



Seasearch Survey of Guernsey



June 2018

A report to La Société Guernesiaise and the States of Guernsey

by

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LA
SOCIÉTÉ
GUERNESIAISE

Seasearch

Seasearch is a volunteer underwater survey project for recreational divers and snorkelers to record observations of marine habitats and the life they support. The information gathered is used to increase our knowledge of the marine environment and contribute towards its conservation. Seasearch is a partnership between the Marine Conservation Society (MCS), The Wildlife Trusts, statutory nature conservation bodies and others, co-ordinated nationally by MCS and co-ordinated and delivered locally in England by Wildlife Trust and MCS local co-ordinators.

Financial support for the programme comes mainly from the Marine Conservation Society and the programme is also receiving (or has received in the recent past) financial support from Natural England, Scottish Natural Heritage, Natural Resources Wales and The Crown Estate.

Volunteers can participate in training courses and this report describes one of many surveys organized during the diving season. For more information visit www.seasearch.org.uk

The objectives of the Seasearch programme are:

- To gather information on seabed habitats and associated marine wildlife in Britain and Ireland through the participation of volunteer recreational divers and snorkellers
- To encourage the participation of volunteer recreational divers and snorkelers in marine conservation through gathering data, particularly for areas where little data exists or where there is a conservation need
- To provide training in recording skills to enable volunteers to participate and contribute data to Seasearch
- To make quality assured Seasearch data available to partner organisations and the general public
- To raise public awareness of the diversity of marine life and habitats in Britain and Ireland through the dissemination of information gathered and the identification of issues arising from it.

Marine Conservation Society

The Marine Conservation Society (MCS) is the UK Charity dedicated to the protection of the marine environment and its wildlife. Since its formation in 1983, MCS has become a recognized authority on marine and coastal conservation and produces the annual *Good Beach Guide*, as well as promoting public participation in volunteer projects and surveys such as *Adopt-a-Beach*, *Seasearch* and *Basking Shark Watch*.

Marine Conservation Society, Overross House, Ross Park, Ross-on-Wye, HR9 7US. Tel: 01989 566017, Website www.mcsuk.org



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Cover photo: A break in the fog at Les Hanois lighthouse, South-west Guernsey

Background (page 2): A breeding pair of black-faced blennies (*Tripterygion delaisi*) by Richard Yorke

Below: Green ormer (*Haliotis tuberculata*) by Richard Yorke



Synopsis

This report presents the results of a survey of sublittoral marine habitats and species carried out in Guernsey at the beginning of June 2018. The surveys used the Seasearch methodology and were carried out by four volunteer divers from Dorset and Staffordshire (all experienced Surveyors, including the National and Dorset Co-ordinators).

A relatively benign weather forecast for the week with high pressure and north-easterly winds allowed us to carry out surveys along the relatively unvisited (by Seasearch) south coast of the island, though strong winds and fog did cause a certain amount of anxiety and changes of plan at times. We were extremely fortunate to have a window of approximately one hour which enabled us to dive Cat Rock at Les Hanois before the fog returned and the swell increased.

At each site records were made of the habitats and species present, using the standard Seasearch survey form, which enabled the assignment of biotopes; these data are described on a site by site basis in the report.

1. Introduction

Seasearch surveys have been carried out around the main island of Guernsey since 2008, by local and visiting divers. The large tidal range and strong tidal streams make diving around the island challenging and local knowledge of the sites and conditions is invaluable. The conditions are particularly tricky on the west coast, as evidenced by the very small number of Seasearch dives carried out in this area. Shore diving necessarily explores the intertidal habitat unless very long swims are undertaken, and there are few commercial dive charter boats available. As a result, Guernsey is somewhat deficient in terms of marine data, especially that in the public domain (all Seasearch data is freely available to download from the National Biodiversity Network under a CC-BY, Creative Commons attribution licence¹).

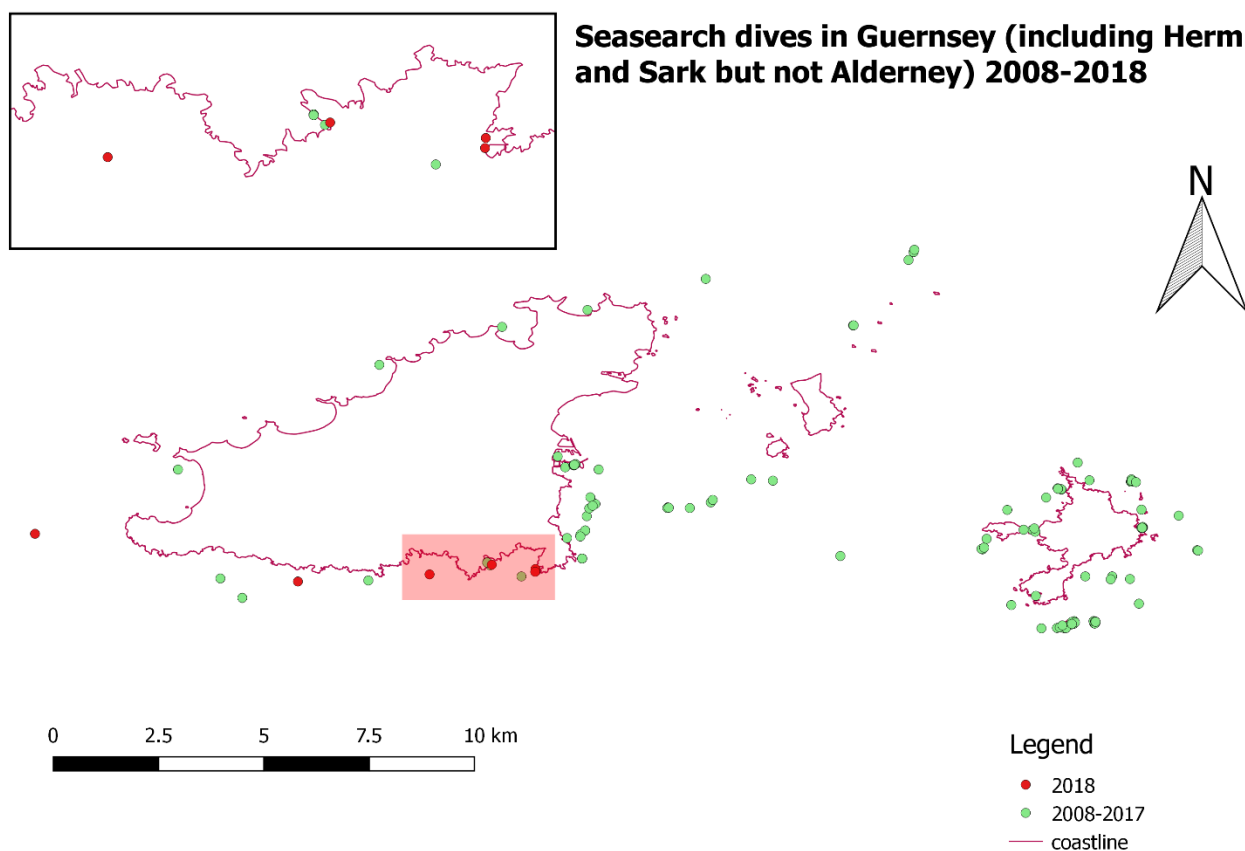


Figure 1: Seasearch dives in Guernsey (excluding Alderney) 2008-2018

¹ <https://creativecommons.org/licenses/by/4.0/>
Seasearch Survey of Guernsey, June 2018

The diving on this trip was carried out from the Blue Dolphins Sub Aqua Club RIB and on Andy Linehan’s Rodman 800 motor-cruiser ‘Beryl Ann’, plus one shore dive. We are deeply indebted to Ian Jowitt, Terry Ozanne and Andy Linehan for their enthusiasm, invaluable local knowledge and willingness to help us with the surveys. The diving took place over a 4-day period between 6th and 9th June, chosen for the neap tides.

Eleven survey forms were completed from the 6 sites shown in red in the map above (Figure 1). The two buddy pairs went in opposite directions (where topographically and tidally possible) to maximise the coverage of the survey, and each pair completed a separate survey form; essentially the same area was surveyed by both buddy pairs on the final dive so a group form was completed. Photographs were taken at all sites.

Date	Site Name	Type of dive	Event reference(s)
06/06/2018	Saint’s Bay Harbour	Shore dive	NT18/043, NT18/044
07/06/2018	Les Sept Boues	RIB dive	NT18/028, NT18/040
07/06/2018	North of Pea Stacks	RIB dive	NT18/029, NT18/041
08/06/2018	Cat Rock, Les Hanois	Hardboat dive	NT18/030, NT18/046
08/06/2018	Fourquie de la Moye, Icart Bay	Hardboat dive	NT18/031, NT18/045
09/06/2018	Pea Stacks	Hardboat dive	NT18/042 (group form)

The data on the recording forms have been entered into the Marine Recorder database by the former National Coordinator, Chris Wood, and subsequently have been made available to the Guernsey Biological Records Centre, La Société Guernesiaise and the States of Guernsey Biodiversity Section in the form of a Marine Recorder snapshot.



Figure 3: The dive team on the Blue Dolphins RIB, anchored north of Jerbourg Point



Figure 4: The hardboat dive platform at Les Hanois (Andy Linehan’s Rodman 800 motor cruiser ‘Beryl Ann’)



Figure 5: Earlier the same morning in St Peter Port – conditions didn’t look promising!

2. Site Descriptions

The 2018 sites are described below in order from west to east.

2.1 Cat Rock, Les Hanois (49° 25.835'N 002° 42.281'W)

Surveyed 08/06/2018 by Charlotte Bolton and Rik Girdler (buddy pair), Lin Baldock and Richard Yorke (buddy pair). Position shown is the start of the dive. Two Survey forms completed.

Site Summary (Habitat/Community Types)

A high-energy site, boulder and bedrock reef with meandering gullies, sloping down to the south-east to a seabed of coarse mobile sand. Upper surfaces dominated by foliose red algae with sponge cushions (at 21-23m bsl). Vertical faces with branching sponges, *Alcyonidium diaphanum* and tunicate turf (at 22-25m bsl).

