and used to assist in quality control. Sample metadata are shown in Tables 1 and 2. Video files were downloaded from the camera at the end of each survey day, and data backed up according to the agreed protocols.

Figure 1 shows all stations and Figures 3-8 show detailed locations of stations sampled. One hundred and thirty four video tows and 1916 accompanying still images were collected.

The weather was WSW 5 with a moderate swell on Day 1 which made the crossing from Troon uncomfortable and limited sampling to stations predominantly on the eastern and sheltered sides of the islands. The weather then decreased to W2 with no swell, enabling sampling around Pladda, but later in the week the winds were north westerly 4-5 which restricted sampling in inshore waters around Lochranza, so survey moved to the east of Arran in more sheltered waters.

Submitted: Charlotte Johnston 26 November 2018

Approved: P Boulcott 03 February 2020

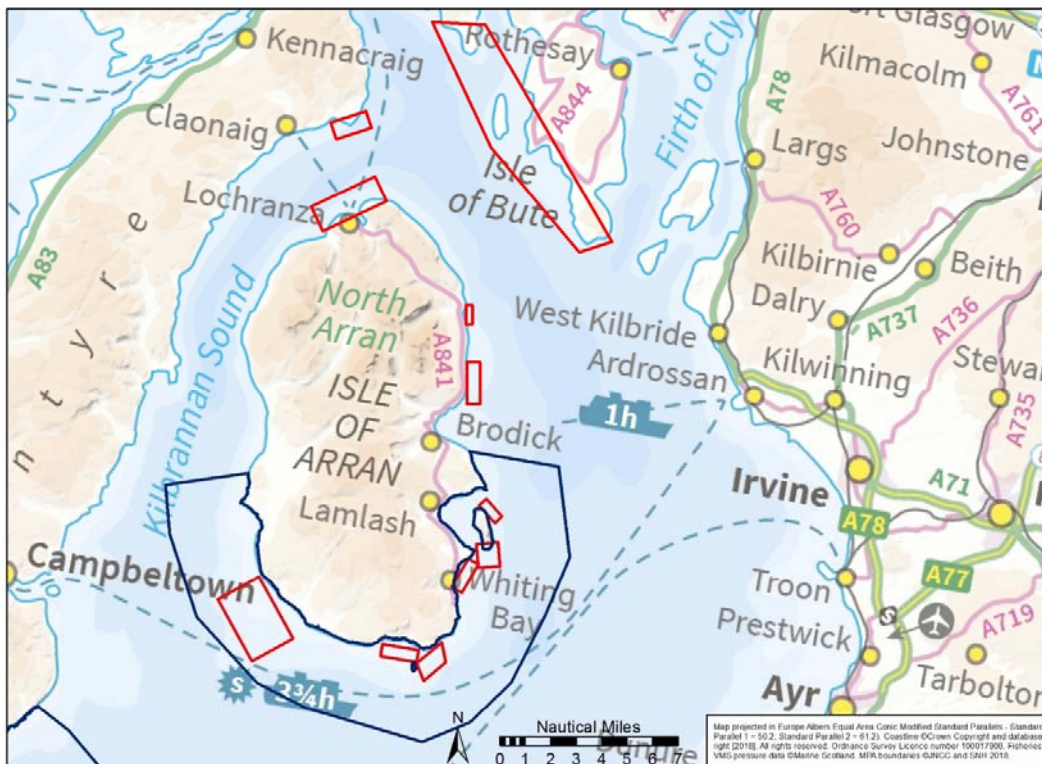


Figure 1. Proposed 2018 sampling areas (red polygons) within and around the South Arran MPA (blue polygon).



Figure 2. Drop down video stations surveyed in 2018 in South Arran MPA and surrounding area, with initial planned stations in background.

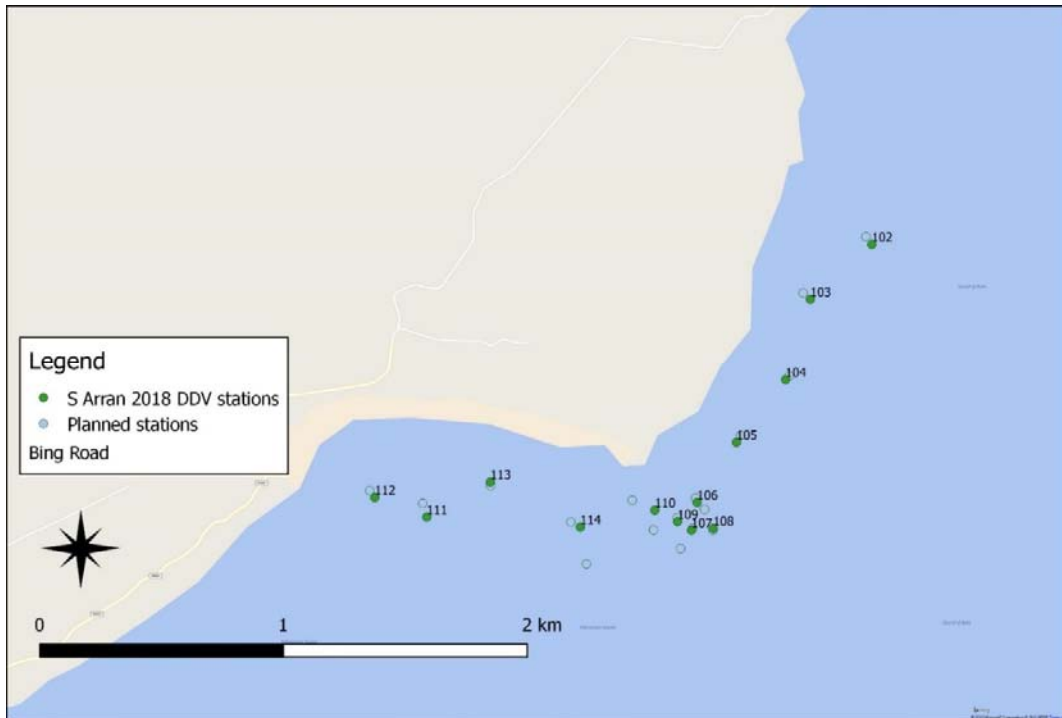


Figure 3. Drop down video stations around Skipness (Kintyre peninsula) surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.



Figure 4. Drop down video stations around Inchmarnock (Bute) surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.



Figure 5. Drop down video stations around Lochranza, Sannox and North of Brodick surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.



Figure 6. Drop down video stations around Holy Island and Whiting Bay surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.

