

Supplementary Table S1. Basic estimates from the model for each functional group, with the basic input data in bold, and the values of trophic level, biomass, production/biomass (P/B), consumption/biomass (C/B), ecotrophic efficiency (EE), and production/consumption (P/C) estimated by the model.

Group number	Group name	Trophic level	Biomass (tonnes)	P/B (/year)	C/B (/year)	EE	P/C
1	Grey seals	4.477	3984.000	0.114	11.388	0.000	0.010
2	Harbour seals	4.602	1228.948	0.101	10.124	0.000	0.010
3	Cetaceans	4.237	2513.500	0.020	14.000	0.000	0.001
4	Seabirds	4.145	2750.000	0.400	83.051	0.000	0.005
5	Cod	4.019	32626.957	1.143	3.500	0.594	0.326
6	Juvenile cod	3.178	29015.140	2.207	9.048	0.844	0.244
7	Haddock	3.614	61932.497	1.096	4.960	0.402	0.221
8	Juvenile haddock	2.939	45759.131	1.743	11.037	0.888	0.158
9	Whiting	4.157	42860.268	1.131	4.500	0.565	0.251
10	Juvenile whiting	3.045	43530.465	1.710	9.016	0.916	0.190
11	Saithe	3.970	55589.886	0.937	4.686	0.611	0.200
12	Gurnards	3.604	13310.407	0.824	4.122	0.950	0.200
13	Monkfish	4.323	10329.778	0.480	1.714	0.950	0.280
14	Flatfish	3.413	72328.542	1.130	3.768	0.950	0.300
15	Rays	3.858	13046.077	0.449	2.243	0.950	0.200
16	Sharks	4.066	26587.902	0.682	3.410	0.950	0.200
17	Hake	4.274	113774.210	0.488	2.442	0.950	0.200
18	Other small fish	3.245	64284.946	1.581	5.270	0.950	0.300
19	Mackerel	3.340	475099.680	0.626	4.400	0.648	0.142
20	Horse Mackerel	3.187	364149.500	0.740	3.700	0.717	0.200
21	Blue Whiting	3.635	217624.990	1.500	6.000	0.606	0.250
22	Other pelagics	3.516	232679.150	1.800	6.000	0.950	0.300
23	Herring	3.156	653771.030	1.500	10.100	0.693	0.149
24	Norway pout	3.276	141761.400	1.680	5.600	0.950	0.300
25	Poor cod	3.530	7772.140	1.170	3.900	0.950	0.300
26	Sandeel	3.184	134440.460	1.826	6.085	0.950	0.300
27	Sprat	3.159	193320.050	1.584	5.280	0.950	0.300
28	Nephrops	3.415	52101.016	0.730	4.876	0.950	0.150
29	Lobster	3.395	3149.770	0.338	3.650	0.950	0.093

30	Edible crab	3.324	145175.910	0.354	2.360	0.950	0.150
31	Velvet crab	2.622	42897.283	0.646	12.775	0.950	0.051
32	Crustaceans	2.691	1226621.000	0.871	5.807	0.950	0.150
33	Cephalopod	3.241	107499.590	1.981	15.000	0.950	0.132
34	Large zooplankton	2.158	1599881.800	10.000	35.000	0.950	0.286
35	Small zooplankton	2.031	801958.190	18.000	72.000	0.950	0.250
36	Infauna	2.037	271270.780	20.000	80.000	0.950	0.250
37	Scallops	2.000	820912.180	0.445	14.334	0.950	0.031
38	Epifauna	2.391	245096.830	20.000	80.000	0.950	0.250
39	Algae	1.000	466266.350	5.000	0.000	0.950	
40	Phytoplankton	1.000	1669461.200	70.000	0.000	0.950	
41	Detritus	1.000	11000000.000			0.820	

Supplementary Table S2. Ecopath input of landings data (in tonnes) for each functional group and fishing fleet.

Group number	Group name	Demersal trawl	Nephrops trawl	Other trawl	Potting & diving	Pelagic trawl	Total
1	Grey seals	0	0	0	0	0	0
2	Harbour seals	0	0	0	0	0	0
3	Cetaceans	0	0	0	0	0	0
4	Seabirds	0	0	0	0	0	0
5	Cod	16063.245	1683.6105	9.592	0	0	17756.453
6	Juvenile cod	693.3949	156.90246	0.6424	0	0	850.93965
7	Haddock	15938.043	458.95113	1.155	0	0	16398.14
8	Juvenile haddock	75.73764	1.0351	0.03894	0	0	76.81168
9	Whiting	10771.5344	1342.0957	0.02838	0	0	12113.662
10	Juvenile whiting	524.61145	241.10064	0.002871	0	0	765.71495
11	Saithe	22392.15	2593.8132	13.03412	0	0	24998.996
12	Gurnards	254.71776	13.28228	0	0	0	268.00004
13	Monkfish	3171.1724	870.07756	1.749	0	0	4042.9983
14	Flatfish	5070.0936	1397.5489	10.357919	0	0	6478.0001
15	Rays	3052.2481	603.74831	24.00332	0	0	3679.9994
16	Sharks	10564.2867	2461.0036	87.25673	0	326.45536	13438.997
17	Hake	19057.016	4617.2599	19.71959	0	0	23694
18	Other small fish	222.2022	23.32385	2.728	9.509456	172.23866	430.00221
19	Mackerel	22.3817	727.41504	0	0	111160.17	111909.93
20	Horse Mackerel	82.31773	399.26392	56.48104	0	32486.938	33025.003

