

Supplement 3. Supplementary Ecosim Methods and Results.

Table S6. Pedigree index values assigned to the 1994 Ecopath model. Rankings range from 1-6, least to most certain. The uncertainty ranking was assigned based on authors' decisions regarding how appropriate the data were for our model. Factors that influenced this included study location, date, sample size, species, and methodology. See Supplement 2 for the specific data sources used for each value.

Functional Group	Biomass	P/B	Q/B	Diet	Catch
Phytoplankton	5	5			
Benthic Algae	3	4			
Zooplankton	4	5	3	4	
Gelatinous Zooplankton	2	2	3	3	
Deposit Feeding Benthos	2	3	3	3	
Suspension Feeding Benthos	3	4	4	4	4
Cultured Shellfish	4	5	4	4	4
Carnivorous Benthos	4	4	4	5	4
Small Squid	4	3	4	4	
Large Squid	4	4	3	4	4
Planktivorous Fish	4	4	5	5	4
Benthivorous Fish	5	4	5	6	4
Piscivorous Fish	5	4	5	6	4
Seabirds	5	3	3	5	
Detritus	4				

Table S7. Final vulnerability values used in Ecosim projection of the 1994 model. These were assigned using the “Fit to Time Series” tool, and manual adjustments were made to achieve the lowest possible sum of squares. Columns are predators and rows are prey.

	3	4	5	6	7	8	9	10	11	12	13	14
1. Phytoplankton	1.05	3.5425	1.01	1.01	2.1675							
2. Benthic Algae			1.01			1000				12617	1.697	
3. Zooplankton		1000	1.0022	1000	5	9.86	1.01	1000	1.01	8.1387		2
4. Gel. Zoo.									1000	384.2	25.119	
5. DFB		10000000	100000			100000	435339	100	1.0473	1.4582	10000	21.679
6. SFB		1.003	4.1308			100000	1.0005	2.1395	10	1.0001	1.8735	2.1423
7. Cult. Shellfish												
8. Carn. Benthos		101.98	1.01			1.01			11	798	1000	4.889
9. Sm. Squid						1.01		1.01		500	1.01	
10. Lg. Squid						1.01	10.138	292.37		225.77	1	
11. Plank. Fish		1000					100000	1000	400	500	1.5325	1.0001
12. Benth. Fish						1000		1000		1.0033	1.001	1
13. Pisc. Fish								100		4.8977	1	3.7694
14. Seabirds												5.3616
15. Detritus			1.01			1.01					1000	

Table S8. The “Group Info” Parameters for the 1994 Ecosim model. Values changed from the default are as follows: Feeding time adjustment rate was changed from the default of 0.5 to 0.0, switching power parameter was changed from the default of 0.0 to 1.0. These changes were made to lower sum of squares values and improve model fit.

	Max. rel. P/B	Max. rel. feeding time	Feeding time adjustment rate [0,1]	Fraction of other mortality sens. to changes in feeding time	Predator effect on feeding time [0,1]	Density-dep. Catchability: Q_{max}/Q_0 [≥ 1]	QBmax/QBo (for handling time) [>1]	Switching power parameter [0,2]
Phytoplankton	2							
Benthic Algae	2							
Zooplankton		2	0	1	0	1	1000	1
Gel. Zoo.		2	0	1	0	1	1000	1
DFB		2	0	1	0	1	1000	1
SFB		2	0	1	0	1	1000	1
Cult. Shellfish		2	0	1	0	1	1000	1
Carn. Benthos		2	0	1	0	1	1000	1
Sm. Squid		2	0	1	0	1	1000	1
Lg. Squid		2	0	1	0	1	1000	1
Plank. Fish		2	0	1	0	1	1000	1
Benth. Fish		2	0	1	0	1	1000	1
Pisc. Fish		2	0	1	0	1	1000	1
Seabirds		2	0	1	0	1	1000	1

Figure S5. Trends in species-specific biomass within the carnivorous benthos, planktivorous fish, piscivorous fish, and benthivorous fish functional groups.