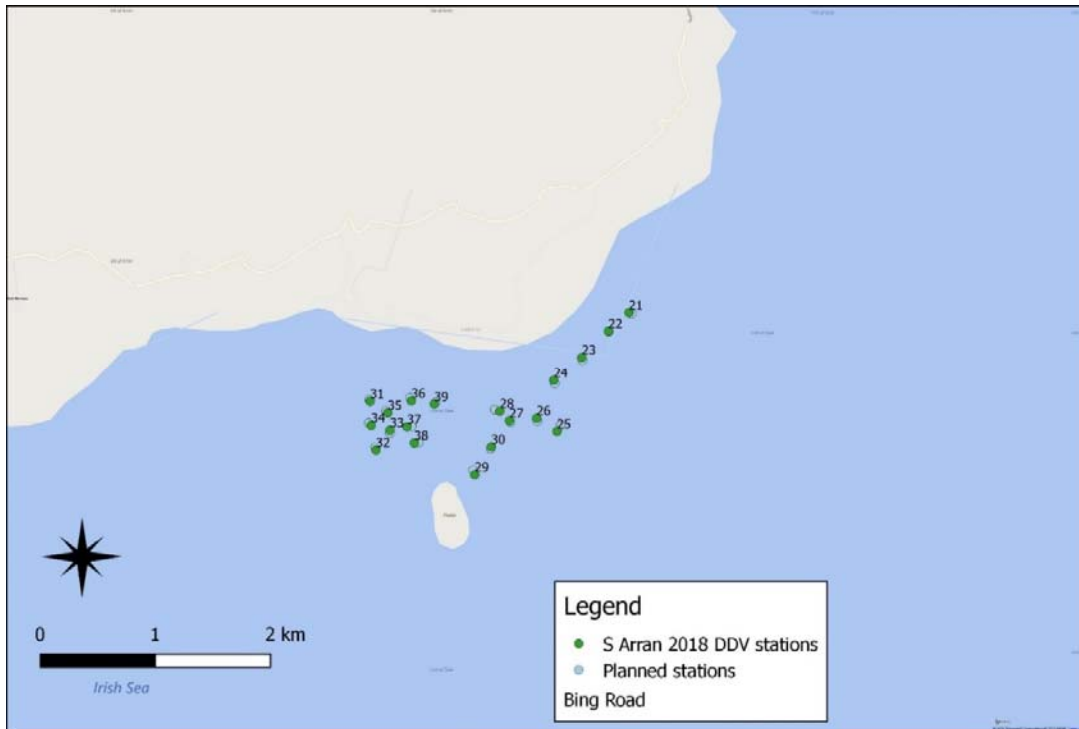


Figure 7. Drop down video stations around Pladda surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.

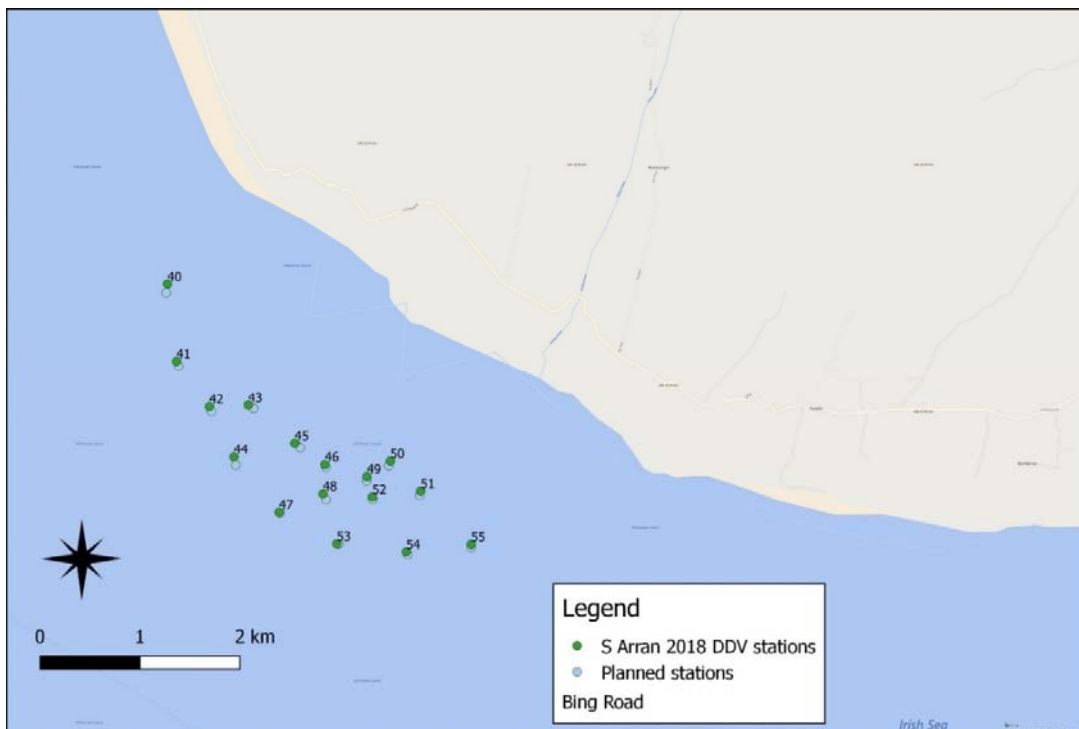


Figure 8. Drop down video stations around Iron Rock Ledges surveyed in 2018 in and around South Arran MPA, with initially planned stations in background.

Table 1 South Arran sampling station locations, September 2018

Project code	Survey area name	Station ref	Site name	Gear code	Date sampled	Start time (UTC)	Start Lat. Deg	Start Lat. mins	Start Long. Deg	Start Long. mins	End time (UTC)	End Lat. Deg	End Lat. mins	End Long. Deg	End Long. mins
MS EMFF	South Arran	1	Holy Island N	DDV	02/09/2018	11:13:00	55	32.075	-5	4.247	11:19:00	55	32.166	-5	4.374
MS EMFF	South Arran	2	Holy Island N	DDV	02/09/2018	11:24:00	55	32.165	-5	4.449	11:29:00	55	32.206	-5	4.553
MS EMFF	South Arran	3	Holy Island N	DDV	02/09/2018	11:33:00	55	32.235	-5	4.520	11:40:00	55	32.270	-5	4.609
MS EMFF	South Arran	4	Holy Island N	DDV	02/09/2018	11:44:00	55	32.332	-5	4.626	11:51:00	55	32.389	-5	4.691
MS EMFF	South Arran	5	Holy Island N	DDV	02/09/2018	11:55:00	55	32.355	-5	4.779	12:02:00	55	32.415	-5	4.758
MS EMFF	South Arran	6	Holy Island N	DDV	02/09/2018	12:06:00	55	32.447	-5	4.762	12:13:00	55	32.515	-5	4.724
MS EMFF	South Arran	7	Sannox	DDV	02/09/2018	13:15:00	55	39.198	-5	8.570	13:20:00	55	39.279	-5	8.619
MS EMFF	South Arran	8	Sannox	DDV	02/09/2018	13:25:00	55	39.405	-5	8.743	13:32:00	55	39.484	-5	8.793
MS EMFF	South Arran	9	Sannox	DDV	02/09/2018	13:36:00	55	39.576	-5	8.781	13:40:00	55	39.635	-5	8.798
MS EMFF	South Arran	10	Sannox	DDV	02/09/2018	13:45:00	55	39.720	-5	8.780	13:50:00	55	39.790	-5	8.837
MS EMFF	South Arran	11	Sannox	DDV	02/09/2018	13:55:00	55	39.867	-5	8.898	14:00:00	55	39.950	-5	8.951
MS EMFF	South Arran	12	Sannox	DDV	02/09/2018	14:09:00	55	39.600	-5	8.627	14:15:00	55	39.663	-5	8.700
MS EMFF	South Arran	13	North Brodick	DDV	02/09/2018	14:52:00	55	37.714	-5	7.855	14:58:00	55	37.792	-5	7.876
MS EMFF	South Arran	14	North Brodick	DDV	02/09/2018	15:06:00	55	37.508	-5	7.766	15:13:00	55	37.589	-5	7.785
MS EMFF	South Arran	15	North Brodick	DDV	02/09/2018	15:18:00	55	37.328	-5	7.703	15:27:00	55	37.414	-5	7.695
MS EMFF	South Arran	16	North Brodick	DDV	02/09/2018	15:32:00	55	37.159	-5	7.690	15:40:00	55	37.238	-5	7.713
MS EMFF	South Arran	17	North Brodick	DDV	02/09/2018	15:46:00	55	36.948	-5	7.574	15:54:00	55	37.026	-5	7.582
MS EMFF	South Arran	18	North Brodick	DDV	02/09/2018	15:59:00	55	36.744	-5	7.493	16:07:00	55	36.793	-5	7.488
MS EMFF	South Arran	19	North Brodick	DDV	02/09/2018	16:11:00	55	36.61	-5	7.484	16:19:00	55	36.651	-5	7.476
MS EMFF	South Arran	20	North Brodick	DDV	02/09/2018	16:23:00	55	36.438	-5	7.441	16:32:00	55	36.482	-5	7.419
MS EMFF	South Arran	21	East Pladda	DDV	03/09/2018	09:01:00	55	26.583	-5	5.637	9:09:00	55	26.544	-5	5.705