21	Blue Whiting	240.163	1164.689 9	164.732 7	0	94765.4 18	96334.9 97
22	Other pelagics	0	0	0	0	0	0
23	Herring	22.62029	67.90102	6.611	0	39271.4 63	39368.5 93
24	Norway pout	0	0	1149.99 94	0	0	1149.99 94
25	Poor cod	0	0	0	0	0	0
26	Sandeel	0	0.1144	18585.8 86	0	0	18585.9 96
27	Sprat	0	0	0	0	3553.99 99	3553.99 99
28	Nephrops	818.301	10324.66 49	2.783	1342.24 75	0	12487.9 92
29	Lobster	0.6721	0	4.576	612.073 11	0	617.321 21
30	Edible crab	5.247	0	35.6701 4	4773.89 66	0	4814.81 33
31	Velvet crab	2.134	0	213.930 31	213.930 31	0	429.994 62
32	Crustaceans	0	0	0	0	0	0
33	Cephalopod	29.67437	3.3	0.02332	0	0	32.9976 9
34	Large zooplankton	0	0	0	0	0	0
35	Small zooplankton	0	0	0	0	0	0
36	Infauna	0	0	0	0	0	0
37	Scallops	2.211	2.343	4142.68 69	2419.20 36	0	6566.44 45
38	Epifauna	0	0	0	0	0	0
39	Algae	0	0	0	0	0	0
40	Phytoplankton	0	0	0	0	0	0
41	Detritus	0	0	0	0	0	0

Supplementary Table S3. Ecopath input of discards data (in tonnes) for each functional group and fishing fleet. Only groups for which data was available are shown.

Group number	Group name	Demersal trawl	Nephrops trawl	Other trawl	Potting & diving	Pelagic trawl	Total
5	Cod	35.68268	3.74	0.02134	0	0	39.44402
6	Juvenile cod	752.49229	170.2734	0.6985	0	0	923.46419
7	Haddock	3498.143	100.73228	0.2541	0	0	3599.1296
8	Juvenile haddock	1179.2088	1015.32728	0.06281	0	0	2194.599
9	Whiting	2739.9284	303.56216	0.006589	0	0	3043.4976
10	Juvenile whiting	1230.9891	565.73352	0.007337	0	0	1796.7301
13	Monkfish	194.7	53.43261	0.1078	0	0	248.24041
14	Flatfish	1429.34	393.9925	2.926	0	0	1826.2585
15	Rays	677.93	134.30351	5.335	0	0	817.56851
17	Hake	5003.79	1212.3496	5.181	0	0	6221.3206
18	Other small fish	35.86	3.773	0.44	1.54	27.8289	69.4419

Supplementary Table S4. Updated diet matrix.

