Supporting Information

Table S1: Simper analysis results for the contribution of each size group to the differentiation of the pre-grazed communities.

Contrast between 0 – 40 ind L^{-1} pre-grazed communities	
Size class (μm^3)	%
big (1,000–10,000)	56.75
medium (100–1,000)	40.57
very big (>10,000)	1.69
small (10–100)	0.68
picoplankton (<10)	0.31
Contrast between 0 – 160 ind L^{-1} pre-grazed communities	
Size class (μm^3)	%
medium (100-1,000)	46
big (1,000-10,000)	32.76
picoplankton (<10)	13.73
very big (>10,000)	5.86
small (10-100)	1.65
Contrast between 40 – 160 ind L^{-1} pre-grazed communities	
Size class (μm^3)	%
big (1,000–10,000)	41.05
medium (100–1,000)	23.97
picoplankton (<10)	21.87
very big (>10,000)	11.11
small (10–100)	2

The size classes medium (100–1,000 μm^3) and big (1,000–10,000 μm^3) cells together contributed most to the differentiation of the pre-grazed communities (Table S1) (Simper Analysis; 0 ind L^{-1} vs 40 ind L^{-1} : 97.32%, 0 ind L^{-1} vs 160 ind L^{-1} : 76.76% and 40 ind L^{-1} vs 160 ind L^{-1}: 65.02%). In addition, the positive responses of picoplankton (<10μm^3) to pre-grazing also contributed more than 10% to the differentiation of the 160 ind L^{-1} pre-grazed community from the others (Simper Analysis; 0 ind L^{-1} vs 160 ind L^{-1}: 13.73% and 40 ind L^{-1} vs 160 ind L^{-1}: 21.87%). The change in very big cells (>10,000 μm^3) contributed also more than 11.11% to the differentiation of the two pre-grazed communities (40 ind L^{-1} vs 160 ind L^{-1}) (Table S1).

Table S2. ANOVA results showing the short-term effects (days 13) of the factors pre- grazing, nutrient addition and the interaction between them on species growth rate. *=p<0.05 45

Growth rate	Factor	Df	Sum Sq	Mean Sq	F
Chaetoceros sp.	pre-Grazing	2	0.43	0.22	4.2*
	Nutrients	1	0.87	0.87	16.7*
	pre-Grazing×Nutrients	2	0.02	0.01	0.2
Chaetoceros danicus	pre-Grazing	2	0.19	0.10	3.9
	Nutrients	1	0.54	0.54	21.6*
	pre-Grazing×Nutrients	2	0.18	0.09	3.6
Pseudonitzschia sp.	pre-Grazing	2	0.24	0.12	13.8*
	Nutrients	1	0.00	0.00	0.2
	pre-Grazing×Nutrients	2	0.07	0.03	4*
Guinardia delicatula	pre-Grazing	1	0.26	0.26	3.8
	Nutrients	1	0.18	0.18	2.6
	pre-Grazing×Nutrients	1	0.03	0.03	0.5
Skeletonema marinoi	pre-Grazing	2	0.82	0.41	8.8*
	Nutrients	1	0.60	0.60	12.9*
	pre-Grazing×Nutrients	2	1.00	0.50	10.6*
Thalassiosira sp.1	pre-Grazing	1	0.07	0.07	0.3
	Nutrients	1	0.45	0.45	1.5
	pre-Grazing×Nutrients	1	0.02	0.02	0.1
Thalassiosira sp.2	pre-Grazing	2	0.99	0.49	1.7
	Nutrients	1	0.21	0.21	0.7
	pre-Grazing×Nutrients	2	0.49	0.25	0.8
Dactyliosolen fragilissimus	pre-Grazing	2	1.53	0.77	3.3
	Nutrients	1	0.34	0.34	1.4
	pre-Grazing×Nutrients	2	0.39	0.19	0.8
Teleaulax sp.	pre-Grazing	2	0.17	0.09	0.4
	Nutrients	1	1.02	1.02	4.5

	pre-Grazing×Nutrients	2	0.25	0.12	0.6
Atheya sp.	pre-Grazing	2	1.52	0.76	18.6*
	Nutrients	1	0.70	0.70	17*
	pre-Grazing×Nutrients	2	0.15	0.08	1.9

Regarding the major species in these experimental communities, pre-grazing positively affected the growth rates of the species *Chaetoceros danicus*, *Skeletonema marinoi* (highest growth rate at 40 ind L^{-1} -not present at 160 ind L^{-1} pre-grazed treatments) and *Atheya septentrionalis* (highest growth rate at 160 ind L^{-1} pre-grazed treatments) (Figure S7, Table S2). The pre-grazing effect was in contrast negative for the growth rates of *Pseudonitzschia sp.* (highest growth rate at 0 ind L^{-1} pre-grazed treatments). *Chaetoceros* sp. showed a different response to the treatments with the lowest growth rate observed at 40 ind L^{-1} and highest growth rate at 0 ind L^{-1} pre-grazed treatments (Figure S7, Table S2). Nutrients affected significantly both *Chaetoceros* species, *S. marinoi.*, and *A septentrionalis* while for *Pseudonitzschia sp.* and *S. marinoi* (Figure S7, Table S2) the combination of the factors was found significant. *Pseudonitschia sp.* showed an additive negative effect from pre-grazing and nutrient addition while *S. marinoi* pre-grazing effect was positive for the nutrient enriched treatments (N) but negative for the nutrient control treatments (C) (Figure S7, Table S2).