Project code	Survey area name	Station ref	Site name	Gear code	Date sampled	Start time (UTC)	Start Lat. Deg	Start Lat. mins	Start Long. Deg	Start Long. mins	End time (UTC)	End Lat. Deg	End Lat. mins	End Long. Deg	End Long. mins
MS EMFF	South Arran	22	East Pladda	DDV	03/09/2018	09:14:00	55	26.496	-5	5.805	9:23:00	55	26.474	-5	5.861
MS EMFF	South Arran	23	East Pladda	DDV	03/09/2018	09:27:00	55	26.373	-5	6.024	9:35:00	55	26.366	-5	6.094
MS EMFF	South Arran	24	East Pladda	DDV	03/09/2018	09:40:00	55	26.264	-5	6.255	9:48:00	55	26.282	-5	6.281
MS EMFF	South Arran	25	East Pladda	DDV	03/09/2018	09:54:00	55	26.024	-5	6.229	10:03:00	55	25.997	-5	6.336
MS EMFF	South Arran	26	East Pladda	DDV	03/09/2018	10:07:00	55	26.086	-5	6.396	10:16:00	55	26.097	-5	6.458
MS EMFF	South Arran	27	East Pladda	DDV	03/09/2018	10:20:00	55	26.074	-5	6.620	10:28:00	55	26.077	-5	6.614
MS EMFF	South Arran	28	East Pladda	DDV	03/09/2018	10:33:00	55	26.119	-5	6.699	10:41:00	55	26.115	-5	6.666
MS EMFF	South Arran	29	East Pladda	DDV	03/09/2018	11:06:00	55	25.822	-5	6.906	11:14:00	55	25.790	-5	6.858
MS EMFF	South Arran	30	East Pladda	DDV	03/09/2018	11:19:00	55	25.952	-5	6.770	11:27:00	55	25.928	-5	6.734
MS EMFF	South Arran	31	West Pladda	DDV	03/09/2018	12:22:00	55	26.165	-5	7.767	12:29:00	55	26.132	-5	7.644
MS EMFF	South Arran	32	West Pladda	DDV	03/09/2018	13:29:00	55	25.937	-5	7.719	13:35:00	55	25.887	-5	7.657
MS EMFF	South Arran	33	West Pladda	DDV	03/09/2018	13:41:00	55	26.030	-5	7.604	13:49:00	55	25.981	-5	7.544
MS EMFF	South Arran	34	West Pladda	DDV	03/09/2018	13:57:00	55	26.052	-5	7.759	14:05:00	55	25.989	-5	7.673
MS EMFF	South Arran	35	West Pladda	DDV	03/09/2018	14:11:00	55	26.111	-5	7.622	14:19:00	55	26.063	-5	7.584
MS EMFF	South Arran	36	West Pladda	DDV	03/09/2018	14:24:00	55	26.167	-5	7.428	14:31:00	55	26.123	-5	7.440
MS EMFF	South Arran	37	West Pladda	DDV	03/09/2018	14:35:00	55	26.046	-5	7.463	14:43:00	55	26.014	-5	7.454
MS EMFF	South Arran	38	West Pladda	DDV	03/09/2018	14:47:00	55	25.970	-5	7.404	14:55:00	55	25.932	-5	7.449
MS EMFF	South Arran	39	West Pladda	DDV	03/09/2018	15:01:00	55	26.152	-5	7.239	15:09:00	55	26.126	-5	7.258
MS EMFF	South Arran	40	Iron Ledges	DDV	04/09/2018	10:11:00	55	27.353	-5	19.621	10:17:00	55	27.384	-5	19.630
MS EMFF	South Arran	41	Iron Ledges	DDV	04/09/2018	10:25:00	55	26.936	-5	19.535	10:30:00	55	26.967	-5	19.562
MS EMFF	South Arran	42	Iron Ledges	DDV	04/09/2018	10:37:00	55	26.688	-5	19.223	10:42:00	55	26.717	-5	19.263
MS EMFF	South Arran	43	Iron Ledges	DDV	04/09/2018	10:48:00	55	26.696	-5	18.854	10:55:00	55	26.725	-5	18.904
MS EMFF	South Arran	44	Iron Ledges	DDV	04/09/2018	11:02:00	55	26.418	-5	18.990	11:08:00	55	26.450	-5	19.039