Group name	Group number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Grey seals	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Harbour seals	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cetaceans	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seabirds	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cod	5	0.0552 7474	0.0380 6524	0.0018 51	0	0.0099 99995	0	0	0	0	0	0	0	0.0089 99999	0	0	0	0	0	0
Juvenile cod	6	0.0452 2479	0	0	0.0272 3906	0.0770 9995	0.0090 09007	0	0	0.0082 9556	0.0045 15125	0.0520 0001	0.0117 1575	0.1564 043	0.0018 03598	0	0.0214 9208	0	0	0.0048 08202
Haddock	7	0.0297 5026	0.1147 182	0.0001 00054	0	0.0208 4011	0	0	0	0	0.002	0	0.0590 0282	0	0	0.0060 00005	0	0	0	0
Juvenile haddock	8	0	0	0	0.0059 1951	0.0149 9999	0.024	0.0001 8496	0.004 3246 5	0.0059 89189	0.0021 57227	0.037	0.0015 40644	0.0590 0282	0.0008 61719	0.0089 99997	0.0009 80029	0.0005 67723	0	0.007
Whiting	9	0.0271 4539	0.2293 09	0.0009 8053	0	0.045	0	0	0	0.002	0	0.003	0	0.0516 977	0	0	0.01	0	0	0
Juvenile whiting	10	0	0	0	0.0030 38203	0.0469 9997	0.023	0	0	0.0335 0269	0.007	0.03	0.002	0.0516 9769	0.0013 82759	0.0329 9999	0.0203 5962	0.0300 0043	0	0.0069 29114
Saithe	11	0.0595 0052	0	0.0009 8053	0.0067 21195	0	0	0	0	0.0068 00311	0	0	0	0.0325 578	0.0010 01999	0	0.0005 08736	0.0013 4029	0	0
Gurnards	12	0	0	0	0	0.0017 01897	0	0.0032 41058	0	0	0	0	0	0.0024 27752	0.0040 07997	0.0049 99998	0.02	0	0	0
Monkfish	13	0	0	0	0	0.001	0	0	0	0	0	0	0	0.0104 0614	0	0.001	0.0010 00001	0	0	0
Flatfish	14	0.0961 0566	0.0052 67022	0	0	0.0389 1338	0	0	0	0.0010 24143	0	0.0291 039	0.0009 85552	0.0634 785	0.0040 07997	0.0409 9998	0.01	0.0371 0804	0	0
Rays	15	0	0	0	0	0.001	0	0	0	0	0	0	0	0.0006 93569	0	0.001	0.0100 0001	0	0	0
Sharks	16	0	0	0.0001 00054	0	0	0	0	0	0	0	0	0	0	0	0	0.0417 1637	0	0	0
Hake	17	0.1180 021	0.0965 1046	0.0215 1662	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0560 1214	0	0

Other small fish	18	0.0096 60706	0	0.0073 8899	0.0303 6685	0.0004 00446	0	0.0389 4271	0	0	0	0	0.0301 8254	0.0981 6425	0.0100 1999	0	0.0241 2427	0.0700 211	0.0499 9733	0.0056 23629
Mackerel	19	0	0.0177 92	0.0009 8053	0.0303 6685	0.0059 76664	0	0	0	0.1260 208	0	0	0	0.0104 0614	0.0050 09996	0	0.0169 2057	0.1640 355	0	0
Horse Mackerel	20	0	0.3458 896	0	0.0134 6263	0	0	0	0	0.0136 2111	0	0.0262 1506	0	0	0	0	0.0101 7473	0.1000 216	0	0.0200 8439
Blue Whiting	21	0.0096 60706	0	0	0.0322 9008	0.019	0	0	0	0	0	0.0369 9996	0	0	0	0	0	0.1713 771	0	0
Other pelagics	22	0	0	0.6377 382	0.1253 604	0.1073 497	0	0.0184 7603	0	0.1228 972	0	0.0120 4299	0.0151 9394	0.0228 9351	0.0380 7597	0.0099 99995	0	0.0814 1764	0	0.0100 422
Herring	23	0.0539 5784	0.0771 2343	0.0009 70524	0.3558 367	0.0920 8867	0	0.0005 90193	0	0.3462 087	0	0.1472 734	0.0312 0916	0.1082 239	0	0.1299 999	0.3013 078	0.0800 5734	0	0.1004 22
Norway pout	24	0.0381 3281	0.0542 5234	0	0.0202 4456	0.0148 3654	0	0.0093 03036	0	0.0204 8287	0	0.2007 166	0.0041 16735	0.1127 52	0.0150 2998	0.0099 99995	0.0022 79138	0.0100 0014	0	0.0100 422
Poor cod	25	0.0096 60706	0	0.0500 2702	0.0010 12228	0.0001 00112	0	0.0010 00326	0	0.0010 24143	0	0	0.0010 26617	0.0010 40614	0	0	0.0010 17473	0.0010 00216	0	0.0010 0422
Sandeel	26	0.4382 63	0.0115 7269	0.0773	0.0861 3053	0.0435 4856	0.0400 4003	0.0300 0979	0	0.0512 0716	0.0200 6722	0.0301 0748	0.0842 5445	0.1044 079	0.0200 3999	0.0499 9998	0.0207 666	0.0010 00216	0	0.0100 422
Sprat	27	0.0096 60706	0	0.0049 22659	0.1354 827	0.0010 01117	0	0.0800 2613	0	0.1331 386	0	0.0903 2245	0.0059 03048	0	0	0.0399 9998	0.0981 0469	0.0100 0014	0	0.0101 2253
Nephrops	28	0	0	0	0	0.0140 4566	0	0	0	0	0	0	0	0	0.0209 4178	0.1299 999	0	0	0	0
Lobster	29	0	0	0	0	0.0007 4027	0	0	0	0.0010 0023	0	0	0	0	0	0.001	0	0	0	0
Edible crab	30	0	0	0	0	0.0061 02228	0	0	0	0.0010 0023	0	0	0.0009 99774	0	0.0009 99935	0.0049 99998	0.0009 99551	0	0	0
Velvet crab	31	0	0	0	0	0.0010 00365	0	0	0	0.0010 0023	0	0	0	0	0.001	0.0009 99551	0	0	0	
Crustaceans	32	0	0	0.0016 50891	0.0354 2799	0.2761 464	0.0500 5004	0.3699 608	0.050 28664	0.0030 80709	0.0501 6805	0.1154 12	0.4312 194	0.0010 40614	0.1059 931	0.2490 005	0.1099 506	0.0380 0824	0.0039 46457	0.0100 422
Cephalopod	33	0	0.0095 00019	0.0039 2	0	0.0182 4034	0	0	0	0.0295 068	0	0.0050 17914	0	0.0447 0198	0.0070 13995	0	0.12	0.0326 0707	0	0
Large zooplankton	34	0	0	0.1194 045	0.0202 4456	0	0.3534 004	0	0.502 8663	0.0204 8287	0.4445 126	0.1827 882	0.2229 505	0	0.1001 999	0	0.0406 9889	0.0036 0078	0.6479 121	0.6983 941
Small zooplankton	35	0	0	0.0696 7763	0	0	0.2502 503	0	0.150 8599	0	0.2006 723	0	0	0	0.1022 04	0	0	0	0.0002 66653	0.1004 22

