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MRV Alba na Mara

Survey 0523A

PROGRAMME

15th April – 04th May 2023

Ports:

Loading: Fraserburgh, 12th April 2023

Unloading: Ullapool, 04th May 2023

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.

Estimated Days per Project: 20 days, 20565 C44700

Equipment:

- 1 x Seacam HD video camera
- 1 x Digital Stills camera - Kongsberg OE14-408
- 1 x Table drop frame
- 6 x LED lights and cables
- 2 x Line lasers + cables
- 2 x Armoured cable
- Axel stand for cables
- 2 x Day Grab
- Grab table
- Sieving table
- 3 x 1 mm sieves
- 2 x Stillages to store grab samples

Background:

Survey 0523A serves work carried out by NatureScot investigating the distribution and condition of benthic biotopes around Scotland. The resultant data are required to underpin the management of the of Marine Protected Areas (MPAs), to meet commitments prescribed by the Scottish MPA Monitoring Strategy, and to identify Priority Marine Features (PMFs) outside the Scottish MPA network. The 0523A survey aims in particular to establish the current status of benthic habitats within the Sound of Barra SAC and Wester Ross MPA, adding upon survey work conducted previously.

Narrative:

Marine Scotland Scientists and NatureScot scientists will join on the 14th April 2023 at Fraserburgh. Conditions permitting, Alba Na Mara will start transiting to survey sites on the west coast on 15th April. The aim is to start survey work in the Sound of Barra (Fig. 1), with grab samples and drop down videos being conducted. Work in Sound of Barra will terminate in time to reach Kyle of Lochalsh / Ullapool for the evening of 26th April with a half landing on 27th April. If work in Sound of Barra is completed early, or prevented by adverse weather, sampling will move to Sound of Arisaig (Fig. 2), Loch Carron MPA (Fig. 3), Wester Ross MPA (Fig. 4), or other PMF locations sites (Fig. 5), depending on conditions and forecast.

Work will cease on the 3rd May to allow sufficient time for the vessel to travel to Ullapool.

Survey operations will take place between the hours of 07:00 and 19:00 (all times BST).

Normal contact will be maintained with the Laboratory.

Objectives:

1. To establish the current status of benthic habitat protected features within the Sound of Barra SAC and Wester Ross MPA, as well as sites out with these areas for comparison studies, 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, and eDNA techniques
3. Repeating video sampling in Loch Carron
4. Additional drop down video stations focussing on maerl and Northern sea fans around the Sound of Arisaig, which were not completed during 0822a.
5. Drop down videos at further PMF sites focussing on maerl and Northern Sea fans.

Prioritisation:

1. Sampling around Sound of Barra SAC
2. Sampling around Wester Ross MPA
3. Sampling in Loch Carron MPA

4. Complete the drop down videos at sampling stations around Sound of Arisaig
5. Drop down video surveys at other Priority Marine Feature areas

Submitted:
R. Langton
27th March 2023

Approved:
I. Gibb
10th April 2023

Maps of the planned sampling locations

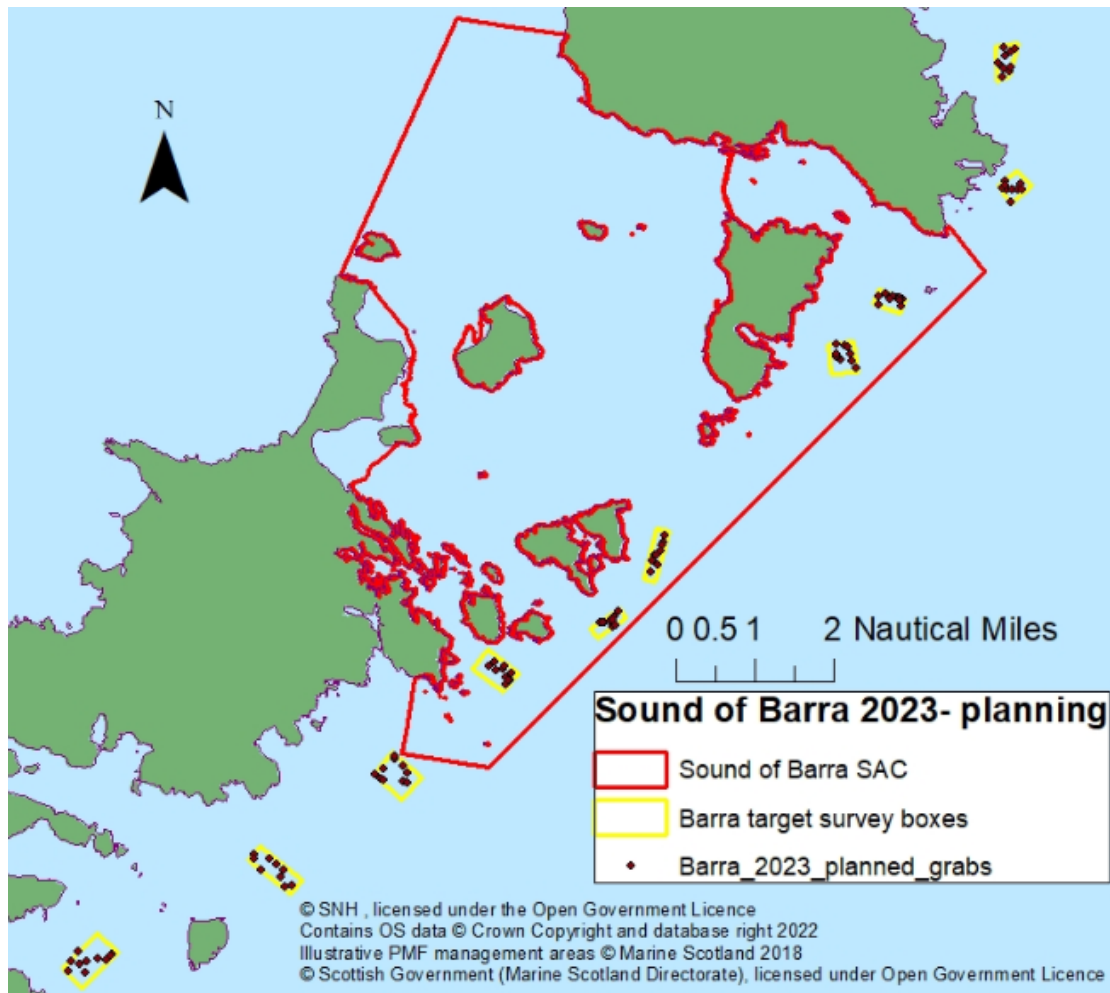


Figure 1: Sound of Barra SAC 2023 sampling boxes and grab locations.