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MS EMFF	South Arran	45	Iron Ledges	DDV	04/09/2018	11:14:00	55	26.492	-5	18.412	11:23:00	55	26.527	-5	18.463
MS EMFF	South Arran	46	Iron Ledges	DDV	04/09/2018	11:29:00	55	26.377	-5	18.126	11:37:00	55	26.414	-5	18.184
MS EMFF	South Arran	47	Iron Ledges	DDV	04/09/2018	11:44:00	55	26.120	-5	18.561	11:49:00	55	26.139	-5	18.602
MS EMFF	South Arran	48	Iron Ledges	DDV	04/09/2018	11:55:00	55	26.220	-5	18.145	12:04:00	55	26.284	-5	18.186
MS EMFF	South Arran	49	Iron Ledges	DDV	04/09/2018	12:09:00	55	26.312	-5	17.727	12:17:00	55	26.354	-5	17.757
MS EMFF	South Arran	50	Iron Ledges	DDV	04/09/2018	12:21:00	55	26.395	-5	17.505	12:29:00	55	26.437	-5	17.510
MS EMFF	South Arran	51	Iron Ledges	DDV	04/09/2018	12:35:00	55	26.235	-5	17.217	12:43:00	55	26.286	-5	17.220
MS EMFF	South Arran	52	Iron Ledges	DDV	04/09/2018	12:51:00	55	26.203	-5	17.676	12:59:00	55	26.245	-5	17.681
MS EMFF	South Arran	53	Iron Ledges	DDV	04/09/2018	13:07:00	55	25.952	-5	18.014	13:12:00	55	25.968	-5	18.029
MS EMFF	South Arran	54	Iron Ledges	DDV	04/09/2018	13:18:00	55	25.908	-5	17.354	13:24:00	55	25.922	-5	17.365
MS EMFF	South Arran	55	Iron Ledges	DDV	04/09/2018	13:30:00	55	25.949	-5	16.738	13:36:00	55	25.966	-5	16.723
MS EMFF	South Arran	56	Holy Island S	DDV	04/09/2018	15:05:00	55	30.344	-5	3.956	15:14:00	55	30.379	-5	3.953
MS EMFF	South Arran	57	Holy Island S	DDV	04/09/2018	15:19:00	55	30.390	-5	3.756	15:27:00	55	30.428	-5	3.746
MS EMFF	South Arran	58	Holy Island S	DDV	04/09/2018	15:31:00	55	30.483	-5	3.940	15:40:00	55	30.522	-5	3.931
MS EMFF	South Arran	59	Holy Island S	DDV	04/09/2018	15:44:00	55	30.603	-5	3.855	15:52:00	55	30.616	-5	3.827
MS EMFF	South Arran	60	Holy Island S	DDV	04/09/2018	15:57:00	55	30.592	-5	3.051	16:05:00	55	30.616	-5	3.035
MS EMFF	South Arran	61	Holy Island S	DDV	04/09/2018	16:11:00	55	30.522	-5	3.699	16:19:00	55	30.549	-5	3.681
MS EMFF	South Arran	62	Holy Island S	DDV	04/09/2018	16:24:00	55	30.613	-5	3.515	16:32:00	55	30.633	-5	3.456
MS EMFF	South Arran	63	Holy Island S	DDV	04/09/2018	16:36:00	55	30.648	-5	3.692	16:44:00	55	30.668	-5	3.635
MS EMFF	South Arran	64	Holy Island S	DDV	04/09/2018	16:47:00	55	30.738	-5	3.562	16:55:00	55	30.763	-5	3.536
MS EMFF	South Arran	65	Holy Island S	DDV	04/09/2018	16:59:00	55	30.836	-5	3.473	17:07:00	55	30.832	-5	3.486
MS EMFF	South Arran	66	Holy Island S	DDV	04/09/2018	17:13:00	55	30.982	-5	3.432	17:21:00	55	30.964	-5	3.415
MS EMFF	South Arran	67	Inchmarnock	DDV	05/09/2018	08:52:00	55	43.321	-5	1.358	8:58:00	55	43.335	-5	1.436

Project code	Survey area name	Station ref	Site name	Gear code	Date sampled	Start time (UTC)	Start Lat. Deg	Start Lat. mins	Start Long. Deg	Start Long. mins	End time (UTC)	End Lat. Deg	End Lat. mins	End Long. Deg	End Long. mins
MS EMFF	South Arran	68	Inchmarnock	DDV	05/09/2018	09:11:00	55	43.612	-5	2.590	9:15:00	55	43.628	-5	2.627
MS EMFF	South Arran	69	Inchmarnock	DDV	05/09/2018	09:26:00	55	44.261	-5	3.427	9:31:00	55	44.305	-5	3.462
MS EMFF	South Arran	70	Inchmarnock	DDV	05/09/2018	09:36:00	55	44.596	-5	3.664	9:42:00	55	44.656	-5	3.706
MS EMFF	South Arran	71	Inchmarnock	DDV	05/09/2018	09:48:00	55	45.234	-5	3.936	9:53:00	55	45.234	-5	3.966
MS EMFF	South Arran	72	Inchmarnock	DDV	05/09/2018	09:58:00	55	45.329	-5	4.079	10:03:00	55	45.389	-5	4.113
MS EMFF	South Arran	73	Inchmarnock	DDV	05/09/2018	10:08:00	55	45.555	-5	4.521	10:13:00	55	45.619	-5	4.567
MS EMFF	South Arran	74	Inchmarnock	DDV	05/09/2018	10:19:00	55	45.799	-5	5.120	10:24:00	55	45.855	-5	5.169
MS EMFF	South Arran	75	Inchmarnock	DDV	05/09/2018	10:30:00	55	46.027	-5	5.642	10:37:00	55	46.092	-5	5.717
MS EMFF	South Arran	76	Inchmarnock	DDV	05/09/2018	10:44:00	55	46.235	-5	6.396	10:49:00	55	46.262	-5	6.421
MS EMFF	South Arran	77	Inchmarnock	DDV	05/09/2018	10:55:00	55	45.939	-5	6.781	11:00:00	55	45.957	-5	6.828
MS EMFF	South Arran	78	Inchmarnock	DDV	05/09/2018	11:12:00	55	46.377	-5	8.293	11:17:00	55	46.388	-5	8.272
MS EMFF	South Arran	79	Inchmarnock	DDV	05/09/2018	11:24:00	55	46.414	-5	7.491	11:29:00	55	46.425	-5	7.454
MS EMFF	South Arran	80	Inchmarnock	DDV	05/09/2018	11:38:00	55	46.792	-5	8.647	11:44:00	55	46.803	-5	8.643
MS EMFF	South Arran	81	Inchmarnock	DDV	05/09/2018	11:52:00	55	47.086	-5	7.785	11:57:00	55	47.093	-5	7.672
MS EMFF	South Arran	82	Inchmarnock	DDV	05/09/2018	12:03:00	55	47.459	-5	8.008	12:08:00	55	47.471	-5	7.995
MS EMFF	South Arran	83	Inchmarnock	DDV	05/09/2018	12:54:00	55	47.481	-5	8.969	12:51:00	55	47.492	-5	8.912
MS EMFF	South Arran	84	Inchmarnock	DDV	05/09/2018	13:09:00	55	47.908	-5	7.741	13:15:00	55	47.911	-5	7.702
MS EMFF	South Arran	85	Inchmarnock	DDV	05/09/2018	13:25:00	55	48.126	-5	8.864	13:30:00	55	48.145	-5	8.865
MS EMFF	South Arran	86	Inchmarnock	DDV	05/09/2018	13:38:00	55	48.715	-5	8.791	13:43:00	55	48.721	-5	8.765
MS EMFF	South Arran	87	Inchmarnock	DDV	05/09/2018	14:08:00	55	50.498	-5	11.891	14:13:00	55	50.507	-5	11.894
MS EMFF	South Arran	88	Inchmarnock	DDV	05/09/2018	14:20:00	55	50.138	-5	11.683	14:25:00	55	50.191	-5	11.640
MS EMFF	South Arran	89	Inchmarnock	DDV	05/09/2018	14:32:00	55	49.806	-5	11.834	14:37:00	55	49.823	-5	11.803
MS EMFF	South Arran	90	Inchmarnock	DDV	05/09/2018	14:46:00	55	49.492	-5	12.215	14:52:00	55	49.523	-5	12.142

