Oikos

OIK-02100

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Appendix 1

Diagram of the experimental design

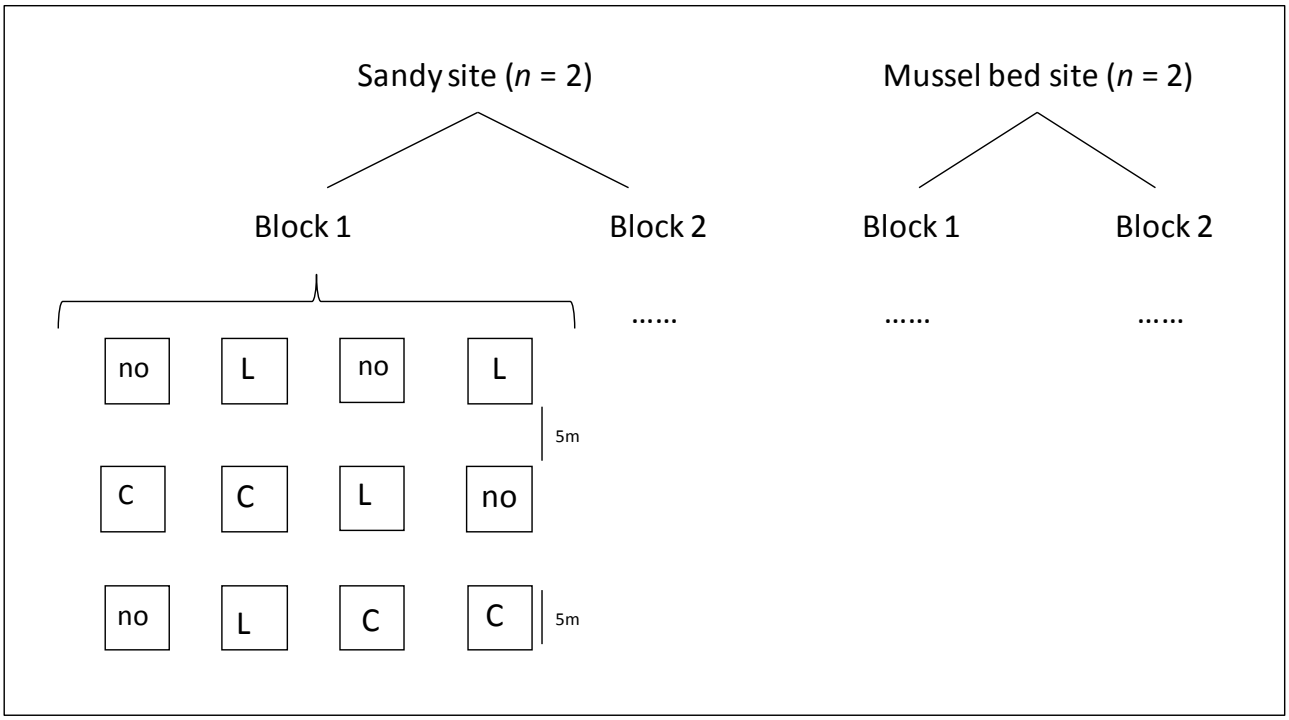

Figure A1. In each of two mussel bed sites (located coastward of mussel reefs) and two sandy sites without mussels twenty-four 5 × 5 m plots were allocated in two blocks. Within each block, the plots were randomly assigned to one of three treatments: cockle addition (C), lugworm addition (L) and no addition (no) (n = 4 per block, 96 plots in total).

