Seasearch Survey of Sark 2010 Summary Report

to La Société Sercquaise

Author Sally Sharrock



Introduction

In 2008 a group of Seasearch divers visited Sark and carried out a week of survey dives. A comprehensive report was written for La Société Sercquaise (Seasearch Survey of Sark, June 2008 by Chris Wood) and includes full details of the Seasearch organization and methodologies.

In August 2010 a different group of eight Seasearch volunteers spent another week surveying a mix of previously surveyed and new dive sites around the island. This summary report should be read in context with the previous report. Where the dive site has been previously recorded and covered in that report a brief summary only is given here. New sites and surveys are covered in more detail.

The volunteer divers were variously qualified as marine biologists, Seasearch Surveyors and Seasearch Observers and several were keen underwater photographers. All except one were new to Sark and the trip was designed to give the divers a good general picture of the variety of Sark diving, Sark specialities and also to record the underwater life as far as possible. Surveyor recording forms were completed as a group for each site following the usual format.

Local diver Sue Daly assisted with choice of sites and site briefings and the group also carried out two specifically requested surveys – one on a closed scallop site in Baleine Bay and one at Maiseline harbour.

In general identification was carried out in situ although in a few cases specimens of weed and hydroids were collected for examination under the microscope as these are notoriously difficult underwater. Identification of species was assisted by use of keys, ID books and websites and extensive examination of photographs taken on the dives.

All the results will be input to Marine Recorder and uploaded to the NBN Gateway site and will be accessible by the general public by 2011.

BAP species and habitats were especially noted. A total of 4 BAP species and the BAP habitat 'fragile sponge and anthozoan turf' were recorded. In total 240 confirmed species were recorded on the dives and all are listed in the attached appendix. The dive sites

L'Etac – NE corner 49° 24.122N, 02° 21.919W Sites at L'Etac have been included in the previous report.

uncommon The sponge Endectyon delaubfaunensis was recorded here together with the unusual sponge nudibranch *Doris sticta* and the sea fan nudibranch Tritonia nilsodhneri.

Les Dents

49° 25.566N, 02° 23.683W Included in previous report.

The electric ray Torpedo marmorata was recorded here.

Pavlaison

Gouliot Caves

Guillaumesse

was also recorded.

49° 26.869N. 02° 20.801W

Included in previous report.

49° 25.941N, 02° 22.700W Included in previous report.

49° 26.709N, 02° 22.171W Included in previous report.

The large burrowing anemone Pachycerianthus indet was recorded this time and had not been seen at this site previously. The specimen photographed had dark coloured tentacles and a sponge spider crab at the base.

Unusual species at this site included *Pachycerianthus indet*, the tiny pink fingers Alcyonium hibernicum, the large spiral worm Sabella spallanzanii and Doris sticta. The pink sea fan Eunicella verrucosa Pachycerianthus indet

Sabella spallanzanii

Sarah Bowen



Stefanie Buell



Doris sticta

David Kipling



Gripe Scallop survey site, Baleine Bay 49° 24.943N, 02° 21.203W

The main purpose of the dive was to carry out a survey on the number and size of scallops observed. However some of the divers first encountered a rocky reef and surveyed that.

A rocky reef rose from c 26 to 22m below sea level with the upper metre having a kelp forest of mainly *Laminaria hyperborea* with some golden kelp Laminaria ochroleuca and mixed red and brown weeds.

Below this the rock fell steeply to a sediment seabed. The steep bedrock had crevices and fissures and was dominated by red fingers Alcyonium glomeratum, hydroids and bryozoan turf with a few sponges especially elephant hide sponge Pachymatisma johnstonia. Eunicella verrucosa and the nudibranch Doris sticta were present. Two mature

crawfish specimens of Palinurus elephas were recorded here.

There were also areas of sloping and upward facing bedrock that gave rise to a different habitat dominated by yellow sponges with yellow sponge staghorn Axinella dissimilis being recorded as common.

Moving away from the reef and working west for the scallop survey the sediment was made up of coarse gravel, sand and shell fragments with some red



Palinurus elephas

Sally Sharrock



Mesacmaea mitchellii

Sally Sharrock

and brown weed including large clumps of tassel weed. Carpomitra costata.. The sediment became considerably finer as the divers worked westwards towards the shallower area. The solitary hydroid Corymorpha nutans was recorded and the unusual policeman anemone *Mesacmaea* mithchellii. possibly а first record for Sark. Many large Terrebellid worms were present. Fish included shoals of sand

eels Ammodytes tobianus and the red gurnard Aspitrigla cuculus.

