The following supplement accompanies the article

Quantification and prediction of the impact of fishing on epifaunal communities

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Supplement. This supplement contains a list of species that were identified on the photographs, their taxonomical and functional classification as used in the paper as well as the equations used to estimate their biomass. It also contains the statistics of the responses of epifaunal species to environmental factors

Table S1. List of species, or species groups, representing the top 90% of the cumulative biomass by substratum type. Indeterminate species were grouped as indet. A number was given to species that could be identified but not assigned to taxa. Total biomass represented the cumulative biomass calculated from the analysis of the photographs

Substratum	Species	Total biomass (g)	Percentage	Cumulative percentage
Mud	*Alcyonium digitatum*	101.28	23	23
	Anemones indet.	89.09	21	44
	Nemertesia spp.	76.36	18	62
	Sponges indet.	54.44	13	74
	Cellaria spp.	36.94	9	83
	Sertularella spp.	18.2	4	87
	Hydroids indet.	16.04	4	91
Maerl	*Alcyonium digitatum*	131.37	42	42
	Hydroid 5	45	14	56
	Myxilla incrustans	23.59	8	64
	Dysidea fragilis	22.55	7	71
	Sponges indet.	13.54	4	75
	Modiolus modiolus	12.56	4	79
	Anemones indet.	12.12	4	83
	Sponge 8	6.43	2	85
	Hemimycale columella	5.76	2	87
	Hydroid 6	5.73	2	89
	Aequipecten opercularis	5.1	2	91
Sand	*Cellaria fistulosa*	77.01	40	40
	Sponges indet.	28.72	15	55
	Hydroids indet.	25.32	13	68
	Alcyonidium diaphanum	17.45	9	77

	Anemones indet.	12.1	6	83
	Cellaria spp.	7.92	4	87
	Abietinaria abietina	7.55	4	91
Sand-shell	*Alcyonium digitatum*	182.8	34	34
	Abietinaria abietina	89.46	16	50
	Clavelina lepadiformis	77.35	14	64
	Halecium halecinum	52.41	10	74
	Kirchenpaueria pinnata	50.86	9	83
	Urticina felina	36.92	7	90
Mixed gravel with pebbles	*Alcyonium digitatum*	2351.26	53	53
	Alcyonidium diaphanum	1008.25	23	76
	Nemertesia antennina	473.77	11	87
	Anemones indet.	187.72	4	91
Mixed gravel with cobbles	*Alcyonium digitatum*	2484.18	45	45
	Cellaria sinuosa	759.87	14	59
	Nemertesia antennina	632.11	12	71
	Hydroids indet.	419.09	8	79
	Sponges indet.	207.4	4	82
	Anemones indet.	133.87	2	85
	Flustra foliacea	111.42	2	87
	Urticina spp.	89.62	2	89
	Nemertesia spp.	58.54	1	90
Hard	*Hydrallmania falcata*	668.68	47	47
	Alcyonium digitatum	181.82	13	59
	Alcyonidium diaphanum	176.48	12	72
	Urticina spp.	141.43	9	81
	Abietinaria abietina	65.46	5	85
	Nemertesia antennina	63.53	4	90
	Hydroids indet.	20.72	1	91

Table S2. Taxonomical and functional groups of species from Table S1

Species	**Phylum**	**Class**	**Body plan**	**Body shape**
Abietinaria abietina	Cnidaria	Hydrozoa	Colonial	Flexible
Aequipecten opercularis	Mollusca	Bivalvia	Solitary	Hard body
Alcyonidium diaphanum	Bryozoa	Gymnolaemata	Colonial	Flexible
Alcyonium digitatum	Cnidaria	Anthozoa	Colonial	Flexible
Anemones indet.	Cnidaria	Anthozoa	Solitary/Colonial	Flexible
Cellaria fistulosa	Bryozoa	Gymnolaemata	Colonial	Flexible
Cellaria sinuosa	Bryozoa	Gymnolaemata	Colonial	Flexible
Cellaria spp.	Bryozoa	Gymnolaemata	Colonial	Flexible
Clavelina lepadiformis	Chordata	Ascidiacea	Colonial	Flexible
Dysidea fragilis	Porifera	Desmospongiae	Colonial	Flexible
Flustra foliacea	Bryozoa	Gymnolaemata	Colonial	Flexible
Halecium halecinum	Cnidaria	Hydrozoa	Colonial	Flexible
Hemimycale columella	Porifera	Desmospongiae	Colonial	Flexible
Hydrallmania falcata	Cnidaria	Hydrozoa	Colonial	Flexible

