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Appendix 1

Table A1. Mean density (ind. per 0.107m^2) of 19 macrofauna taxa in the twelve treatment combinations (n = 5). 'Group' refers to higher taxonomic groups. Taxa are listed in decreasing order of relative dominance (proportion of summed abundance across all 60 units).

		Ambient						Warming						
	Acidification	Control			Acidification			Control			Acidification			
	Consumers	All	Gast	None	All	Gast	None	All	Gast	None	All	Gast	None	%
Taxa	Group													
Hydrobia spp.	Gastropoda	64	137	130	99.4	119	135.2	91.2	155	151.2	89.8	148.2	144.2	37.36
Mytilus edulis	Bivalvia	62.8	77.8	119.2	79.6	107.6	125.6	122.4	104	92.4	100.2	97.6	134.8	31.23
Microdeutopus gryllotalpa	Crustacea	1.4	51.4	15.8	0.8	74.2	36.2	7.2	82	54.4	26.6	143.2	107.2	15.32
Ericthonius difformis	Crustacea	0	13.6	7.2	0.2	13.6	8.6	2.2	43.4	29.2	6.8	93.6	44.4	6.71
Mya arenaria	Bivalvia	3.8	10.2	16.4	4	6.6	6.2	14.6	17.8	7.4	10.6	8.2	14.4	3.07
Nereidae spp.	Polychaeta	4	5.6	7	4.4	5.2	5.2	3.8	6.6	10.6	6	7.4	11.6	1.98
Cerastoderma edule	Bivalvia	7.4	4.8	5.2	2.2	5.8	7.4	5.6	10.2	7	3.2	4.8	7.8	1.82
Corophium spp.	Crustacea	1	0	1.2	2	0	7.4	0	0.4	3.8	0.4	1	22.6	1.02
Balanus improvisus	Crustacea	0.4	2	1	0.4	0.8	1.4	0.6	1.6	0.4	0.8	0.8	8.4	0.47
Bittium reticulatum	Gastropoda	0.2	1.8	1.2	0.2	1	0.8	0.6	2	0.4	0.4	0.6	3.8	0.33
Rissoa parva	Gastropoda	0.4	0.8	0.4	0.4	0.2	0.8	0.4	0.8	0.2	0.6	1.8	0.8	0.19
Littorina littorea	Gastropoda	0.8	0.6	0.4	0.6	1.4	0.4	0.4	0.8	0.4	0.2	0.4	0.4	0.17
Cylichna cylindracea	Gastropoda	0	0.4	0.2	0	0.6	0.6	0.2	0.4	0.4	0	0.8	1	0.12
Arenicola marina	Polychaeta	0	0.6	0.4	0.4	0	0.2	0	0	0.6	0	0.4	0.2	0.07
Littorina saxatilis	Gastropoda	0	0	0	0.2	0	0	0.2	0.4	0.2	0.4	0.2	0.4	0.05
Semibalanus balanoides	Crustacea	0	0.2	0	0	0	0.2	0	0.2	0	0	0	1	0.04
Lineus ruber	Nemertea	0	0	0.2	0.4	0	0	0	0	0	0	0	0	0.02
Carcinus maenas	Crustacea	0	0	0	0	0	0	0.4	0	0	0	0	0.2	0.02
Macoma baltica	Bivalvia	0	0	0	0	0	0	0	0.2	0	0	0	0.2	0.01

Table A2. Species × trait matrix used in the life-history group analysis. The table shows literature values of 21 morphological and life-history trait classes of the 19 macrofauna taxa found in the 60 mesocosms. All but two classes are binomial (0 or 1, where 1 means having the trait in question). Explanation of trait class acronyms: size = body size (multinomial category from 1-7), attach = attached organism. tube = tube-building. burrow = burrowing in the sediment. free = free-moving organism. infauna = living in the sediment. epi = epifauna living on or above the sediment surface. detr = detritivore. herb = herbivore. carniv = carnivore. scav = scavenger. filter = filter-feeder. swim = swimming organism. crawl = crawling organism. fecund = fecundity (continuous variable in steps from 1 to 7). calcium = has calcium-carbonate shell. chitin = has chitinous exoskeleton. semel = semelparous. annepis = annual episodic reproduction. annprot = annual protracted reproduction.

Online data sources used to identify macrofauna traits

Marine Ecological Surveys Limited. 2008. Marine macrofauna genus trait handbook. Marine Ecological Surveys Ltd, 24a Monmouth Place, BATH, BA1 2AY. ISBN 978-0-9506920-2-9. – <www.genustraithandbook.org.uk/introduction/>

MARLIN. The marine life information network. – <www.marlin.ac.uk/>

Marine species identification portal. – <http://species-identification.org/>

WORMS. World register of marine speices. – <www.marinespecies.org/>

Taxa	size	attach	tube	burrow	free	infauna	epi	detr	herb	carniv	scav	filter	swim	crawl	fecund	calcium	chitin	semel	annepis	annprot	brooder
Arenicola marina	7	0	1	0	0	0	0	1	1	0	0	0	1	0	6	0	0	0	1	0	0
Balanus improvisus	2	1	0	0	0	0	1	1	0	1	0	1	0	0	3	1	0	0	1	0	0
Bittium reticulatum	4	0	0	0	1	0	1	1	1	0	0	0	0	1	3	1	0	0	1	0	0
Carcinus maenas	6	0	0	0	1	0	1	1	1	1	1	0	0	1	5	0	1	0	0	1	0
Cerastoderma edule	5	0	0	0	1	1	0	0	1	1	0	1	0	1	7	1	0	0	0	1	0
Corophium volutator	4	0	0	1	0	1	0	1	0	0	0	0	0	1	2	0	1	1	0	0	1
Cylichna cylindracea	4	0	0	0	1	1	0	0	0	1	1	0	0	1	4	1	0	0	1	0	0
Erichthonius difformis	3	0	1	0	1	0	0	1	1	0	0	0	1	0	2	0	1	1	0	0	1
Hydrobia ulvae	3	0	0	0	1	0	1	1	1	0	0	0	0	1	2	1	0	0	0	1	0
Lineus ruber	6	0	0	0	1	1	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0
Littorina littorea	4	0	0	0	1	0	1	0	1	0	0	0	0	1	5	1	0	0	1	0	0
Littorina saxatilis	4	0	0	0	1	0	1	1	1	0	0	0	0	1	3	1	0	0	0	1	1
Macoma baltica	4	0	0	1	0	1	0	1	1	1	0	1	0	1	4	1	0	0	1	0	0
Microdeutopus gryllotalpa	5	0	1	0	1	0	0	1	1	0	0	0	1	0	2	0	1	1	0	0	1
Mya arenaria	7	0	0	1	0	1	0	1	1	1	0	1	0	0	6	1	0	0	0	1	0
Mytilus edulis	6	1	0	0	0	0	1	0	1	1	0	1	0	0	7	1	0	0	0	1	0
Nereidae spp.	7	0	0	0	1	1	1	1	1	1	1	0	1	1	6	0	0	1	0	0	0
Rissoa parva	2	0	0	0	1	0	1	1	1	0	0	0	0	1	2	1	0	1	0	0	0
Semibalanus balanoides	4	1	0	0	0	0	1	1	0	1	0	1	0	0	3	1	0	0	1	0	0