

## Supplement

Table S1. Node information of the Norwegian sea food web

Node ID	Species	Trophic level (TL)	Node ID	Species	Trophic level (TL)
1	Minke whales	4.341	18	Capelin (2+)	3.692
2	Other Baleen whales	4.242	19	Capelin (1)	3.269
3	Toothed whales	4.688	20	Large pelagic fish	4.040
4	Seals	4.528	21	Small pelagic fish	3.535
5	Seabirds	4.255	22	Mesopel fish	3.766
6	Cod (4+)	4.510	23	Squid	3.844
7	Cod (1-3)	4.389	24	Benthos	2.436
8	Haddock (4+)	3.741	25	Prawns and shrimps	2.783
9	Haddock (1-3)	3.855	26	Carnivorous Zooplankton	3.005
10	Saithe	4.455	27	Herbivorous Zooplankton	2.222
11	Other benthic fish	3.835	28	Planktonic Micro-organisms	2.111
12	Redfish	3.964	29	Benthic Micro-organisms	2.111
13	Blue whiting	3.601	30	Seaweeds	1
14	Mackerel	4.054	31	Phytoplankton	1
15	Herring (4+)	3.430	32	Dead carcasses	1
16	Herring (1-3)	3.191	33	Detritus-DOM	1
17	Polar cod	3.923	34	Detritus-POM	1

Table S2. Link information of the Norwegian sea food web

From	To	Link weight	From	To	Link weight	From	To	Link weight	From	To	Link weight
7	1	0.2	9	5	0.1	14	10	0.11	16	20	0.2
9	1	0.2	10	5	0.65	15	10	0.3	18	20	0.15
10	1	0.29	11	5	0.1	17	10	0.5	19	20	0.5
15	1	0.2	15	5	0.83	18	10	0.5	20	20	0.4
16	1	0.221	16	5	0.2	19	10	0.5	21	20	0.4
18	1	0.13	20	5	0.114	22	10	0.98	22	20	0.4
19	1	0.7	21	5	0.25	23	10	0.2	23	20	0.1
20	1	0.1	22	5	0.65	24	10	0.47	25	20	0.4
21	1	0.28	32	5	0.2	25	10	0.2	26	20	0.44
26	1	0.281	7	6	0.1	26	10	0.19	27	20	0.22
6	2	0.15	9	6	0.13	8	11	0.6	26	21	0.4
9	2	0.1	10	6	0.3	17	11	0.67	27	21	0.6
11	2	0.62	11	6	0.77	18	11	0.4	22	22	0.48
13	2	0.1	12	6	0.44	19	11	0.27	26	22	0.6
15	2	0.14	15	6	0.125	22	11	0.33	27	22	0.352
16	2	0.8	17	6	0.6	23	11	0.67	22	23	0.2
18	2	0.25	18	6	0.3	24	11	0.362	26	23	0.4
19	2	0.11	19	6	0.2	26	11	0.264	27	23	0.4
20	2	0.2	24	6	0.3	27	11	0.1	24	24	0.1
21	2	0.41	25	6	0.5	32	11	0.34	26	24	0.1
23	2	0.5	26	6	0.5	12	12	0.2	27	24	0.9
26	2	0.5	27	6	0.11	19	12	0.1	28	24	0.5
6	3	0.52	7	7	0.9	25	12	0.1	29	24	0.5
8	3	0.1	10	7	0.5	26	12	0.698	31	24	0.8
9	3	0.9	11	7	0.57	27	12	0.82	32	24	0.2
10	3	0.6	12	7	0.61	21	13	0.5	33	24	0.2
11	3	0.132	15	7	0.1	26	13	0.4	34	24	0.4
13	3	0.1	17	7	0.5	27	13	0.55	24	25	0.3
15	3	0.431	18	7	0.15	7	14	0.5	26	25	0.2
18	3	0.5	19	7	0.5	9	14	0.25	27	25	0.2
19	3	0.2	22	7	0.36	10	14	0.4	28	25	0.35