Appendix 2

Cockle and lugworm abundances in the experimental plots over one year

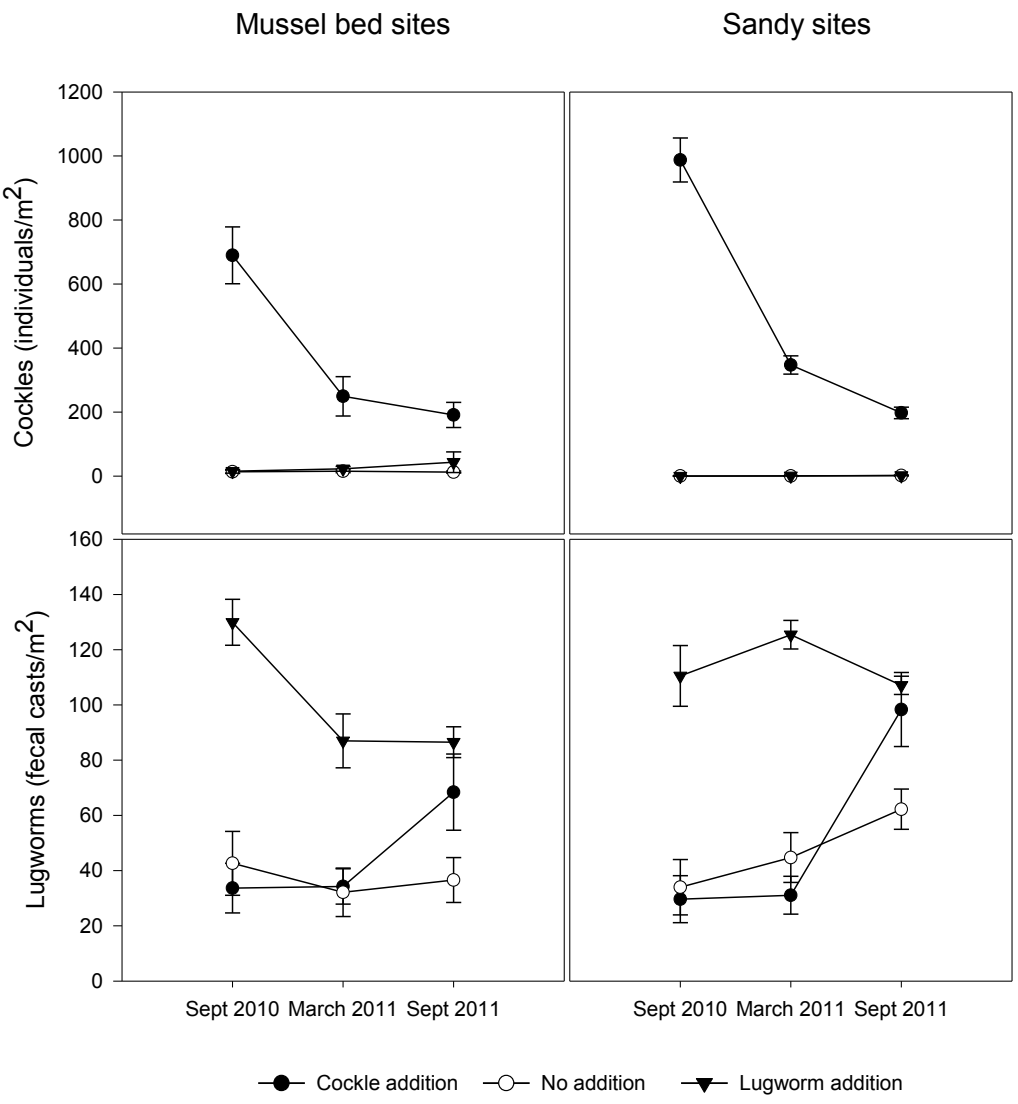

Figure A2. Cockle abundances (individuals m^{-2}) and lugworm abundances (fecal casts m^{-2}) in cockle-addition, lugworm- addition and no-addition plots measured in mussel bed sites and sandy sites in September 2010, March 2011 and September 2011. Mean ± SE (n = 16 and n = 48 for cockle and lugworm abundances, respectively).