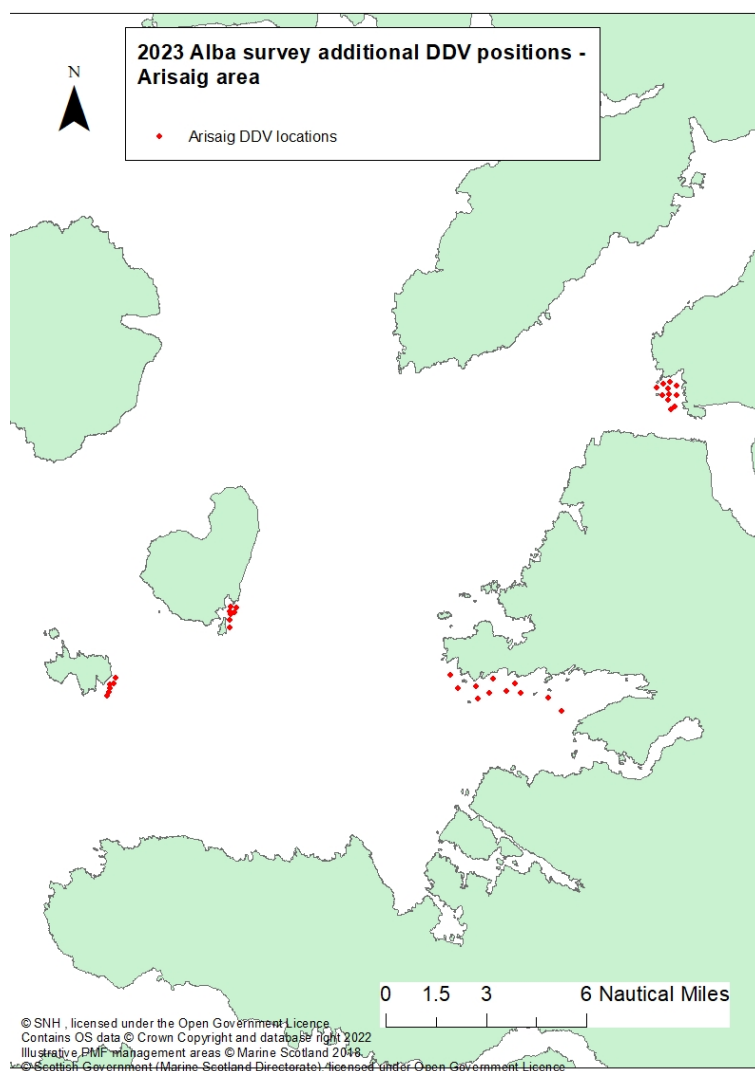


Figure 2a. Priority Marine Feature areas of interest around Sound of Arisaig which were not sampled during 0822A areas of interest missed from 2022 Alba survey as priority after Barra and Wester Ross work.

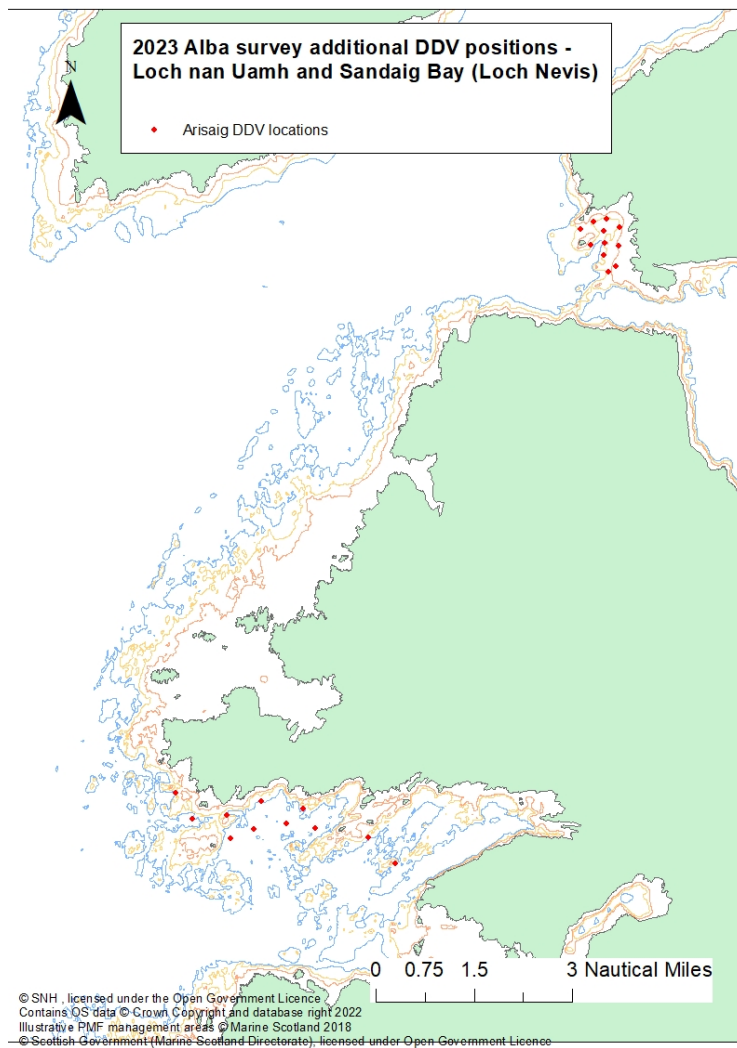


Figure 2b. Close up of sampling locations in Sound of Arisaig. Areas around Loch nan Uamh and Sandaig bay for DDV work focussing on maerl beds and Northern Sea fans.

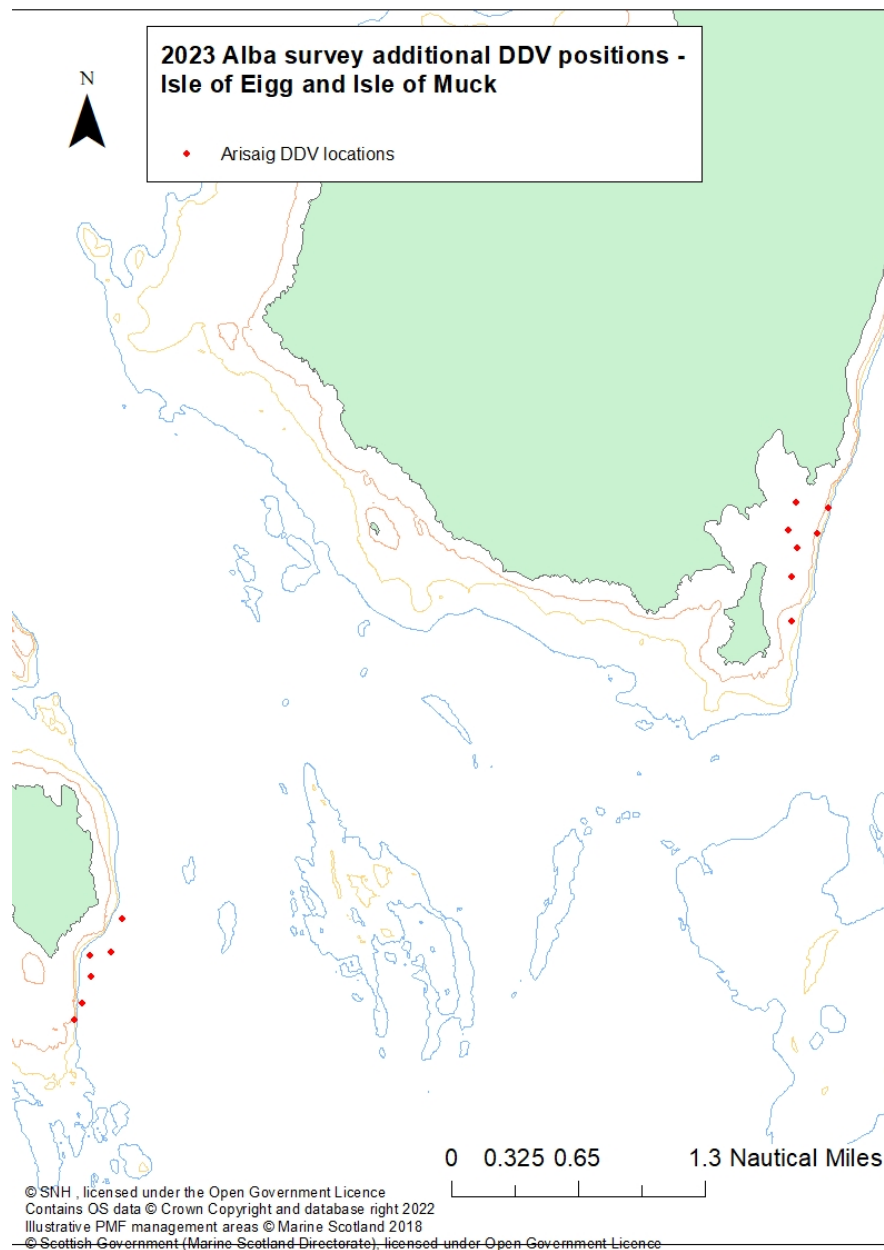


Figure 2c. Close up of sampling locations in Sound of Arisaig. Areas around the isles of Eigg and Muck bay for DDV work focussing on maerl beds and Northern Sea fans.