20	3	0.4	23	7	0.127	14	14	0.1	29	25	0.5
21	3	0.46	24	7	0.56	19	14	0.15	31	25	0.85
23	3	0.5	25	7	0.192	21	14	0.5	32	25	0.5
6	4	0.23	26	7	0.1	26	14	0.45	33	25	0.15
7	4	0.3	27	7	0.7	27	14	0.225	34	25	0.2
9	4	0.15	11	8	0.8	26	15	0.35	24	26	0.1
10	4	0.12	12	8	0.4	27	15	0.55	26	26	0.1
11	4	0.5	18	8	0.57	28	15	0.5	27	26	0.45
14	4	0.6	24	8	0.56	31	15	0.5	28	26	0.1
15	4	0.25	25	8	0.6	26	16	0.13	31	26	0.1
16	4	0.11	26	8	0.267	27	16	0.67	33	26	0.15
17	4	0.5	30	8	0.8	28	16	0.1	28	27	0.2
18	4	0.3	9	9	0.3	31	16	0.1	31	27	0.75
19	4	0.6	11	9	0.3	25	17	0.8	33	27	0.5
21	4	0.7	12	9	0.52	26	17	0.889	28	28	0.1
22	4	0.65	18	9	0.28	27	17	0.13	33	28	0.8
26	4	0.22	24	9	0.35	26	18	0.6	34	28	0.1
6	5	0.32	25	9	0.52	27	18	0.4	28	29	0.5
7	5	0.51	26	9	0.55	26	19	0.6	29	29	0.5
8	5	0.1	30	9	0.7	27	19	0.94	33	29	0.2
7	1	0.2	7	10	0.2	13	20	0.4			