Scallops were recorded and measured by all four buddy pairs as shown in the following table:

Scallop Size	<5cm	5-10cm	10+cm	Depth
Sally & Chris		1	9	26-17m
Rob & Dave		2	5	26-14m
Sarah & David			7	26-14m
Jon & Stef		6	7	26-14m
Total		9	28	

All the scallops were king scallops *Pecten maximus* and all of a reasonable size. No juveniles were recorded here. Juvenile scallops were however recorded on some of the reef dives and this is consistent with the author's experience in Devon where juveniles attach to hard substrate, especially in crevices and only relocate to soft sediment 'scallop beds' when more mature.

L'Etac – East side

49° 24.122N, 02° 21.917W

Sites at L'Etac have been included in the previous report. Sunset cup coral *Leptopsammia pruvoti* was recorded here together with *Doris sticta* and *Eunicella verrucosa*.

True Grip, Baleine Bay

49° 24.950N, 02° 20.825W

This site was a totally different topography from any of the other sites. A series of rock outcrops formed reef areas with kelp cover from 15 to 20m below sea level and were surrounded by coarse sand and gravel dunes with large sand waves several meters high in places. The



sediment was scoured round the rock formina deep hollows. The bedrock had a diverse faunal cover of soft anemones. coral. bryozoans and sponges but the dominant feature of the site was the large shoals of fish. These included very large shoals of sand eels Ammodytes tobianus, bass Dicentrachus labrax. pollack Pollachius pollachius and large sand eels *Hyperoplus* lanceolatus. Around the reef

Steep sediment dunes with sand eels Sally Sharrock

4 species of wrasse were seen - cuckoo Labrus mixtus, goldsinny Ctenolabrus rupestris, rock cook Centrolabrus exoletus and corkwing Crenilabrus melops. Black faced blenny Tripterygion delaisi, long spined scorpion fish Taurulus bubalis, conger eel Conger conger and tompot blenny Parablennius gattorugine were also recorded on and around the rocks. On the sand sole Solea solea was seen plus an unidentified ray.

Vingt Clos 49° 24.079N, 02° 21.525W

This was a different area of Vingt Clos from the site included in the previous report.

Sheer bedrock walls dominated by oaten pipe hydroids *Tubularia indivisa* and jewel anemones *Corynactis viridis* fell to boulders and cobbles at 30m below sea level. The walls had occasional sloping and upward facing shelves with a silt cover and sponge gardens of predominantly yellow sponges including hedgehog sponge *Polymastia boletiformis* and chimney sponge *Ciocalypta penicillus*. Three Axinellid sponges – *A. dissimilis, A. damicornis* and *A. infundibuliformis* were also recorded on these shelves together with frequent *Eunicella verrucosa*. The boulders at the base also had sponges and sea fans and many potato crisp bryozoans *Pentapora foliacea*.

Boue Tirlipois

49° 24.440N, 02° 23.150W This site to the south west of Little Sark had not been dived by Seasearch before. It consisted of large steep sided gullies dominated by Alcvonium alomeratum, sponges such as Pachymatisma johnstonia, vellow cluster anemones Parazoanthus axinellae. some Eunicella verrucosa and a large patch of Leptopsammia pruvoti. Amongst these there was a single growth of the rare lace bryozoan Reteporella beaniana shown centre left on the photograph.



Leptopsammia pruvoti and *Reteporella beaniana* Sally Sharrock

L'Etac - The Gutter 49° 23.990N, 02° 22.120W

This part of L'Etac had not been previously recorded by Seasearch. It consisted of a dramatic steep sided wide gully with a flat bottom composed of large cobbles. The vertical walls had crevices and small ledges, the upward facing ledges having typical sponge gardens. The walls were dominated by *Corynactis viridis* with a crisid turf and occasional patches of the Indian feather hydroid *Gymnangium montaguii*. Several *Doris sticta* nudibranchs were seen.

Maseline harbour 49° 25.971N, 02° 20.575W

The divers entered the water on the inside of the harbour wall and surveyed along and around the end of the wall. A general survey was carried out revealing a typical intertidal algal cover descending to a sublittoral faunal cover including some sponges, crustacean and worms. The green ormer *Haliotis tuberculata* was recorded on the wall together with the unusal prawn *Periclimines sagittifer* living in the snakelocks

anemones Anemonia viridis. Shoals of young Pollack were around and a single John Dory Zeus faber was seen, pictured below.



