
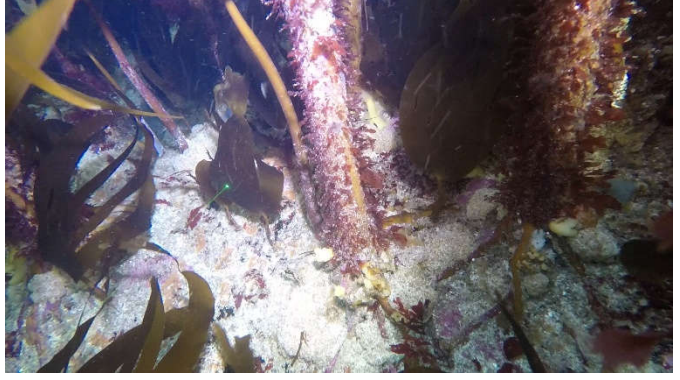

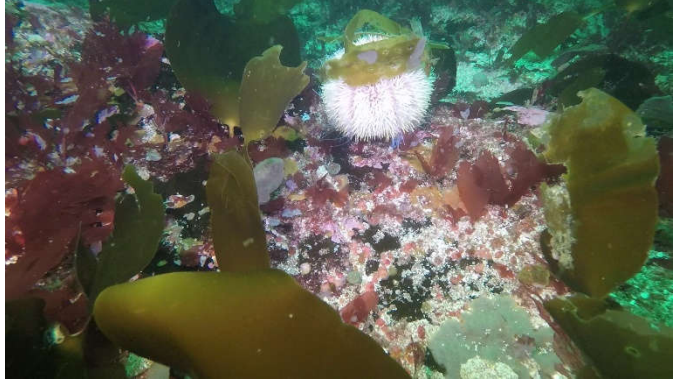




## 6. Appendix A: Example images

**Table 4.**

*Still video images from the 15 DDV stations located in the Sanday nearshore survey area.*

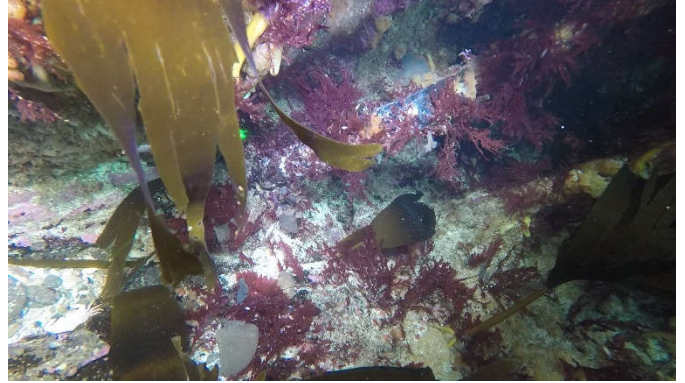
<p>STN_01</p> 	<p>STN_02</p> 
<p>STN_03</p> 	<p>STN_04</p> 
<p>STN_05</p> 	<p>STN_06</p> 



STN\_07



STN\_08



STN\_09



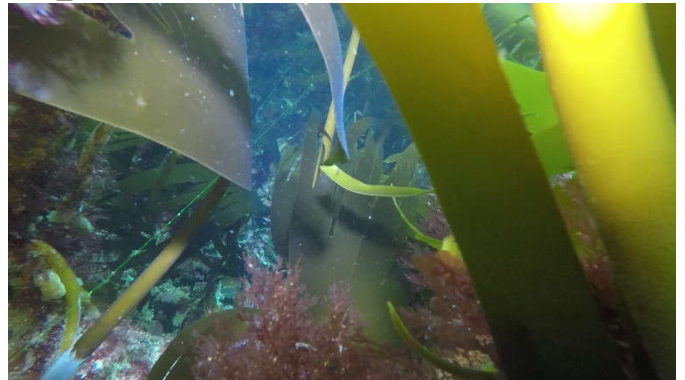
STN\_10



STN\_11



STN\_12



STN\_13



STN\_14



STN\_15



## 7. Appendix B: Data tables

**Table 5.**

Video station information for Sanday nearshore (Eastings and Northings provided in OSGB 1936, Latitudes and Longitudes provided in WGS 1984).

