

Wester Ross Survey Report 2017

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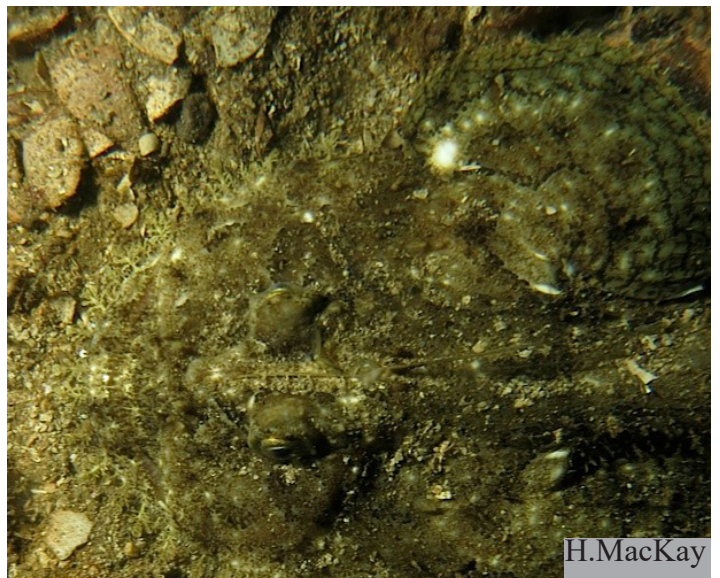