Zeus faber Sally Sharrock



Periclimines sagittifer

David Kipling

A certain amount of rubbish and some discarded fishing and metal debris was recorded at this site.

The divers also carried out a survey on the snakelocks anemones found at this site. A full report on this survey has been prepared and submitted as a separate report:

Distribution of the anemone shrimp *Periclimenes sagittifer* in Maseline Harbour, Sark. Author: David Kipling

General remarks

The dive sites once again provided a variety of habitats and species, some of which are not found on mainland Britain. All the sites appeared healthy with little or no fishing debris or damage.

Sponges were well represented both in numbers and variety. A visit by sponge specialists just prior to this trip will give a much more comprehensive picture of that phylum.

Cnidarians were varied with the expected walls of *Corynactis viridis*. The soft corals were predominantly red fingers *Alcyonium glomeratum* with very few white *A. digitatum* reflecting the more southerly latitude.

Most of the Eunicella verrucosa were large and healthy but there were some with extensive fouling most likely a natural ageing process - and these do in any case provide an extra habitat for other species particularly sea squirts and bryozoans. The patches of Leptopsammia pruvoti were large and healthy with many iuvenile recruits. Two large burrowing anemones



Fouled sea fan

Sally Sharrock

Pachycerianthus indet were recorded this time on different sites. There were also white cluster anemones recorded on one site and as on the mainland exact identification of these is in doubt – a white form of P



Parazoanthus sp

Sally Sharrock

axinellae or possibly P. anguicomis? The hydroid Gymnangium montaguii was frequent being recorded on 10 of the sites.

Crustacea were not particularly abundant. Crawfish *Palinurus elephas* were recorded at only one site although there were two large specimens there.



Discodoris rosi

David Kipling

Twentyseven species of molluscs were recorded of which 13 were nudibranchs. *Discodoris rosi* was previouslu unrecorded in Sark and the previously rare *Doris sticta* appears to be no longer rare being found at 7 sites.

Bryozoans were probably underrecorded but the little *Omalosecosa ramulosa* was found at 9 sites both on rock and as a fouling species on sea fans

and the rare lace bryozoan *Reteporella beaniana* was recorded at just one site.

Only 11 species of echinoderm were recorded, the small cushion star *Asterina phylactica* at 2 sites and the red 'soapy' starfish *Echinaster sepositus* at one.

Sea squirts were widespread with 3 different types of Pycnoclavella and *P. aurilucens* being widespread and especially showing up in photographs afterwards. This was one of the fouling species on the sea fans.

Fish were not widespread with the exception of wrasse although 26 species were recorded overall. The little blackfaced blenny *Triptygeron delaisi* appeared at 9 sites. The site that was exceptional and provided a huge abundance of fish was True Grip.

Weeds were probably past the best time for identification by the time of our visit but 36 species were positively identified including the uncommon brown tasselweed *Carpomitra costata*.

The following tables show some of the notable species recorded.

Species	Common name	Number of sites
Eunicella verrucosa	Pink sea fan	10
Leptopsammia pruvoti	Sunset cup coral	3
Species unknown	Stalked jellyfish	1
Palinurus elephas	Crawfish	1

BAP species recorded

Rare or uncommon species

Species	Common name	Remarks
Adreus fascicularis	Finger sponge	At 3 sites
Endectyon delaubfaunensis	Yellow sponge	

Hexadella racovitzai	Pink encrusting sponge	
Alcyonium hibernicum	Pink fingers	
Caryophyllia inornata	Southern cup coral	
Mesacmaea mithchellii	Policeman anemone	First record for Sark?
Pachycerianthus indet	Burrowing anemone	Only the second record from Sark
Parazoanthus sp	White cluster anemones	Are these P axinellae or P anguicomis?
Sabella spallanzanii	Spiral worm	Not recorded on mainland Britain
Periclimenes sagittifer	Anemone prawn	Rare on the mainland
Favorinus branchialis	Nudibranch	
Doris sticta	Nudibranch	At 7 sites
Trapania maculata	Niudibranch	
Discodoris rosi	Nudibranch	First record for Sark
Haliotis tuberculata	Green ormer	Not recorded on mainland Britain
Echinaster sepositus	Soapy starfish	Not recorded on mainland Britain
Asterina phylactica	Small cushion star	Broods it's young
Zeus faber	John Dory	
Torpedo marmorata	Electric ray	

Seasearch is a volunteer underwater survey project for recreational divers to contribute to the conservation of the marine environment. Full details of the recording methods and examples of forms will be found in the previous report by Chris Wood.