Observations/Features of Interest

Large crawfish (*Palinurus elephas*); the starfish *Stichastrella rosea* (an unusual record for this far south – first Seasearch record for the Channel Islands).

Human Activities/Impacts

Potting in vicinity

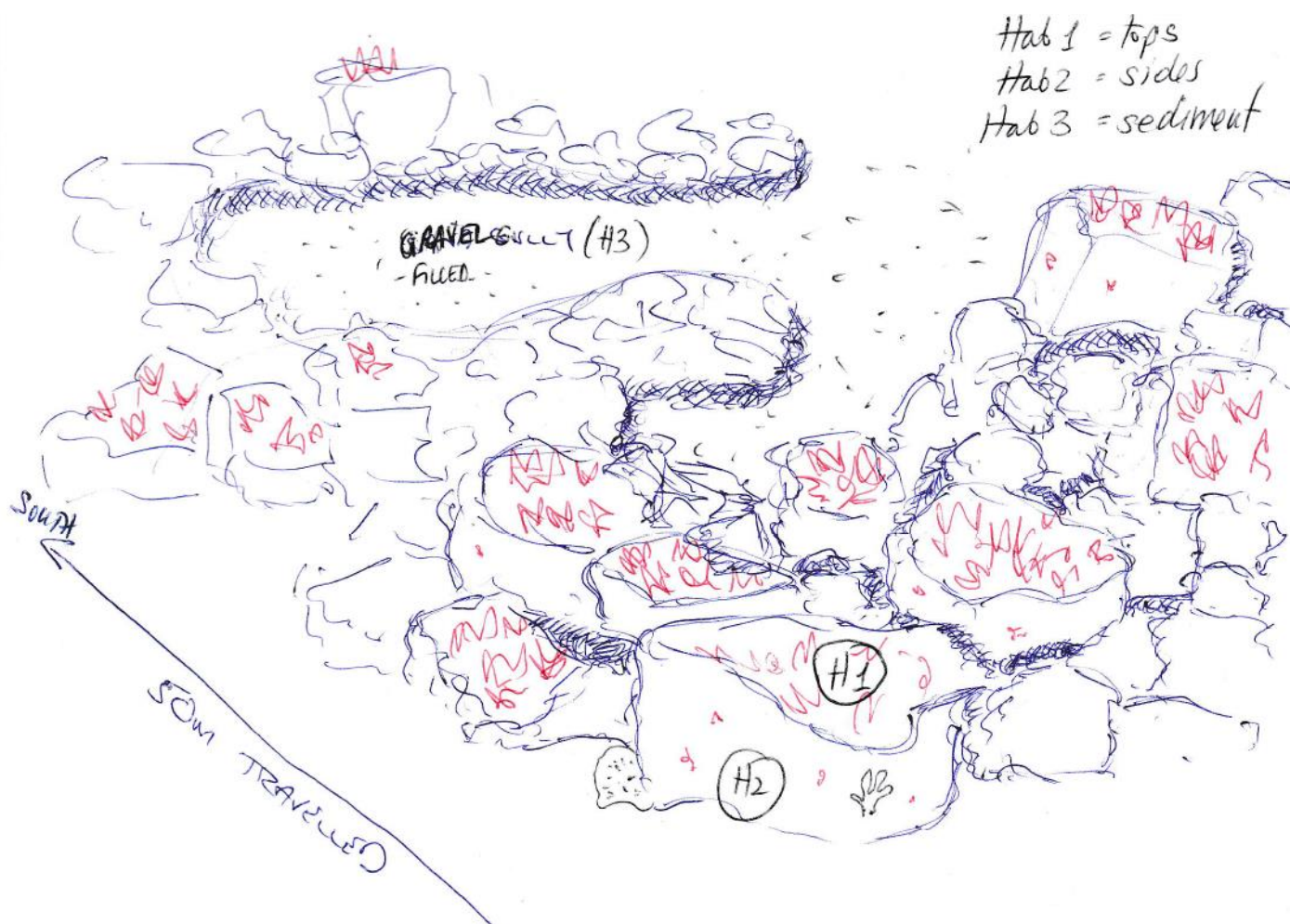


Figure 5: Sketch of the survey site at Cat Rock, Les Hanois (RG)



Figure 6: Dense turf of sponges and tunicates with mixed red algae on the reef

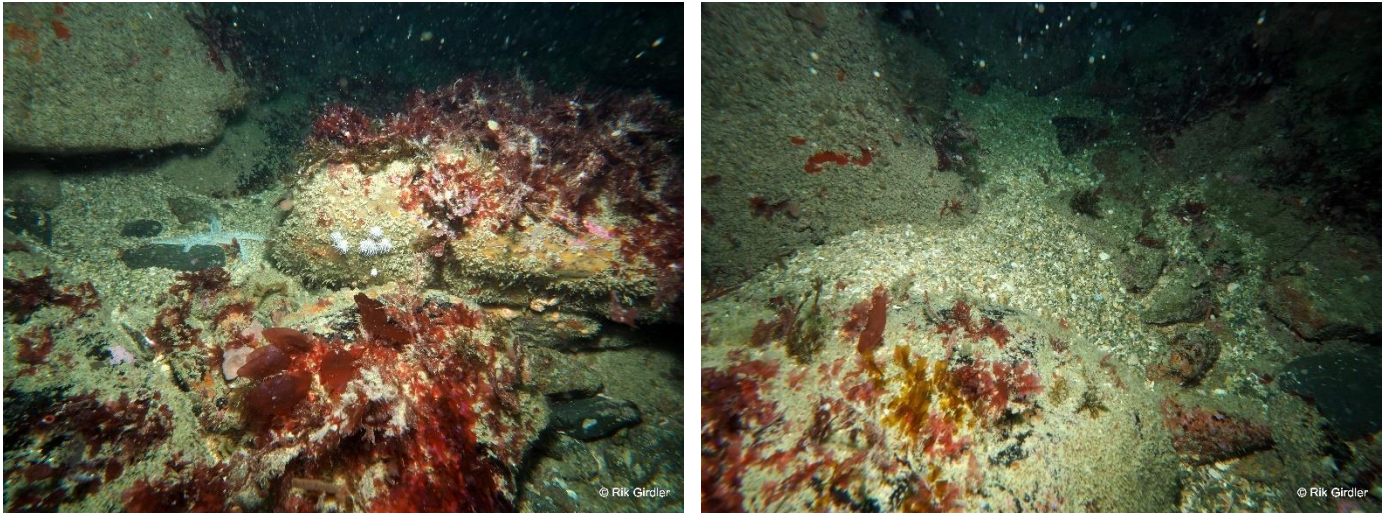


Figure 7: Lots of mobile coarse sediment creates a tough scoured environment around the base of the boulders and reef



Figure 8: Wide-angle shots of the reef habitat at Cat Rock, Les Hanois, showing dense algal and sponge cover

2.2 Les Sept Boues (49° 24.90'N 002° 37.13'W)

Surveyed 07/06/2018 by Charlotte Bolton/Rik Girdler and Lin Baldock/Richard Yorke. Two Survey forms completed.

Site Summary (Habitat/Community Types)

A tide-swept (especially at the time of the survey!) area of bedrock reef with gullies and deep canyons. Kelp forest on the upper surfaces and silty, short animal turf of sponges, hydroids and cup corals on the vertical walls. Coarse mobile sediment at the base of the walls at 22m bsl.

Observations/Features of Interest

Scarlet and gold cup corals (*Balanophyllia regia*), Rare seafans (*Eunicella verrucosa*).

Human Activities/Impacts

Potting in the vicinity. No litter or other human impacts observed.

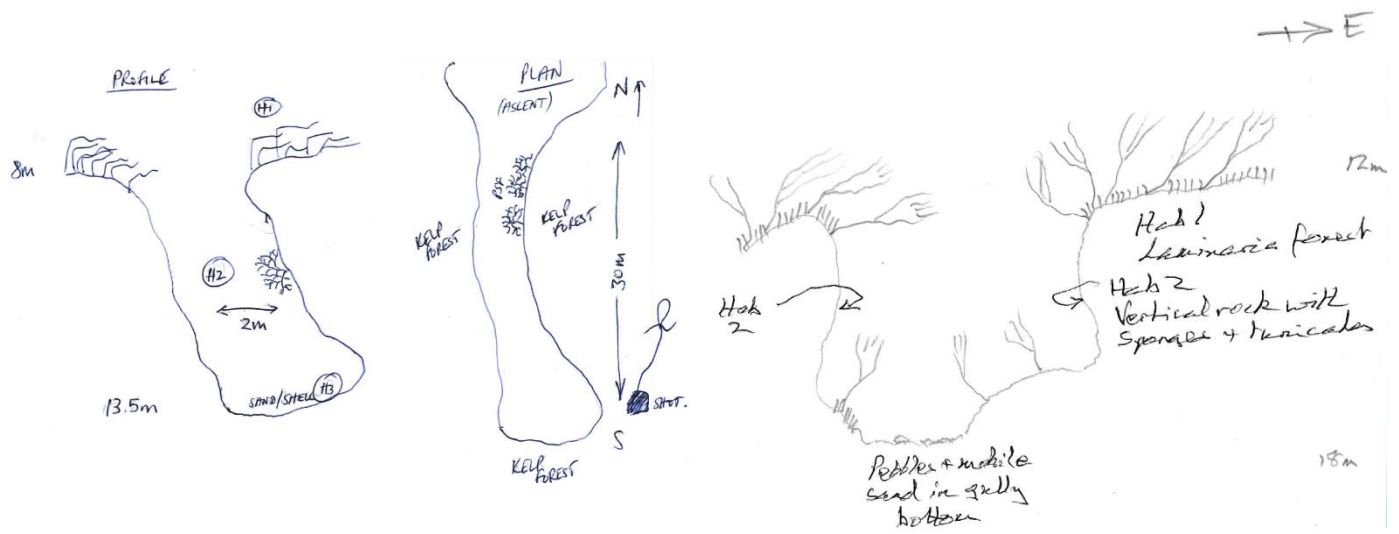


Figure 9: Plan and profiles of Les Sept Boues (CB (left), LB (right))