Hydroid 5	Cnidaria	Hydrozoa	Colonial	Flexible
Hydroid 6	Cnidaria	Hydrozoa	Colonial	Flexible
Hydroids indet.	Cnidaria	Hydrozoa	Colonial	Flexible
Kirchenpaueria pinnata	Cnidaria	Hydrozoa	Colonial	Flexible
Modiolus modiolus	Mollusca	Bivalvia	Solitary	Hard body
Myxilla incrustans	Porifera		Colonial	Flexible
Nemertesia antennina	Cnidaria	Hydrozoa	Colonial	Flexible
Nemertesia spp.	Cnidaria	Hydrozoa	Colonial	Flexible
Sertularella spp.	Cnidaria	Hydrozoa	Colonial	Flexible
Sponge 8	Porifera		Colonial	Flexible
Sponges indet.	Porifera		Colonial	Flexible
Urticina felina	Cnidaria	Anthozoa	Solitary	Flexible
Urticina spp.	Cnidaria	Anthozoa	Solitary	Flexible

Table S3. Equations used to calculate species biomasses based on photographs measurements. WW: wet weight; AFDW: ash-free dry weight

Organisms	**Unit**	**Equation**	***x* parameter**	**Details**	**Conversion factor** (Brey 2001)
2D-organism	g WW	$0.001x^2+0.046x$	area covered in cm^2	$r^2=0.92$, this paper	
3D-organism	g WW	$0.014x^2+0.720x$	area covered in cm^2	$r^2=0.88$, this paper	
[a]*Balanus crenatus*	g AFDW	$\exp(x-2.03)/0.24$	basal diameter in cm	(adapted from Asmus 1987)	Total weight to wet tissue weight = 0.010 AFDW/WW = 0.038
Pecten maximus	g WW	$\exp(-12.14)\times x^{3.22}+\exp(-34.51)\times x^{7.63}$	length in mm	(adapted from Allison 1994)	
Aequipecten opercularis	g WW	$\exp(-9.79)\times x^{2.74}+\exp(-18.93)\times x^{4.51}$	length in mm	(adapted from Allison 1994)	
Modiolus modiolus	g WW	$\exp(-10.88+3.00\times \ln(x))$	length in mm	(adapted from Brown et al. 1976)	
Modiolus modiolus	g WW	$\exp(-9.96+3.32\times \ln(x))$	height in mm	(adapted from Brown et al. 1976)	

[a]*Balanus crenatus* is the most abundant species in the UK subtidal waters, so this equation was applied to all barnacles.

Table S4. Results of the quantile regressions of the species' biological measurements on environmental factors: slope estimates and probabilities, referring to Table 4 in the paper. Two slope estimates for the same factor means that the selected model was a polynom of degree 2

Species	Variable	Factor	Slope	p-value	Quantile
Emergent	Maximum size	Depth	0.176 -0.002	0.003 0.004	95
		Tidal velocity	1.598	<0.001	95
		Stratification	-0.059	0.036	95
		Chlorophyll a	3.163	0.021	80
		Turbidity	45.362	0.008	90
		Wave	-0.222	0.022	80
	Total biomass	Depth	0.103 -0.001	0.015 0.007	90
		Tidal velocity	1.589 0.481	<0.001 0.014	80
		Stratification	-0.532	0.036	85
		Chlorophyll a	4.670	0.042	90
		Mud	-0.587	0.045	85
		Turbidity	11.923	0.014	95
		Wave	-0.890	0.039	95
Colonial	Maximum size	Depth	0.188 -0.002	0.007 0.012	95
		Tidal velocity	1.598	<0.001	95
		Chlorophyll a	2.994	0.019	80
		Turbidity	7.044	0.009	90
	Total biomass	Depth	0.077 -0.001	0.044 0.017	85
		Tidal velocity	1.134	<0.001	95
		Stratification	0.915 -0.331	0.040 <0.001	80
		Chlorophyll a	8.326	0.045	95
		Turbidity	-153.792 -42.928	0.022 0.019	80
		Mud	-0.728	0.025	85
		Wave	-0.948	0.031	95
Solitary	Maximum size	Tidal velocity	0.824 0.301	0.006 0.026	85
		Stratification	-0.024	<0.001	95
		Chlorophyll a	2.202	0.007	90
		Turbidity	281.096 -808.712	0.003 0.008	95
		Mud	-0.022	0.022	75
	Total biomass	Tidal velocity	0.549	0.004	80
		Stratification	-0.022	0.037	80
		Chlorophyll a	1.654 -5.692	0.005 0.024	95
		Turbidity	13.506	0.040	95
		Mud	-0.287	0.042	80
Hard body	Maximum size	Tidal velocity	-0.378 -0.195	0.007 0.012	95