Project code	Survey area name	Station ref	Site name	Gear code	Date sampled	Start time (UTC)	Start Lat. Deg	Start Lat. mins	Start Long. Deg	Start Long. mins	End time (UTC)	End Lat. Deg	End Lat. mins	End Long. Deg	End Long. mins
MS EMFF	South Arran	91	Inchmarnock	DDV	05/09/2018	14:59:00	55	49.481	-5	12.801	15:04:00	55	49.507	-5	12.726
MS EMFF	South Arran	92	Inchmarnock	DDV	05/09/2018	15:11:00	55	49.620	-5	13.328	15:16:00	55	49.645	-5	13.286
MS EMFF	South Arran	93	Inchmarnock	DDV	05/09/2018	15:24:00	55	50.126	-5	13.765	15:29:00	55	50.155	-5	13.739
MS EMFF	South Arran	94	Inchmarnock	DDV	05/09/2018	15:39:00	55	50.153	-5	14.737	15:44:00	55	50.194	-5	14.730
MS EMFF	South Arran	95	Inchmarnock	DDV	05/09/2018	16:14:00	55	48.400	-5	9.831	16:18:00	55	48.418	-5	9.804
MS EMFF	South Arran	96	Inchmarnock	DDV	05/09/2018	16:26:00	55	48.105	-5	10.182	16:31:00	55	48.139	-5	10.146
MS EMFF	South Arran	97	Inchmarnock	DDV	06/09/2018	09:24:00	55	46.359	-5	9.271	9:29:00	55	46.343	-5	9.211
MS EMFF	South Arran	98	Inchmarnock	DDV	06/09/2018	09:37:00	55	46.601	-5	9.782	9:42:00	55	46.573	-5	9.736
MS EMFF	South Arran	99	Inchmarnock	DDV	06/09/2018	09:48:00	55	46.916	-5	10.097	9:54:00	55	46.878	-5	10.056
MS EMFF	South Arran	100	Inchmarnock	DDV	06/09/2018	10:14:00	55	47.368	-5	10.337	10:17:00	55	47.349	-5	10.323
MS EMFF	South Arran	101	Inchmarnock	DDV	06/09/2018	10:25:00	55	47.728	-5	10.240	10:30:00	55	47.717	-5	10.234
MS EMFF	South Arran	102	Skipness	DDV	06/09/2018	11:19:00	55	46.312	-5	18.773	11:24:00	55	46.282	-5	18.774
MS EMFF	South Arran	103	Skipness	DDV	06/09/2018	11:29:00	55	46.191	-5	19.014	11:34:00	55	46.171	-5	18.988
MS EMFF	South Arran	104	Skipness	DDV	06/09/2018	11:38:00	55	46.012	-5	19.111	11:44:00	55	45.996	-5	18.078
MS EMFF	South Arran	105	Skipness	DDV	06/09/2018	11:48:00	55	45.874	-5	19.304	11:53:00	55	45.857	-5	19.293
MS EMFF	South Arran	106	Skipness	DDV	06/09/2018	11:58:00	55	45.741	-5	19.458	12:04:00	55	45.750	-5	19.458
MS EMFF	South Arran	107	Skipness	DDV	06/09/2018	12:08:00	55	45.680	-5	19.480	12:16:00	55	45.627	-5	19.515
MS EMFF	South Arran	108	Skipness	DDV	06/09/2018	12:23:00	55	45.684	-5	19.395	12:28:00	55	45.665	-5	19.336
MS EMFF	South Arran	109	Skipness	DDV	06/09/2018	12:32:00	55	45.699	-5	19.535	12:40:00	55	45.667	-5	19.624
MS EMFF	South Arran	110	Skipness	DDV	06/09/2018	12:45:00	55	45.724	-5	19.624	12:50:00	55	45.717	-5	19.506
MS EMFF	South Arran	111	Skipness	DDV	06/09/2018	13:08:00	55	45.709	-5	20.518	13:13:00	55	45.678	-5	20.466
MS EMFF	South Arran	112	Skipness	DDV	06/09/2018	13:18:00	55	45.752	-5	20.722	13:23:00	55	45.737	-5	20.654
MS EMFF	South Arran	113	Skipness	DDV	06/09/2018	13:28:00	55	45.786	-5	20.269	13:33:00	55	45.772	-5	20.183

Project code	Survey area name	Station ref	Site name	Gear code	Date sampled	Start time (UTC)	Start Lat. Deg	Start Lat. mins	Start Long. Deg	Start Long. mins	End time (UTC)	End Lat. Deg	End Lat. mins	End Long. Deg	End Long. mins
MS EMFF	South Arran	114	Skipness	DDV	06/09/2018	13:37:00	55	45.687	-5	19.916	13:40:00	55	45.669	-5	19.862
MS EMFF	South Arran	115	Lochranza	DDV	06/09/2018	14:17:00	55	42.513	-5	18.402	14:21:00	55	42.516	-5	18.308
MS EMFF	South Arran	116	Lochranza	DDV	06/09/2018	14:30:00	55	43.018	-5	17.575	14:03:00	55	43.048	-5	17.492
MS EMFF	South Arran	117	Lochranza	DDV	06/09/2018	14:43:00	55	43.297	-5	16.610	14:48:00	55	43.291	-5	16.468
MS EMFF	South Arran	118	Whiting Bay	DDV	07/09/2018	07:35:00	55	30.104	-5	4.956	7:40:00	55	30.105	-5	4.926
MS EMFF	South Arran	119	Whiting Bay	DDV	07/09/2018	07:45:00	55	30.016	-5	5.079	7:50:00	55	30.006	-5	5.057
MS EMFF	South Arran	120	Whiting Bay	DDV	07/09/2018	07:54:00	55	29.899	-5	5.246	7:59:00	55	29.880	-5	5.221
MS EMFF	South Arran	121	Whiting Bay	DDV	07/09/2018	08:02:00	55	29.829	-5	5.305	8:08:00	55	29.813	-5	5.254
MS EMFF	South Arran	122	Whiting Bay	DDV	07/09/2018	08:12:00	55	29.664	-5	5.346	8:19:00	55	29.643	-5	5.294
MS EMFF	South Arran	123	Whiting Bay	DDV	07/09/2018	08:23:00	55	29.581	-5	5.397	8:28:00	55	29.547	-5	5.314
MS EMFF	South Arran	124	Whiting Bay	DDV	07/09/2018	08:32:00	55	29.412	-5	5.436	8:37:00	55	29.380	-5	5.430
MS EMFF	South Arran	125	Whiting Bay	DDV	07/09/2018	08:40:00	55	29.269	-5	5.434	8:45:00	55	29.236	-5	5.419
MS EMFF	South Arran	126	Whiting Bay	DDV	07/09/2018	08:49:00	55	29.166	-5	5.421	8:54:00	55	29.132	-5	5.385
MS EMFF	South Arran	127	Whiting Bay	DDV	07/09/2018	08:57:00	55	29.035	-5	5.353	9:02:00	55	28.997	-5	5.328
MS EMFF	South Arran	128	Whiting Bay	DDV	07/09/2018	09:07:00	55	28.776	-5	5.154	9:12:00	55	28.729	-5	5.145
MS EMFF	South Arran	129	Whiting Bay	DDV	07/09/2018	09:15:00	55	28.663	-5	5.108	9:20:00	55	28.634	-5	5.094
MS EMFF	South Arran	130	Whiting Bay	DDV	07/09/2018	09:25:00	55	28.543	-5	5.001	9:30:00	55	28.526	-5	4.944
MS EMFF	South Arran	131	Whiting Bay	DDV	07/09/2018	09:35:00	55	28.423	-5	4.956	9:41:00	55	28.396	-5	4.960
MS EMFF	South Arran	132	Whiting Bay	DDV	07/09/2018	09:44:00	55	28.326	-5	4.935	9:49:00	55	28.316	-5	4.888
MS EMFF	South Arran	133	Whiting Bay	DDV	07/09/2018	09:55:00	55	28.185	-5	4.798	10:00:00	55	28.178	-5	4.737
MS EMFF	South Arran	134	Whiting Bay	DDV	07/09/2018	10:05:00	55	28.096	-5	4.715	10:10:00	55	28.097	-5	4.651