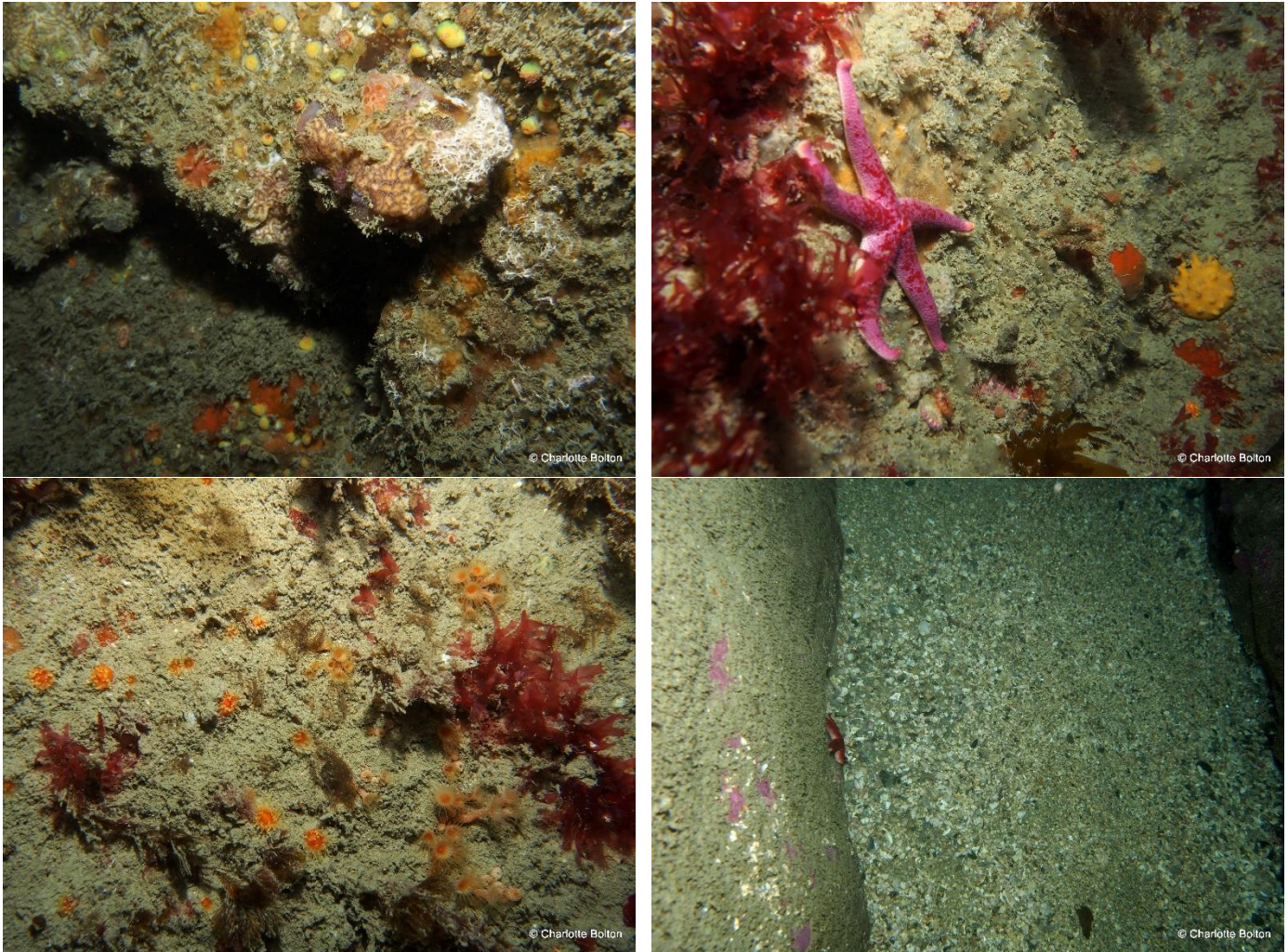


Figure 10: Silted animal turf on gully walls at Les Sept Boues, and the mobile coarse sediment at the gully base.

2.3 Fourquie de la Moye, Icart Bay (49° 25.04'N 002° 34.55'W)

Surveyed 08/06/2017 by Charlotte Bolton/Rik Girdler and Lin Baldock/Richard Yorke. Two Survey forms completed.

Site Summary (Habitat/Community Types)

Very silty large boulders and bedrock cliff with barnacles and red algal turf on upward-facing surfaces below dense kelp forest. Silty verticals with branching sponges and tunicate turf. Wide gullies running approx. N-S with very soft silty sediment at the bottom and collecting on ledges on the sides.

Observations/Features of Interest

Very overgrown silty seafans. Nationally rare sponge *Adreus fascicularis*. Small-eyed ray (*Raja microocellata*).

Human Activities/Impacts

Potting in vicinity; abandoned lobster pot and rope seen.

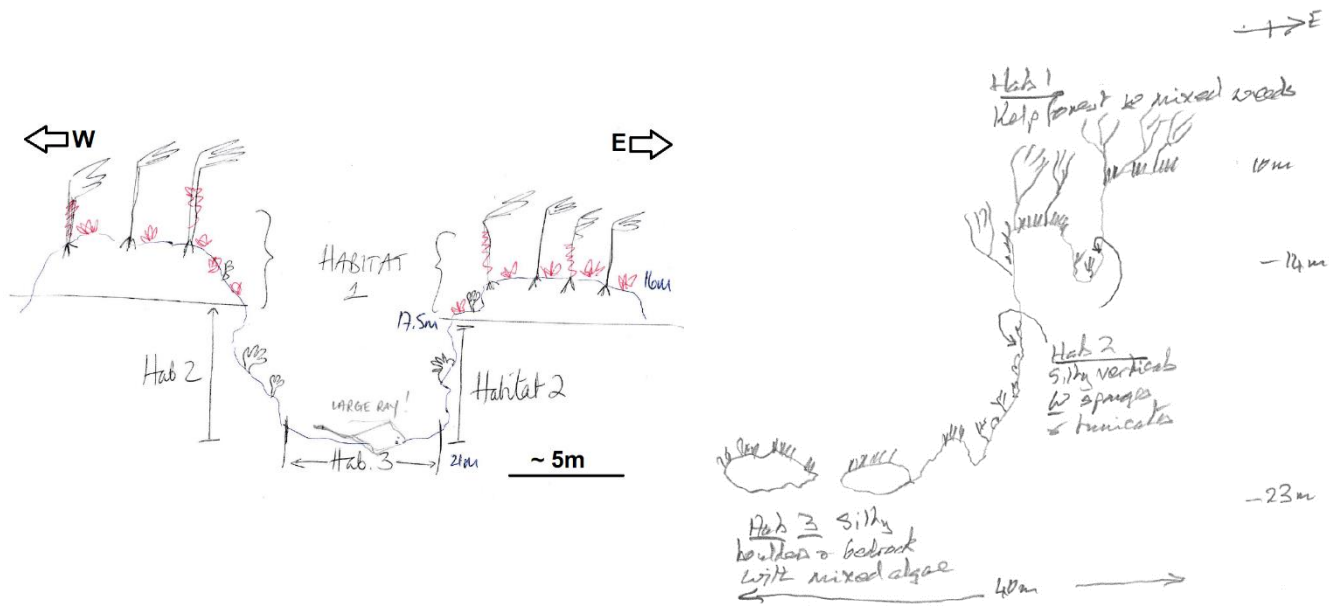


Figure 11: Profiles of Fourque de la Moya (CB (left), LB (right))



Figure 12: Wide-angle views of the heavily-silted reef at Fourque de la Moya



Figure 13: An unusual black sponge and a small-eyed ray (*Raja microcellata*) at Fourque de la Moya

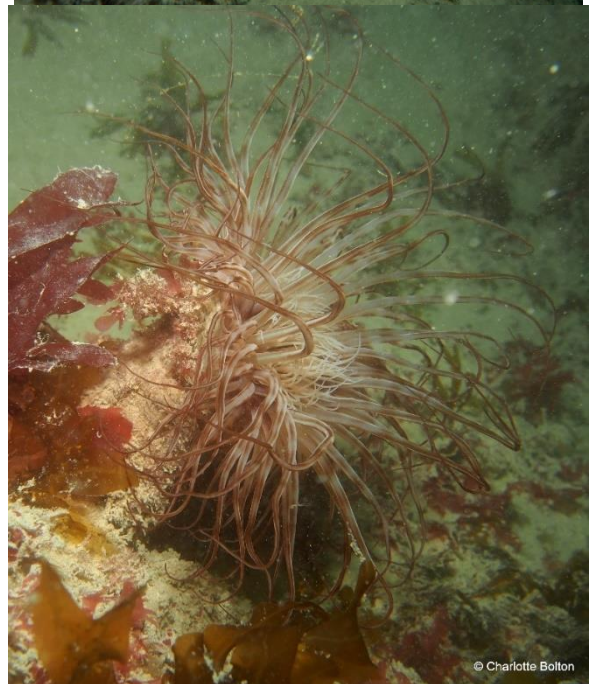
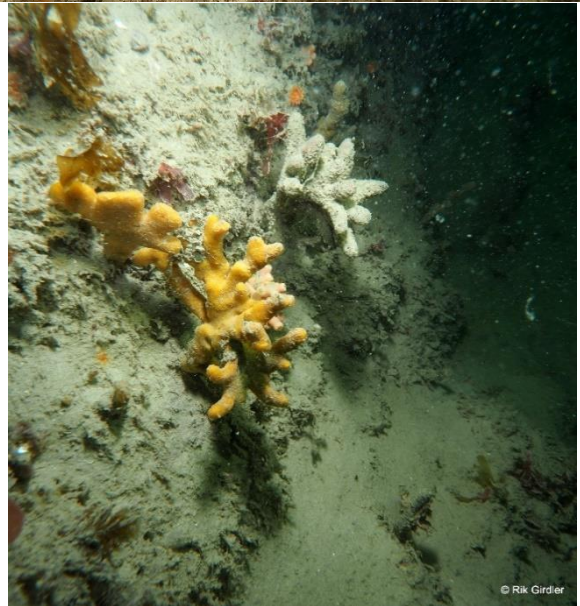


Figure 14: Typical southern species on the very silty reef at Fourquie de la Moye

2.4 Saints Bay / Saints Bay Harbour (49° 26.385'N 002° 31.355'W)

Surveyed 06/06/2018 by Charlotte Bolton/Rik Girdler (east from harbour wall) and Lin Baldock/Richard Yorke (south/south-west). Two Survey forms completed.