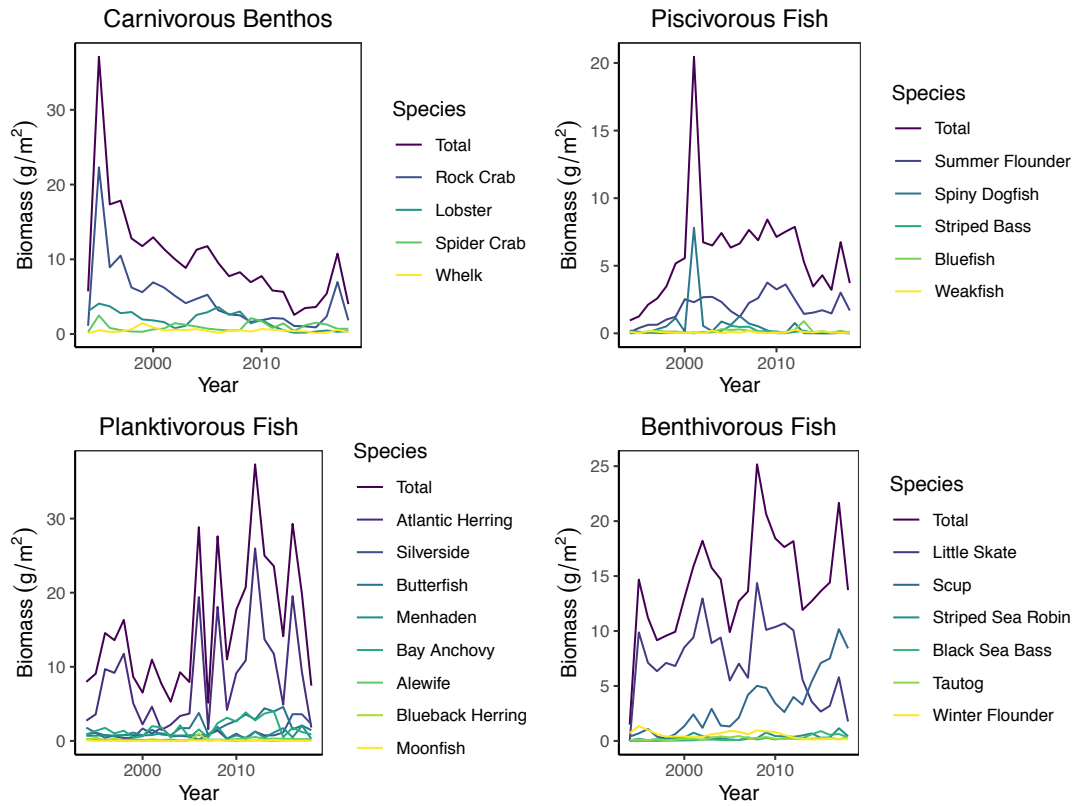


Figure S6. Recreational landings of the piscivorous fish species and the benthivorous fish species.