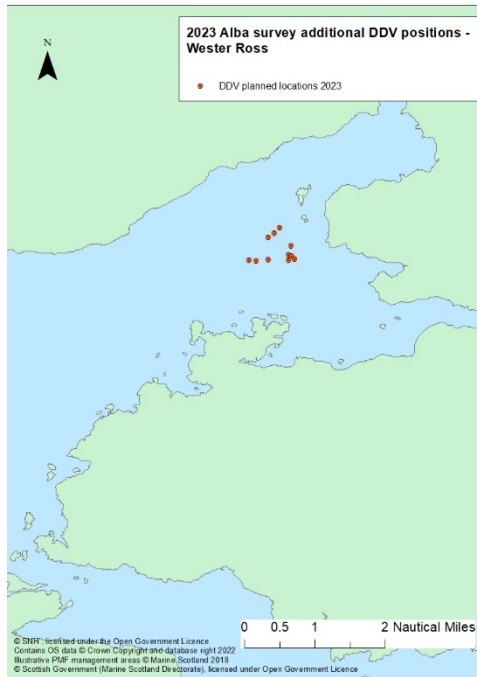


Figure 3. Locations for planned DDV work in Loch Carron to survey the progress of recovery of the flame shell beds.

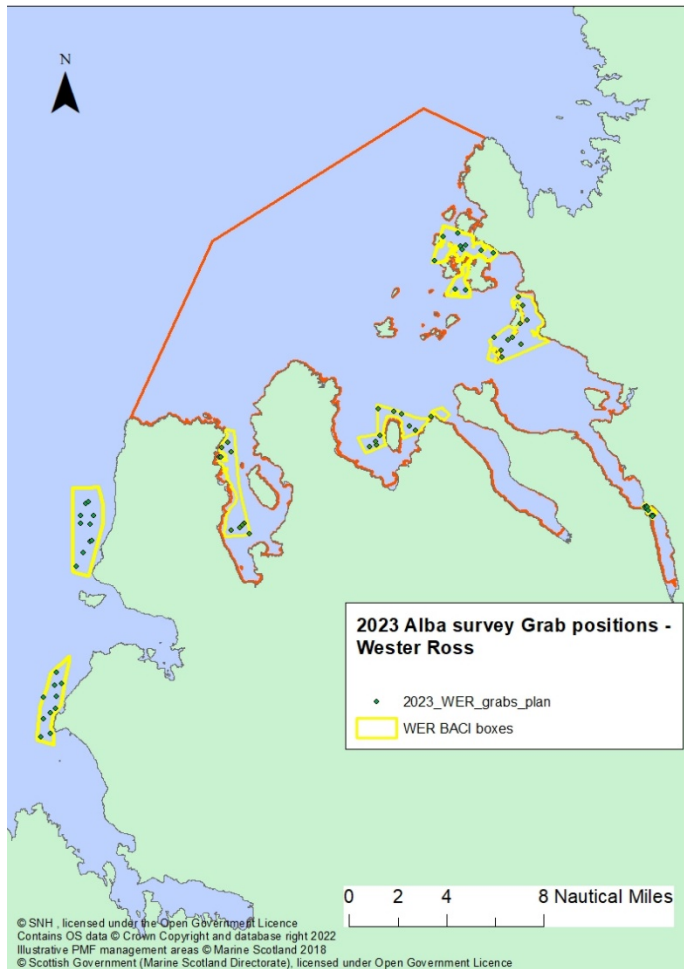


Figure 4: Wester Ross MPA 2023 sampling boxes

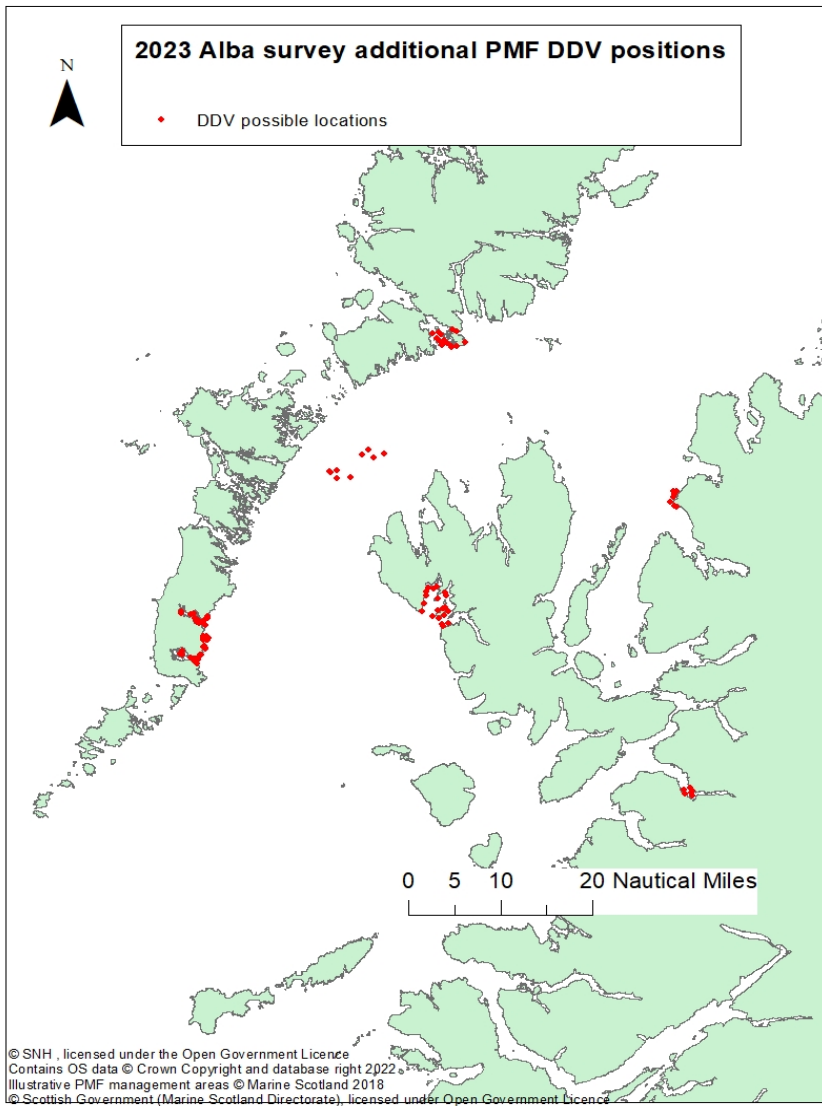


Figure 5. Areas of interest for further DDV work.

