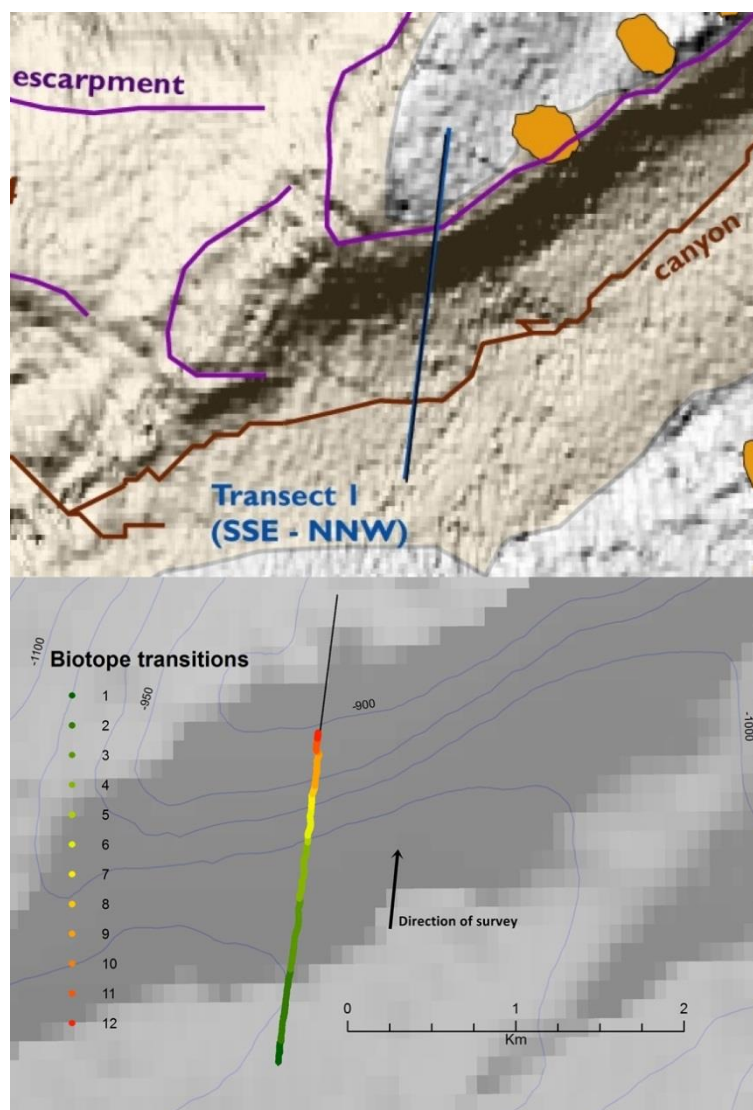


DIVE SUMMARY		
DIVE #	449	TRANSECT # 1

	Start	End
Date & Time	04/07/2017 10:56:13	04/07/2017 13:19:17
Latitude/ Longitude	53.48630833, -14.46494717	53.50207, -14.460913
Depth	1082m	898m
Images	3067-3100	
Sampling	n/a	