Site Summary (Habitat/Community Types)

East-facing sea wall with boat moorings. Boulder field with dense tall algae (*Sargassum muticum*) and understory of mixed algae dropping to fairly level seabed of coarse sand and small shell pieces (some gravel in patches) with mobile life and much evidence of infauna. To the south, bedrock reef with kelp forest on top; overhangs with scarlet and gold cup corals (*Balanophyllia regia*).

Observations/Features of Interest

Non-native algae: *Sargassum muticum*, *Asparagopsis armata* and *Dasysiphonia japonica*. Many ctenophores and plankton in the water column.

Human Activities/Impacts

Boats – mooring lines on wall and mooring buoys on the seabed to the east. To the south - Crab pot full of spider crabs and 2 large ballan wrasse.

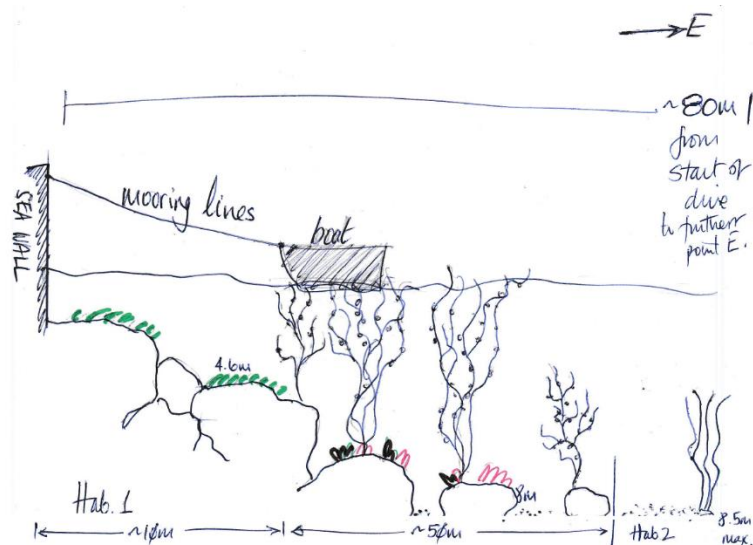


Figure 15: Profile of Saints Bay Harbour (CB)

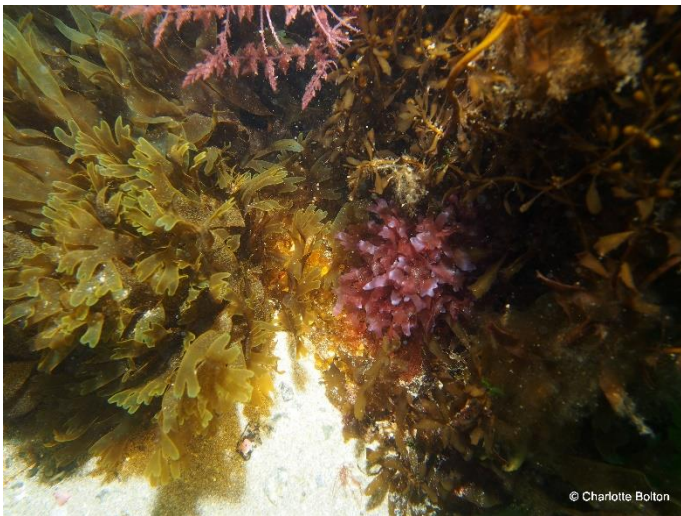
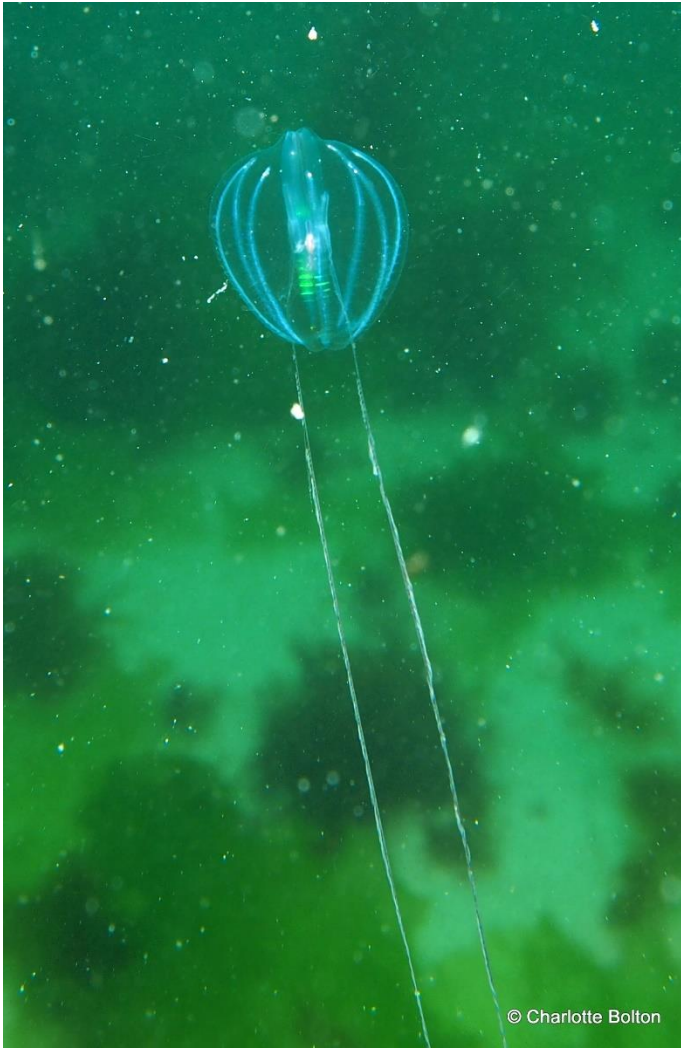


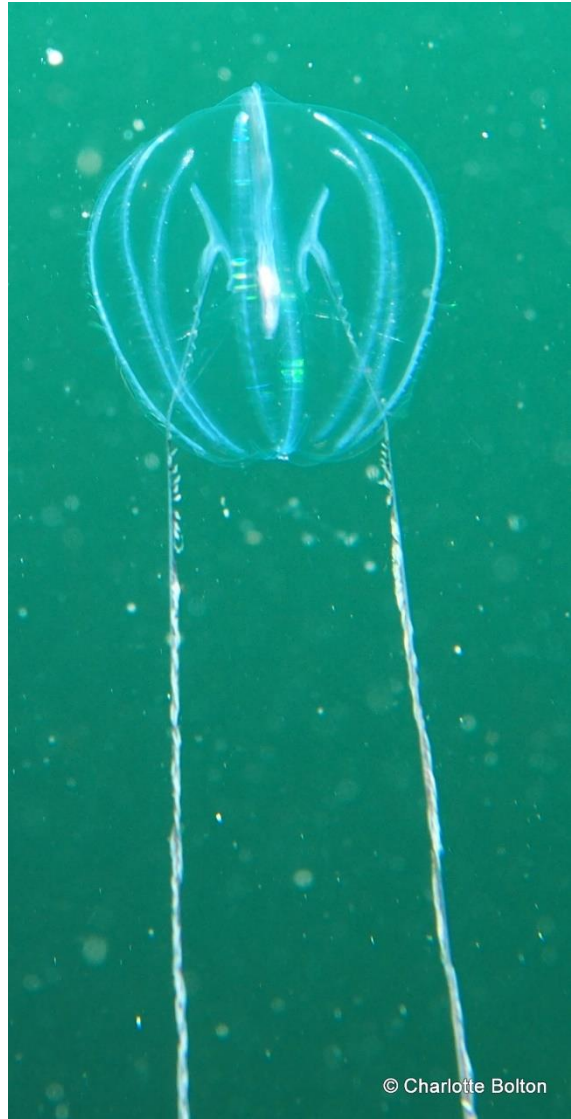
Figure 16: A dense understory of mixed algae beneath the kelp and *Sargassum*, including the non-native red harpoon weed *Asparagopsis armata* (photo right).

The sandy seabed to the east of the harbour wall was dense with infauna including bivalves, polychaete worms and tiny anemones (below).





© Charlotte Bolton



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Figure 17: There were notably large numbers of ctenophores in the water column at safety stops on most of the dives, particularly these sea gooseberries (*Pleurobrachius pileus*).



© Richard Yorke



© Richard Yorke

Figure 18: Marine life on the reef to the south of Saints Bay Harbour

2.5 Pea Stacks, Jerbourg Point (49° 25.04'N 002° 32.48'W)

Surveyed 07/06/2018 by Charlotte Bolton/Rik Girdler and Lin Baldock/Richard Yorke. One group Survey form completed since both buddy pairs surveyed effectively the same area.

Site Summary (Habitat/Community Types)

Bedrock reef with kelp forest dropping to very silty boulder field with foliose mixed algae to coarse shell/stone sand waves with abundant polychaete tubes (20m bsl).

Observations/Features of Interest

One small crawfish (*Palinurus elephas*) recorded on the reef. Nationally rare sponge *Adreus fascicularis*. Several dead but attached seafan (*Eunicella verrucosa*) skeletons.