Sea Change Wester Ross



J.Rees

H.MacKay



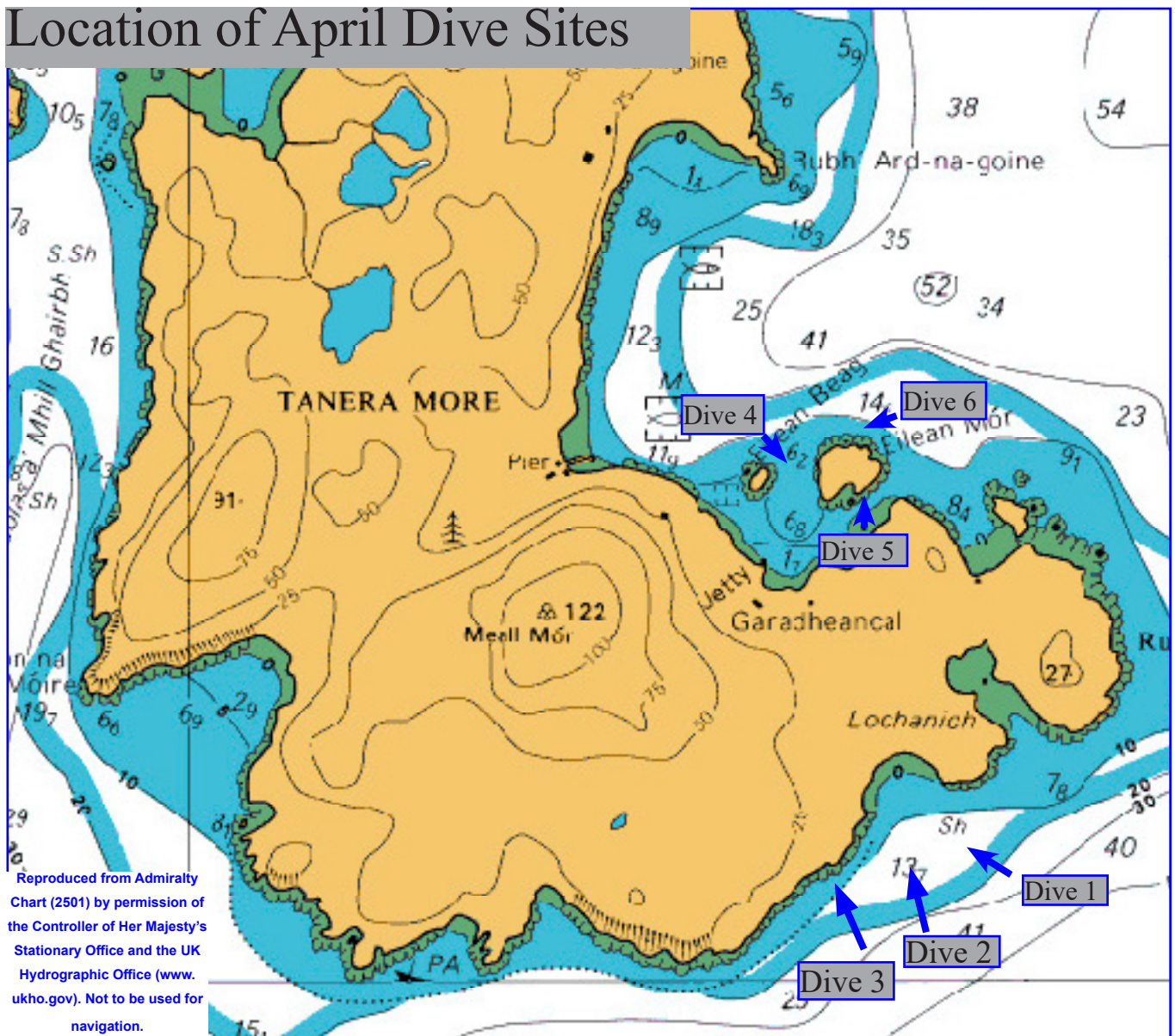
H.MacKay

Summary

During 2017 three separate diving surveys were carried out within the boundaries of Wester Ross Marine Protected Area. The first two were largely carried out by members of Inverness SAC with some help from Campbeltown and Oban sub aqua clubs while the September diving was carried out by a small group of Seasearch divers from the Ipswich area. Diving in Wester Ross can be challenging due to remoteness and exposure and this was amply illustrated by the difficulties faced by the divers. In April the dives were concentrated around Tanera More but poor weather, including snow, restricted the diving to one day. The June diving was more successful with two days diving. In September three days diving took place but problems with the boat resulted in most of the dives being shore based.

In all 15 sites were surveyed, eight around Tanera More, four on assorted other islands and three from the mainland shore. A total of 119 species were recorded including the most northerly record of the anemone *Anthopleura ballii*. Fragments of maerl were found at sites 8 and 10 which may be remnants of a now damaged maerl bed and would repay further investigation.

Location of April Dive Sites



April Surveys

Sites 1, 2 and 3

These sites were off the SE corner of the island in depths of 10 to 24 metres. Here the divers found a rocky cliff from the surface down to around 11 metres bsl then an abrupt transition to a gently sloping sandy shelf which gradually dropped away to the SE. The sand held an extensive bed of the burrowing anemone *Cerianthus lloydii*. Large numbers of empty shells suggested that the sediment also concealed numerous burrowing bivalves. Epifauna on the sediment was limited to a few species of starfish and scattered scallops. Of interest were the sandmason worms which build a fragile intricate structure above the seabed. The presence of these structures suggest that the seabed in this area is beginning to recover from previous dredging episodes.



H.MacKay

A juvenile angler fish photographed at site 1. Angler fish are listed as a priority marine feature by SNH.

Site 4

This site between Eilean Beag and Eilean Mor was shallow and of interest because of the large numbers of the anemone *Anthopleura ballii* found. This anemone is a southern species more at home off France and in the Mediterranean. Previously the southernmost record for this species was off the NW of Ireland in Mulroy Bay, County Donegal and the current record represents an extension of over 200 miles in the known range of the species.



G.Brown

Anthopleura anemone photographed at Site 4

Site 5

This site was in the very shallow tidal channel between Eilean Mor and the main island Tanera More. The seabed consisted of sand and pebbles largely covered with a mix of algae including wracks, *Chorda filum*, red and green algae. At the SW end of the channel the divers again encountered large numbers of the anemone *Anthopleura ballii*. Amongst the algae burrowing anemones were frequent as were sand mason worms and lugworms.



J.Rees

A sea hare recorded at Site 5.

Site 6

The final site surveyed in April was along the northern side of Eilean Mor into the start of the channel surveyed as part of site 5. At the western side of the islands the divers found a steep gravel/shell bank which continued on beyond the maximum depth surveyed of 18 metres. The shell/gravel had numerous burrowing anemones as well as patches of *Ascidia* sea squirts and filamentous red algae. Moving east the seabed became increasingly rocky with boulders and bedrock cliff predominating. The rock surfaces supported populations of Dead Mans Fingers, Plumose anemones, cup corals, hydroids, urchins and encrusting bryozoans.