Supplementary Table S4. (continued)

Group name	Group number	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Grey seals	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Harbour seals	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cetaceans	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seabirds	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cod	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juvenile cod	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haddock	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juvenile haddock	8	0.014	0	0.0025	0	0	0	0	0	0	0	0	0	0	0.004	0	0	0	0	0
Whiting	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Juvenile whiting	10	0.007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saithe	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gurnards	12	0	0	0.00200 0275	0	0	0	0	0	0	0	0	0	0	0.00190 9666	0	0	0	0	0
Monkfish	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Flatfish	14	0	0	0.002	0	0	0.00050 0241	0	0	0	0	0.03 09	0	0	0.01527 733	0	0	0	0	0
Rays	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sharks	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hake	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other small fish	18	0	0	0	0	0.00 178	0.11072 64	0	0	0	0	0	0	0.00099 9771	0.00499 9125	0	0	0	0	0
Mackerel	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Horse Mackerel	20	0	0	0.03000 413	0	0	0	0	0	0	0	0	0	0	0.01910 666	0	0	0	0	0
Blue Whiting	21	0	0. 02	0	0	0	0	0	0	0	0	0	0	0	0.00499 9125	0	0	0	0	0
Other pelagics	22	0	0. 15	0.03407 469	0	0	0	0	0	0	0	0	0	0	0.00190 9666	0	0	0	0	0

Herring	23	0.01649 247	0. 05	0.02993 445	0	0	0	0	0	0	0	0	0	0	0.02720 957	0	0	0	0	0
Norway pout	24	0.01649 247	0. 07	0.00495 0681	0	0	0	0	0	0	0	0	0	0	0.00381 9332	0	0	0	0	0
Poor cod	25	0	0	0	0	0.00 1	0.00100 0482	0	0	0	0	0	0	1.00E- 04	0.00099 9825	0	0	0	0	0
Sandeel	26	0	0. 01	0.02727 375	0.00049 986	0	0.00178 586	0	0	0	0	0	0	0	0.01910 666	0	0	0	0	0
Sprat	27	0	0. 1	0.00650 0895	0.00025 9927	0	0.00137 9665	0	0	0	0	0	0	0	0.00381 9332	0	0	0	0	0
Nephrops	28	0	0	0.00100 0138	0	0	0.03076 883	0	0	0	0	0	0	0.00099 9771	0.00190 9666	0	0	0	0	0
Lobster	29	0	0	0	0	0	0	0	0	0	0.00759 8481	0	0	0	0	0	0	0	0	0
Edible crab	30	0	0	0	0	0	0	0	0	0.10002 8	0.00099 98	0.05	0	0	0	0	0	0	0	0
Velvet crab	31	0	0	0	0	0	0	0	0	0.10002 8	0.00499 9	0	0	0	0	0	0	0	0	0
Crustaceans	32	0.01000 15	0. 01	0.01000 138	0.00999 7202	0.19 322	0.30014 42	0.0	0. 05	0.10002 8	0.31993 6	0.19 58	0.2 53	0.00999 7706	0.00190 9666	0	0	0	0	0
Cephalopod	33	0	0	0.12196 92	0	0	0.00064 5511	0	0	0	0	0	0	0	0	0	0	0	0	0
Large zooplankton	34	0.71153 98	0. 59	0.18922 63	0.98272 48	0.75 2	0.09694 073	0.9	0. 75	0.19905 57	0	0	0	0.08398 072	0.59222 63	0.011 905	0	0	0	0
Small zooplankton	35	0.21511 23	0	0.03407 469	0	0	0.00360 0736	0.0	0. 2	0.16143 52	0.00309 938	0	0	0.10497 59	0.27318 22	0.139 76	0. 03	0	0	0.09805 293
Infauna	36	0.00936 1406	0	0.13632 88	0	0	0.16147 59	0.0	0. 01	0.05076 421	0.05898 821	0	0	0.13296 95	0.01979 654	0	0	0.03 558	0	0.14901 88
Scallops	37	0	0	0	0	0	0.00100 0108	0	0	0	0	0.00 1	0.0 01	0.02000 161	0	0	0	0	0	0.00999 954
Epifauna	38	0	0	0.36816 07	0	0.05 2	0.29003 14	0	0	0.28866 08	0.54719 05	0.57 6	0.1 39	0.22001 77	0.00381 9332	0	0	0	0	0.08999 586
Algae	39	0	0	0	0	0	0	0	0	0	0.05718 856	0.01 03	0.4 56	0	0	0	0	0	0	0.09999 54
Phytoplankton	40	0	0	0	0.00651 8175	0	0	0	0	0	0	0	0	0.09997 705	0	0.710 285	0. 8	0.49 948	0. 5	0.37798 57
Detritus	41	0	0	0	0	0	0	0	0	0	0	0.13 6	0.1 51	0.32598 02	0	0.138 05	0. 17	0.46 494	0. 5	0.17495 17