Human Activities/Impacts

Potting in the vicinity. Litter – one plastic bag

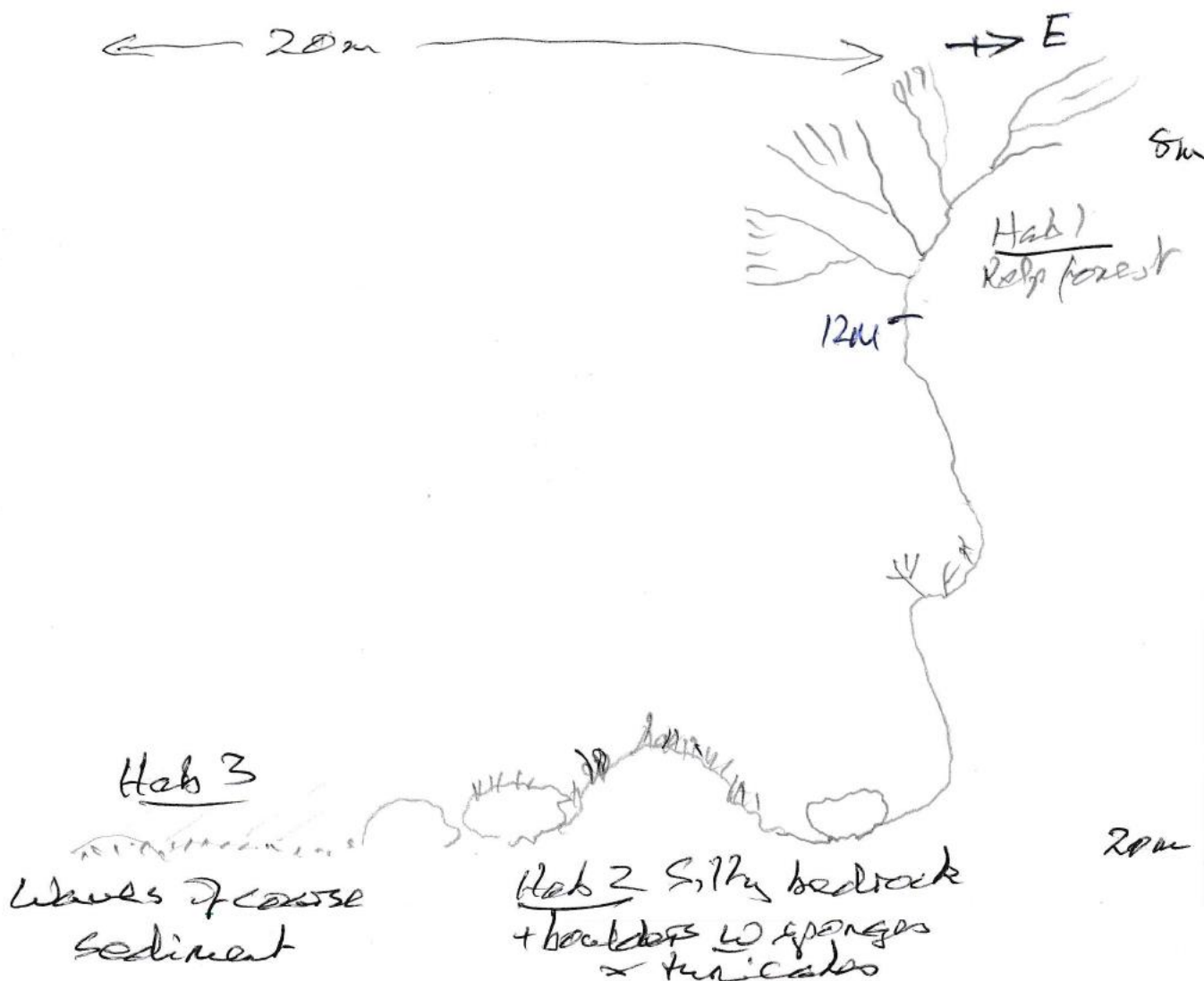
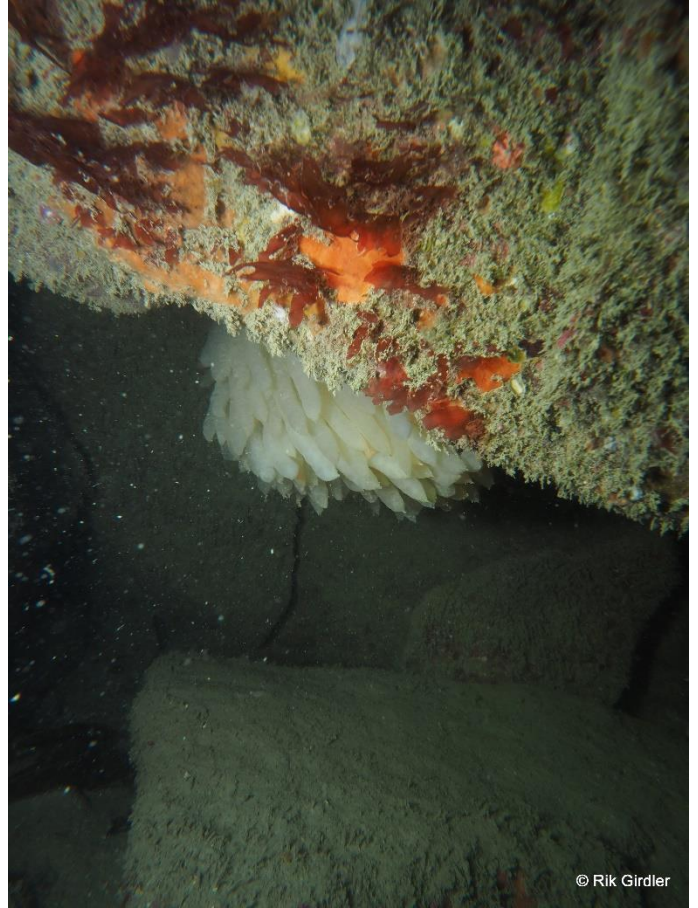


Figure 19: Plan and profile at Pea Stacks, Jerbourg Point (LB)



© Charlotte Bolton



© Rik Girdler



© Charlotte Bolton



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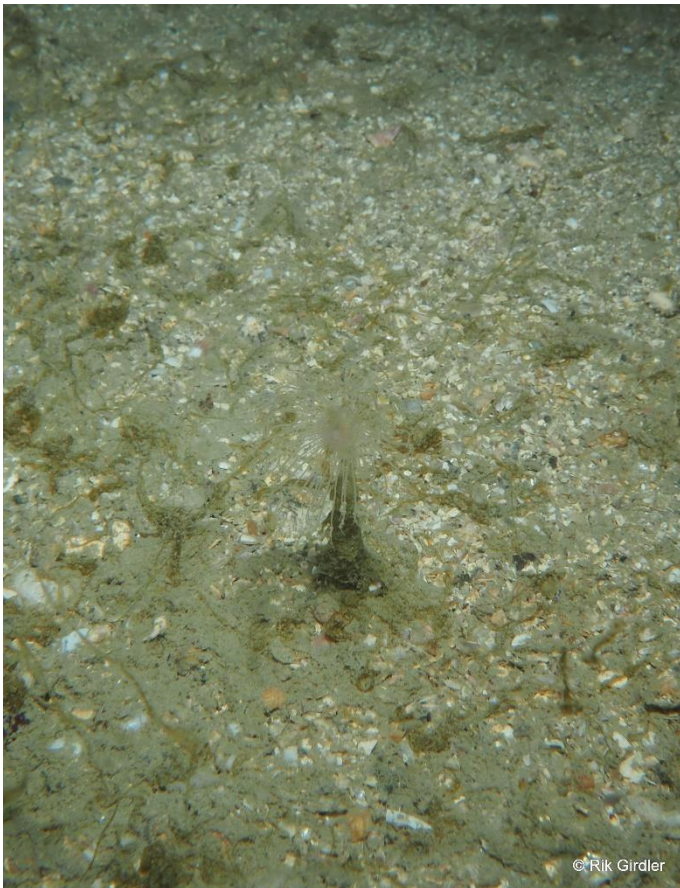


Figure 20: Marine life at Pea Stacks, Jerbourg Point

2.6 North of Pea Stacks, Jerbourg Point (49° 25.145'N 002° 32.476'W)

Surveyed 07/06/2018 by Charlotte Bolton/Rik Girdler (north from boat position given above) and Lin Baldock/Richard Yorke (south-east). Two Survey forms completed.

Site Summary (Habitat/Community Types)

To the north: Silty boulders of seabed of pebbles, rising gently to the north. Enormous boulder with large cave beneath. Occasional kelp, dense red weeds.

Seasearch Survey of Guernsey, June 2018

To the south-east: Gently-sloping seabed of pebbles and fine sand dominated by mixed red seaweeds with steep bedrock and boulders to the south. Latter with kelp forest and overhangs with short animal turf.

Observations/Features of Interest

Green ormer (*Haliotis tuberculata*) were recorded 'in the open' by both buddy pairs at this site.

To the north: tiny crawfish (*Palinurus elephas*) in fissure between boulders.

To the south-east: juvenile crawfish (overall length ~8cm). Non-native seaweed *Dasysiphonia japonica* co-dominant on sediment.

Human Activities/Impacts

To the north: nothing seen.

To the south-east: Potting in vicinity; one crab pot seen on dive.