Table 2 South Arran sampling station descriptions, September 2018

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
1	Holy Island N	02/09/2018	13	6	1.2	00:06	SHELLS, COARSE GRAVEL	KELP
2	Holy Island N	02/09/2018	5	5	0.8	00:05	SHELL, GRAVEL, SOFT GRAVEL	SUGAR KELP, STARFISH, SMALL MAERL
3	Holy Island N	02/09/2018	7	6	0.6	00:07	SHELLS, GRAVEL	KELP, FLUFF
4	Holy Island N	02/09/2018	10	8	0.7	00:07	SOFT GRAVEL, SHELLS	CORALLINE MAERL, FLUFF, KELP, ANENOME, STARFISH
5	Holy Island N	02/09/2018	7	8	0.5	00:07	GRAVEL, BOULDERS, SHELLS	STARFISH, SUGAR KELP, MAERL PIECES
6	Holy Island N	02/09/2018	11	20	0.7	00:07	COARSE SAND, SHELLS	FLUFF, BURROWING ANENOME, STARFISH
7	Sannox	02/09/2018	24	27	1	00:05	MUDDY SAND, SHELLS, PEBBLES	STARFISH, FLUFF
8	Sannox	02/09/2018	19	17	0.9	00:07	PEBBLES, GRAVELLY SAND, SHELLS	SUNSTAR, STARFISH, FLUFF
9	Sannox	02/09/2018	18	8	0.9	00:04	FINE GRAVEL, MAERL, SHELLS	FLUFF, MAERL
10	Sannox	02/09/2018	9	15	0.7	00:05	SHELLS, COARSE GRAVEL	STARFISH, SEAPEN??
11	Sannox	02/09/2018	6	5	0.9	00:05	SHELL, GRAVEL, COARSE SAND	KELP, STARFISH
12	Sannox	02/09/2018	9	5	0.8	00:06	FINE GRAVEL, COARSE SAND, SHELLS	KELP, URCHINS
13	North Brodick	02/09/2018	23	23	0.9	00:06	MUD, FINE SAND	STARFISH
14	North Brodick	02/09/2018	10	22	0.9	00:07	SHELLS, COARSE SAND, GRAVEL	SUNSTAR, STARFISH, POSSIBLY MAERL
15	North Brodick	02/09/2018	7	17	0.6	00:09	COARSE SAND, FINE GRAVEL, GRAVEL, SHELLS	MAERL, CRABS, KELP, SQUAT LOBSTER, STARFISH
16	North Brodick	02/09/2018	11	9	0.6	00:08	GRAVEL, MAERL	MAERL, FLUFF, KELP, STARFISH, SUNSTAR
17	North Brodick	02/09/2018	8	23	0.7	00:08	SHELLS, COARSE SANDY GRAVEL, COBBLES, MAERL??	STARFISH, MAERL
18	North Brodick	02/09/2018	7	13	0.8	00:08	COARSE GRAVEL	STARFISH, POSSIBLE MAERL
19	North Brodick	02/09/2018	6	8	0.5	00:08	COARSE GRAVEL, SHELLS, MAERL	MAERL, KELP, STARFISH, BLADDER WRACK, SHORE CRAB
20	North Brodick	02/09/2018	13	16	0.5	00:09	COARSE GRAVEL, PEBBLES, MAERL?	CUSHION STARS, KELP, URCHINS, MAERL, STARFISH
21	East Pladda	03/09/2018	13	13	0.5	00:08	SHELLS, COARSE GRAVEL	STARFISH, CRABS, SCALLOP,
22	East Pladda	03/09/2018	13	12	0.3	00:09	SHELLS, SANDY GRAVEL	STARFISH, KELP, FLUFF, 7 ARM STARFISH
23	East Pladda	03/09/2018	11	10	0.3	00:08	GRAVELLY COARSE SAND, SHELLS, SMALL PEBBLES	STARFISH, CRABS, SUGAR KELP
24	East Pladda	03/09/2018	9	9	0.2	00:08	GRAVELLY SAND, MAERL?	MAERL?, STARFISH

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
25	East Pladda	03/09/2018	22	18	0.5	00:09	BURROWED MUD, SHELLS, LARGE PEBBLES	CUSHION STAR, DOGFISH, MAERL?
26	East Pladda	03/09/2018	10	10	0.3	00:09	SHELLS, GRAVEL	LIVE MAERL, DEAD MAERL FRAGMENTS, SUGAR KELP
27	East Pladda	03/09/2018	8	8	0.2	00:08	SHELLS, MAERL	MAERL, SCALLOPS, SUGAR KELP
28	East Pladda	03/09/2018	6	7	0.1	00:08	COARSE GRAVEL, SMALL PEBBLES, SHELLS, SAND, MAERL	MAERL
29	East Pladda	03/09/2018	7	9	0.4	00:08	SMALL PEBBLES, COARSE SAND, SHELLS, MAERL?	KELP, SUNSTAR, MAERL?
30	East Pladda	03/09/2018	8	9	0.2	00:08	SHELLS, COARSE SAND, MAERL FRAGMENTS	SUGAR KELP, MAERL?, STARFISH
31	West Pladda	03/09/2018	10	10	0.7	00:07	ROCK, SHELLS, GRAVEL, SMALL PEBBLES	SUGAR KELP, STARFISH
32	West Pladda	03/09/2018	13	12	0.6	00:06	GRAVEL, SHELLS, BOULDERS, PEBBLES	SUGAR KELP, STARFISH
33	West Pladda	03/09/2018	9	9	0.6	00:08	COARSE GRAVEL, SHELLS, MAERL	MAERL, STARFISH
34	West Pladda	03/09/2018	11	11	0.7	00:08	SHELLS, MAERL BEDS	MAERL, STARFISH
35	West Pladda	03/09/2018	9	9	0.5	00:08	COARSE GRAVEL, SHELLS, MAERL	MAERL, STARFISH
36	West Pladda	03/09/2018	6	7	0.6	00:07	ROCK, BOULDERS, PEBBLES, SHELLS	CORALLINE MAERL/ALGAE, KELP FOREST, SUNSTARS
37	West Pladda	03/09/2018	8	9	0.1	00:08	COARSE GRAVEL, MAERL, SHELLS, PEBBLES	MAERL, KELP
38	West Pladda	03/09/2018	8	9	0.2	00:08	COARSE GRAVEL, MAERL, SHELLS	MAERL, KELP
39	West Pladda	03/09/2018	5	6	0.4	00:08	COARSE SHELL, GRAVEL, SMALL PEBBLES	KELP FOREST
40	Iron Ledges	04/09/2018	15	14	0.3	00:06	COARSE GRAVEL, SHELLS, PEBBLES, MAERL FRAGMENTS	URCHIN, STARFISH
41	Iron Ledges	04/09/2018	17	17	0.6	00:05	COARSE GRAVEL, SHELLS, PEBBLES	CUSHION STARS, STARFISH, CORALLINE ALGAE, CRABS,
42	Iron Ledges	04/09/2018	18	18	0.4	00:05	PEBBLES, GRAVELLY MUD, SHELLS	NONE
43	Iron Ledges	04/09/2018	13	13	0.5	00:07	ROCKS, SHELLS, GRAVEL, BOULDERS	URCHIN, STARFISH
44	Iron Ledges	04/09/2018	19	18	0.6	00:06	COARSE SHELL GRAVEL, PEBBLES	NONE
45	Iron Ledges	04/09/2018	15	14	0.5	00:09	SMALL PEBBLES, SHELL, GRAVEL, WHITE MAERL FRGAMENTS	MAERL?