Supplementary Table S5. Time series of biomass (in tonnes) used to fit Ecosim.

	Greys seals	Harbour seals	Cod	Juvenile cod	Haddock	Juvenile haddock	Whiting	Juvenile whiting	Saithe	Gurnard	Monkfish	Flatfish	Rays	Sharks
1985	1497	1229	32627	29015	61932	45759	42860	43530	55590	13315	11364	72389	12712	26588
1986	1627		24086	81162	37559	105747	38120	40402		7867	5026	51184	14661	18726
1987	1725		28055	121468	31525	68359	41682	48931	103426	8577	4630	27504	11866	17448
1988	1704		37706	37708	38926	21189	40205	11802	314085	5597	8873	76228	4733	
1989	1797		26762	77671	21643	31072	24384	43598	42251	4857	3964	23416	2875	10534
1990	1893		25532	11052	13002	83367	33928	33259	88499	8388	8710	29783	19285	15642
1991	2084		18774	38272	11437	107132	28553	30634	60022	7403	7253	32297	13435	15642
1992	2405		16764	53247	25040	87553	30018	46878	103818	13009	12927	56576	52289	12595
1993	2374		23312	37235	33655	66238	39503	40161	193793	13836	12114	86341	37481	17930
1994	2364		20534	47231	42893	79595	34310	29577	40885	14670	18697	76750	37680	19039
1995	2522		21057	47516	29946	80535	33936	25320	32829	22738	22031	101388	49930	12491
1996	2607		20876	24923	47369	50875	37255	20757	123248	15830	20766	80306	21914	11120
1997	2404	1229	14199	80827	36436	54443	28879	23587	28975	5426	11432	44836	21957	11610
1998	2483		15015	17480	30788	34274	21036	26029	323924	15093	21473	119294	28202	23186
1999	2327		11923	16946	20220	232597	19563	15821	199420	28102	14705	122732	46386	29802
2000	2659		8434	50406	13086	296756	14429	22363	58130	42941	14007	130168	46919	14931
2001	2473		10793	12348	85208	41686	17329	13020	211490	17247	9149	118253	24839	18537
2002	2295		8618	22252	70869	8933	12914	3958	179058	31323	18029	176265	64828	35419
2003	2580		6752	6882	45646	10244	7805	6690	536276	29610	23849	131390	53786	23670
2004	2513		3753	6995	30435	17328	5709	4734	176005	41389	30582	83060	42600	19769
2005	2509		2744	5373	22506	146659	4088	2931	137622	23500	14143	73323	49862	26459
2006	2429	1396	2042	12707	15279	90122	3956	1977	182909	39085	26142	83392	44082	41836
2007	2306		3753	3053	33603	32228	4167	2273	308258	51431	24354	129782	72075	41253
2008	2577		3255	2834	29580	21331	4171	2321	1056329	44393	13042	92030	59741	32538
2009	2481		2584	7294	22563	90199	5368	2241	166581	53763	7575	130113	81122	38181
2010	2600		3315	7141	19458	33534	4450	4126	285374	65763	13369	98972	78386	60248

2011			3513	2240	35731	6385	9136	1146	412361	30313	9252	71477	37982	24256
2012	2916		2686	2578	31824	10797	9248	4541	170685	21089	16827	98437	45637	33116
2013		1431	2133	3507	23557	16747	11367	3215	212326	20732	17560	89444	31032	20823

Supplementary Table S5. (continued)