Sound of Barra planned grab coordinates

FID	Name	Longitude	Latitude	Long_decim	Lat_decima
0	S5	7° 18' 34.976" W	57° 1' 1.798" N	-7.309715633	57.01716611
1	S5	7° 18' 36.239" W	57° 1' 5.554" N	-7.310066382	57.01820941
2	S5	7° 18' 22.805" W	57° 1' 8.867" N	-7.306334722	57.01912969
3	S5	7° 18' 28.750" W	57° 0' 52.201" N	-7.307986157	57.01450036
4	S5	7° 18' 31.537" W	57° 1' 10.748" N	-7.308760244	57.01965215
5	S5	7° 18' 30.645" W	57° 1' 21.965" N	-7.308512439	57.02276803
6	S5	7° 18' 28.849" W	57° 0' 49.526" N	-7.30801375	57.01375718
7	S5	7° 18' 39.057" W	57° 1' 7.330" N	-7.31084912	57.01870277
8	S5	7° 18' 22.157" W	57° 0' 55.656" N	-7.306154808	57.01545995
9	S5	7° 18' 31.642" W	57° 1' 21.682" N	-7.308789369	57.02268955
10	S4	7° 15' 25.994" W	57° 4' 0.417" N	-7.25722058	57.06678245
11	S4	7° 15' 18.170" W	57° 4' 5.444" N	-7.255047346	57.06817899
12	S4	7° 15' 26.571" W	57° 3' 46.771" N	-7.257380948	57.06299182
13	S4	7° 15' 10.507" W	57° 4' 11.728" N	-7.252918661	57.06992448

14	S4	7° 15' 6.800" W	57° 3' 52.344" N	-7.25188877	57.06454012
15	S4	7° 15' 17.934" W	57° 4' 8.462" N	-7.254981633	57.06901716
16	S4	7° 15' 12.709" W	57° 4' 11.796" N	-7.253530186	57.06994345
17	S4	7° 15' 27.979" W	57° 3' 50.377" N	-7.257771899	57.06399352
18	S4	7° 14' 58.023" W	57° 3' 51.794" N	-7.249450825	57.0643872
19	S4	7° 15' 28.088" W	57° 3' 54.374" N	-7.257802094	57.0651039
20	S3	7° 14' 20.869" W	57° 4' 53.121" N	-7.239130312	57.08142237
21	S3	7° 14' 32.978" W	57° 4' 48.082" N	-7.242493871	57.08002277
22	S3	7° 14' 43.902" W	57° 4' 44.707" N	-7.24552828	57.07908527
23	S3	7° 14' 18.133" W	57° 4' 45.340" N	-7.238370294	57.07926117
24	S3	7° 14' 35.702" W	57° 4' 47.115" N	-7.243250508	57.07975405
25	S3	7° 14' 38.073" W	57° 4' 48.092" N	-7.243909055	57.08002565
26	S3	7° 14' 54.108" W	57° 4' 52.077" N	-7.248363273	57.08113248
27	S3	7° 14' 22.961" W	57° 4' 45.433" N	-7.239711453	57.07928691
28	S3	7° 14' 39.680" W	57° 4' 47.750" N	-7.244355479	57.07993065
29	S3	7° 14' 21.411" W	57° 4' 48.559" N	-7.239280879	57.08015526
30	S7	7° 21' 27.022" W	56° 59' 2.720" N	-7.357506065	56.98408876

31	S7	7° 21' 21.642" W	56° 59' 0.772" N	-7.3560116	56.98354777
32	S7	7° 21' 46.741" W	56° 59' 23.900" N	-7.362983559	56.98997217
33	S7	7° 21' 50.741" W	56° 59' 11.537" N	-7.364094771	56.98653811
34	S7	7° 21' 58.145" W	56° 59' 7.739" N	-7.366151518	56.98548301
35	S7	7° 21' 23.640" W	56° 59' 13.785" N	-7.356566592	56.98716263
36	S7	7° 21' 50.412" W	56° 59' 23.720" N	-7.364003442	56.98992223
37	S7	7° 21' 26.322" W	56° 59' 9.905" N	-7.357311765	56.98608468
38	S7	7° 21' 46.614" W	56° 59' 10.316" N	-7.362948269	56.98619896
39	S7	7° 21' 27.501" W	56° 59' 7.295" N	-7.357639284	56.9853597
40	S2	7° 12' 27.813" W	57° 6' 27.221" N	-7.207725923	57.10756127
41	S2	7° 12' 35.589" W	57° 6' 29.124" N	-7.209885726	57.10808993
42	S2	7° 12' 31.728" W	57° 6' 35.859" N	-7.208813448	57.10996093
43	S2	7° 12' 18.067" W	57° 6' 37.241" N	-7.205018523	57.11034464
44	S2	7° 12' 22.256" W	57° 6' 30.724" N	-7.206182272	57.10853457
45	S2	7° 12' 22.859" W	57° 6' 23.161" N	-7.206349719	57.10643352
46	S2	7° 12' 35.603" W	57° 6' 28.602" N	-7.209889636	57.10794496
47	S2	7° 12' 15.421" W	57° 6' 36.459" N	-7.204283592	57.11012753

48	S2	7° 12' 28.774" W	57° 6' 40.473" N	-7.207992654	57.11124237
49	S2	7° 12' 23.180" W	57° 6' 23.787" N	-7.206438877	57.10660761
50	S8	7° 23' 5.608" W	56° 57' 40.593" N	-7.384891084	56.96127578
51	S8	7° 23' 16.568" W	56° 57' 32.348" N	-7.387935432	56.95898543
52	S8	7° 23' 30.220" W	56° 57' 41.543" N	-7.391727849	56.96153972
53	S8	7° 23' 0.980" W	56° 57' 42.371" N	-7.383605558	56.96176963
54	S8	7° 23' 37.718" W	56° 57' 39.621" N	-7.393810681	56.96100575
55	S8	7° 23' 7.442" W	56° 57' 44.457" N	-7.385400462	56.96234925
56	S8	7° 22' 54.084" W	56° 57' 33.000" N	-7.381690039	56.9591667
57	S8	7° 23' 35.429" W	56° 57' 40.515" N	-7.393174667	56.9612543
58	S8	7° 23' 31.922" W	56° 57' 41.069" N	-7.392200472	56.96140792
59	S8	7° 22' 51.107" W	56° 57' 39.311" N	-7.380862994	56.96091976
60	S9	7° 25' 51.663" W	56° 56' 5.345" N	-7.431017395	56.93481799
61	S9	7° 25' 11.566" W	56° 55' 57.367" N	-7.419879583	56.93260196
62	S9	7° 25' 55.246" W	56° 56' 15.615" N	-7.432012834	56.93767072
63	S9	7° 24' 59.209" W	56° 55' 57.854" N	-7.416446809	56.93273725
64	S9	7° 25' 17.721" W	56° 56' 5.563" N	-7.421589166	56.93487848

65	S9	7° 25' 36.551" W	56° 56' 9.376" N	-7.426819687	56.93593783
66	S9	7° 25' 29.454" W	56° 56' 7.656" N	-7.424848298	56.93545993
67	S9	7° 24' 58.806" W	56° 56' 4.542" N	-7.416335047	56.93459513
68	S9	7° 25' 3.759" W	56° 55' 53.232" N	-7.417710917	56.93145328
69	S9	7° 25' 57.903" W	56° 56' 7.021" N	-7.43275091	56.93528359
70	S6	7° 19' 29.753" W	56° 59' 55.359" N	-7.324931405	56.9987107
71	S6	7° 19' 14.198" W	57° 0' 5.969" N	-7.32061066	57.00165815
72	S6	7° 19' 28.248" W	57° 0' 1.045" N	-7.324513353	57.00029016
73	S6	7° 19' 9.861" W	57° 0' 2.928" N	-7.319405882	57.00081321
74	S6	7° 18' 55.230" W	57° 0' 11.356" N	-7.315341727	57.00315456
75	S6	7° 19' 30.032" W	56° 59' 57.173" N	-7.325008983	56.99921468
76	S6	7° 18' 59.434" W	57° 0' 10.825" N	-7.316509326	57.00300694
77	S6	7° 19' 26.397" W	56° 59' 55.922" N	-7.32399923	56.99886723
78	S6	7° 19' 10.006" W	57° 0' 4.162" N	-7.319446231	57.00115612
79	S6	7° 19' 13.719" W	57° 0' 1.128" N	-7.320477501	57.00031329
80	S11	7° 13' 11.097" W	57° 8' 10.645" N	-7.219749266	57.13629017
81	S11	7° 13' 14.942" W	57° 8' 3.922" N	-7.220817214	57.13442277