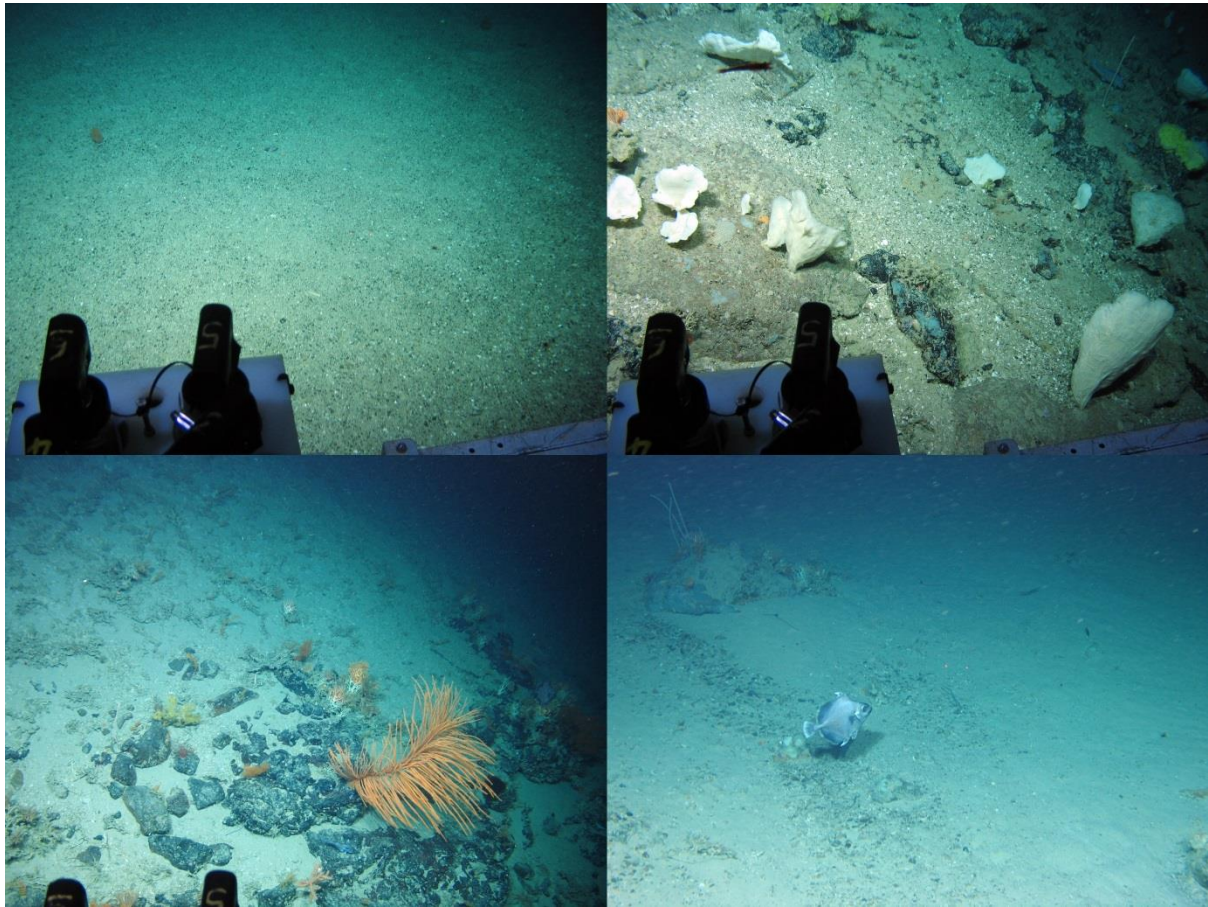
Location	Canyon 14, NW Porcupine Bank SAC
Target Features	Canyon, Escarpment
Depth Range	897m-1093m

Maps of Dive Plan and GIS Maps



Representative Images

(Images representative of major biotopes, species, and sediments encountered throughout the transect)



Top L. Coarse sediment (sand/gravel) with *Acanella arbuscula* ((coarse sediment variant of) M.AtMB.Mu.EreCor.AcaArb).

Top R. A deep-sea sponge aggregation dominated by *Phakellia ventillabrum* and encrusting sponges ((mid bathyal variant of) M.AtUB.Ro.DeoSpo).

Bottom L. Example image of steep slope with exposed bedrock and dead *Lophelia pertusa* framework, both hosting mixed cold-water corals (a coral garden) (M.AtMB.Ro.MixCor, M.AtMB.Bi.CorRee.LopFra). More than a third of this transect hosts these coral gardens.

Bottom R. Sand and occasional pebbles with boulders hosting discrete *Madrepora oculata* colonies and other cold-water corals ((*M. oculata* variant of) M.AtMB.Ro.MixCor.DisLop).