Thanks go to the organiser of this trip Rob Adams, to David Kipling for his work on the snakelocks anemone survey and the other surveyors and recorders who were David Wharf, Jon Bramley, Stefanie Buell, Sarah Bowen, Chris Webb and Sally Sharrock.

Our skipper was Andy Leaman of Sark Diving Services and we thank him for his expertise in putting us on the sites and more importantly picking us up afterwards and to Jake for letting him know we had surfaced!

Further details of the dives or species can be obtained from <u>sally.sharrock@btopenworld.com</u>



Photo Andy Leaman

Appendix

	L'Etac (1)	Les Dents	Pavlaison	Gouliot Caves	Guillaumesse	Gripe Scallop survey	L'Etac (2)	True Grip	Vingt Clos	Boue Tirlipois	L'Etac (3)	Maseline Harbour	Number of sites found at
Sponges (35)													
Adreus fascicularis							1		1		1		3
Amphilectus fucorum							1		1				2
Antho involvens?							1						1
Axinella damicornis	1	1	1		1	1	1	1	1	1	1		10
Axinella dissimilis	1	1	1		1	1	1	1	1	1	1		10
Axinella													
infundibuliformis	1	1	1		1	1	1		1	1	1		9
Ciocalypta penicillus							1	1	1		1		4
Clathrina coriacea									1		1		2
Cliona celata	1	1	1	1	1		1	1	1	1	1		10
Crella rosea							1						1
Dercitus bucklandi	1	1			1		1	1	1	1	1		8
Dysidea fragilis	1	1	1		1	1	1		1	1	1	1	10
Encrusting indet												1	1
Encrusting orange	1	1			1	1	1			1			6
Encrusting pink				1									1
Encrusting red									1				1
Encrusting white				1									1
Encrusting yellow		1		1					1	1			4
Endectyon delaubfaunensis		1											1
Grantia compressa	1		1				1		1		1		5
Haliclona fistulosa	1	1	1		1				1	1	1		7
Haliclona oculata	1	1	1		1	1	1		1	1	1	T	9
Haliclona simulans	1											T	1
Haliclona sp		1										T	1
Haliclona viscosa	1	1	1				1		1	1		T	6
Hemimycale columella	1	1	1		1	1	1		1		1	1	9
Hexadella racovitzai			•		1	•	1		1	1	1		5

Homaxinella subdola	1	1	1						1	1			5
Myxilla encrustans?					1								1
Myxilla rosacea?							1						1
Pachymatisma													
johnstonia	1	1	1	1	1	1	1	1	1	1	1		11
Polymastia													
boletiformis	1	1	1		1	1	1	1	1	1	1		10
Polymastia penicillus				1	1			1					3
Raspailia ramosa	1	1	1		1	1	1		1	1			8
Scypha ciliata					1				1		1		3
Stelligera rigida	1				1				1				3
Stelligera rigida											1		1
Suberites carnosus	1	1	1		1	1	1	1	1		1		9
Tethya citrina										1			1
Ulosa digitata?							1		1		1		3
Total sponge species													
at site	19	19	15	6	19	11	22	9	25	17	19	3	
Cnidarians (34)													
Actinia equina				1									1
Actinothoe													
sphyrodeta	1		1		1			1	1	1			6
Aglaophenia sp	1												1
Alcyonium digitatum	1	1	1	`1	1			1		1			6
Alcyonium													
glomeratum	1	1	1		1	1	1		1	1	1		9
Alcyonium													
hibernicum					1								1
Anemonia viridis												1	1
Caryophyllia inornata		1			1		1			1			4
Caryophyllia smithii	1	1	1		1	1	1	1	1	1		1	10
Cereus pedunculatus												1	1
Cerianthus lloydii					1		1						2
Corymorpha nutans						1							1
Corynactis viridis	1	1	1	1	1	1	1	1	1	1	1		11
Epizoanthus couchi		1					1	1			1		4