82	S11	7° 13' 12.108" W	57° 8' 7.972" N	-7.220030058	57.13554786
83	S11	7° 13' 14.618" W	57° 8' 6.352" N	-7.220727119	57.13509768
84	S11	7° 13' 14.597" W	57° 7' 54.493" N	-7.220721466	57.13180371
85	S11	7° 13' 18.306" W	57° 7' 59.646" N	-7.221751758	57.13323511
86	S11	7° 13' 24.537" W	57° 8' 11.266" N	-7.223482517	57.13646289
87	S11	7° 13' 21.038" W	57° 7' 53.049" N	-7.222510679	57.13140254
88	S11	7° 13' 16.412" W	57° 7' 55.338" N	-7.221225503	57.13203824
89	S11	7° 13' 27.685" W	57° 8' 4.200" N	-7.224356954	57.13450011
90	S10	7° 28' 50.861" W	56° 54' 24.779" N	-7.48079486	56.90688313
91	S10	7° 29' 36.699" W	56° 54' 16.449" N	-7.493527564	56.9045692
92	S10	7° 28' 52.127" W	56° 54' 29.804" N	-7.481146264	56.90827892
93	S10	7° 28' 53.168" W	56° 54' 41.383" N	-7.481435663	56.91149524
94	S10	7° 28' 59.873" W	56° 54' 16.972" N	-7.483297923	56.90471446
95	S10	7° 28' 58.852" W	56° 54' 20.941" N	-7.483014513	56.90581704
96	S10	7° 28' 57.642" W	56° 54' 20.758" N	-7.482678356	56.90576602
97	S10	7° 28' 59.118" W	56° 54' 17.085" N	-7.483088222	56.90474578
98	S10	7° 29' 9.206" W	56° 54' 26.873" N	-7.485890673	56.90746468

99	S10	7° 28' 37.693" W	56° 54' 38.404" N	-7.47713685	56.91066775
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Wester Ross planned grab coordinates

FID	Box	Protected	Longitude	Latitude	Long_decimal	Lat_decimal
0	1	Inside	5° 7' 49.565" W	57° 52' 36.112" N	- 5.13043459 4	57.8766978 6
1	1	Inside	5° 7' 38.672" W	57° 52' 33.449" N	- 5.12740890 8	57.8759579 8
2	1	Inside	5° 7' 37.597" W	57° 52' 38.892" N	- 5.12711021 1	57.8774701 3
3	1	Inside	5° 7' 0.871" W	57° 52' 20.808" N	- 5.11690860 8	57.8724466 6
4	1	Inside	5° 7' 0.653" W	57° 52' 21.259" N	- 5.11684807 4	57.8725718 2
5	1	Inside	5° 7' 43.830" W	57° 52' 40.030" N	- 5.12884165 7	57.8777860 8
6	1	Inside	5° 7' 36.310" W	57° 52' 38.327" N	- 5.12675278 5	57.8773130 2
7	1	Inside	5° 7' 7.917" W	57° 52' 20.762" N	- 5.11886581 6	57.8724339 8

8	1	Inside	5° 7' 28.343" W	57° 52' 29.695" N	- 5.12453967 4	57.8749153 5
9	1	Inside	5° 7' 3.318" W	57° 52' 17.056" N	- 5.11758826 9	57.8714043 1
10	2	Inside	5° 25' 56.036" W	57° 59' 51.944" N	- 5.43223231 3	57.9977622 4
11	2	Inside	5° 25' 6.795" W	57° 59' 54.514" N	- 5.41855426 8	57.9984761
12	2	Inside	5° 27' 44.744" W	58° 1' 54.200" N	- 5.46242895 4	58.0317222 4
13	2	Inside	5° 27' 59.713" W	58° 0' 49.954" N	- 5.46658682 6	58.0138761 4
14	2	Inside	5° 23' 34.303" W	58° 1' 40.108" N	- 5.39286193 9	58.0278076 6
15	2	Inside	5° 25' 51.797" W	58° 1' 43.455" N	- 5.43105474 7	58.0287375 3
16	2	Inside	5° 26' 4.360" W	58° 1' 32.569" N	- 5.43454455 2	58.0257137 1
17	2	Inside	5° 24' 33.884" W	58° 1' 39.165" N	- 5.40941229 9	58.0275457 3
18	2	Inside	5° 26' 12.691" W	58° 1' 40.243" N	- 5.43685855 7	58.0278452 5
19	2	Inside	5° 26' 38.006" W	58° 2' 10.428" N	- 5.44389068 2	58.0362299 6

20	3	Outside	5° 49' 15.211" W	57° 39' 9.148" N	- 5.82089208 2	57.6525412 5
21	3	Outside	5° 49' 53.871" W	57° 37' 51.580" N	- 5.83163089 9	57.6309944 7
22	3	Outside	5° 49' 23.935" W	57° 39' 39.015" N	- 5.82331529 8	57.6608374 9
23	3	Outside	5° 49' 49.245" W	57° 40' 38.731" N	- 5.83034582 7	57.6774252 2
24	3	Outside	5° 49' 12.668" W	57° 38' 6.388" N	- 5.82018566 2	57.6351079 1
25	3	Outside	5° 49' 11.305" W	57° 40' 13.763" N	- 5.81980708 1	57.6704897 4
26	3	Outside	5° 50' 21.275" W	57° 39' 30.573" N	- 5.83924307 5	57.6584925 8
27	3	Outside	5° 49' 40.872" W	57° 40' 5.330" N	- 5.82802008	57.6681473 3
28	3	Outside	5° 49' 33.318" W	57° 38' 55.979" N	- 5.82592159 1	57.6488830 4
29	3	Outside	5° 49' 59.486" W	57° 38' 36.990" N	- 5.83319048 5	57.6436083 1
30	4	Outside	5° 50' 28.604" W	57° 47' 46.602" N	- 5.84127902	57.7962782
31	4	Outside	5° 50' 7.583" W	57° 45' 7.310" N	- 5.83543978 6	57.7520304 3
32	4	Outside	5° 49' 27.982" W	57° 46' 16.962" N	- 5.82443957 4	57.7713782 9

33	4	Outside	5° 49' 22.594" W	57° 46' 19.939" N	- 5.82294289 8	57.7722054
34	4	Outside	5° 49' 47.028" W	57° 45' 45.897" N	- 5.82972988 7	57.7627491 4
35	4	Outside	5° 49' 46.024" W	57° 46' 59.431" N	- 5.82945123 8	57.7831752 9
36	4	Outside	5° 49' 39.563" W	57° 47' 22.845" N	- 5.82765648 9	57.7896791 5
37	4	Outside	5° 50' 30.820" W	57° 46' 55.124" N	- 5.84189452 7	57.7819789 5
38	4	Outside	5° 50' 18.285" W	57° 47' 52.070" N	- 5.83841256 7	57.7977970 9
39	4	Outside	5° 50' 36.870" W	57° 47' 14.433" N	- 5.84357499 4	57.7873425