Dead Mans Fingers (*A. digitatum*) were common at site 6



N.MacInnes

One of the berried feather stars noted at Site 7

June Surveys

Site 7 NW Eilean Fada Mor

This dive was in the channel between Eilean Fada Mor and some unnamed skerries to the west. The divers found a silty sand/gravel seabed with *Cerianthus* burrowing anemones, sand mason worms and razor shell burrows. The rocky areas on either side of the channel held more visible life dominated by *Antedon* feather stars. A number of these were "berried" with obvious eggs on the arms. Several sea hares were also noted on the rocky areas.



N.MacInnes

The ISAC RHIB without which access to the sites would have been impossible.

Site 8 Stac Mhic Aonghais

This is an exposed skerry just over 1Km SW of Tanera Beg. The divers found a rocky reef with gullies and occasional boulders dropping down to a gently sloping seabed at 18 metres. The exposed nature of the site resulted in a sparse kelp forest disappearing completely below 5 metres. Encrusting animals such as keel worms, barnacles and limpets were common along with encrusting pink algae. Feather stars, plumose anemones, common starfish and sea urchins appeared in the deeper water. The sand on the gentle slope contained maerl fragments. As maerl takes a long time to disappear this could be the remnants of a historical maerl bed or evidence of a live maerl bed near by.



H.MacKay

Cerianthus anemones appeared in the deeper areas of Site 9

Site 9 NE Eilean Dubh

Eilean Dubh is a medium sized island 2.5km south of Tanera More. The survey dive took place at the northern end of the island. The divers surveyed a steep bedrock and boulder slope down to 27 metres with cobbles and sand pockets in the deeper water. Kelp forest was present down to 10 metres on the rock which was also home to Plumose anemones, long clawed squat lobsters, and *Antedon* feather stars. The feather stars continued into the deeper water and were joined by burrowing anemones in the sand patches. As at Site 7 some of the feather stars were in a "berried" condition. A cuckoo wrasse was noted.