Eunicella verrucosa	1	1	1		1	1	1	1	1	1	1		10
Feather hydroid										1	1		2
Gymnangium													
montagui	1	1	1		1	1	1	1	1	1	1		10
Halecium halecinum										1			1
Isozoanthus sulcatus		1											1
Leptopsammia													
pruvoti	1						1			1			3
Mesacmaea mitchellii						1							1
Metridium senile				1									1
Nemertesia													
antennina	1	1	1		1	1	1		1	1	1		9
Nemertesia ramosa	1				1						1		3
Obelia geniculata	1	1			1		1		1	1		1	7
Pachycerianthus													
indet			1		1								2
Parazoanthus													
axinellae	1	1	1		1		1		1	1	1		8
Parazoanthus sp													
white					1								1
Sagartia elegans				1									1
Sagartia troglodytes								1					1
Sertularia cupressina									1				1
Stalked jellyfish												1	1
Tubularia indivisa				1	1				1				3
Urticina felina	1	1											2
Total cnidarian													
species at site	14	13	10	5	17	8	12	8	11	14	9	5	
Worms (12)													
Arenicola marina		1											1
Bispira voluticornis	1	1	1				1	1	1	1	1	1	9
Eupolymnia nebulosa										1			1
Lanice conchilega		1				1	1			1			4
Myxicola													
infunibuliformis										1			1

Phoronis hippocrepia								1					1
Prosthecereus													
vittatus			1		1					1		1	4
Sabella pavonina	1	1			1		1		1				5
Sabella spallanzanii					1								1
Salmacina dysteri	1	1	1	1	1	1	1	1	1	1	1		11
Serpula vermicularis												1	1
Terebellidae indet						1							1
Total worm species													
at site	3	5	3	1	4	3	4	3	3	6	2	3	
Crustaceans (16)													
Balanus perforatus				1									1
Barnacles indet				1				1	1				3
Boscia anglica						1				1			2
Cancer pagurus	1	1	1		1	1		1	1	1		1	9
Galathea squamifera		1										1	2
Galathea strigosa			1		1			1	1	1	1	1	7
Homarus gammarus		1	1		1		1	1	1			1	7
Inachus sp												1	1
Isopoda indet					1				1				2
Macropodia sp						1							1
Maja squinado		1		1	1	1	1	1	1	1	1		9
Necora puber		1	1	1	1	1	1	1	1	1		1	10
Paguridae indet						1							1
Palaemon serratus												1	1
Palinurus elephas						1							1
Periclimenes													
sagitiffer												1	1
Total crustacea													
species at site	1	5	4	4	6	7	3	6	7	5	2	8	
Molluscs (27)													
Aequepecten													
opercularis					1					1		1	3
Buccinium undatum					1								1
Cadlina laevis	1	1	1				1		1	1	1		7

Calliostoma													
zizyphynum	1	1	1	1	1		1	1	1	1	1	1	11
Crimora papillata									1				1
Dendronotus													
frondosus				1									1
Discodoris rosi		1											1
Doris sticta		1	1			1	1		1	1	1		7
Doto pinnatifida							1						1
Favorinus branchialis			1										1
Flabellina pedata					1								1
Gibbula cinerea	1			1									2
Gibbula majus						1							1
Glycymeris													
glycymeris						1							1
Haliotis tuberculata												1	1
Helcion pellucidum		1			1		1		1				4
Hinia reticulata		1				1						1	3
Limacia clavigera					1								1
Patellacea				1	1								2
Pecten maximus			1			1							2
Polycera faroensis		1											1
Polycera													
quadrilineata										1			1
Sepia officinalis		1	1			1	1	1		1	1	1	8
Trapania maculata							1						1
Tritonia nilsodhneri		1	1		1		1		1		1		6
Trivia arctica	1				1								2
Trivia sp			1					1					2
Total mollusc species													
at site	4	9	8	4	9	6	8	3	6	6	5	5	
Bryozoans (15)													
Alcyonidium													1
diaphanum		1	1		1	1	1	1	1		1		8
Bugula calathus	1												1
Bugula flabellata		1								1			2