Wester Ross DDV coordinates for gap filling work

FID	name	Latitude_1	Longitu_1
117	Wester Ross	57° 54' 38.646" N	5° 23' 51.421" W
118	Wester Ross	57° 54' 27.043" N	5° 24' 4.428" W
119	Wester Ross	57° 56' 59.135" N	5° 33' 53.884" W
120	Wester Ross	57° 58' 44.747" N	5° 19' 18.001" W
121	Wester Ross	57° 58' 44.069" N	5° 19' 18.446" W
122	Wester Ross	57° 58' 58.564" N	5° 18' 58.406" W
123	Wester Ross	57° 58' 39.168" N	5° 20' 33.282" W

124	Wester Ross	58° 0' 14.398" N	5° 21' 7.171" W
125	Wester Ross	57° 58' 54.456" N	5° 21' 15.448" W

DDV Coordinates for the Arisaig area

FID	Name	Lat	Long	Depth	Target	Area
0	V70	56° 53.028' N	6° 6.990' W	50	northern seafan	Eigg
1	V71	56° 52.885' N	6° 7.042' W	50	northern seafan	Eigg
2	V72	56° 52.790' N	6° 7.199' W	30	maerl	Eigg
3	V73	56° 52.636' N	6° 7.180' W	30	maerl	Eigg
4	V74	56° 52.410' N	6° 7.090' W	50	northern seafan	Eigg
5	V75	56° 53.017' N	6° 7.304' W	30	maerl	Eigg
6	V76	56° 52.870' N	6° 7.314' W	30	maerl	Eigg
7	V77	56° 52.470' N	5° 54.627' W	20	maerl	Loch nan Uamh, Arisaig
8	V78	56° 52.301' N	5° 53.069' W	20	maerl	Loch nan Uamh, Arisaig
9	V79	56° 52.187' N	5° 52.265' W	20	maerl	Loch nan Uamh, Arisaig
10	V80	56° 52.635' N	5° 52.230' W	20	maerl	Loch nan Uamh, Arisaig
11	V81	56° 51.964' N	5° 52.832' W	20	maerl	Loch nan Uamh, Arisaig

12	V82	56° 52.660' N	5° 51.020' W	20	maerl	Loch nan Uamh, Arisaig
13	V83	56° 52.399' N	5° 50.571' W	20	maerl	Loch nan Uamh, Arisaig
14	V85	56° 52.124' N	5° 54.021' W	20	maerl	Loch nan Uamh, Arisaig
15	V86	56° 52.381' N	5° 51.394' W	20	maerl	Loch nan Uamh, Arisaig
16	V87	56° 52.450' N	5° 49.031' W	20	maerl	Loch nan Uamh, Arisaig
17	V88	56° 52.136' N	5° 48.146' W	20	maerl	Loch nan Uamh, Arisaig
18	V90	57° 2.526' N	5° 46.618' W	20	maerl	Sandaig Bay
19	V91	57° 2.621' N	5° 46.287' W	20	maerl	Sandaig Bay
20	V92	57° 2.538' N	5° 45.866' W	20	maerl	Sandaig Bay
21	V93	57° 2.255' N	5° 45.778' W	20	maerl	Sandaig Bay
22	V94	57° 2.427' N	5° 46.284' W	20	maerl	Sandaig Bay
23	V96	57° 2.171' N	5° 46.548' W	20	maerl	Sandaig Bay
24	V97	57° 2.062' N	5° 46.145' W	20	maerl	Sandaig Bay
25	V99	57° 1.826' N	5° 45.890' W	20	maerl	Sandaig Bay
26	V89	57° 2.369' N	5° 46.946' W	15	maerl	Sandaig Bay
27	V95	57° 2.250' N	5° 46.170' W	10	maerl	Sandaig Bay
28	V98	57° 1.930' N	5° 45.721' W	10	maerl	Sandaig Bay

29	V99	56° 49.907' N	6° 12.860' W	50	northern seafan	Muck
30	V100	56° 49.801' N	6° 12.805' W	50	northern seafan	Muck
31	V101	56° 49.660' N	6° 12.825' W	50	northern seafan	Muck
32	V104	56° 50.129' N	6° 12.636' W	50	northern seafan	Muck
33	V103	56° 49.950' N	6° 12.672' W	70	northern seafan	Muck
34	V102	56° 49.564' N	6° 12.869' W	30	northern seafan	Muck

FID	Name	Lat	Long	Depth	Target	Area
0	V70	56° 53.028' N	6° 6.990' W	50	northern seafan	Eigg
1	V71	56° 52.885' N	6° 7.042' W	50	northern seafan	Eigg
2	V72	56° 52.790' N	6° 7.199' W	30	maerl	Eigg
3	V73	56° 52.636' N	6° 7.180' W	30	maerl	Eigg
4	V74	56° 52.410' N	6° 7.090' W	50	northern seafan	Eigg
5	V75	56° 53.017' N	6° 7.304' W	30	maerl	Eigg
6	V76	56° 52.870' N	6° 7.314' W	30	maerl	Eigg
7	V77	56° 52.470' N	5° 54.627' W	20	maerl	Loch nan Uamh, Arisaig
8	V78	56° 52.301' N	5° 53.069' W	20	maerl	Loch nan Uamh, Arisaig
9	V79	56° 52.187' N	5° 52.265' W	20	maerl	Loch nan Uamh, Arisaig
10	V80	56° 52.635' N	5° 52.230' W	20	maerl	Loch nan Uamh, Arisaig
11	V81	56° 51.964' N	5° 52.832' W	20	maerl	Loch nan Uamh, Arisaig
12	V82	56° 52.660' N	5° 51.020' W	20	maerl	Loch nan Uamh, Arisaig
13	V83	56° 52.399' N	5° 50.571' W	20	maerl	Loch nan Uamh, Arisaig
14	V85	56° 52.124' N	5° 54.021' W	20	maerl	Loch nan Uamh, Arisaig
15	V86	56° 52.381' N	5° 51.394' W	20	maerl	Loch nan Uamh, Arisaig
16	V87	56° 52.450' N	5° 49.031' W	20	maerl	Loch nan Uamh, Arisaig
17	V88	56° 52.136' N	5° 48.146' W	20	maerl	Loch nan Uamh, Arisaig

18	V90	57° 2.526' N	5° 46.618' W	20	maerl	Sandaig Bay
19	V91	57° 2.621' N	5° 46.287' W	20	maerl	Sandaig Bay
20	V92	57° 2.538' N	5° 45.866' W	20	maerl	Sandaig Bay
21	V93	57° 2.255' N	5° 45.778' W	20	maerl	Sandaig Bay
22	V94	57° 2.427' N	5° 46.284' W	20	maerl	Sandaig Bay
23	V96	57° 2.171' N	5° 46.548' W	20	maerl	Sandaig Bay
24	V97	57° 2.062' N	5° 46.145' W	20	maerl	Sandaig Bay
25	V99	57° 1.826' N	5° 45.890' W	20	maerl	Sandaig Bay
26	V89	57° 2.369' N	5° 46.946' W	15	maerl	Sandaig Bay
27	V95	57° 2.250' N	5° 46.170' W	10	maerl	Sandaig Bay
28	V98	57° 1.930' N	5° 45.721' W	10	maerl	Sandaig Bay
29	V99	56° 49.907' N	6° 12.860' W	50	northern seafan	Muck
30	V100	56° 49.801' N	6° 12.805' W	50	northern seafan	Muck
31	V101	56° 49.660' N	6° 12.825' W	50	northern seafan	Muck
32	V104	56° 50.129' N	6° 12.636' W	50	northern seafan	Muck
33	V103	56° 49.950' N	6° 12.672' W	70	northern seafan	Muck
34	V102	56° 49.564' N	6° 12.869' W	30	northern seafan	Muck