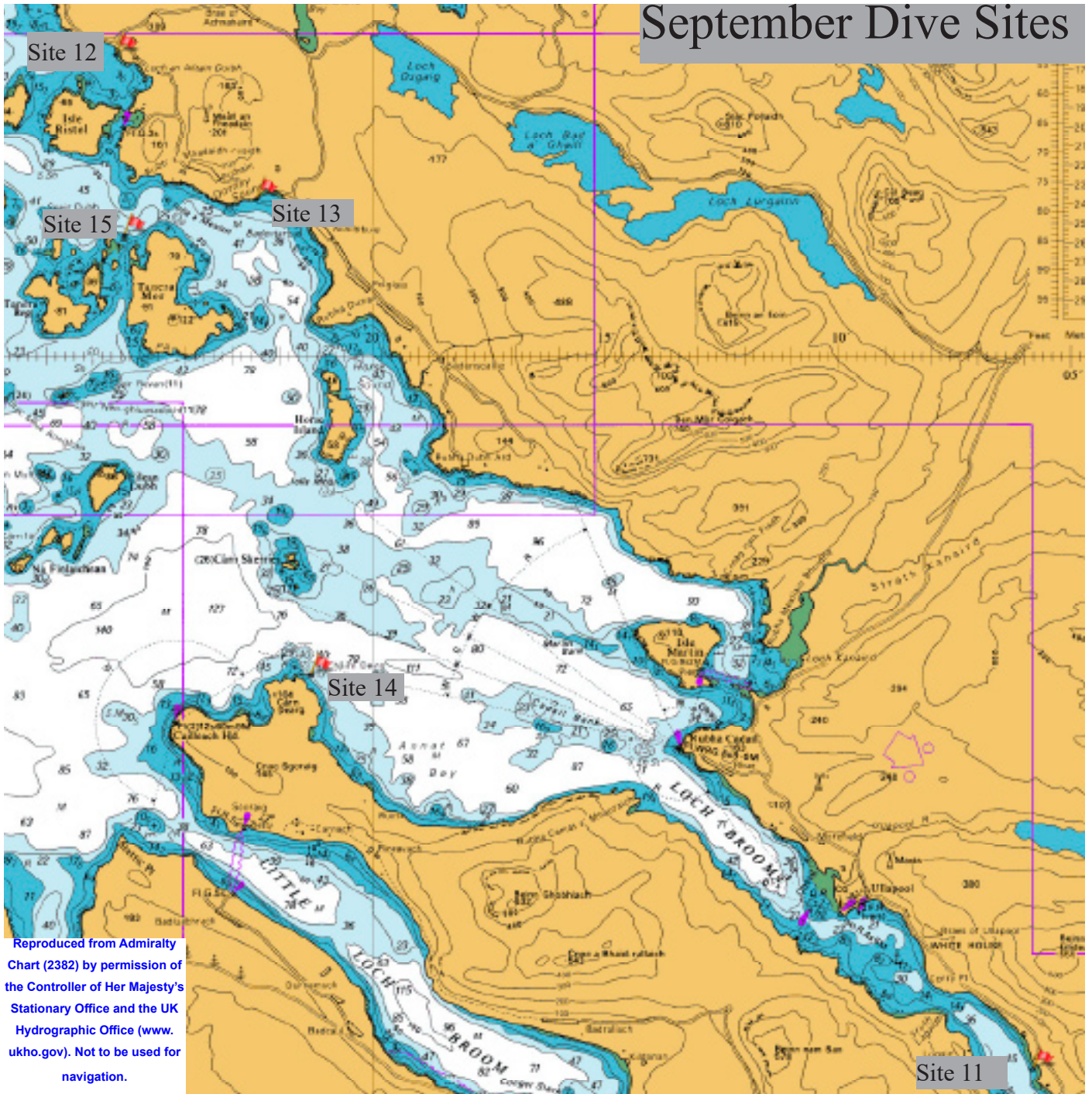


Dense Kelp Forest

Site 10 Sgeir nam Mult

This was a small skerry about 1Km west of Eilean Dubh. Here there was a dense covering of kelp and mixed seaweeds down to 12 metres on bedrock and boulders. The slope levelled out at 20 metres with a level seabed of maerl sand, once again a sign of a historical or nearby live maerl bed. Below the kelp forest there were pockets of feather stars with anemones and hydroids. Again a cuckoo wrasse was noted.

September Dive Sites



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September Surveys



Site 11 Leckmelm Farm Jetty, Loch Broom

This was a shore dive in Loch Broom surveying from the shore to 19m depth. The divers found a steep slope covered in cobbles for the first 5metres. The cobbles then ended abruptly and a silty slope continued on beyond the limit of the survey. The cobbles held a mix of Fucoïd algae with scattered squat lobsters and hermit crabs. The silt slope hosted larger numbers of hermit crabs and squat lobsters as well as shore crabs, edible crabs and spider crabs. Scallops, burrowing worms, burrowing anemones and gobies were also noted.

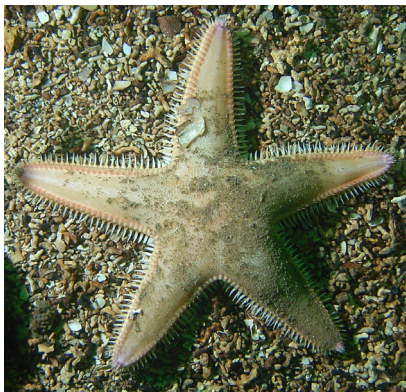


Site 12 Port Beag Chalets

The chalets lie on the north side of Loch an Alltain Duibh. The rocky foreshore descended into a mixed algae and kelp forest on cobbles and pebbles down to 12 metres. Typical kelp forest species such as top shells, snakelocks anemones and spider crabs were recorded.

Site 13 Old Pier, Bardentarbat

This shore site lies at the Northern end of Bardentarbat Bay near Achiltibuie. It was an unusual site compared to the other sites surveyed in 2017 with a large man made structure (the pier) dominating the area which was surrounded by a sandy seabed down to the maximum depth surveyed, 6 metres. Not surprisingly a fair amount of man made debris was recorded at this site including machinery, timber, cans and a large pile of scallop shells. The pier supported a sparse fauna but cup corals, sea urchins and dead mans fingers were present. Out on the sand spiny starfish, burrowing starfish and hermit crabs were noted.



Site 14 Wreck of Fairweather V

The Fairweather V lies in 30 metres off Carn Dearg at the approaches to Ullapool. A relatively recent wreck, (1991) the trawler is largely intact and densely colonised by plumose anemones, cup corals, dead mans fingers, sea squirts, keel worms, hydroids and starfish. The sand seabed around the wreck supports a dense population burrowing anemones. As is often the case fish were common around the wreck including Pollack, wrasse and gobies.