Bugula urbinata Image: state of the state o	Bugula spp		1	1	1	1	1			1		1	1	8
Cellaria spp 1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td>1</td><td></td><td>1</td><td></td><td></td><td>3</td></t<>								1	1		1			3
Chartella pagyracea 1	Caberiea ellisii?					1								1
Chartella pagyracea 1	Cellaria spp	1	1	1		1	1	1	1	1	1	1		10
Crisia spp 1				1										1
Electra pilosa 1	Crisia spp	1				1	1	1	1	1	1			7
Membranipora 1 <t< td=""><td>Electra pilosa</td><td></td><td>1</td><td></td><td></td><td>1</td><td></td><td>1</td><td></td><td>1</td><td>1</td><td>1</td><td></td><td>6</td></t<>	Electra pilosa		1			1		1		1	1	1		6
membranacea 1 <th< td=""><td>Flustra foliacea</td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td>1</td><td>1</td><td>1</td><td></td><td></td><td>4</td></th<>	Flustra foliacea						1		1	1	1			4
Omalosecosa ramulosa 1	Membranipora													
ramulosa 1<	membranacea		1			1	1	1		1	1	1	1	8
Orange encrusting 1	Omalosecosa													
Pentapora foliacea 1	ramulosa	1	1	1		1	1	1		1	1	1		9
Reteporella beaniana Image: Constraint of the second	Orange encrusting			1		1					1			3
Total bryozoan species at site 5 8 7 1 10 7 8 6 9 11 7 2 Echinoderms (11)	Pentapora foliacea	1	1	1		1		1	1	1	1	1		9
species at site 5 8 7 1 10 7 8 6 9 11 7 2 Echinoderms (11) Aslia lefevrei 1 <th< td=""><td>Reteporella beaniana</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td>1</td></th<>	Reteporella beaniana										1			1
Echinoderms (1) Image: constraint of the system of the syste	Total bryozoan													
Asia lefevrei 1 1 1 1 1 1 3 Asterina gibbosa 1 1 1 1 1 1 1 3 Asterina gibbosa 1 1 1 1 1 1 1 6 Asterina phylactica 1 1 1 1 1 1 6 Echinaster sepositus 1 1 1 1 1 1 2 Echinaster sepositus 1 1 1 1 1 1 2 Henricia oculata 1 1 1 1 1 1 1 1 3 Holothuria forskali 1 1 1 1 1 1 1 1 1 1 Luidi a ciliaris 1	species at site	5	8	7	1	10	7	8	6	9	11	7	2	
Asterina gibbosa 1 1 1 1 1 1 1 6 Asterina phylactica 1 1 1 1 1 1 2 Echinaster sepositus 1 1 1 1 1 1 2 Echinaster sepositus 1 1 1 1 1 1 2 Echinaster sepositus 1 1 1 1 1 1 2 Echinaster sepositus 1	Echinoderms (11)													
Asterina phylactica Image: Constant of the second seco	Aslia lefevrei	1							1				1	3
Echinaster sepositus 1 <th1< th=""></th1<>	Asterina gibbosa	1	1			1		1		1		1		6
Echinus esculentus 1	Asterina phylactica							1		1				2
Henricia oculata 1	Echinaster sepositus			1										1
Holothuria forskali 1 <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<>	Echinus esculentus			1		1		1		1	1			5
Luidia ciliaris 1	Henricia oculata		1	1		1		1	1	1	1	1		8
Marthasterias glacialis1111111111glacialis111<	Holothuria forskali			1										1
glacialis 1	Luidia ciliaris		1			1	1	1	1	1	1			7
Ophiura albidaIIIIIIOphiura sp1IIIIIIIOphiura sp1IIIIIIIITotal echinoderm species at site34553646431Sea squirts (28)IIIIIIII16	Marthasterias													
Ophiura sp11Total echinoderm species at site34553646431Sea squirts (28)11116Aplidium punctum111111116	glacialis		1	1		1	1	1	1	1	1	1		9
Total echinoderm species at site34553646431Sea squirts (28)	Ophiura albida						1							1
species at site 3 4 5 5 3 6 4 6 4 3 1 Sea squirts (28)	Ophiura sp	1												1
Sea squirts (28) Image: Constraint of the square squa	Total echinoderm													
Aplidium punctum 1 1 1 1 1 6	species at site	3	4	5		5	3	6	4	6	4	3	1	
Aplidium punctum 1 1 1 1 1 6	Sea squirts (28)													
	Aplidium punctum		1			1			1		1	1	1	6
	Ascidia conchilega					1				1				2