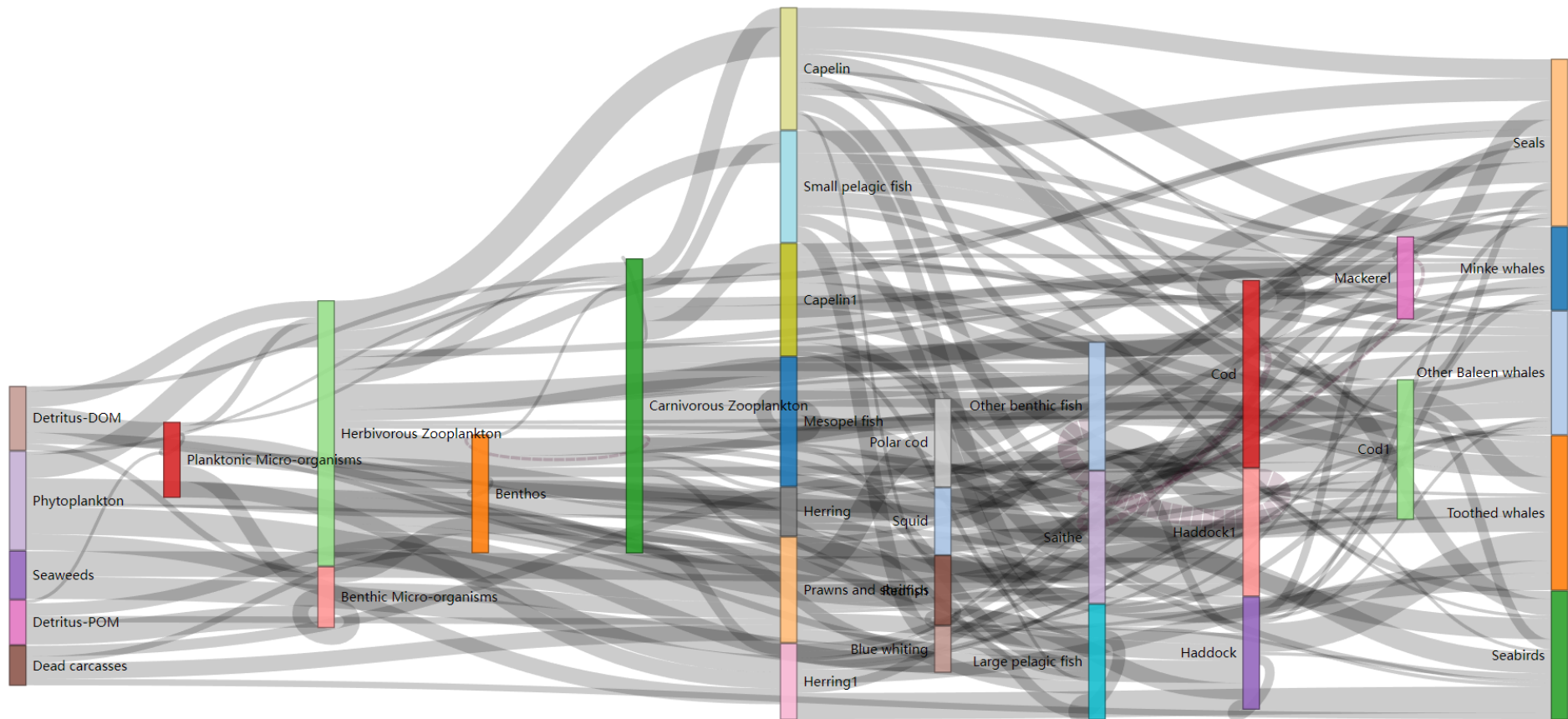


Figure S1. Norwegian sea food web

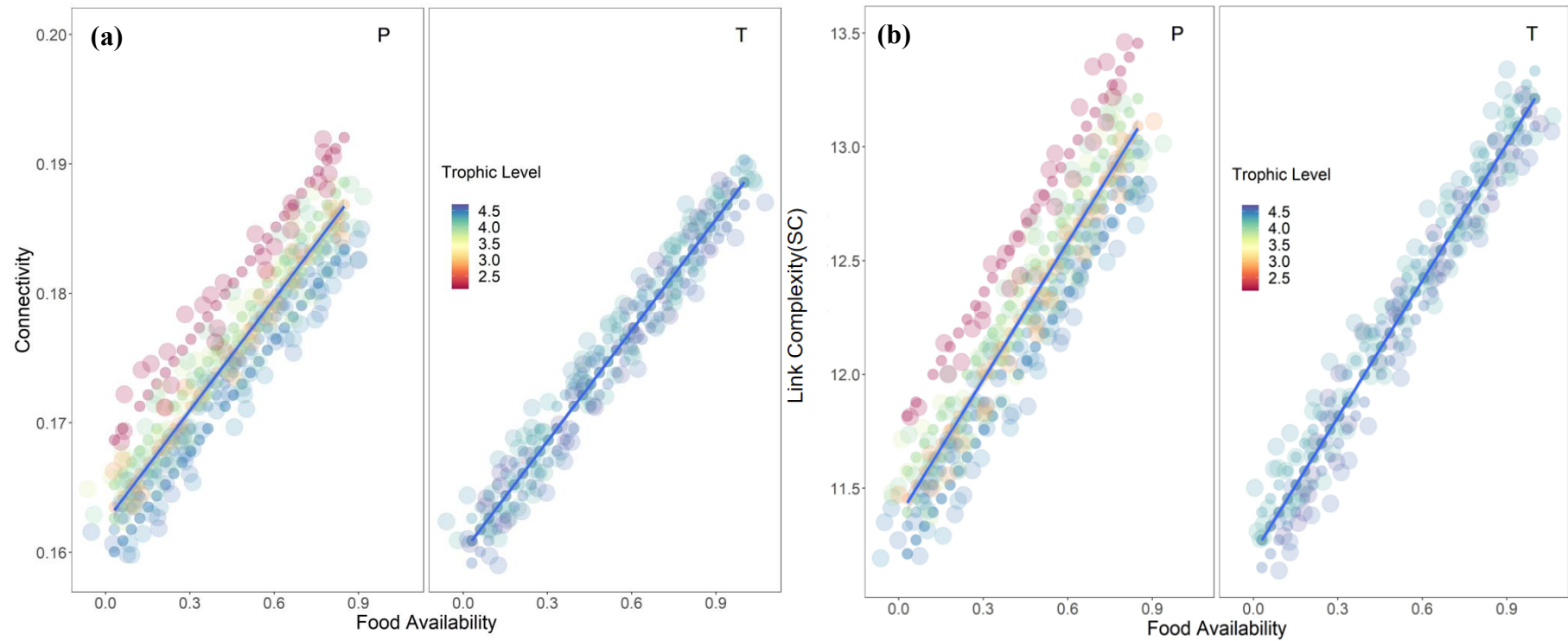


Figure S2. Variation of different network topology indices with food availability. The figure facets represent different types of predators, and the scatter colors represent the trophic levels. (a) Connectivity ( $C$ ); (b) Link Complexity ( $SC$ ).  $P$ : predator nodes apart from the top predators;  $T$ : top predator nodes.