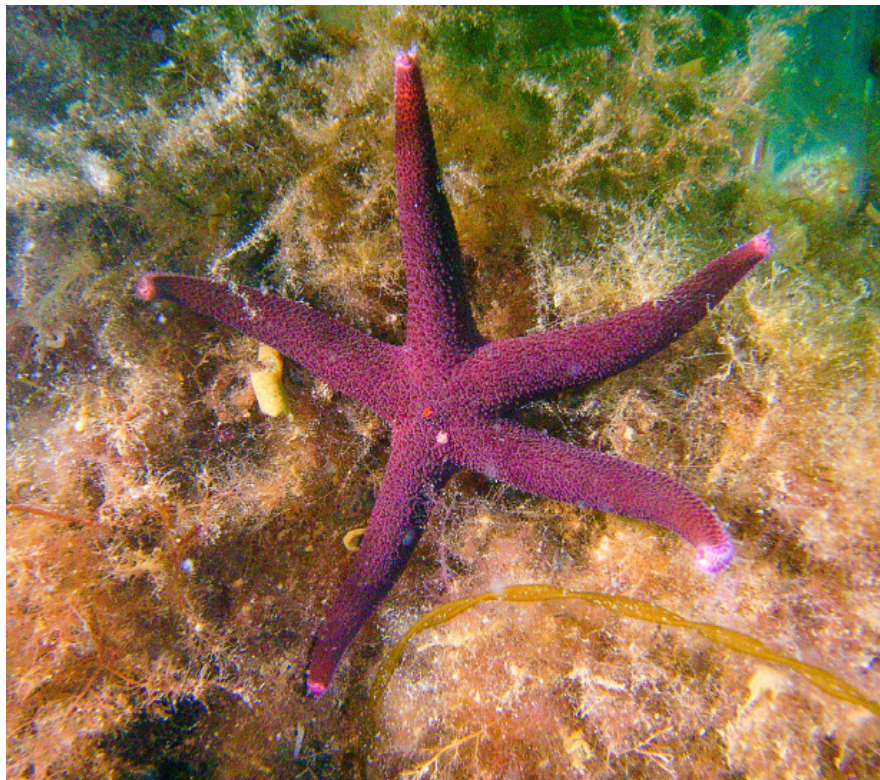


Site 15 Latto's rock, Tanera More

This is a small skerry between the north of Tanera More and Sgeir nam Feusgan. A relatively shallow site with the survey taking place between 5 and 14 metres. The skerry itself was covered in kelp forest which disappeared where the rock was replaced by gravel. Feather stars were abundant as were cup corals and gobies. Several octopus were seen at this site as well as stalked jellyfish, *Calvadosia campanulata*

Table 1-Summary of species recorded

Group	No of species recorded
Sponges	5
Cnidarians, anemones and hydroids	17
Worms	9
Crustaceans	17
Molluscs	22
Bryozoans	6
Echinoderms	15
Sea Squirts	6
Fishes	7
Algae	13
Other (Foramanifera and Diatom)	2
Total	119



Thanks to all who participated in this project especially the members of Sea Change Wester Ross including Sara Nason who provided accommodation for the dive team in April, Bill Whyte and Caroline who crewed the safety boat and provided extra cylinder carrying capacity, Colin Wishart, Lynne and Ian MacKay for providing shore backup and some excellent food.

April Divers were George Brown, Hilary MacKay and Neil MacInnes from Inverness BSAC, John Rees from Oban SSAC and Owen Paisley, Campbeltown SSAC.

July Divers were Neil MacInnes, Hilary Mackay and Colin Wishart all from Inverness BSAC.

September Divers were Jason Coles, Claire Hallybone, Graham Jackson and Glenn King.