Stn	Site	Easting start	Northing start	Latitude start	Longitude start	Easting end	Northing end	Latitude end	Longitude end	Depth approx. (m)
01	Sanday nearshore	377490.66	1044380.38	59.285743	-2.395110	377505.91	1044358.77	59.285550	-2.394840	8.0
02	Sanday nearshore	377419.61	1044057.71	59.282842	-2.396323	377429.48	1044040.39	59.282687	-2.396148	5.0
03	Sanday nearshore	378302.34	1044385.49	59.285832	-2.380863	378392.72	1044383.87	59.285822	-2.379277	9.5
04	Sanday nearshore	378811.61	1044971.09	59.291117	-2.371982	378895.37	1044959.12	59.291013	-2.370510	23.0 - 25.0
05	Sanday nearshore	378691.06	1044822.56	59.289777	-2.374083	378776.72	1044793.31	59.289518	-2.372577	20.0 - 21.0
06	Sanday nearshore	378066.19	1044466.46	59.286547	-2.385017	378120.43	1044455.57	59.286452	-2.384063	10.5
07.1	Sanday nearshore	377642.29	1044266.10	59.284725	-2.392437	377753.12	1044301.58	59.284603	-2.392193	8.0
07.2	Sanday nearshore	377753.12	1044301.58	59.284603	-2.392193	377669.86	1044238.84	59.284482	-2.391950	8.0
08	Sanday nearshore	377736.81	1044111.14	59.283338	-2.390762	377763.59	1044110.98	59.283338	-2.390292	6.0
09	Sanday nearshore	378062.04	1044734.65	59.288955	-2.385117	378135.13	1044699.16	59.288640	-2.383830	14.0
10	Sanday nearshore	378342.20	1044664.56	59.288340	-2.380192	378441.24	1044634.12	59.288072	-2.378450	16.0
11	Sanday nearshore	378566.59	1044537.84	59.287213	-2.376240	378652.27	1044527.33	59.287123	-2.374735	16.0
12	Sanday nearshore	378025.10	1044258.11	59.284673	-2.385717	378080.26	1044255.56	59.284653	-2.384748	8.0
13	Sanday nearshore	377162.67	1044329.82	59.285272	-2.400862	377149.63	1044308.19	59.285077	-2.401088	8.0
14	Sanday nearshore	378553.88	1044941.92	59.290842	-2.376503	378630.85	1044922.18	59.290668	-2.375150	22.0
15	Sanday nearshore	377749.70	1044560.35	59.287373	-2.390582	377781.35	1044533.07	59.287130	-2.390023	10.5



**Table 6.**

Video station information for Sanday nearshore, EUNIS classification, broadscale habitat, MNCR code and description, PMF and presence of Annex I habitats, comments.

STN	Depth (m)	EUNIS Code	Broadscale Habitat	MNCR Biotope Code	Description	PMF	Annex I	Comments
01	8	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock, with overlying sediment, red macroalgae, encrusting species and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	Veneer
02	5	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock, cobbles and boulders with red macroalgae and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	
03	9.5	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock with red macroalgae, encrusting species and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	
04	23.0 - 25.0	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Bedrock with some kelp, red macroalgae, urchins and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	Large bedrock steps
05	20.0 - 21.0	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Kelp on rock with red macroalgae, encrusting species, urchins and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	
06	10.5	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock with red macroalgae, encrusting species, urchins and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	Veneer at times
07	8	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock with red macroalgae, encrusting species and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	
07	8	A5.2	Subtidal Sand	SS.SSa	Bare sand with a fish and some loose macroalgae			
08	6	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Dense kelp on rock with red macroalgae, encrusting species and cushion sponge	Kelp Beds	Bedrock Reef Sub-feature	

09	14	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Bedrock (some sediment/cobbles) kelp, red macroalgae, crusts/cushion taxa, echinoderms, dogfish	Kelp Beds	Bedrock Reef Sub-feature	
10	16	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Bedrock (some sediment/cobbles) kelp, macroalgae, crusts/cushion taxa, urchins, starfish	Kelp Beds	Bedrock Reef Sub-feature	Fast moving
11	16	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Bedrock with kelp, encrusting/cushion taxa, red macroalgae and algal turf, urchins, starfish	Kelp Beds	Bedrock Reef Sub-feature	
12	11	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Bedrock, dense kelp, red macroalgae, encrusting/cushion fauna, starfish	Kelp Beds	Bedrock Reef Sub-feature	
13	8	A5.2	Subtidal Sand	SS.SSa	Rippled sand with casts, macroalgae turf/mat and very occasional kelp and macroalgae			
14	22	A3.1152	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Pk	Sediment on bedrock (some cobbles/boulders), kelp, red macroalgae, crusts/cushion taxa, starfish	Kelp Beds	Bedrock Reef Sub-feature	Possible veneer at start, red circular crusts
15	10.5	A3.1151	High Energy Intertidal Rock	IR.HIR.KFaR.LhypR.Ft	Bedrock (some sediment/cobbles) dense kelp, red macroalgae, crusts/cushion taxa, urchins, starfish	Kelp Beds	Bedrock Reef Sub-feature	Potential cable