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
46	Iron Ledges	04/09/2018	15	15	0.3	00:08	SHELLS, COARSE GRAVEL, SMALL PEBBLES	MAERL?, CORALINE ALGAE
47	Iron Ledges	04/09/2018	18	18	0.4	00:05	FINE GRAVEL, MUD SEDIMENT, PEBBLES, SHELLS, DEAD MAERL	CUSHON STARS, STARFISH
48	Iron Ledges	04/09/2018	17	15	0.5	00:09	LARGE PEBBLES, SHELLS, BOULDERS, ROCK, GRAVEL	URCHINS, STARFISH, SUNSTARS
49	Iron Ledges	04/09/2018	15	12	0.4	00:08	SHELLS, GRAVEL, PEBBLES, MAERL, DEAD MAERL	MAERL, URCHINS, STARFISH, SUGAR KELP
50	Iron Ledges	04/09/2018	16	15	0.5	00:08	FINE GRAVEL, SHELLS, PEBBLES, MAERL	MAERL, STARFISH
51	Iron Ledges	04/09/2018	16	15	0.5	00:08	COARSE GRAVELLY SHELL, MAERL	MAERL BEDS, 7 ARM STARFISH, SUNSTAR
52	Iron Ledges	04/09/2018	17	16	0.3	00:08	FINE GRAVEL, BOULDERS, SHELLS, COBBLES, MAERL	MAERL, BURROWING ANENOMES, 7 ARM STARFISH
53	Iron Ledges	04/09/2018	21	19	0.2	00:05	FINE GRAVEL, PEBBLES, WHITE MAERL FRAGMENTS	SUNSTAR
54	Iron Ledges	04/09/2018	17	15	0.1	00:06	ROCKS, COARSE GRAVEL, PEBBLES, FINE GRAVEL	URCHINS, SUNSTARS, CUSHION STARS
55	Iron Ledges	04/09/2018	19	18	0.4	00:06	COBBLES, COARSE GRAVEL,	CUSHION STARS, SCALLOPS, STARFISH, CORALINE
56	Holy Island S	04/09/2018	14	13	0.2	00:09	BOULDERS, SHELLS, SANDY GRAVEL	LOTS OF BRITTLE STARS, STARFISH SEA SQUIRTS
57	Holy Island S	04/09/2018	14	12	0.5	00:08	SANDY GRAVEL, SHELLS, MAERL	MAERL, BURROWING ANENOMES, 7 ARM STARFISH, BRITTLE STARS
58	Holy Island S	04/09/2018	9	9	0.2	00:09	BOULDERS, SHELLS, COARSE SANDY GRAVEL	URCHINS, SCALLOP, KELP
59	Holy Island S	04/09/2018	8	8	0.3	00:08	PEBBLES, SHELLS, COARSE SANDY GRAVEL	FISH, KELP FOREST
60	Holy Island S	04/09/2018	9	7	0.3	00:08	SHELLS, COARSE GRAVEL, MAERL	MAERL, KELP, OCTOPUS, STARFISH, SCALLOP
61	Holy Island S	04/09/2018	15	12	0.3	00:08	PEBBLES, FINE GRAVELLY SAND, MAERL	MAERL, KELP, SUNSTAR, CUSHION STAR
62	Holy Island S	04/09/2018	17	16	0.2	00:08	COARSE GRAVEL, PEBBLES	LOTS OF BRITTLE STARS
63	Holy Island S	04/09/2018	7	9	0.3	00:08	COARSE GRAVEL, SHELLS, WHITE MAERL FRAGMENTS	MAERL, STARFISH
64	Holy Island S	04/09/2018	8	9	0.4	00:08	COARSE GRAVEL, SHELLS, MAERL	MAERL, STARFISH

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
65	Holy Island S	04/09/2018	8	9	0.3	00:08	SHELLS, COARSE GRAVEL, PEBBLES, MAERL	CALCAREOUS ALGAE, MAERL, STARFISH
66	Holy Island S	04/09/2018	25	27	0.3	00:08	FINE GRAVEL, SAND, MUD, COBBLES	SQUAT LOBSTERS, URCHINS, CRABS, CUSHION STARS
67	Inchmarnock	05/09/2018	15	12	0.5	00:06	COARSE SAND, GRAVEL, SHELLS, MAERL?	MAERL, URCHINS
68	Inchmarnock	05/09/2018	24	18	0.4	00:04	MUDDY SAND	FLUFF, STARFISH
69	Inchmarnock	05/09/2018	17	10	0.5	00:05	MUDDY SAND, GRAVEL, SHELLS	KELP, STARFISH
70	Inchmarnock	05/09/2018	8	11	1	00:06	GRAVEL, SAND, SHELLS	FLUFF, STARFISH
71	Inchmarnock	05/09/2018	5	6	0.8	00:05	MUDDY SAND, SHELLS	STARFISH
72	Inchmarnock	05/09/2018	10	6	0.6	00:05	SAND, SHELLS	SEAWEED, KELP
73	Inchmarnock	05/09/2018	6	6	1.2	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL?	STARFISH, KELP
74	Inchmarnock	05/09/2018	9	7	0.8	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL	MAERL, STARFISH, KELP
75	Inchmarnock	05/09/2018	5	7	0.7	00:07	SAND, GRAVEL, MAERL?	KELP, STARFISH, MAERL?
76	Inchmarnock	05/09/2018	12	8	0.7	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL	MAERL, STARFISH, KELP, FLUFF
77	Inchmarnock	05/09/2018	12	9	0.4	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL?	STARFISH
78	Inchmarnock	05/09/2018	6	8	0.3	00:05	COARSE SAND, GRAVEL, SHELLS	KELP
79	Inchmarnock	05/09/2018	7	6	0.4	00:05	COARSE SAND, GRAVEL, SHELLS	KELP, CRABS
80	Inchmarnock	05/09/2018	20	20	0.3	00:06	MUDDY SAND, PEBBLES	BURROWING ANENOMES
81	Inchmarnock	05/09/2018	12	7	0.1	00:05	COARSE SAND, GRAVEL, SHELL	KELP, CRABS, STARFISH
82	Inchmarnock	05/09/2018	16	17	0.2	00:05	SANDY MUD, SHELL DEBRIS	NONE
83	Inchmarnock	05/09/2018	10	10	0.1	00:05	FINE MUDDY SAND	KELP
84	Inchmarnock	05/09/2018	8	7	0.3	00:06	MUDDY SAND	CRABS, STARFISH
85	Inchmarnock	05/09/2018	29	29	0.2	00:05	BURROWED MUD	NEPHROPS, SQUAT LOBSTER, CRAB
86	Inchmarnock	05/09/2018	15	13	0.3	00:05	SAND, GRAVEL, SHELLS, PEBBLES	STARFISH, URCHINS
87	Inchmarnock	05/09/2018	17	19	0.1	00:05	FINE SAND, MUD	NONE
88	Inchmarnock	05/09/2018	10	11	0.2	00:05	FINE SAND, MUD	GURNARD
89	Inchmarnock	05/09/2018	13	13	0.3	00:05	SAND, PEBBLES, GRAVEL, SHELL DEBRIS	CRABS, STARFISH
90	Inchmarnock	05/09/2018	9	12	0.2	00:06	COARSE SAND, GRAVEL, SHELLS, MAERL?	KELP, STARFISH
91	Inchmarnock	05/09/2018	7	6	0.6	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL?	STARFISH, VELVET SWIMMING CRAB, KELP, MAERL
92	Inchmarnock	05/09/2018	11	7	0.4	00:05	COARSE SAND, GRAVEL, SHELLS, MAERL?	MAERL, KELP, STARFISH