Appendix 3. Fuzzy scores for each trait category and taxon

	Bioturbation						Depth						Body size						Feeding mode					Longevity				
Taxon	none	biodif	gall	upw	down	bioirr	surf	d0_3	d3_8	d8_15	d15_25	d>25	s<5	s5_10	s10_20	s20_40	s40_80	s>80	dep	susp	opp	graz	pred	<1y	1_2y	3_5y	6_10y	>10y
Ampharete acutifrons	0	0	0	0	3	0	2	1	0	0	0	0	0	0	2	1	0	0	2.5	0.5	0	0	0	0	2.5	0.5	0	0
Aphelochaeta marioni	0	0	0	0	3	0	0	2.75	0.25	0	0	0	0	1.5	1.5	0	0	0	2	0.5	0	0.5	0	0	1	1	1	0
Balanus spp.	3	0	0	0	0	0	3	0	0	0	0	0	0.5	2	0.5	0	0	0	0	3	0	0	0	0	3	0	0	0
Capitella capitata	0	0.5	0	2	0	0.5	0	1.5	1.5	0	0	0	0	3	0	0	0	0	3	0	0	0	0	1	2	0	0	0
Carcinus maenas	3	0	0	0	0	0	3	0	0	0	0	0	0	0	1.5	1	0.5	0	0	0	1	0	2	0	0	1.5	1.5	0
Corophium spp.	0	1.5	0	0	1.5	0	0	3	0	0	0	0	1	2	0	0	0	0	2.5	0.5	0	0	0	3	0	0	0	0
Crangon crangon	0	3	0	0	0	0	1	2	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	3	0	0
Eteone spp.	0	3	0	0	0	0	1.5	1.5	0	0	0	0	0	1.5	1	0.5	0	0	0.25	0	0	0	2.75	0	3	0	0	0
Gammarus spp.	3	0	0	0	0	0	3	0	0	0	0	0	0	1	2	0	0	0	2	0	0	1	0	3	0	0	0	0
Harmothoe spp.	3	0	0	0	0	0	3	0	0	0	0	0	0	0.75	2	0.25	0	0	0	0	0	0	3	0	1	2	0	0
Hediste diversicolor	0	0	3	0	0	0	0	0	0	1	2	0	0	0	0	1	1	1	1.5	0.5	0.5	0	0.5	1	2	0	0	0
Heteromastus filiformis	0	0	0	2	0	1	0	0	0	0	3	0	0	0	3	0	0	0	3	0	0	0	0	1	2	0	0	0
Hydrobia ulvae	2	1	0	0	0	0	2	1	0	0	0	0	2	1	0	0	0	0	3	0	0	0	0	0	3	0	0	0
Lagis koreni	0	0	0	0	0	3	0	1.5	1.5	0	0	0	0	0	1	2	0	0	2.5	0	0.5	0	0	3	0	0	0	0
Lanice conchilega	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0.5	1.5	1	2.5	0.5	0	0	0	0.25	1	1.75	0	0
Littorina littorea	3	0	0	0	0	0	3	0	0	0	0	0	0	0	1	2	0	0	0	0	0	3	0	0	0	0.25	1.75	0
Macoma balthica	0	3	0	0	0	0	0	1.3	1.3	0.2	0.2	0	0.5	1	1	0.5	0	0	1.5	1.5	0	0	0	0	0	0	3	0
Magelona mirabilis	0	1.5	0	0	1.5	0	0	3	0	0	0	0	0	1.5	1.5	0	0	0	2.5	0.25	0	0	0.25	0	0	3	0	0
Marenzelleria viridis	0	2	0	0	1	0	0	0	3	0	0	0	0	0	3	0	0	0	1	1	0	1	0	0	3	0	0	0
Microphthalmus similis	0	0	0	0	0	0	1.5	1.5	0	0	0	0	0	1.5	1.5	0	0	0	1	0	1	1	0	0	0	0	0	0
Mya arenaria	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1.5	1.5	0	3	0	0	0	0	0	0	0	3
Mytilus edulis	3	0	0	0	0	0	3	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	3
Nemertea spp.	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1.5	1.5	0	0	0	0.5	0	2.5	0	0	0	0	0
Oligochaeta spp.	0	3	0	0	0	0	0	2.5	0.5	0	0	0	0	0	1	2	0	0	1.5	0	0	1.5	0	0	1	2	0	0
Phyllodoce spp.	1.5	1.5	0	0	0	0	1.5	0.5	0.5	0.5	0	0	0	0	0	0	2	1	0	0	2.5	0	0.5	0	0	0	0	0
Polydora spp.	2	0	0	0	0	1	0	3	0	0	0	0	0	0.5	2	0.5	0	0	0.75	2	0	0.25	0	0	3	0	0	0
Polyplacophora spp.	3	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	1.5	0	0	1.5	0	0	0	0	0	0
Scolelepis bonnieri	0	0	0	3	0	0	0	1	1	1	0	0	0	0	0	2.5	0.5	0	2	0.3	0	0.7	0	0	3	0	0	0
Scoloplos armiger	0	0	0	3	0	0	0	1	1	1	0	0	0	0	0.25	0.75	1.5	0.5	3	0	0	0	0	0	0	3	0	0
Scrobicularia plana	0	3	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0
Spionida spp.	0	1	0	0	2	0	0	2	0.5	0.5	0	0	0.17	1	2	0	0	0	2	1	0	0	0	0	3	0	0	0
Streblospio benedicti	0	1	0	0	2	0	0	3	0	0	0	0	0.5	2.5	0	0	0	0	2	0.75	0	0.25	0	0	3	0	0	0
Urothoe poseidonis	2	1	0	0	0	0	0	0	0	0.5	1	1.5	2.5	0.5	0	0	0	0	3	0	0	0	0	0	3	0	0	0