Ascidia mentula										1			1
Ascidia virginea							1	1			1	1	4
Boltenopsis ?							1						1
Botryllus leachii							1						1
Botryllus schlosseri	1	1	1	1	1		1	1	1	1	1	1	11
Botryllus sp	1												1
Ciona intestinalis					1								1
Clavelina lepadiformis		1											1
Corella parallelogramma					1								1
Dendrodoa grossularia		1	1		1					1			4
Didemnid sp				1	1								2
Didemnum coriaceum					1								1
Diplosoma sp									1				1
Diplosoma spongiforme		1		1	1			1				1	5
Lissoclinum perforatum					1				1	1		1	4
Morchellium argus		1	1		1					1			4
Pinhead sea squirt (<i>Clavelina sp</i>)								1				1	2
Polysyncraton lacazei										1			1
Pycnoclavella aurilucens	1	1											2
Pycnoclavella producta					1								1
Pycnoclavella sp	1	1											2
Sidnyum elegans		1	1		1		1			1	1		6
Sidnyum turbinatum							1						1
Stolonica socialis		1	1		1	1	1	1	1	1	1		9

Styela clava		1	1				1						3
Synoicum incrustans								1	1		1		3
Total sea squirt species at site	4	11	6	3	14	1	8	6	7	9	6	5	
Fish (26)													
Ammodytes tobianus						1		1					2
Aspitrigla cuculas						1							1
Callionymus lyra		1				1		1					3
Centrolabrus													
exoletus							1	1	1	1			4
Conger conger			1		1			1					3
Crenilabrus melops								1				1	2
Ctenolabrus rupestris	1		1		1	1		1	1				6
Dicentrachus labrax				1	1			1					3
Gobidae								1					1
Gobius flavescens	1						1	1	1			1	5
Hyperoplus lanceolatus								1					1
Labrus bergylta	1		1				1		1				4
Labrus mixtus	1	1	1		1	1	1	1	1	1		1	10
Lepadogaster purpurea					1								1
Lipophrys pholis				1	1							1	3
Parablennius gattorugine	1	1	1	1	1			1	1	1		1	9
Pollachius pollachius		1	1	1				1	1	1		1	7
Pomatoschistus sp						1							1
Solea solea								1					1
Taurulus bubalis				1				1					2
Thorogobius													
ephippiatus		1	1		1			1	1				5
Torpedo marmorata		1			1								2
Tripterygion delaisi	1	1		1	1		1	1	1	1		1	9

Trisopterus luscus					1							1	2
Zeugopterus													
punctatus				1									1
Zeus faber												1	1
Total fish species at													
site	6	7	7	7	11	6	5	17	9	5		9	
Seaweeds (36)													
Acrosorium uncinatum		1	1			1		1	1		1		6
Antithamnion plumula						1							1
Asparagopsis armata					1							1	2
Bonnemaisonia asparagoides						1						1	2
Calliblepharis ciliata	1		1		1	1					1	1	6
Callophyllis laciniata	1		1										2
Carpomitra costata						1		1					2
Ceramium sp					1								1
Corallina officinalis									1				1
Delesseria sanguinea	1		1		1		1		1				5
Desmarestia ligulata							1						1
Desmarestia viridis												1	1
Dictyopteris membranacea	1		1		1	1		1	1	1	1		8
Dictyota dichotoma	1	1			1			1	1	1	1		7
Dilsea carnosa										1			1
Encrusting pink		1	1	1	1	1							5
Enteromorpha sp												1	1
Gastroclonium					1								1
ovatum													
Halidrys siliquosa	1		1		1	1	1	1					6
Halopteris filicina	1		1				1	1					4
Heterosiphonia plumosa	1		1		1	1		1	1		1		7

Himanthalia elongata	1						1					1	3
Laminaria hyperborea	1		1	1	1	1	1	1	1	1	1	1	11
Laminaria ochroleuca	1		1		1	1	1	1	1	1	1		9
Lithothamnia								1					1
Membranoptera alata									1				1
Mixed brown										1			1
Mixed reds	1		1			1			1	1			5
Osmundea sp					1								1
Plocamium cartilagineum									1			1	2
Porphyra umbricalis					1								1
Saccharina latissima						1							1
Saccorhiza polyschides	1						1		1			1	4
Sargassum muticum								1				1	2
Scinaia sp			1				1						2
Scinaia turgida						1							1
Spyridea filamentosa						1							1
Ulva lactua												1	1
Total weed species at site	13	3	13	2	14	15	9	11	12	7	7	11	