	Hake	Other small fish	Mackerel	Horse mackerel	Blue whiting	Herring	Norway pout	Poor cod	Sandeel	Sprat	Nephrops	Small zooplankton	Large zooplankton	Phytoplankton
1985	113774	64403	950199	728299	217625	653771	141887	7772	144540	3542		109450	7924	26627
1986	38126	5604	871897	765494	202250	624380	117757	2931	239169	51477		98191	7910	29514
1987	71175	27974	838548	754655	172700	868938	195798	2777	353453	24880		86797	9820	30056
1988	39540	8927	861497	740101	148500	684313	153591	10443	203826	21233 5		73151	4690	29427
1989	25204	2376	804863	704618	149562	619163	79609	1973	144035	21708		78231	7264	32566
1990	34142	5390	792087	613251	150700	533073	207866	4163	175878	17859		81260	8828	27601
1991	48155	19806	786562	580156	196125	426122	155620	10406	158736	32514		96685	7869	27839
1992	135178	118661	689297	471502	228312	360729	303617	31359	455114	21605		83482	4936	28291
1993	154214	40183	630600	447969	220437	366888	404940	23221	459548	75965		95130	6625	27594
1994	133659	11256	549864	406262	209062	342541	500693	14764		21317	19229	96921	8323	29450
1995	137972	35401	541678	350592	208625	284254	481048	9820		12212 2	36438	92833	12704	31467
1996	110763	107292	502538	338766	234063	342059	529059	11094		13661 1	68731	75850	5717	31695
1997	159740	11637	511154	308716	345750	356583	448626	12306		19921 6	54383	74075	8848	32822
1998	300097	22165	498036	236279	439938	310084	1180180	40196		31161	97348	74831	9067	34696
1999	192283	39942	564913	213414	466250	248133	467372	33171		24791 0	84749	91465	12217	31625
2000	1351849	76893	557617	192530	467625	305922	681018	26135		26605 6	139013	88501	11782	36166
2001	1156344	65397	507082	162127	574563	329433	671611	32589		30156 7	134208	94085	7265	35133
2002	908168	480497	530952	190947	638187	376309	757177	30107		49284	146668	105053	12874	36399
2003	1162233	371297	595066	272996	768687	329708	361177	42039		82300	166905	100202	9248	34201
2004	1201156	1136364	598048	314001	679687	271246	302623	50631		54119 1	184633	96299	9869	29466
2005	2294678	152017	559852	324510	552063	244953	91667	50088		51032	170392	89598	9925	32496
2006	2979390	348293	615030	277024	510625	246049	110458	60918		70975	155403	87581	10357	24226

2007	2121404	1343360	663595	239821	380188	206655	394678	126977		66309	99883	82233	7781	30794
2008	1526031	1838984	792880	253448	287938	186012	214457	78268		55701	131099	81795	9085	24490
2009	1686424	224357	863222	269847	227813	187912	594874	97918		58652	134609	77792	7177	35339
2010	1122572	341887	925812	239718	258937	198245	3202524	44934		96712	159044	100283	13250	29756
2011	755562	162556	1042807	214486	324625	175104	853396	21640		68054	149929	90216	9157	35454
2012	842513	409455	1001918	176397	384750	163292	381354	46817		12894	78704	91099	7994	31402
2013	617802	224185	1013000	142914	442625	125111	236396	30428		24905 1	169182	85618	11285	32394

Supplementary Table S6. Time series of catches (in tonnes) used to fit Ecosim.