**Table 7.**  
Abundance of taxa identified at each DDV station for Sanday nearshore.

Species (or common name)	STN01	STN02	STN03	STN04	STN05	STN06	STN07	STN07	STN08	STN09	STN10	STN11	STN12	STN13	STN14	STN15
Actiniaria	1	1		4												
Asterias rubens										1	1	1	1			1
Asteroidea	1									1		3	2			
Brachyura		1	1													
Buccinidae					1											
Callionymidae				1												
Calliostoma		2	2	8	3	1	1		1	4		7			4	2
Cancer pagurus										1						
Casts														23		
Chondrichthyes										2						
Cirripedia				0-<1%											0-<1%	
Crossaster papposus				2						1	1				1	
Delesseriaceae			P	P	P	P				P	P					
Echinus esculentus			5	10	9	2				12	6	20	1		1	3
Unidentifiable Crust	10-19%	20-39%	10-19%	20-39%	20-39%	10-19%	5-9%		20-39%	20-39%	20-39%	20-39%	10-19%		20-39%	20-39%
Unidentifiable Turf	0-<1%	0-<1%	0-<1%	1-4%	0-<1%	0-<1%	0-<1%		0-<1%							
Flustra foliacea				0-<1%											0-<1%	
Gastropoda				5	4				1	3			1		3	1
Henricia			2	7	7	1	1					2	1		3	3
Campanulariidae			0-<1%	0-<1%	0-<1%	0-<1%			0-<1%	0-<1%	0-<1%	0-<1%			0-<1%	0-<1%
Labridae			1													
Laminaria	80-100%	80-100%	80-100%	20-39%	40-79%	80-100%	80-100%		80-100%	40-79%	40-79%	40-79%	80-100%	0-<1%	40-79%	80-100%
Macroalgae										1-4%	5-9%	0-<1%		0-<1%		
Macroalgae Branching							1-4%								1-4%	0-<1%
Macroalgae Branching Green														0-<1%		
Macroalgae Branching Red	20-39%	20-39%	20-39%	20-39%	10-19%	20-39%	20-39%		20-39%	10-19%	10-19%	5-9%	40-79%		5-9%	20-39%
Macroalgae Encrusting Red Calcareous	1-4%	5-9%	1-4%	5-9%	1-4%	1-4%	0-<1%		1-4%	1-4%	1-4%	1-4%	1-4%		1-4%	1-4%

Species (or common name)	STN01	STN02	STN03	STN04	STN05	STN06	STN07	STN07	STN08	STN09	STN10	STN11	STN12	STN13	STN14	STN15
Macroalgae Rope-like				0-1%												
Macroalgae Sheet-like	0-1%								0-1%		0-1%	0-1%	0-1%		1-4%	
Membranous Red																
Macroalgae Turf					0-1%					5-9%	5-9%	10-19%		5-9%	1-4%	1-4%
Membraniporoidea	0-1%	0-1%	0-1%	1-4%	1-4%	0-1%	0-1%			0-1%	0-1%	0-1%	0-1%		0-1%	0-1%
Nudibranchia						I										I
Odonthalia dentata	P	P	P	P		P	P		P	P	P		P			
Ophiuroidea					0-1%				0-1%		I					
Paguroidea				3										I		
Patella pellucida						I										
Pisces										I						
Pleuronectiformes								I								
Polyclinidae	0-1%	0-1%	0-1%	0-1%	0-1%	0-1%			0-1%				0-1%		1-4%	
Porifera cushion dark	0-1%	0-1%	0-1%	1-4%	0-1%	1-4%	1-4%		1-4%	1-4%	1-4%	1-4%	1-4%		1-4%	0-1%
Porifera cushion pale	0-1%	0-1%	0-1%		0-1%	1-4%	1-4%		0-1%	1-4%	1-4%	1-4%	1-4%		1-4%	0-1%
Scorpaeniformes	I															
Serpulidae		0-1%											0-1%		0-1%	
Uncertain Biota A_pale_lobose_Alcyonidium		0-1%											0-1%			0-1%
Uncertain Biota B_egg cases					0-1%					0-1%						
Uncertain Biota C_sponge/ascidian		0-1%	0-1%		0-1%					0-1%						
Pholis gunnellus												I				
Clavelina lepadiformis												0-1%				



## 8. Appendix C: Quality Control of Imagery Analysis

The degree of consistency in the results between the original analysers and the QC analyser reflects a confidence in the quality of the analysis. Where there were discrepancies between the conclusions of the original analyst and the QC analyst with regard to the video clips and still images, the issues were explored and are discussed below. The checks and amendments made during the QC of the BIIGLE analysis are recorded in a spreadsheet detailing all QC procedures.

### 8.1.1. Still Imagery

Quality control (QC) was carried out on 100% of the annotations on the still images with a second analyst reviewing the imagery and results within BIIGLE, and using the LARGO function (Label Review Grid Overview). LARGO<sup>11</sup> allows annotations with the same annotation label to be viewed as thumbnails in a regular grid, which can then be selected to change, attach new or delete labels more efficiently. Substrate composition was reviewed for different analysts and results were consistent for the majority of still imagery.

### 8.1.2. Video Imagery

QC was carried out on 10% of the videos (from two sample stations), and the results compared and reviewed by both analysts.

### 8.1.3. Discrepancies

The majority of discrepancies in the video analysis were with taxa of a small size or a cryptic nature, which meant they could be missed during faster moving sections of video, or imagery of lower quality. Examples of such taxa are small and uncertain topshells, hydroids on kelp, and some anemones.

With the imagery in general, there were also some discrepancies in the percent cover allocation of macroalgae, with some overlap between morphologies, which were considered acceptable as the categories are closely linked and could be uncertain due to the taxa within the kelp often being obscured by the foliage. More uncertain views of encrusting/colonial fauna (e.g. sponges, egg cases, coralline algal crusts) may have also resulted in minor discrepancies, with some of these being included within the 'faunal crust'.

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<sup>11</sup> <https://biigle.de/manual/tutorials/largo/largo>