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
93	Inchmarnock	05/09/2018	8	5	0.4	00:05	FINE SAND, SHELL FRAGMENTS	STARFISH, KELP, SEAWEED
94	Inchmarnock	05/09/2018	13	7	0.6	00:05	PEBBLES, GRAVEL, SAND, SHELLS, MAERL?	STARFISH, KELP, CRAB
95	Inchmarnock	05/09/2018	12	15	0.4	00:04	COARSE SAND, SHELLS, GRAVEL	KELP, CRABS, STARFISH
96	Inchmarnock	05/09/2018	19	11	0.4	00:05	PEBBLES, GRAVEL, SHELL DEBRIS	CRAB, STARFISH, KELP
97	Inchmarnock	06/09/2018	8	11	0.4	00:05	GRAVELLY SAND, SHELL DEBRIS, MAERL	MAERL, FLUFF, STARFISH
98	Inchmarnock	06/09/2018	12	8	0.4	00:05	COARSE SAND, SHELL DEBRIS, MAERL?	MAERL, CRAB, STARFISH, LOOSE KELP
99	Inchmarnock	06/09/2018	18	19	0.5	00:06	MUDDY SAND, GRAVEL, SHELL DEBRIS, PEBBLES	STARFISH, KELP
100	Inchmarnock	06/09/2018	16	missing	0.5	00:03	PEBBLES, GRAVEL, SHELL DEBRIS, COARSE SAND PATCHES, MAERL?,	MAERL, KELP, BROWN CRAB
101	Inchmarnock	06/09/2018	12	9	0.2	00:05	COARSE SAND, GRAVEL, SHELL DEBRIS, MAERL?	FLUFF, KELP, BROWN CRAB, VELVET SWIMMING CRAB
102	Skipness	06/09/2018	19	21	0.3	00:05	MUDDY SAND, SHELL DEBRIS	BURROWING ANENOMES, CRABS, STARFISH, SCALLOP
103	Skipness	06/09/2018	8	16	0.4	00:05	FINE SAND, MUDDY SAND	SEAWEED, SEA SQUIRTS, CRABS
104	Skipness	06/09/2018	13	18	0.3	00:06	FINE SAND, SHELL FRAGMENTS	KELP
105	Skipness	06/09/2018	6	7	0.5	00:05	FINE SAND, SHELL FRAGMENTS	KELP, SEA SQUIRTS
106	Skipness	06/09/2018	6	5	0.5	00:06	SAND, SHELLS	BURROWING ANENOMES, STARFISH, CRABS, FLUFF
107	Skipness	06/09/2018	10	18	0.4	00:08	SAND, GRAVEL, SHELL DEBRIS	FLUFF, KELP, BROWN CRAB, STARFISH
108	Skipness	06/09/2018	16	18	0.3	00:05	SAND, SHELL DEBRIS	KELP, BROWN CRAB, STARFISH
109	Skipness	06/09/2018	7	8	0.5	00:08	SAND, GRAVEL, SHELL DEBRIS, MAERL?	SEAWEED, SEA SQUIRTS, FLUFF, KELP, BURROWING ANENOMES
110	Skipness	06/09/2018	5	6	0.8	00:05	SAND, SHELL DEBRIS, GRAVEL PATCHES	STARFISH, KELP
111	Skipness	06/09/2018	14	missing	0.6	00:05	SAND, SHELL, GRAVEL, PEBBLES, MAERL?	STARFISH, SEAWEEDS
112	Skipness	06/09/2018	6	8	0.6	00:05	SAND, SHELL	KELP, CRABS
113	Skipness	06/09/2018	5	6	0.7	00:05	FINE SAND	SEAWEED, KELP
114	Skipness	06/09/2018	5	3	0.6	00:03	GRAVEL, SHELLS, MAERL?	KELP
115	Lochranza	06/09/2018	23	13	0.7	00:04	PEBBLES, GRAVEL, SAND, MAERL?	MAERL?, STARFISH, KELP
116	Lochranza	06/09/2018	9	5	1	00:04	SAND, GRAVEL, SHELL DEBRIS, MAERL?	MAERL?, CRAB, STARFISH, KELP
117	Lochranza	06/09/2018	12	9	0.7	00:05	SAND	KELP, STARFISH

Station ref	Site name	Date sampled	Start Depth (m BCD)	End Depth (m BCD)	Vessel speed Kn	Video duration hrs	Seabed physical type	Notes on fauna & flora
118	Whiting Bay	07/09/2018	4	5	0.2	00:05	FINE SAND, SHELL FRAGMENTS	CRAB
119	Whiting Bay	07/09/2018	5	6	0.2	00:05	FINE SAND, SEA GRASS, TRANSITION TO NO SEA GRASS	NONE
120	Whiting Bay	07/09/2018	4	5	0.4	00:05	FINE SAND, SHELL FRAGMENTS, SEAGRASS	NONE
121	Whiting Bay	07/09/2018	4	5	0.3	00:06	FINE SAND, SEAGRASS	NONE
122	Whiting Bay	07/09/2018	4	6	0.4	00:07	FINE SAND, SPARSE SEAGRASS, GRADUALLY THICKENING	NONE
123	Whiting Bay	07/09/2018	3	6	0.7	00:05	FINE SAND, SPARSE SEAGRASS	NONE
124	Whiting Bay	07/09/2018	3	3	0.4	00:05	FINE SAND, SEAGRASS	NONE
125	Whiting Bay	07/09/2018	2	3	0.6	00:05	FINE SAND, SEAGRASS PATCHES	NONE
126	Whiting Bay	07/09/2018	2	3	0.4	00:05	FINE SAND	CRAB
127	Whiting Bay	07/09/2018	2	3	0.8	00:05	FINE SAND, SPARSE SEAGRASS	NONE
128	Whiting Bay	07/09/2018	4	3	0.5	00:05	FINE SAND, SPARSE SEAGRASS	NONE
129	Whiting Bay	07/09/2018	2	2	0.5	00:05	FINE SAND, SPARSE SEAGRASS	CRAB
130	Whiting Bay	07/09/2018	5	13	0.4	00:05	FINE SAND	STARFISH
131	Whiting Bay	07/09/2018	5	3	0.4	00:06	FINE SAND, SEAGRASS	NONE
132	Whiting Bay	07/09/2018	3	4	0.4	00:05	FINE SAND, SEAGRASS	CRABS, STARFISH
133	Whiting Bay	07/09/2018	3	5	0.5	00:05	DENSE SEAGRASS	CRABS
134	Whiting Bay	07/09/2018	4	6	0.5	00:05	FINE SAND	STARFISH