Table 1: List of 2017 Wester Ross Dive Sites

Site	Date	Site Name	Seasearch Form No.	Lat	Long	Divers
1	22/04/17	SE Tanera More	SW17/005	58° 00.155 N	05° 23.383 W	Hilary Mackay, Neil MacInnes
2	22/04/17	SE Tanera More	N/A	58° 00.146	05° 23.300	George Brown
3	22/04/17	SE Tanera More	SW17/007	58° 00.140 N	05° 23.780W	Owen Paisley, John Rees
4	22/04/17	Eilean Mor	SW17/008	58° 00.622 N	05° 23.664W	Owen Paisley, John Rees
5	22/04/17	Eilean More	N/A	58° 00 607 N	05° 23.725 W	George Brown
6	22/04/17	Eilean Beg Channel	SW17/009	58° 00.553 N	05° 23.542 W	N.MacInnes, H. Mackay
7	10/06/17	NW Eilean Fada Mor	SW17/029	58° 01.012 N	05° 26.124 W	N. MacInnes, H. Mackay, C.Wishart
8	10/06/17	Stacg Mhiuc Aonghais	SW17/030	57° 59.578N	05° 27.708 W	N. MacInnes, H. Mackay, C.Wishart
9	11/06/17	NE Eilean Dubh	SW17/031	57° 58.729N	05° 25.311W	N. MacInnes, H. Mackay, C.Wishart
10	11/06/17	Sgeir nam Mult	SW17/032	57° 58.722 N	05° 27.000 W	N. MacInnes, H. Mackay, C.Wishart
11	06/09/17	Loch Broom	SW17/039	57° 51.850 N	05° 05.280 W	Glenn King, Graham Jackson
12	07/09/17	Port Beag Chalets	SW17/036	58° 03.330 N	05° 25.570W	Glenn King, Graham Jackson
13	07/09/17	Old Pier, Bardentarbet	SW17/037	58° 01.775 N	05° 22.487 W	G. Jackson, J. Coles, C.Hallybone
14	08/09/17	Fairweather V	SW17/035	57° 56.347 N	05° 21.335 W	Glenn King
15	08/09/17	Latto's rock, Tanera Mor	SW17/040	58° 01.362 N	05° 25.333 W	Glenn King, Graham Jackson

Summer Isles dives 1,2,3,4,5,6,7,8,9,10, and 15. Mainland dives 11,12,13,14.

Table 2: The following abundance scale is used in the table

Abundance	Encrusting and turf species e.g. encrusting algae/sponge, jewel anemones, hydroids, barnacles, mussels, seaweeds	Small plants and animals (1-5cm) e.g. worms, small sponges, anemones, cup-corals, shells, solitary sea squirts	Large plants and animals (> 5cm) e.g. large sponges, sea fans and pens, large anemones, crabs and lobsters, starfish, fish,
Superabundant	80-100% cover	10,000 per m ²	100 per m ²
Abundant	40-80% cover	1000 per m ²	10 per m ²
Common	20-40% cover	100per m ²	1 per m ²
Frequent	10-20% cover	10 per m ²	1 per 10m ²
Occasional	5-10% cover	1 per m ²	1per 100m ²
Rare	< 5% cover	<1 per m ²	1 per 1000m ²
Present	This is used when the surveyor has no idea of abundance or if no abundance is recorded.,		

Table 3: List of groups and species found

Group/Species	Dive 1	Dive 2	Dive 3	Dive 4	Dive 5	Dive 6	Dive 7	Dive 8	Dive 9	Dive 10	Dive 15
Foraminifera											
<i>Toxisarcon alba</i>			P				R				
Sponges											
<i>Suberites fiscus</i>					R		R				R
<i>Cliona celata</i>					O		O				R
<i>Leucoselenia sp</i>			P								
<i>Tethya citrina</i>						R	R				
Encrusting yellow sponge									O		
Cnidarians, hydroids, anemones											
<i>Obelia geniculata</i>								P	F		O
<i>Halecium halecium</i>									O		
<i>Hydractinia echinata</i>									R		
<i>Diphasia sp</i>									R		
comb jelly									R		
<i>Cerianthus lloydii</i>	C	C	P	P	F	C	O		O		F
<i>Actinothoe sphyrodeta</i>								R	O		
<i>Metridium senile</i>						O		O	O	O	O
<i>Urticina felina</i>										O	O
<i>Adamsia carcinopados</i>											R
<i>Anthopleura ballii</i>				P	C						
<i>Nemertesia antennina</i>						R	O			O	O
<i>Calvadosia campanulata (?)</i>											P
Feather hydroid						O					
<i>Caryophyllia smithii</i>			P			F	O				F
<i>Acyonium digitatum</i>			P			O					R
<i>Cyanea lamarkii</i>							R				