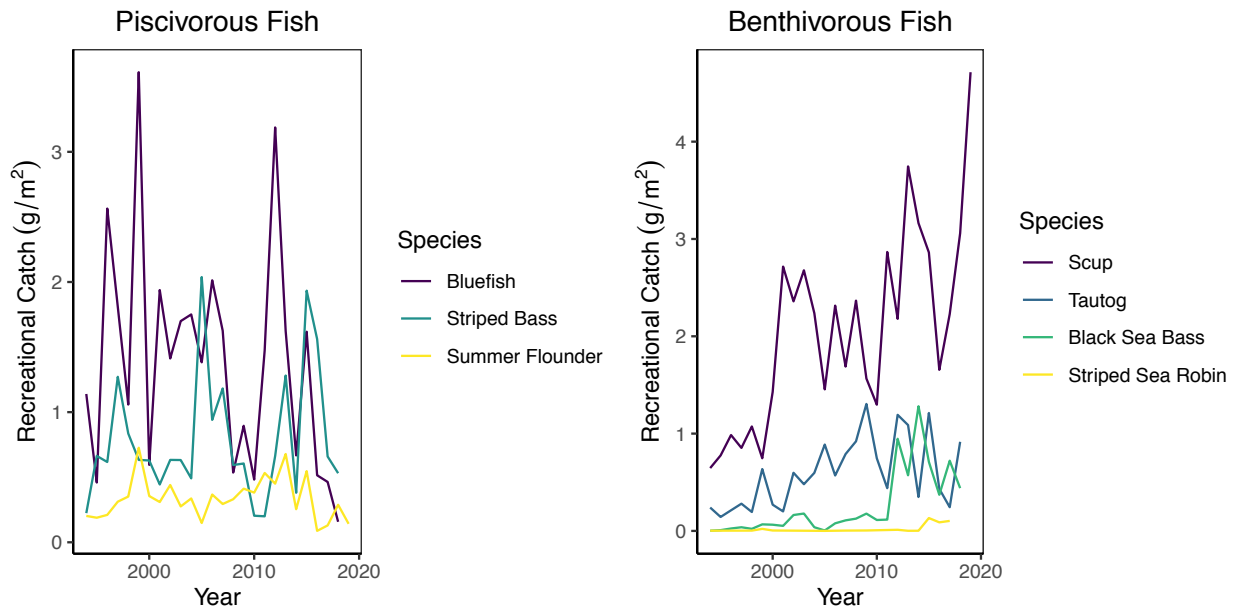


Figure S7. Commercial landings of the planktivorous fish species.

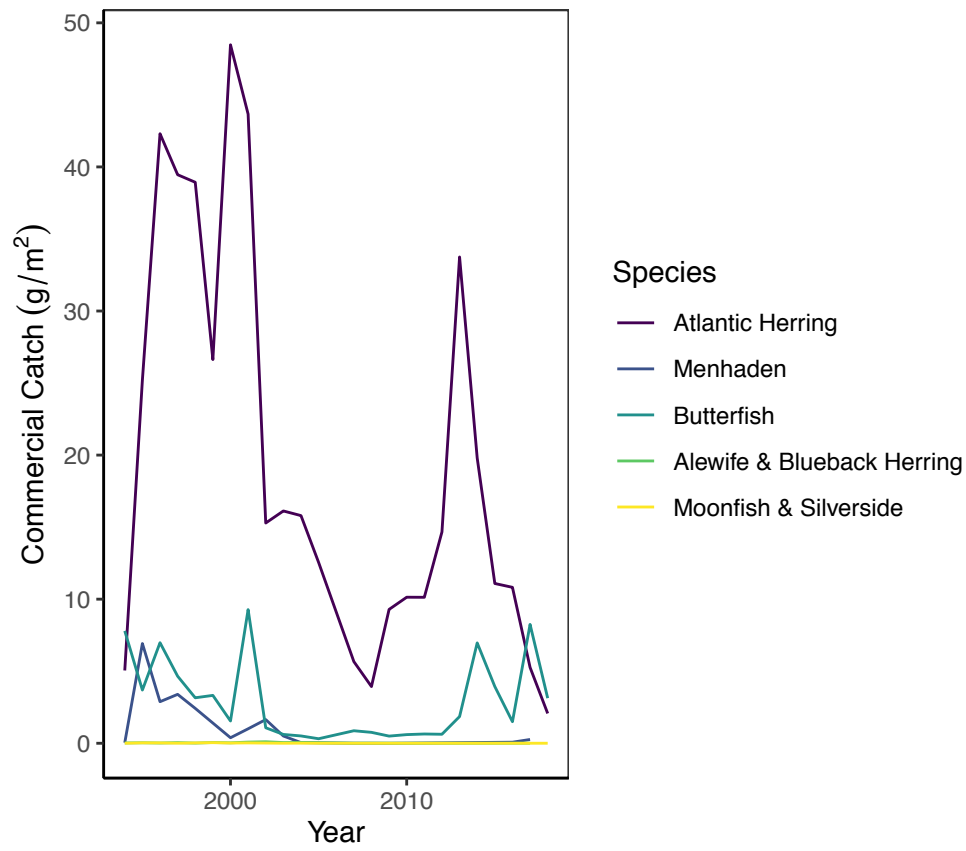


Figure S8. Ecosim projections of the functional groups that do not have biomass time series data.