FID	Name	Lat	Long	Depth	Target	Area
0	V48	57° 32.113' N	5° 51.962' W	20	BUTEC maerl / flameshells	Applecross
1	V49	57° 31.863' N	5° 52.008' W	20	BUTEC maerl / flameshells	Applecross
2	V50	57° 31.708' N	5° 52.175' W	20	BUTEC maerl / flameshells	Applecross
3	V51	57° 32.028' N	5° 52.131' W	20	BUTEC maerl / flameshells	Applecross
4	V52	57° 31.947' N	5° 51.783' W	20	BUTEC maerl / flameshells	Applecross
5	V53	57° 31.447' N	5° 52.502' W	20	BUTEC maerl / flameshells	Applecross
6	V54	57° 31.311' N	5° 52.063' W	20	BUTEC maerl / flameshells	Applecross
7	V55	57° 31.161' N	5° 52.682' W	20	BUTEC maerl / flameshells	Applecross
8	V56	57° 31.055' N	5° 52.297' W	20	BUTEC maerl / flameshells	Applecross
9	V57	57° 31.229' N	5° 52.956' W	20	BUTEC maerl / flameshells	Applecross
10	V58	57° 31.148' N	5° 53.223' W	40	BUTEC skate eggs	Applecross
11	V59	57° 31.161' N	5° 53.419' W	40	BUTEC skate eggs	Applecross
12	V60	57° 31.596' N	5° 53.451' W	40	BUTEC skate eggs	Applecross
13	V61	57° 31.686' N	5° 53.230' W	40	BUTEC skate eggs	Applecross
14	V62	57° 31.658' N	5° 53.654' W	40	BUTEC skate eggs	Applecross

15	V63	57° 31.748' N	5° 53.501' W	40	BUTEC skate eggs	Applecross
16	V64	57° 31.830' N	5° 53.658' W	40	BUTEC skate eggs	Applecross
17	V65	57° 32.142' N	5° 53.380' W	40	BUTEC skate eggs	Applecross
18	V66	57° 32.056' N	5° 52.757' W	40	BUTEC skate eggs	Applecross
19	V67	57° 31.790' N	5° 52.823' W	40	BUTEC skate eggs	Applecross
20	V68	57° 31.934' N	5° 52.392' W	40	BUTEC skate eggs	Applecross
21	V69	57° 31.591' N	5° 52.808' W	40	BUTEC skate eggs	Applecross

Further points to fill in PMFs

ID	PMF	YEAR	Latitude	Longitude	name
7	Northern sea fan and sponge communities	1990	57° 51' 9.806" N	6° 43' 29.515" W	East Loch Tarbert
8	Northern sea fan and sponge communities	1990	57° 51' 6.511" N	6° 42' 4.044" W	East Loch Tarbert
9	Maerl or coarse shell gravel with burrowing sea cucumbers	1990	57° 51' 6.511" N	6° 42' 4.044" W	East Loch Tarbert
39	Maerl beds	2007	57° 52' 48.241" N	6° 41' 37.530" W	East Loch Tarbert
40	Northern sea fan and sponge communities	2000	57° 51' 42.001" N	6° 38' 30.020" W	East Loch Tarbert
107		0	57° 51' 23.476" N	6° 44' 25.144" W	East Loch Tarbert
108		0	57° 52' 9.739" N	6° 44' 9.891" W	East Loch Tarbert
109		0	57° 52' 2.008" N	6° 43' 43.183" W	East Loch Tarbert
110		0	57° 51' 21.423" N	6° 42' 51.429" W	East Loch Tarbert
111		0	57° 50' 56.518" N	6° 41' 6.370" W	East Loch Tarbert
112		0	57° 50' 46.528" N	6° 40' 56.365" W	East Loch Tarbert
113		0	57° 50' 44.471" N	6° 42' 54.430" W	East Loch Tarbert

114		0	57° 51' 54.730" N	6° 45' 28.369" W	East Loch Tarbert
115		0	57° 52' 42.110" N	6° 40' 38.001" W	East Loch Tarbert
116		0	57° 51' 1.228" N	6° 39' 59.333" W	East Loch Tarbert
41	Northern sea fan and sponge communities	2011	57° 37' 0.915" N	6° 52' 21.571" W	Little Minch
42	Northern sea fan and sponge communities	2011	57° 33' 27.292" N	6° 58' 36.888" W	Little Minch
43	Northern sea fan and sponge communities	2011	57° 33' 33.886" N	6° 58' 50.717" W	Little Minch
44	Northern sea fan and sponge communities	2011	57° 32' 55.809" N	6° 57' 10.232" W	Little Minch
45	Northern sea fan and sponge communities	2011	57° 33' 49.488" N	6° 57' 34.200" W	Little Minch
46	Northern sea fan and sponge communities	2011	57° 33' 25.508" N	6° 54' 26.402" W	Little Minch
47	Northern sea fan and sponge communities	2011	57° 36' 16.818" N	6° 50' 55.502" W	Little Minch
48	Northern sea fan and sponge communities	2011	57° 37' 1.793" N	6° 48' 57.877" W	Little Minch
100		0	57° 36' 17.167" N	6° 53' 14.775" W	Little Minch
11	Maerl beds	1979	57° 13' 46.128" N	7° 20' 53.116" W	Loch Aineort, South Uist

12	Maerl beds	1984	57° 13' 55.662" N	7° 18' 25.154" W	Loch Aineort, South Uist
13	Northern sea fan and sponge communities	1984	57° 13' 43.604" N	7° 15' 30.198" W	Loch Aineort, South Uist
15	Maerl beds	1984	57° 13' 42.908" N	7° 20' 52.649" W	Loch Aineort, South Uist
16	Maerl beds	1984	57° 13' 48.841" N	7° 21' 5.457" W	Loch Aineort, South Uist
17	Maerl beds	1984	57° 13' 47.460" N	7° 19' 5.786" W	Loch Aineort, South Uist
18	Maerl beds	1984	57° 13' 39.435" N	7° 20' 58.118" W	Loch Aineort, South Uist
37	Maerl beds	1995	57° 13' 22.701" N	7° 17' 57.953" W	Loch Aineort, South Uist
65		0	57° 13' 0.709" N	7° 16' 52.564" W	Loch Aineort, South Uist
66		0	57° 13' 7.143" N	7° 16' 34.304" W	Loch Aineort, South Uist
67		0	57° 13' 14.377" N	7° 16' 59.562" W	Loch Aineort, South Uist
68		0	57° 13' 23.006" N	7° 16' 5.369" W	Loch Aineort, South Uist
69		0	57° 13' 12.946" N	7° 16' 7.389" W	Loch Aineort, South Uist
70		0	57° 12' 58.201" N	7° 15' 53.758" W	Loch Aineort, South Uist

