

Impacts of bottom trawling on deep-coral ecosystems of seamounts are long-lasting

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Supplement 1.

Table S1. List of 25 seamounts off southern Tasmania, Australia, sampled using video, indicating the number of peak to base transects taken, the peak and base depth, and the number of 1 s video frames scored for dominant substrate and fauna type. Base depth was measured at the deepest continuous contour around the base of the seamount, thus measuring the base at the shallowest flank

Seamount	Peak depth (m)	Base depth ¹ (m)	Lat (°S)	Long (°E)	No. video transects	No. video frames
Never-trawled						
Nancy's	1415	1740	43.98	145.71	1	3064
Mini Matt	1155	1280	44.24	146.16	1	873
Dory Hill	1080	1410	44.33	147.12	1	1396
Hill K1	1235	1680	44.29	147.39	3	3784
Hill B1	1073	1490	44.31	147.28	1	1849
Hill U	1100	1420	44.32	147.18	4	7086
Little Mongrel (Z27)	1062	1210	44.25	147.12	1	977
Little Sister (z56)	1087	1280	44.26	147.21	1	1278
Z15	1054	1590	44.23	147.47	1	1546
Z16	1028	1370	44.29	147.07	1	1207
Z19	1058	1380	44.30	147.19	1	872
Z22	1174	1510	44.28	147.34	1	835
Z24	1105	1480	44.26	147.43	1	1125
Z5	1173	1390	44.25	147.28	1	434
Mean	1129	1445				
Total					19	26326
Trawled						
Main Matt	610	1040	44.21	146.19	5	9279
Monitor	953	1070	44.22	146.15	1	1446
NW Matt	683	1050	44.19	146.15	1	2412
Conger	885	1220	44.25	147.18	1	1397
Patience	860	1080	44.12	147.38	1	1372
Pedra	730	1210	44.26	147.10	2	7192
Mongrel	750	1120	44.26	147.11	2	5149
Sister 1 (south)	850	1280	44.28	147.25	2	5130
Sister 2 (north)	850	1280	44.27	147.24	2	3231
Z69	1088	1240	44.18	147.33	1	682
Z9	970	1250	44.20	147.32	1	888
Mean	839	1167				
Total					19	38178

Supplement 2.

Table S2. Checklist of the 51 epibenthic megafauna photo-taxa (including growth forms) and their mean densities in high-resolution photographs from seamounts off southern Tasmania (Australia) that had never been trawled, where trawling had ceased 5 to 10 yr ago and where trawling was still active. Example reference images are included in Fig. S1

Group	Photo-taxon	Ref. image	Mean density (\bar{x} , ind. m ⁻²)			
			Never trawled	Trawling ceased	Trawling active	
Sessile						
Sponges	Cup sponges	1	0.02	0	< 0.01	
	Encrusting sponges	2	0.88	0.06	0	
	Fan sponges	3	0.01	0	0	
	Lumpy sponges	4	0.14	0.08	< 0.01	
	Projecting/branched sponges	5	0.06	0.01	0.01	
	Other sponges	n/a	0.04	0.05	< 0.01	
Anemones	Actinaria type B (yellow/orange)	6	0	< 0.01	0.01	
	Actinaria type H/J (Flytrap/4-lobed)	7	0	0	< 0.01	
	Other anemones	8	0.03	0.03	0.04	
Hydrocorals	<i>Styaster</i> spp	9	2.71	1.13	0.37	
Hydroids	Other Hydroids	10	0.03	0	0.14	
Stony corals (Scleractinia)	<i>Enallopsammia</i> spp.	11	< 0.01	0	0	
	<i>Solenosmilia variabilis</i> (live colonies only)	12	0.89	0.07	< 0.01	
Black corals (Antipatharia)	Solitary stony corals	13	0.84	0.02	0	
	Antipatharia type 2	14	0.01	< 0.01	0.01	
	Antipatharia type C	15	0.01	0	0	
	Other Antipatharian	n/a	< 0.01	< 0.01	< 0.01	
Octocorals (Alcyonacea)						
Soft coral	<i>Anthomastus</i> spp	16	0.04	0.02	0.03	
Gorgonian corals	Chrysogorgiid corals					
	<i>Chrysogorgia</i> spp	17	0.14	0.02	0.35	
	Chrysogorgiidae new gen. new sp.	18	1.43	0.06	2.34	
Precious coral	<i>Corallium</i> spp	19	0.03	0	< 0.01	
Bamboo corals	<i>Keratoisis</i> / <i>Isidella</i> spp	20	0.01	0.02	0.03	
	<i>Lepidisis</i> spp	21	< 0.01	< 0.01	0.04	
Bubble gum coral	<i>Paragorgia</i> spp	22	0.02	0	< 0.01	
Other gorgonians	<i>Narella</i> spC	23	0.07	< 0.01	< 0.01	
	<i>Thouarella</i> spp	24	0.35	0.02	0.01	
	Primnoidae	25	0.11	< 0.01	0.07	
	Alcyonacea type B	26	0	0	< 0.01	
	Alcyonacea type E	27	0.01	0.11	0.20	
	Alcyonacea type F	28	< 0.01	0	0	
	Alcyonacea type G	29	0.05	0.01	0.01	
	Undetermined gorgonians	n/a	0.19	0.02	0.02	
	Undetermined corals (morphotypes)	Slender unbranched soft coral	30	0.04	0	0
		Fan shaped soft coral	31	< 0.01	< 0.01	0
Bryozoa	Bryozoa	32	< 0.01	0	0	
Mobile						
Snails	Gastropod	33	0	< 0.01	< 0.01	
Octopus	Octopus	34	0	0	< 0.01	
Feather stars	Stalked crinoid	35	0.02	< 0.01	0.01	
	Unstalked crinoid	36	0.47	0.02	0.0	
Brittlestars	Ophiuroid	37	0.09	0.07	0.02	
Seastar	<i>Freyella</i> sp	38	0.07	0.02	0	
	Other asteroid	39	0.04	0.02	0.01	
Urchins	<i>Dermechinus horridus</i>	40	0.32	< 0.01	0.08	
	Other echinoid	41	0.04	0.04	0.15	
Seacucumbers	Holothurian	42	< 0.01	0.01	< 0.01	
Prawns / shrimps	Prawn / shrimp	43	0.09	0.04	0.02	
Squatlobsters	Galathea	44	0.15	0.01	0.02	
Lobsters	Lobster	45	< 0.01	< 0.01	0	
Crabs	Antlered crab	46	< 0.01	< 0.01	0	
	Hermit crab	47	0.01	0	< 0.01	
	Other crabs	48	0.04	0.02	< 0.01	

Fig. S1. Reference images showing examples of the 51 epibenthic megafauna photo-taxa (including growth forms) identified and counted in high-resolution photographs from seamounts off southern Tasmania, Australia