Summary Description (habitat transitions noted)

[1] 0m/11:14am: The dive starts at the base of a canyon on a gentle upslope, over coarse sandy substrate (infrequent benthos) with occasional barnacle covered boulders. **[2] 8m/11:23am:** The sand becomes rippled, sometimes forming ridges. Fauna sparse comprising cerianthid anemones, asteroids, and holothurians. On area with several *Polymastia cf peniculus* protruding from sand. **[3] 31m/11:46am:** Similar flat sand and occasional barnacles to starting habitat, a couple of *Acanella arbuscula*. **[4] 50m/12:05pm:** Sand now gravelly, more encounters with *Acanella arbuscula*, some areas with dense possible Annelida tubes (unclear view). Slope becomes steeper. **[5] 1h5m/12:21pm:** A steeper section of slope gives rise to bedrock protrusions hosting many sponges, mainly *Phakellia ventillabrum*. **[6] 1h7m/12:22pm:** Return to shallower slope gravelly sand with sparse *A. arbuscula*. **[7] 1h15m/12:30pm:** Slope becomes steeper again, sediment coarser and boulders/bedrock protrusions often host *Madrepora oculata* along with encrusting organisms. **[8] 1h20m/12:35pm:** Steep slope with almost vertical bedrock, *Stichopathes cf gravieri* dominates with other occasional corals and encrusting fauna. Large areas with sand veneer. **[9] 1h23m/12:38pm:** Rich coral garden community on exposed bedrock mixed with biogenic predominantly dead *Lophelia pertusa* coral framework with sand veneer on a steep slope. Dominant fauna include black corals (especially *S. cf gravieri*), crinoids (*Koehlermetra porrecta*), and *Madrepora oculata*. **[10] 1h50m/13:05pm:** Transect crosses small escarpment (overhanging bedrock) reaching a flat summit of bedrock with patchy sand veneer and boulders. Continued coral garden community. **[11] 1h54m/13:09pm:** Terrain remains relatively flat, thicker sand veneer with cobbles and boulders continuing the coral garden community. **[12] 2h1m/13:16pm:** Transect ends on sand with occasional cerianthid anemones and echiurans (*Bonellia viridis*). Many *Synaphobranchus kaupii* eels and small dark fish (Actinopterygii sp 3.) throughout. 3 juvenile (35m,36m,53m) and 1 adult (1h2m) *Galeus melastomus* sharks were encountered on this dive. It is unusual to see the juveniles. Several encounters with orange Roughy (*Hoplostethus atlanticus*) which is a listed

Physical Data

Reef (types can be concurrent)	37% reef	37% geogenic	
		20% biogenic	<10% living >90% dead
Substrates (Primary, secondary) (Listed per habitat transition, see images)	- Bedrock - Bedrock/sand veneer - Boulders/protruding bedrock - Cobbles - Pebbles - Sand - Sand ripples - Sand/gravel (coarse) - Coral rubble (coarse) - Sand/shell hash (coarse)		
Geomorphology/Features	- Submarine canyon - Escarpment		
Annex 1 Types	- Boulder/cobble fields - Sloping/flat bedrock - Dead coral structures/coral rubble fields		
Pressures	- 4 items of plastic litter - 1 metal spring (?)		