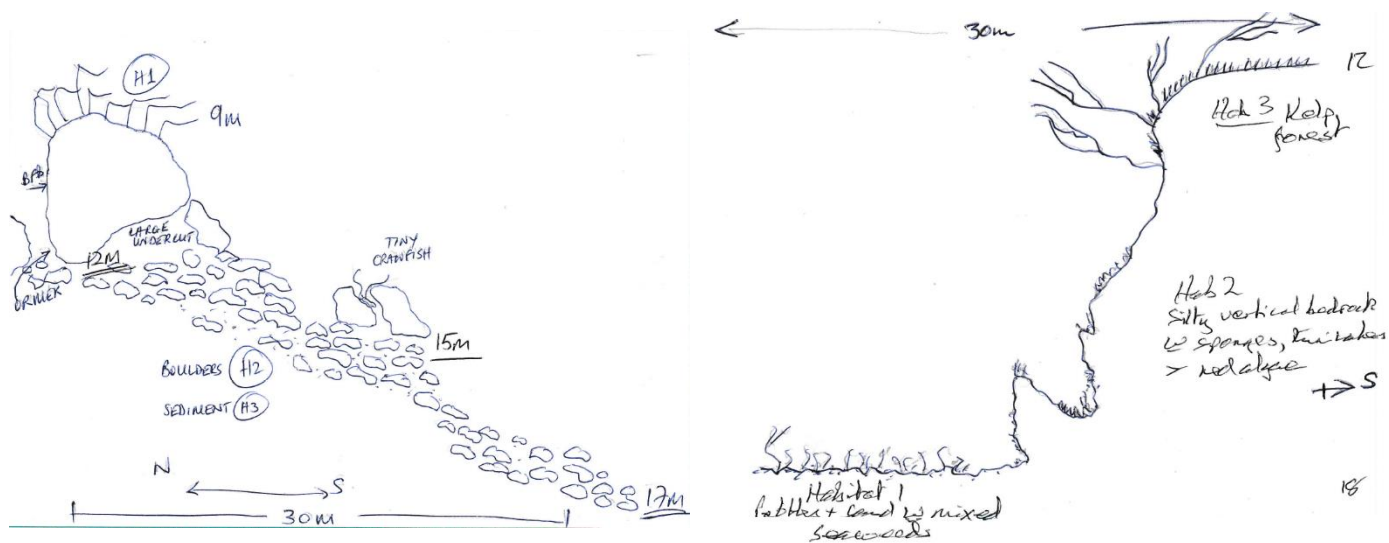


Figure 21: Plan and profile of the dives at North of Pea Stacks (CB (left), LB (right))

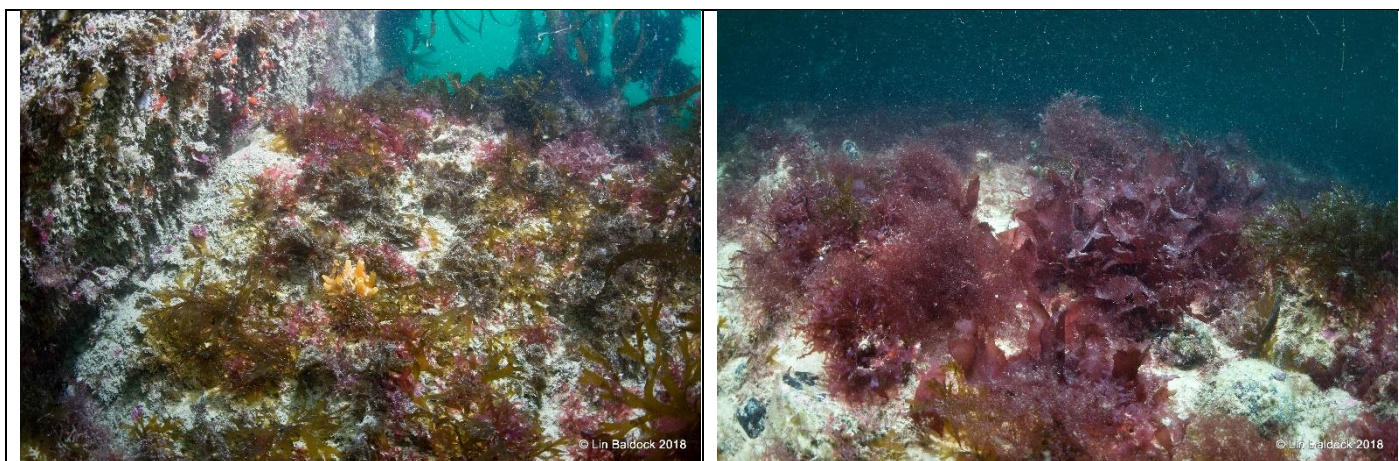


Figure 22: Wide-angle views of the reef (left) and seabed (right) North of Pea Stacks



Figure 23: Marine life at North of Pea Stacks, Jerbourg Point



Figure 24: Dramatic geology looking south-east from the anchored RIB just north of Jerbourg Point

3 Discussion

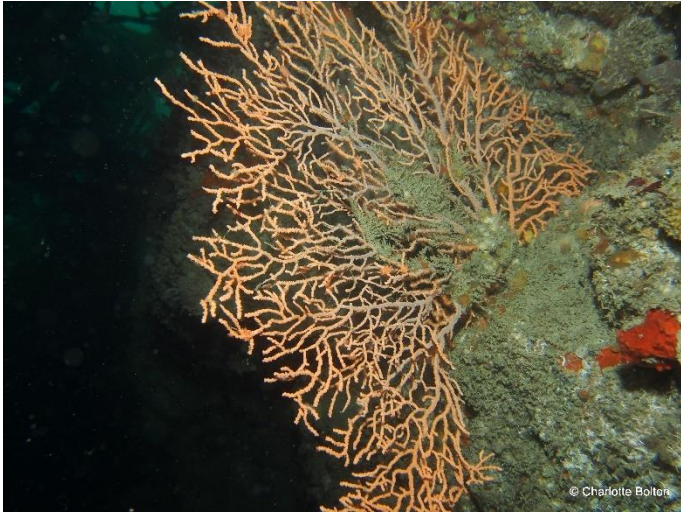
3.1 Priority species (seafans, *Eunicella verrucosa*; crawfish/crayfish/spiny lobster *Palinurus elephas*; green ormer (*Haliotis tuberculata*))

Seafans, *Eunicella verrucosa*, were recorded at four sites (Pea Stacks, North of Pea Stacks, Fourquie de la Moye and Les Sept Boues). None were in very good condition, being fouled or in one instance, completely lacking in coenenchyme tissue (but with the underlying skeleton still attached to the reef). This reinforces observations from 2017 and bears further investigation – a possible explanation is the *Vibrio* bacterial infection that affected seafans on the island of Lundy in the Bristol Channel in the early 2000s².

Juvenile (unbranched) seafans were recorded and even small and sickly colonies hosted the seafan nudibranch (*Tritonia nilsodhneri*). The seafan anemone (*Amphianthus dohrnii*) was not recorded at any of the sites.

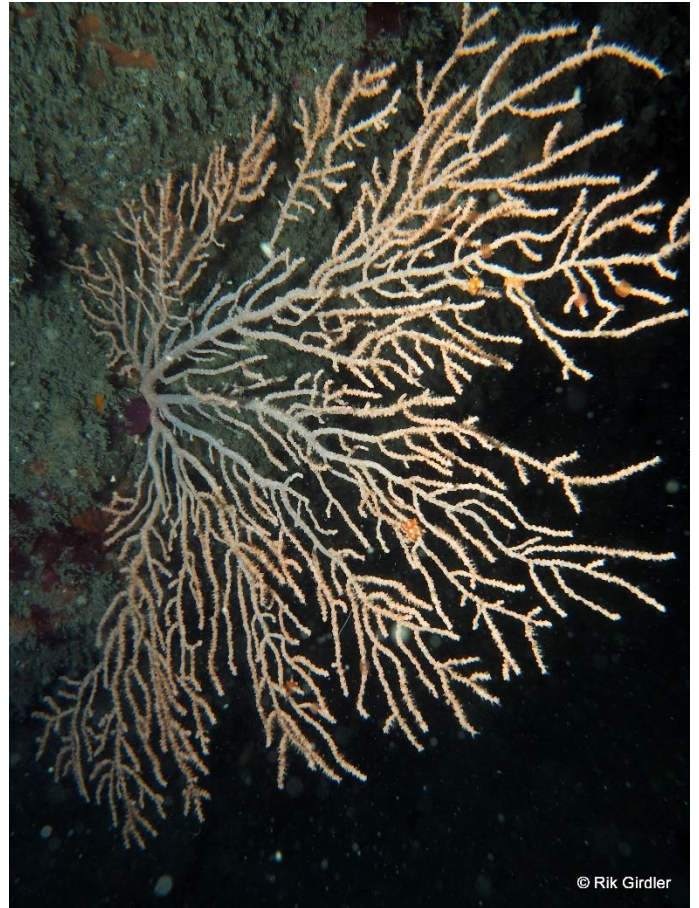


² DOI: 10.3354/dao076087



Large seafan in the gully at Les Sept Boues (above)

Many seafan nudibranchs (*Tritonia nilsodhneri*) on this colony at Les Sept Boues (right)



A heavily-fouled seafan at the silty Fourquie de la Moye site (ABOVE)

An unbranched ?4yo seafan at Les Sept Boues (LEFT)

A total of four crawfish (*Palinurus elephas*) were recorded at three sites dived on this trip, distributed as follows:

Site	Number of <i>P. elephas</i> seen
North of Pea Stacks (north from entry point)	1 (tiny/juvenile)
North of Pea Stacks (south-east from entry point)	1 (juvenile)
Pea Stacks	1 (small/juvenile)
Cat Rock, Les Hanois	1 (large)



(LEFT) Small *Palinurus elephas* at Pea Stacks.

(ABOVE) Large *Palinurus elephas* at Cat Rock.



Ormer, *Haliotis tuberculata*, were recorded at one site (North of Pea Stacks) albeit by both buddy pairs who travelled in different directions from the entry point of the dive. Both sightings were of an animal out in the open rather than hiding away in a crevice – this was regarded as unusual but may reflect the relative inexperience of the surveyors with regard to this species.

3.2 Non-native species

Only *Sargassum muticum* and *Styela clava* are listed as ‘alien invasive species’ for Guernsey on the Global Invasive Species Database (GISD)³. Wireweed, *Sargassum muticum*, was recorded at **Abundant** abundance on the Saints Bay Harbour shore dive and at no other site; there were no records of *Styela clava* in 2018.

Other non-native species recorded included the red algae *Asparagopsis armata* (harpoon weed) and *Dasysiphonia japonica*.

3.3 Range of habitats and biotopes

JNCC biotopes have been identified for all sites. The list of biotopes identified is shown in Appendix 2.

Twelve different biotopes were identified, the majority of which (6) are for Infralittoral Rock (2 Circalittoral Rock, 4 Sublittoral Sediment). This is unsurprising given that the sites surveyed were generally inshore because of the conditions. Many of the biotopes assigned were not an ideal match (conditions siltier than the habitat classification description) which exposes the inadequacies of the scheme rather than any adverse comment on the very experienced post-survey assessor.