Appendix 4

Spearman correlation coefficient for each pair of functional trait categories

	none	biodif	gall	upw	down	bioirr	surf	d0_3	d3_8	d8_15	d15_25	d>25	s<5	s5_10	s10_20	s20_40	s40_80	s>80	dep	susp	opp	graz	pred	<1y	1_2y	3_5y	6_10y
none	1.00																										
biodif	0.06	1.00																									
gall	-0.32	-0.27	1.00																								
upw	-0.23	-0.31	0.11	1.00																							
down	0.13	0.31	-0.22	-0.44	1.00																						
bioirr	0.09	0.15	0.12	-0.42	0.56	1.00																					
surf	0.79	0.07	-0.23	-0.40	0.40	0.34	1.00																				
d0_3	0.01	0.89	-0.27	-0.10	0.42	0.15	0.07	1.00																			
d3_8	-0.02	0.87	-0.23	0.07	0.13	0.00	-0.06	0.92	1.00																		
d8_15	-0.10	0.10	0.54	-0.15	0.11	0.62	0.08	0.15	0.12	1.00																	
d15_25	-0.29	0.05	0.85	-0.04	-0.06	0.18	-0.21	0.01	-0.01	0.57	1.00																
d>25	0.00	-0.21	-0.10	0.71	-0.49	-0.53	-0.34	-0.14	0.04	-0.31	-0.17	1.00															
s<5	0.01	0.93	-0.27	-0.11	0.17	0.02	-0.07	0.87	0.93	0.03	-0.02	0.02	1.00														
s5_10	-0.02	0.91	-0.20	-0.22	0.42	0.19	0.04	0.92	0.85	0.12	0.07	-0.21	0.89	1.00													
s10_20	0.08	0.87	-0.19	-0.25	0.49	0.23	0.18	0.90	0.79	0.13	0.09	-0.27	0.81	0.95	1.00												
s20_40	-0.09	0.33	0.59	-0.20	0.11	0.37	0.04	0.35	0.33	0.83	0.73	-0.31	0.26	0.36	0.39	1.00											
s40_80	0.06	-0.11	0.53	-0.09	0.07	0.53	0.22	-0.07	-0.09	0.86	0.58	-0.24	-0.21	-0.13	-0.07	0.71	1.00										
s>80	-0.13	-0.15	0.72	-0.10	0.03	0.54	0.07	-0.12	-0.12	0.92	0.65	-0.24	-0.20	-0.11	-0.08	0.74	0.88	1.00									
dep	-0.13	0.49	0.34	-0.10	0.23	0.42	-0.01	0.59	0.52	0.79	0.58	-0.26	0.42	0.52	0.53	0.86	0.64	0.61	1.00								
susp	-0.07	0.76	0.18	-0.33	0.32	0.35	0.03	0.74	0.69	0.52	0.44	-0.37	0.70	0.82	0.79	0.75	0.27	0.32	0.80	1.00							
opp	0.16	-0.15	0.70	-0.30	0.12	0.39	0.29	-0.18	-0.24	0.60	0.62	-0.43	-0.26	-0.13	-0.02	0.61	0.64	0.73	0.33	0.24	1.00						
graz	0.15	0.34	-0.15	-0.46	0.91	0.52	0.42	0.41	0.14	0.14	0.02	-0.50	0.18	0.43	0.50	0.15	0.09	0.07	0.25	0.36	0.16	1.00					
pred	0.13	-0.18	0.75	-0.22	0.05	0.33	0.29	-0.21	-0.25	0.57	0.68	-0.36	-0.27	-0.15	-0.05	0.62	0.66	0.69	0.32	0.21	0.91	0.10	1.00				
<1y	-0.24	-0.16	0.89	-0.12	0.00	0.43	-0.05	-0.18	-0.19	0.76	0.83	-0.28	-0.21	-0.10	-0.07	0.71	0.71	0.90	0.51	0.32	0.77	0.07	0.77	1.00			
1_2y	-0.06	-0.04	0.67	-0.32	0.29	0.59	0.19	-0.02	-0.14	0.78	0.69	-0.43	-0.14	0.03	0.09	0.72	0.73	0.85	0.61	0.43	0.74	0.31	0.71	0.88	1.00		
3_5y	0.13	-0.03	0.02	0.41	0.11	0.36	0.22	0.17	0.19	0.48	-0.04	0.17	0.02	0.03	0.08	0.27	0.54	0.41	0.39	0.08	0.07	0.06	0.09	0.14	0.21	1.00	
6_10y	-0.04	0.94	-0.21	-0.21	0.29	0.11	-0.03	0.88	0.89	0.08	0.04	-0.16	0.95	0.94	0.89	0.34	-0.16	-0.15	0.45	0.77	-0.13	0.30	-0.16	-0.14	-0.07	0.00	1.00
>10y	0.21	0.12	-0.04	-0.10	0.13	0.11	0.26	0.13	0.12	0.05	0.00	0.09	0.12	0.28	0.29	0.11	0.04	0.07	0.09	0.29	-0.01	0.11	0.01	0.00	0.10	0.10	0.13