	Cod	Juvenile cod	Haddock	Juvenile haddock	Whiting	Juvenile whiting	Saith e	Gurnard	Monkfish	Flatfish	Rays	Sharks	Hake	Other small fish	Mackerel	Horse mackerel	Blue whiting	Herring	Norway pout	Sand eel	Sprat	Nephrops
1985	17796	1774	19997	2271	15157	2562	24999	268	4291	8304	4498	13439	29915	499	111910	33025	96335	39369	1150	18586	3554	
1986	11265	821	18526	1620	10095	1032	33208	207	3309	7021	3816	8979	25608	2324	109693	20343	133288	74153	5832	24469	870	
1987	14793	6564	14696	2858	13954	9506	30320	234	4145	8718	4216	9784	24034	996	119309	35197	68431	43142	38267	14479	851	
1988	19897	881	15644	548	17025	2457	30034	252	6164	10048	4685	8109	25035	8019	123954	45842	52921	36433	6742	24465	4378	
1989	15752	3493	10493	998	9890	3509	22331	199	5861	9109	5702	6627	27619	20683	106728	34870	69328	63904	28196	18785	1293	
1990	11881	866	6347	1460	6853	3319	17826	172	5719	8761	4045	5653	21203	6903	114048	20794	65989	88168	3316	16515	1613	
1991	9963	1588	5441	3307	8912	2628	17522	130	5211	8177	3934	6974	15941	4832	123075	34415	36714	68207	4348	8532	1677	
1992	8278	2590	10153	1996	9210	6043	10870	93	5676	7386	3590	6601	13261	5643	138563	40881	57399	60888	5158	4985	1943	
1993	10133	321	13100	3118	9776	1854	14555	113	5797	6814	3235	6799	13338	1212	150198	53782	63709	68297	7338	6236	4602	
1994	8315	1265	14117	1136	8104	1251	12854	78	5564	6578	2842	5807	12347	7821	149200	69546	70997	58291	14148		1530	11346
1995	9000	583	11744	3456	10160	1689	10739	82	6692	7425	3954	5378	17616	5078	137759	83486	75230	57370	24439		4365	12889
1996	9224	271	17565	857	11711	3387	9456	63	6682	6581	4842	4597	14083	8221	102639	81259	84167	59849	6322		2619	11114
1997	6206	1330	13184	2121	8857	2685	8275	64	5539	6017	3800	3400	12782	7493	104379	40145	118653	62662	9562		6909	11257
1998	5887	369	13306	1271	8396	5447	7297	75	4651	5231	3247	2594	15503	6251	121372	35043	172255	72228	7186		3601	11194
1999	4111	159	9869	1238	7795	794	3110	38	4364	4414	2552	2351	15168	8665	116635	40381	129700	55890	4625		11004	11727
2000	2460	1334	7023	4395	4279	12018	6612	36	3327	3708	2581	6096	18046	11989	134540	20657	112315	38163	2005		7685	11257
2001	2343	106	14663	954	6089	612	8576	70	2694	4045	2186	5961	11537	14531	134332	24636	134548	39433	3214		1396	11614

2002	2225	502	13535	428	3798	820	5594	81	2333	3331	2173	3842	10304	11872	140517	14190	76599	50810	4819		3990	11021
2003	1211	60	6584	113	1745	329	15454	56	2564	7815	2490	3498	17853	8714	123735	23254	66367	44790	6445		4540	12221
2004	524	87	6191	335	1698	1272	5667	46	2542	5484	2169	3169	14105	5450	120311	21929	117609	39279	2337		1513	12003
2005	497	55	5472	299	707	263	16957	41	3127	1816	1637	1901	18238	5889	100096	22054	137170	30390			1399	11754
2006	640	325	4626	1400	858	468	18820	48	2893	1233	764	1096	14875	1070	87649	15722	177182	46532	32		601	15163
2007	2360	115	5767	302	646	99	10394	36	3460	3084	751	751	15726	4689	111242	26279	146652	47420			361	19681
2008	1364	15	4057	239	697	62	13953	52	3481	567	646	297	15855	3026	110360	25902	142763	29430			892	17213
2009	1191	160	4096	219	536	373	8651	195	3029	714	264	454	20175	115	145700	17775	97364	29886			244	14376
2010	1251	89	3322	765	576	623	9841	217	3187	893	410	124	20526	2982	115820	22641	88542	30020			1406	12833
2011	2060	67	4388	81	488	81	13987	165	2724	746	444	115	27395	1704	243109	39298	13660	24693			1732	13564
2012	1572	58	3835	53	590	449	18332	248	2835	2199	441	298	24549	2379	124511	44975	49555	25042			3491	15560
2013	1281	225	4029	181	630	543	15675	206	2528	1517	471	844	25900	2080	127235	43264	48874	26852			2423	13284

Supplementary Table S7. Time series of fishing mortalities used to fit Ecosim.