3.4 Diversity of species

Appendix 1 contains a list of all of the species recorded and the sites at which each species was present. It also shows the range of abundance for each site. This is because separate habitats are recorded and species may occur in more than one. Abundances use the SACFOR scale (superabundant-abundant-common-frequent-occasional-rare). In cases where species were subsequently identified from photographs, or where the recorder was uncertain, P for present is substituted for the abundance scale.

Phylum/group	Total number of taxa records	Number of unique taxa recorded
Sponges (Porifera)	133	33
Hydroids, anemones and corals (Cnidaria and Ctenophores)	51	22
Worms (Annelida)	22	9
Crustaceans	31	11
Molluscs	47	21
Bryozoans	60	15
Echinoderms	30	13
Sea squirts (Ascidians)	87	25
Fish (bony and cartilaginous)	36	14
Algae	222	62
TOTAL	719	225

The high number of algal records reflects the experience and expertise of one of the surveyors on the trip. Taxa counts could undoubtedly have been higher given facilities for sampling and examination of specimens – none were taken on this trip.

Some typically southern/south-western species were recorded, namely the green ormer (*Haliotis tuberculata*), the crumpled duster sponge (*Axinella damicornis*), the yellow cluster anemone (*Parazoanthus axinellae*), tassel weed (*Carpomitra costata*), the scarlet and gold cup coral (*Balanophyllia regia*) and a colonial ascidian that lacks a common name (*Polysyncraton lacazei*). The *Aplidium* ‘strawberry’ ascidian (also lacking a common name) recorded at 3 of the sites (Cat Rock, Pea Stacks and Fourquie de la Moye) and ‘sandy polyclinid’ (unidentified to species; recorded at Cat Rock and Fourquie de la Moye) seem to have a similar southern/south-western distribution having been recorded in the Channel Islands but also on the mainland south coast (Cornwall/Devon/Dorset). Further work will be required to identify these ascidians to species. The echinoderm *Stichastrella rosea* has a generally northern distribution; the sighting at Cat Rock represents the first Seasearch record for the Channel Islands. The tiny burrowing anemone

³ <http://www.iucngisd.org/gisd/>

Halcapa chrysanthellum was spotted in the sand amongst the moorings at Saints Bay Harbour – the second record for the Channel Islands, but this is more likely under-recorded than genuinely rare.

Appendix 1: Species List

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourque de la Moye, Icart Bay
PORIFERA							
<i>Adreus fascicularis</i>		R	R	R		R	R
<i>Amphilectus fucorum</i>							R
<i>Aplysilla sulfurea</i>							P
<i>Axinella damicornis</i>		O	O	RO	R	ROR	OO
<i>Axinella dissimilis</i>		R	R	O		O	OO
<i>Axinella infundibuliformis</i>							P
<i>Ciocalypta penicillus</i>						R	
<i>Clathrina coriacea</i> (uncertain)						R	
<i>Cliona celata</i>		R	R		R	R	RO
<i>Cliona celata</i>	MASSIVE	R	R	R		R	R
<i>Dercitus (Dercitus) bucklandi</i>		R	R				
<i>Dysidea fragilis</i>		RR	RR				OO
<i>Grantia compressa</i>						R	
<i>Haliclona</i>		O	O				
<i>Haliclona</i> (uncertain)			P				
<i>Haliclona (Reniera) cinerea</i>		R	R				
<i>Haliclona (Reniera) cinerea</i> (uncertain)						R	R
<i>Haliclona (Rhizoniera) viscosa</i>						FR	
<i>Haliclona fistulosa</i> (uncertain)		R	R				
<i>Hemimycale columella</i>		RR	RR	RR		RR	OO
<i>Homaxinella subdola</i>				R		R	R

	Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Homaxinella subdola</i> (uncertain)	R	R				
<i>Hymedesmia (Hymedesmia) paupertas</i>					O	
<i>Hymedesmia</i> (uncertain)						R
<i>Leucosolenia</i>	O	O				R
<i>Myxilla (Myxilla) incrustans</i>					RR	
<i>Pachymatisma johnstonia</i>	O	O	R	R	RR	ROO
<i>Phorbas plumosus</i>	R	R		O	O	
<i>Polymastia boletiformis</i>	O	O	R		R	OO
<i>Polymastia penicillus</i>	R	R				RR
Porifera indet crusts	FF	FF	OF	OR	OFOR	FRR
<i>Raspailia (Raspailia) ramosa</i>	O	O				O
<i>Raspailiidae</i>	F	F	O		O	R
<i>Sycon ciliatum</i>	RR	RR	OR		OR	
<i>Terpios gelatinosus</i>						R
<i>Tethya citrina</i>			R		R	R
<i>Ulosa stuposa</i>					OO	
CNIDARIA/ CTENOPHORA						
<i>Actinothoe sphyrodeta</i>					R	
<i>Alcyonium digitatum</i>						R
<i>Alcyonium glomeratum</i>	O	O				O
<i>Anemonia viridis</i>				R	R	
<i>Balanophyllia (Balanophyllia) regia</i>	FR	FR	R	R	RR	F

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourque de la Moye, Icart Bay
<i>Capnea sanguinea</i>							R
<i>Caryophyllia (Caryophyllia) inornata</i>		O	O				R
<i>Caryophyllia (Caryophyllia) smithii</i>		FR	FR	R	R	RR	R
<i>Cerianthus lloydii</i>				R		R	
<i>Corymorpha nutans</i>				R		R	
<i>Corynactis viridis</i>		R	R				R
<i>Epizoanthus couchii</i>						RP	
<i>Eunicella verrucosa</i>		O	O				
<i>Eunicella verrucosa</i>	DEAD		P	R		R	
<i>Eunicella verrucosa</i>	FOULED						R
<i>Eunicella verrucosa</i>	SICKLY			R		R	
<i>Gymnangium montagui</i>						FR	
<i>Halocampa chrysanthellum</i>					R	R	
<i>Halecium halecinum</i> (uncertain)		P	P				
Hydrozoa	SHORT TURF					O	
<i>Isozoanthus sulcatus</i>				R		R	RR
<i>Nemertesia antennina</i>						R	
<i>Pachycerianthus</i>	DOROTHY						R
<i>Parazoanthus axinellae</i>		F	F				O
<i>Pleurobrachia pileus</i>					O	O	
ANNELIDA							
<i>Arenicola</i>	CASTS				F	F	

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Bispira volutacornis</i>		RR	RR	O		O	
<i>Chaetopterus</i>				R		R	
<i>Chaetopterus</i>	TUBES						P
<i>Filograna</i>						P	
<i>Filograna</i>	OR SALMACINA					R	
<i>Lanice conchilega</i>				R	O	RO	
Polychaeta	TUBES			A	FO	AFO	
<i>Salmacina</i>	OR FILOGRANA						O
<i>Salmacina dysteri</i>	SALMACINA/FILOGRANA	F	F				
<i>Spirorbis</i>	ON ORMER		R				
Terebellidae					O	O	
CRUSTACEA							
<i>Anilocra</i>				R			
<i>Anilocra</i>	ON GOLDSINNY		R				
<i>Anilocra</i>	ON WRASSE		R			R	
<i>Cancer pagurus</i>		R	R	R		R	
Cirripedia						RP	AC
<i>Galathea strigosa</i>		R	R				
<i>Maja brachydactyla</i>		R	R	OR	FR	ORFR	F
<i>Megatrema anglicum</i>				R		R	P
<i>Mysida</i>					F	F	
<i>Necora puber</i>		R	R				
Paguridae					RO	RO	
<i>Pagurus cuanensis</i>					R	R	

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourque de la Moye, Icart Bay
<i>Palinurus elephas</i>				R		R	
<i>Palinurus elephas</i>	JUVENILE		R				
<i>Palinurus elephas</i>	LARGE					R	
MOLLUSCA							
<i>Aplysia punctata</i>				R		R	
<i>Aplysia punctata</i>	EGGS						
Bivalvia	SIPHONS				FO	FO	
<i>Calliostoma zizyphinum</i>		R	R		R	R	RR
<i>Colpodaspis</i>						R	
<i>Colpodaspis</i> (uncertain)							R
<i>Diaphorodoris alba</i>				R		R	R
<i>Diaphorodoris luteocincta</i>				R		R	
<i>Doris sticta</i>							R
<i>Euspira nitida</i>	EGGS			R		R	
<i>Gibbula cineraria</i>					R	R	R
<i>Haliotis tuberculata</i>				R		R	
<i>Limacia clavigera</i>				R		R	
<i>Loligo</i>	EGGS			R		R	
<i>Nassarius reticulatus</i>					F	F	
<i>Okenia</i>	EGGS	P	P				
<i>Polycera</i>					R	R	
<i>Polycera faeroensis</i>		R	R				RRR
<i>Polycera quadrilineata</i>							RR
Solenidae	DEAD/SHELLS		P		R	R	

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Thecacera pennigera</i>				RR		RR	
<i>Tritia</i>					O	O	
<i>Tritonia nilsodhneri</i>		O	O	R		R	
BRYOZOA							
<i>Aetea anguina</i>						F	
<i>Alcyonidium diaphanum</i>		R	R				O
Bryozoa indet crusts				F		F	RPR
Bryozoa indet crusts	ORANGE ON ORMER		R				
Bryozoa indet crusts	ORANGE	O	O				
<i>Bugula plumosa</i>		O	O	F		F	OF
<i>Bugulina flabellata</i>		R	R	R		R	RO
<i>Caberea boryi</i> (uncertain)		F	F				
Candidae		O	O				O
<i>Cellepora pumicosa</i>							O
<i>Crisia</i>		FRR	FRR				FFR
<i>Crisia</i>	SILTY TURF		A				
Crisiidae							O
<i>Disporella hispida</i> (uncertain)	ON ORMER		R				
<i>Electra pilosa</i>		O	O	OO	C	OOC	FO
<i>Flustra foliacea</i>						R	
<i>Membranipora membranacea</i>				O	RFF	ORFF	R
<i>Pentapora foliacea</i>						O	OR
ECHINODERMATA							
<i>Amphipholis squamata</i>		P	P				