Biotope List (Marine Habitat Classification for Britain & Ireland)		
Code	Name	Listed/Vulnerable
M.AtMB.Bi.CorRee.LopFra	Mixed coral assemblage on Atlantic mid bathyal <i>Lophelia pertusa</i> reef framework (biogenic structure)	<i>Lophelia pertusa</i> reef (OSPAR) Cold-water coral reef (ICES), <i>Lophelia pertusa</i> / <i>Madrepora oculata</i> reef (ICES subcategory)
M.AtMB.Co	Atlantic mid coarse sediment	
(var) M.AtMB.Mu.EreCor.AcaArb	(Coarse sediment variant of) <i>Acanella arbuscula</i> assemblage on Atlantic mid bathyal mud	? Coral Garden (ICES/OSPAR) Soft bottom coral garden: Soft-bottom gorgonian and black coral gardens (ICES subcategory)
M.AtMB.Ro.BarCom	Barnacle dominated community on Atlantic mid bathyal rock and other hard substrata	
(var) M.AtUB.Ro.DeeSpo	(Mid Bathyal variant of) Deep sponge aggregation on Atlantic upper bathyal rock and other hard substrata	Deep Sea Sponge Aggregations (OSPAR/ICES), Hard-bottom sponge aggregation (ICES subcategory)
(var) M.AtMB.Ro.MixCor.DisLop	(<i>Madrepora oculata</i> variant of) Discrete <i>Lophelia pertusa</i> colonies on Atlantic mid bathyal rock and other hard substrata	Coral Garden (ICES/OSPAR), Hard-bottom coral garden: Hard-bottom gorgonian and black coral gardens (ICES subcategory)
M.AtMB.Ro.MixCor	Mixed cold water coral community on Atlantic mid bathyal rock and other hard substrata	Coral Garden (ICES/OSPAR), Hard-bottom coral garden: Hard-bottom gorgonian and black coral gardens (ICES subcategory)
M.AtMB.Sa	Atlantic mid bathyal sand	
M.AtMB.Sa.BurAne	Burrowing anemone field in Atlantic mid bathyal sand	
Biotope progression per habitat transition (# species, dominant/characteristic species)		
1	M.AtMB.Sa, M.AtMB.Ro.BarCom	
	15 spp	OTU628 Holothuroidea sp 4, OTU82 Cirripedia sp.
2	M.AtMB.Sa.BurAne	
	16 spp	OTU2 Ceriantharia
3	M.AtMB.Sa, M.AtMB.Ro.BarCom	
	21 spp	OTU2 Ceriantharia, OTU82 Cirripedia sp.
4	(var) M.AtMB.Mu.EreCor.AcaArb, M.AtMB.Ro.BarCom	
	36 spp	OTU585/991 <i>Acanella arbuscula</i> (bushy/firtree morphs), OTU82 Cirripedia sp.
5	(var) M.AtUB.Ro.DeeSpo	
	20 spp	OTU202 <i>Phakellia ventillabrum</i>
6	(var) M.AtMB.Mu.EreCor.AcaArb	

	15 spp	OTU585/991 <i>Acanella arbuscula</i> (bushy/firtree morphs)
7	(var) M.AtMB.Ro.MixCor.DisLop, M.AtMB.Co	
	24 spp	OTU251 <i>Madrepora oculata</i> , OTU2 Ceriantharia
8	M.AtMB.Ro.MixCor, M.AtMB.Co	
	28 spp	OTU283 <i>Stichopathes cf gravieri</i> , OTU267 <i>Bonella viridis</i>
9	M.AtMB.Ro.MixCor, M.AtMB.Bi.CorRee.LopFra	
	47 spp	OUT 315 <i>Koehlermetra porrecta</i> , OTU283 <i>Stichopathes cf gravieri</i>
10	M.AtMB.Ro.MixCor, M.AtMB.Co	
	19 spp	OTU283 <i>Stichopathes cf gravieri</i> , OTU267 <i>Bonella viridis</i>
11	(var) M.AtMB.Ro.MixCor.DisLop, M.AtMB.Co	
	25 spp	OTU251 <i>Madrepora oculata</i> , OTU267 <i>Bonella viridis</i>
12	M.AtMB.Sa	
	9 spp	OTU267 <i>Bonella viridis</i>

Conservation Targets

Listed Habitats Encountered

Name	Authority
Coral Gardens	ICES/ OSPAR
Hard-bottom coral garden:	ICES subcategory
- Hard-bottom gorgonian and black coral gardens	ICES subcategory
- Colonial scleractinians on rocky outcrops	ICES subcategory
(sparse) Soft-bottom coral garden:	ICES subcategory
- Soft-bottom gorgonian and black coral gardens	ICES subcategory
Deep Sea Sponge Aggregations	ICES/OSPAR
- Hard-bottom sponge aggregation	ICES subcategory
Listed Species Encountered (Fish, Count)	
Orange Roughy (<i>Hoplostethus atlanticus</i>)	7 OSPAR

Additional Comments

There are some biotope variations from the MHCBI list:

M.AtMB.Mu.EreCor.AcaArb here occurs on coarse sediment rather than mud

M.AtUB.Ro.DeeSpo here is found in the mid bathyal – an option written in the habitat description but not carried into the code options.

M.AtMB.Ro.MixCor.DisLop here is found as *Madrepora oculata* dominated rather than *Lophelia pertusa*.

Some higher level biotopes are not taken to a child biotope as they don't fit the more specific definition. This may warrant further work to see if they should be considered for new child biotopes.

I will stop commenting on these per dive (other than marking them as (var) in the biotope lists, and consolidate into variants/recommendations for the report.