

Table S4. Mixed model, repeated measures ANOVA for each response variable and associated covariate models with direct trophic interactions. When a significant treatment by time interaction was observed, SLICE effects are reported. Significant results in bold ($\alpha = 0.05$).

Model	Transformation	Effect	nDF	dDF	F	p	treatment x time slices				
							Time	nDF	dDF	F	p
N₁	log10	treatment	5	18	19.25	<0.0001	1	5	18	12.37	<0.0001
		time	3	18	12.54	0.0001	2	5	18	17.3	<0.0001
		treatment x time	15	18	4.34	0.002	3	5	18	24.43	<0.0001
		fish biomass	1	18	52.57	<0.0001	4	5	18	23.49	<0.0001
N₂	log10	treatment	5	18	11.65	<0.0001	1	5	18	1.72	0.1808
		time	3	18	37.44	<0.0001	2	5	18	8.05	0.0004
		treatment x time	15	18	6.4	0.0002	3	5	18	12.59	<0.0001
		phytoplankton	1	18	6.77	0.018	4	5	18	8.32	0.0003
N₃	log10	treatment	5	18	18.5	<0.0001	1	5	18	3.07	0.0356
		time	3	18	58.61	<0.0001	2	5	18	14.57	<0.0001
		treatment x time	15	18	7.39	<0.0001	3	5	18	15.93	<0.0001
							4	5	18	11.88	<0.0001
P₁	log10	treatment	5	18	25.02	<0.0001	1	5	18	14.21	<0.0001
		time	3	18	33.86	<0.0001	2	5	18	31.74	<0.0001
		treatment x time	15	18	10.76	<0.0001	3	5	18	16.94	<0.0001
		phytoplankton	1	18	7.05	0.0161	4	5	18	11.58	<0.0001
		zooplankton	1	18	8.46	0.0094					
P₂	log10	treatment	5	18	23.34	<0.0001	1	5	18	14.7	<0.0001
		time	3	18	31.19	<0.0001	2	5	18	30.66	<0.0001
		treatment x time	15	18	9.97	<0.0001	3	5	18	15.95	<0.0001
		phytoplankton	1	18	9.98	0.0054	4	5	18	11.31	<0.0001
P₃	log10	treatment	5	18	33.78	<0.0001	1	5	18	24.72	<0.0001
		time	3	18	38.09	<0.0001	2	5	18	47.77	<0.0001
		treatment x time	15	18	12.17	<0.0001	3	5	18	19.07	<0.0001
		zooplankton	1	18	11.45	0.0033	4	5	18	13.91	<0.0001
P₄	log10	treatment	5	18	12.62	<0.0001	1	5	18	5.41	0.0033
		time	3	18	24.36	<0.0001	2	5	18	7.82	0.0005
		treatment x time	15	18	7.36	<0.0001	3	5	18	17.26	<0.0001
		fish biomass	1	18	15.22	0.001	4	5	18	13.2	<0.0001
phyto₁	log10	treatment	5	18	16.92	<0.0001					
		time	3	18	11.4	0.0002					

		treatment x time	15	18	2.06	0.0734					
phyto ₂	log10	treatment	5	18	4.13	0.0112					
		time	3	18	1.82	0.1804					
		treatment x time	15	18	1.7	0.1408					
		fish biomass	1	18	5.9	0.0259					
zoo ₁	log10	treatment	5	18	12.17	<0.0001					
		time	3	18	13.91	<0.0001					
		treatment x time	15	18	0.089	0.5838					
		fish biomass	1	18	40.91	<0.0001					
BOM ₁	none	treatment	5	18	1.56	0.2224					
		time	3	18	11.72	0.0002					
		treatment x time	15	18	0.87	0.6006					
BOM ₂	none	treatment	5	18	1.82	0.1591					
		time	3	18	11.97	0.0002					
		treatment x time	15	18	0.87	0.6011					
		fish biomass	1	18	3.55	0.0756					
GPP ₁	log10	treatment	5	18	30.22	<0.0001	1	5	18	5.62	0.0027
		time	3	18	37.69	<0.0001	2	5	18	16.04	<0.0001
		treatment x time	15	18	16.39	<0.0001	3	5	18	23.85	<0.0001
		fish biomass	1	18	29.34	<0.0001	4	5	18	52.3	<0.0001
GPP ₂	log10	treatment	5	18	46.96	<0.0001	1	5	18	3.28	0.0281
		time	3	18	136.67	<0.0001	2	5	18	45.17	<0.0001
		treatment x time	15	18	31.61	<0.0001	3	5	18	23.97	<0.0001
							4	5	18	44.08	<0.0001
NPP ₁	none	treatment	5	18	23.26	<0.0001	1	5	18	2.96	0.0401
		time	3	18	33.08	<0.0001	2	5	18	10.02	0.0001
		treatment x time	15	18	18.9	<0.0001	3	5	18	11.01	<0.0001
							4	5	18	19.07	<0.0001
NPP ₂	none	treatment	5	18	6.42	0.0014	1	5	18	1.03	0.4313
		time	3	18	11.9	0.0002	2	5	18	3.59	0.02
		treatment x time	15	18	8.81	<0.0001	3	5	18	5	0.0048
		fish biomass	1	18	5.6	0.0293	4	5	18	14.69	<0.0001