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourque de la Moye, Icart Bay
<i>Aslia lefevrii</i>				R		R	O
<i>Asterina gibbosa</i>						P	
<i>Echinus esculentus</i>							R
<i>Henricia</i>		OR	OR				ROO
<i>Henricia oculata</i>						R	
Holothuroidea	ASLIA/PAWSONIA						R
<i>Marthasterias glacialis</i>		O	O	R		R	FF
Ophiuroidea	TINY	P	P				
<i>Pawsonia saxicola</i>				R		R	
<i>Stichastrella rosea</i>						R	
<i>Stichastrella rosea</i> (uncertain)						R	
<i>Thyone fusus</i>							R
<i>Thyone roscovita</i>				R		R	
TUNICATA							
<i>Aplidium</i>	STRAWBERRY			O		O	O
<i>Aplidium elegans</i>							RR
<i>Aplidium ocellatum</i>							RR
<i>Aplidium punctum</i>		OOF	OOF	O		O	OOO
<i>Aplidium turbinatum</i>						R	
<i>Ascidia mentula</i>		R	R	O	R	OR	R
<i>Ascidia virginea</i>							R
<i>Botryllus schlosseri</i>				R		R	
<i>Clavelina lepadiformis</i>		R	R				
Didemnidae			O				

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Didemnum coriaceum</i>		R	R				RR
<i>Didemnum maculosum</i>		R	R				R
<i>Didemnum maculosum</i>	ON KELP STIPE		O				
<i>Didemnum maculosum</i>	V. DENTATA	O	O				R
<i>Diplosoma spongiforme</i>				O		O	R
<i>Lissoclinum perforatum</i>		R	R				RR
<i>Morchellium argus</i>		R	R				
<i>Perophora</i>		F	F				
<i>Perophora listeri</i>						F	
<i>Polycarpa</i>	ERRANS						R
Polyclinidae	SANDY					O	
<i>Polyclinum</i>	SANDY						P
<i>Polysyncraton lacazei</i>		O	O	O	O	OO	ROO
<i>Pycnoclavella aurilucens</i>		C	C				PP
<i>Pycnoclavella producta</i>							F
<i>Pycnoclavella stolonialis</i>						FF	
<i>Stolonica socialis</i>		O	O	R		R	OFO
PISCES							
<i>Ammodytidae</i>					R	R	
<i>Callionymus</i>					R	R	
<i>Callionymus</i>	JUVENILE			R	R	RR	
<i>Centrolabrus exoletus</i>				O		O	
<i>Ctenolabrus rupestris</i>				O		O	O
<i>Gobiusculus flavescens</i>					O	O	

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Labrus bergylta</i>		RR	RR	R	R	RR	
<i>Labrus mixtus</i>				O		O	F
<i>Parablennius gattorugine</i>							R
<i>Pollachius pollachius</i>		O	O				
<i>Pomatoschistus</i>					RR	RR	
<i>Pomatoschistus pictus</i>							
<i>Raja microocellata</i>							R
<i>Thorogobius ephippiatus</i>				R		R	
<i>Tripterygion delaisi</i>					R	R	
ALGAE							
<i>Acrosorium ciliolatum</i>		RF	RF	O		O	R
<i>Ahnfeltia plicata</i>					R	R	
<i>Asparagopsis armata</i>					OF	OF	
<i>Bonnemaisonia asparagoides</i>					R	R	
<i>Bonnemaisonia hamifera</i>					R	R	
<i>Calliblepharis ciliata</i>				F		F	FFF
<i>Callophyllis laciniata</i>		R	R		O	O	
<i>Carpomitra costata</i>			R				OR
<i>Ceramium</i>					O	O	
<i>Chondria dasyphylla</i>					RR	RR	
<i>Chondrus crispus</i>					C	C	
<i>Chorda filum</i>					C	C	
<i>Chylocladia verticillata</i>			R				
Corallinaceae	CRUSTS						RRR

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Cryptopleura ramosa</i>					R	R	
<i>Cutleria multifida</i> (uncertain)					R	R	
<i>Dasysiphonia japonica</i>				O	F	OF	
<i>Delesseria sanguinea</i>		RO	RO	OR	O	ORO	
<i>Desmarestia ligulata</i>					O	O	
<i>Desmarestia viridis</i>					R	R	
<i>Dictyopteris polypodioides</i>		OO	OO	RR		RR	RO
<i>Dictyota dichotoma</i>		RO	RO	R	F	RF	ROOO
<i>Dilsea carnosa</i>		R	R				
<i>Drachiella</i>			OR				
<i>Drachiella spectabilis</i>							R
Ectocarpaceae	ON SARGASSUM				C	C	
encrusting algae indet.	PINK	OO	OO				CF
<i>Erythroglossum laciniatum</i>		O	O	O		O	FF
Filamentous green algae					C	C	
Foliose red algae						C	
<i>Fucus serratus</i>					O	O	
<i>Furcellaria lumbricalis</i>			O				
<i>Gracilariales</i>					R	R	
<i>Halarachnion ligulatum</i>			RR				
<i>Halidrys siliquosa</i>							R
<i>Halopteris filicina</i>		FOR	FOR	R		R	OO
<i>Halurus equisetifolius</i>						R	
<i>Heterosiphonia plumosa</i>		FF	FF	O	O	OO	OORO

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourque de la Moye, Icart Bay
<i>Hypoglossum hypoglossoides</i>					R	R	R
<i>Hypoglossum hypoglossoides</i> (uncertain)		R	R				
<i>Kallymenia reniformis</i>		R	R		O	O	
<i>Laminaria digitata</i>					C	C	
<i>Laminaria hyperborea</i>		CS	CS	AR	A	ARA	AC
<i>Laminaria ochroleuca</i>		R	R	R	R	RR	OO
<i>Lomentaria articulata</i>		O	O		OR	OR	
<i>Membranoptera alata</i>		O	O				
<i>Meredithia</i>		O	O				
<i>Meredithia microphylla</i>		O	O	OO		OO	OOO
<i>Palmaria palmata</i>					FO	FO	
<i>Phycodrys rubens</i>		F	F		O	O	
<i>Phyllophora crispa</i>				O		O	
<i>Pterothamnion plumula</i>				P		P	
<i>Rhodymenia pseudopalmata</i>		O	O				
<i>Saccharina latissima</i>					R	R	
<i>Saccorhiza polyschides</i>					OR	OR	
<i>Sargassum muticum</i>					A	A	
<i>Schottera nicaeensis</i>		O	O	F		F	R
<i>Taonia atomaria</i>							
<i>Ulva flexuosa</i> var. <i>linziformis</i>			R				
<i>Ulva flexuosa</i> var. <i>linziformis</i>	FLAT GUTWEED				F		
<i>Ulva flexuosa</i> var. <i>linziformis</i>	FOLIOSE				C		

		Les Sept Boues	North of Pea Stacks, Jerbourg Point	Pea Stacks, Jerbourg Point	Saint's Bay & Harbour	Cat Rock, Les Hanois	Fourquie de la Moye, Icart Bay
<i>Ulva intestinalis</i>					F	F	
<i>Vertebrata byssoides</i>				FO	RO	FORO	O

Appendix 2 JNCC biotopes⁴ identified

Site name (right)	Cat Rock, Les Hanois	Les Sept Boues	Fourquie de la Moye, Icart Bay	Saint's Bay & Harbour	Pea Stacks, Jerbourg Point	North of Pea Stacks
Biotope Code (below)						
CR.HCR.XFa.SpAnVt	X	X	X			X
CR.HCR.XFa.SubCriTf			X			
IR.HIR.KFaR.FoR	X				X	
IR.HIR.KFaR.LhypR.Ft		X	X			X
IR.LIR.K.Sar				X		
IR.MIR.KR.Ldig.Ldig				X		
IR.MIR.KR.Lhyp.Ft				X		
IR.MIR.KR.XFoR			X			X
SS.SCS.CCS	X				X	
SS.SCS.ICS		X		X		
SS.SMp.KSwSS						X
SS.SSa.IMuSa			X			

Circalittoral rock biotopes

- CR.HCR.XFa.SpAnVt Sponges and anemones on vertical circalittoral bedrock (Cat Rock; Fourquie de la Moye; Les Sept Boues; North of Pea Stacks)
- CR.HCR.XFa.SubCriTf *Suberites* spp. with a mixed turf of crisiids and *Bugula* spp. on heavily silted moderately wave-exposed shallow circalittoral rock (Fourquie de la Moye)

Infralittoral rock biotopes

- IR.HIR.KFaR.FoR Foliose red seaweeds on exposed lower infralittoral rock (Cat Rock; Pea Stacks)
- IR.HIR.KFaR.LhypR.Ft *Laminaria hyperborea* forest with dense foliose red seaweeds on exposed upper infralittoral rock (Les Sept Boues; Fourquie de la Moye; North of Pea Stacks)
- IR.LIR.K.Sar *Sargassum muticum* on shallow slightly tide-swept infralittoral mixed substrata (Saint's Bay Harbour)
- IR.MIR.KR.Ldig.Ldig *Laminaria digitata* on moderately exposed sublittoral fringe bedrock (Saint's Bay Harbour)
- IR.MIR.KR.Lhyp.Ft *Laminaria hyperborea* forest and foliose red seaweeds on moderately exposed upper infralittoral rock (Saint's Bay Harbour)
- IR.MIR.KR.XFoR Dense foliose red seaweeds on silty moderately exposed infralittoral rock (Fourquie de la Moye; North of Pea Stacks)

Sublittoral sediment biotopes

- SS.SCS.CCS Circalittoral coarse sediment (Cat Rock; Pea Stacks)
- SS.SCS.ICS Infralittoral coarse sediment (Les Sept Boues; Saint's Bay Harbour)
- SS.SMp.KSwSS Kelp and seaweed communities on sublittoral sediment (North of Pea Stacks)
- SS.SSa.IMuSa Infralittoral muddy sand (Fourquie de la Moye)

⁴ JNCC (2015) The Marine Habitat Classification for Britain and Ireland Version 15.03 [Online]. [Accessed 2018-02-19]. Available from: jncc.defra.gov.uk/MarineHabitatClassification
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Biodiversity Partnership



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