71		0	57° 13' 3.337" N	7° 17' 25.667" W	Loch Aineort, South Uist
72		0	57° 13' 10.077" N	7° 17' 42.253" W	Loch Aineort, South Uist
73		0	57° 13' 19.132" N	7° 17' 27.394" W	Loch Aineort, South Uist
74		0	57° 12' 51.354" N	7° 15' 33.934" W	Loch Aineort, South Uist
75		0	57° 13' 57.744" N	7° 15' 29.684" W	Loch Aineort, South Uist
3	Maerl beds	1990	57° 8' 59.696" N	7° 19' 0.114" W	Loch Baghasdail, South Uist
4	Maerl beds	1990	57° 8' 55.052" N	7° 18' 39.777" W	Loch Baghasdail, South Uist
5	Seagrass beds	1990	57° 8' 28.649" N	7° 15' 47.346" W	Loch Baghasdail, South Uist
6	Northern sea fan and sponge communities	1990	57° 8' 44.113" N	7° 15' 18.558" W	Loch Baghasdail, South Uist
19	Seagrass beds	1995	57° 9' 22.416" N	7° 18' 51.461" W	Loch Baghasdail, South Uist
24	Maerl beds	1995	57° 8' 36.186" N	7° 15' 22.199" W	Loch Baghasdail, South Uist
38	Northern sea fan and sponge communities	2006	57° 9' 23.774" N	7° 14' 50.637" W	Loch Baghasdail, South Uist

56		0	57° 9' 23.667" N	7° 15' 7.704" W	Loch Baghasdail, South Uist
57		0	57° 9' 11.355" N	7° 15' 14.524" W	Loch Baghasdail, South Uist
58		0	57° 8' 55.110" N	7° 15' 32.329" W	Loch Baghasdail, South Uist
59		0	57° 8' 43.464" N	7° 15' 35.129" W	Loch Baghasdail, South Uist
60		0	57° 8' 16.823" N	7° 15' 9.214" W	Loch Baghasdail, South Uist
61		0	57° 8' 50.219" N	7° 16' 49.417" W	Loch Baghasdail, South Uist
62		0	57° 8' 44.579" N	7° 16' 16.574" W	Loch Baghasdail, South Uist
63		0	57° 8' 51.928" N	7° 15' 59.823" W	Loch Baghasdail, South Uist
64		0	57° 9' 15.578" N	7° 15' 0.946" W	Loch Baghasdail, South Uist
0	Maerl beds	1988	57° 22' 54.692" N	6° 32' 26.735" W	Loch Bracadale, Skye
10	Maerl or coarse shell gravel with burrowing sea cucumbers	1988	57° 21' 53.021" N	6° 33' 33.406" W	Loch Bracadale, Skye
76		0	57° 22' 52.380" N	6° 33' 30.630" W	Loch Bracadale, Skye

77		0	57° 23' 9.998" N	6° 31' 59.645" W	Loch Bracadale, Skye
78		0	57° 22' 46.759" N	6° 29' 59.358" W	Loch Bracadale, Skye
79		0	57° 22' 25.185" N	6° 29' 34.548" W	Loch Bracadale, Skye
80		0	57° 21' 50.511" N	6° 31' 7.253" W	Loch Bracadale, Skye
81		0	57° 20' 29.445" N	6° 30' 37.783" W	Loch Bracadale, Skye
82		0	57° 20' 5.937" N	6° 29' 2.892" W	Loch Bracadale, Skye
83		0	57° 19' 16.982" N	6° 27' 50.083" W	Loch Bracadale, Skye
84		0	57° 20' 2.557" N	6° 33' 42.150" W	Loch Bracadale, Skye
85		0	57° 21' 6.182" N	6° 29' 10.846" W	Loch Bracadale, Skye
86		0	57° 19' 45.804" N	6° 31' 21.100" W	Loch Bracadale, Skye
87		0	57° 19' 0.634" N	6° 29' 8.906" W	Loch Bracadale, Skye
88		0	57° 20' 42.879" N	6° 28' 30.408" W	Loch Bracadale, Skye

89		0	57° 20' 54.697" N	6° 33' 36.471" W	Loch Bracadale, Skye
90		0	57° 22' 25.417" N	6° 33' 43.453" W	Loch Bracadale, Skye
91		0	57° 20' 52.921" N	6° 29' 42.214" W	Loch Bracadale, Skye
92		0	57° 19' 40.027" N	6° 29' 55.998" W	Loch Bracadale, Skye
93		0	57° 18' 49.463" N	6° 28' 45.794" W	Loch Bracadale, Skye
94		0	57° 6' 9.252" N	5° 31' 55.016" W	Loch Hourn
95		0	57° 5' 53.196" N	5° 31' 50.996" W	Loch Hourn
96		0	57° 6' 21.280" N	5° 32' 23.011" W	Loch Hourn
97		0	57° 5' 35.769" N	5° 31' 33.635" W	Loch Hourn
98		0	57° 6' 2.201" N	5° 33' 29.944" W	Loch Hourn
99		0	57° 5' 38.368" N	5° 33' 6.924" W	Loch Hourn
1	Maerl or coarse shell gravel with burrowing sea cucumbers	1989	56° 52' 19.212" N	5° 53' 56.162" W	Loch nan Uamh, Arisaig
2	Seagrass beds	1989	56° 53' 38.562" N	5° 44' 13.000" W	Loch nan Uamh, Arisaig

49		2004	57° 38' 33.715" N	5° 49' 41.071" W	Red Point
101		0	57° 39' 11.208" N	5° 49' 15.409" W	Red Point
102		0	57° 38' 4.973" N	5° 48' 17.839" W	Red Point
103		0	57° 39' 54.461" N	5° 48' 55.800" W	Red Point
104		0	57° 39' 49.987" N	5° 49' 37.545" W	Red Point
105		0	57° 39' 31.504" N	5° 49' 18.925" W	Red Point
106		0	57° 38' 9.143" N	5° 48' 38.492" W	Red Point
14	Maerl beds	1984	57° 11' 18.443" N	7° 15' 15.473" W	Stulaigh
20	Maerl beds	1995	57° 11' 21.761" N	7° 15' 21.316" W	Stulaigh
21	Maerl beds	1995	57° 11' 31.917" N	7° 15' 26.342" W	Stulaigh
22	Maerl beds	1995	57° 11' 18.252" N	7° 14' 33.681" W	Stulaigh
25	Maerl beds	1995	57° 11' 27.625" N	7° 15' 22.092" W	Stulaigh
26	Maerl beds	1995	57° 11' 15.247" N	7° 15' 16.749" W	Stulaigh

27	Maerl beds	1995	57° 11' 13.034" N	7° 15' 7.724" W	Stulaigh
28	Maerl beds	1995	57° 11' 20.687" N	7° 15' 19.135" W	Stulaigh
29	Maerl beds	1995	57° 11' 21.784" N	7° 15' 19.232" W	Stulaigh
30	Maerl beds	1995	57° 11' 23.617" N	7° 15' 21.879" W	Stulaigh
31	Maerl beds	1995	57° 11' 26.366" N	7° 15' 22.748" W	Stulaigh
32	Maerl beds	1995	57° 11' 35.395" N	7° 15' 27.615" W	Stulaigh
33	Maerl beds	1995	57° 11' 18.622" N	7° 14' 26.396" W	Stulaigh
34	Maerl beds	1995	57° 11' 18.148" N	7° 14' 29.193" W	Stulaigh
35	Maerl beds	1995	57° 11' 16.989" N	7° 14' 28.252" W	Stulaigh
50		0	57° 11' 32.607" N	7° 14' 21.547" W	Stulaigh
51		0	57° 11' 43.583" N	7° 14' 47.480" W	Stulaigh
23	Maerl beds	1995	57° 10' 26.501" N	7° 14' 47.206" W	SW Stulaigh

36	Maerl beds	1995	57° 10' 26.911" N	7° 14' 42.852" W	SW Stulaigh
52		0	57° 10' 15.569" N	7° 14' 34.059" W	SW Stulaigh
53		0	57° 10' 20.836" N	7° 14' 27.910" W	SW Stulaigh
54		0	57° 10' 33.960" N	7° 14' 41.686" W	SW Stulaigh
55		0	57° 10' 16.125" N	7° 14' 23.167" W	SW Stulaigh