		Mud	0.264	<0.001	95
		Wave	-0.101	0.010	95
	Total biomass	Depth	0.068 -0.001	0.024 0.025	90
		Tidal velocity	1.436 -0.514	0.031 0.041	80
Bivalvia	Maximum size	Tidal velocity	-0.371 -0.195	0.033 0.038	95
		Mud	0.264	<0.001	95
		Wave	-0.100	0.011	95
Flexible	Maximum size	Depth	0.176 -0.002	0.003 0.004	95
		Tidal velocity	1.598	<0.001	95
		Stratification	-0.059	0.025	95
		Chlorophyll a	3.163	0.020	80
		Turbidity	8.446	0.044	95
		Wave	-0.222	0.022	80
	Total biomass	Depth	0.098 -0.001	0.017 0.005	90
		Tidal velocity	1.590 0.481	<0.001 0.015	80
		Stratification	-0.533	0.036	85
		Chlorophyll a	8.276	0.036	95
		Turbidity	11.923	0.014	95
		Mud	-0.587	0.044	85
		Wave	-0.890	0.039	95
Cnidaria	Maximum size	Tidal velocity	1.171	0.006	95
		Stratification	-0.020	0.030	75
		Chlorophyll a	3.471	0.020	85
		Turbidity	4.790	0.044	90
		Wave	-0.249	0.028	85
	Total biomass	Depth	0.133 -0.001	0.035 0.030	95
		Tidal velocity	0.780	0.005	95
		Stratification	-0.045	<0.001	95
		Chlorophyll a	6.304	0.039	95
		Turbidity	11.249	0.004	95
		Mud	-0.471	0.047	80
		Wave	-0.303	0.040	80
Hydrozoa	Maximum size	Tidal velocity	1.707 0.612	0.022 0.048	90
		Chlorophyll a	5.304	0.030	90
		Turbidity	7.082	0.021	90
	Total biomass	Depth	-0.022	0.032	75
		Tidal velocity	2.203 0.714	0.001 0.010	95
		Stratification	-0.036	0.028	95
		Chlorophyll a	7.896	0.007	95
		Turbidity	908.752 -2692.902	0.022 0.035	95
		Mud	-0.898	0.009	95

Anthozoa	Maximum size	Depth	0.113 -0.002	0.028 0.020	95
		Tidal velocity	0.316	0.029	85
		Stratification	-0.044	0.047	90
		Turbidity	5.321	0.024	80
		Wave	-0.252	0.039	85
	Total biomass	Depth	0.066 -0.001	0.020 0.007	90
		Tidal velocity	0.653	0.031	80
		Stratification	-0.024	0.029	95
		Chlorophyll a	2.726	0.021	85
		Turbidity	24.539	0.030	80
		Mud	-0.035	0.012	90
		Wave	-0.262	0.029	75
Bryozoa	Maximum size	Tidal velocity	1.190	0.049	85
		Stratification	-0.104	0.041	95
	Total biomass	Depth	0.047	0.012	95
		Tidal velocity	1.741	0.031	95
		Stratification	-0.027	0.014	95
		Mud	-0.755	0.004	90
Porifera	Maximum size	Tidal velocity	-0.223	0.033	90
		%Bivalve	0.393 0.048	0.003 0.008	75
	Total biomass	Tidal velocity	1.796 -0.651	0.004 0.005	95
		Stratification	-0.024	0.017	95
		Mud	-0.049 0.001	<0.001 0.034	80
		%Bivalve	0.454 0.052	0.067 0.122	80
Ascidiacea	Maximum size	Depth	-0.008	0.038	85
		Stratification	-0.062 0.001	0.004 0.038	90
		Mud	-0.270	0.116	95
	Total biomass	Depth	-0.010	0.023	90
		Stratification	-0.235	0.037	80
		Mud	-0.265	0.036	80

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