	Cod	Juvenile cod	Haddock	Juvenile haddock	Whiting	Juvenile whiting	Saith e	Gurnard	Monkfish	Flatfish	Rays	Sharks	Hake	Other small fish	Mackerel	Horse mackerel	Blue whiting	Herring	Norway pout	Sand eel	Sprat	Nephrops
1985	0.55	0.06	0.32	0.05	0.35	0.06	0.45	0.02	0.38	0.11	0.35	0.51	0.26	0.01	0.12	0.05	0.44	0.06	0.01	0.13	1.00	0.00
1986	0.47	0.01	0.49	0.02	0.26	0.03	0.00	0.03	0.66	0.14	0.26	0.48	0.67	0.41	0.13	0.03	0.66	0.12	0.05	0.10	0.02	0.00
1987	0.53	0.05	0.47	0.04	0.33	0.19	0.29	0.03	0.90	0.32	0.36	0.56	0.34	0.04	0.14	0.05	0.40	0.05	0.20	0.04	0.03	0.00
1988	0.53	0.02	0.40	0.03	0.42	0.21	0.10	0.05	0.69	0.13	0.99	0.00	0.63	0.90	0.14	0.06	0.36	0.05	0.04	0.12	0.02	0.00
1989	0.59	0.04	0.48	0.03	0.41	0.08	0.53	0.04	1.48	0.39	1.98	0.63	1.10	8.71	0.13	0.05	0.46	0.10	0.35	0.13	0.06	0.00
1990	0.47	0.08	0.49	0.02	0.20	0.10	0.20	0.02	0.66	0.29	0.21	0.36	0.62	1.28	0.14	0.03	0.44	0.17	0.02	0.09	0.09	0.00
1991	0.53	0.04	0.48	0.03	0.31	0.09	0.29	0.02	0.72	0.25	0.29	0.45	0.33	0.24	0.16	0.06	0.19	0.16	0.03	0.05	0.05	0.00
1992	0.49	0.05	0.41	0.02	0.31	0.13	0.10	0.01	0.44	0.13	0.07	0.52	0.10	0.05	0.20	0.09	0.25	0.17	0.02	0.01	0.09	0.00
1993	0.43	0.01	0.39	0.05	0.25	0.05	0.08	0.01	0.48	0.08	0.09	0.38	0.09	0.03	0.24	0.12	0.29	0.19	0.02	0.01	0.06	0.00
1994	0.40	0.03	0.33	0.01	0.24	0.04	0.31	0.01	0.30	0.09	0.08	0.31	0.09	0.69	0.27	0.17	0.34	0.17	0.03	0.00	0.07	0.59
1995	0.43	0.01	0.39	0.04	0.30	0.07	0.33	0.00	0.30	0.07	0.08	0.43	0.13	0.14	0.25	0.24	0.36	0.20	0.05	0.00	0.04	0.35
1996	0.44	0.01	0.37	0.02	0.31	0.16	0.08	0.00	0.32	0.08	0.22	0.41	0.13	0.08	0.20	0.24	0.36	0.17	0.01	0.00	0.02	0.16
1997	0.44	0.02	0.36	0.04	0.31	0.11	0.29	0.01	0.48	0.13	0.17	0.29	0.08	0.64	0.20	0.13	0.34	0.18	0.02	0.00	0.03	0.21
1998	0.39	0.02	0.43	0.04	0.40	0.21	0.02	0.00	0.22	0.04	0.12	0.11	0.05	0.28	0.24	0.15	0.39	0.23	0.01	0.00	0.12	0.11
1999	0.34	0.01	0.49	0.01	0.40	0.05	0.02	0.00	0.30	0.04	0.06	0.08	0.08	0.22	0.21	0.19	0.28	0.23	0.01	0.00	0.04	0.14
2000	0.29	0.03	0.54	0.01	0.30	0.54	0.11	0.00	0.24	0.03	0.06	0.41	0.01	0.16	0.24	0.11	0.24	0.12	0.00	0.00	0.03	0.08
2001	0.22	0.01	0.17	0.02	0.35	0.05	0.04	0.00	0.29	0.03	0.09	0.32	0.01	0.22	0.26	0.15	0.23	0.12	0.00	0.00	0.00	0.09

2002	0.26	0.02	0.19	0.05	0.29	0.21	0.03	0.00	0.13	0.02	0.03	0.11	0.01	0.02	0.26	0.07	0.12	0.14	0.01	0.00	0.08	0.08
2003	0.18	0.01	0.14	0.01	0.22	0.05	0.03	0.00	0.11	0.06	0.05	0.15	0.02	0.02	0.21	0.09	0.09	0.14	0.02	0.00	0.06	0.07
2004	0.14	0.01	0.20	0.02	0.30	0.27	0.03	0.00	0.08	0.07	0.05	0.16	0.01	0.00	0.20	0.07	0.17	0.14	0.01	0.00	0.00	0.07
2005	0.18	0.01	0.24	0.00	0.17	0.09	0.12	0.00	0.22	0.02	0.03	0.07	0.01	0.04	0.18	0.07	0.25	0.12	0.00	0.00	0.03	0.07
2006	0.31	0.03	0.30	0.02	0.22	0.24	0.10	0.00	0.11	0.01	0.02	0.03	0.00	0.00	0.14	0.06	0.35	0.19	0.00	0.00	0.01	0.10
2007	0.63	0.04	0.17	0.01	0.15	0.04	0.03	0.00	0.14	0.02	0.01	0.02	0.01	0.00	0.17	0.11	0.39	0.23	0.00	0.00	0.01	0.20
2008	0.42	0.01	0.14	0.01	0.17	0.03	0.01	0.00	0.27	0.01	0.01	0.01	0.01	0.00	0.14	0.10	0.50	0.16	0.00	0.00	0.02	0.13
2009	0.46	0.02	0.18	0.00	0.10	0.17	0.05	0.00	0.40	0.01	0.00	0.01	0.01	0.00	0.17	0.07	0.43	0.16	0.00	0.00	0.00	0.11
2010	0.38	0.01	0.17	0.02	0.13	0.15	0.03	0.00	0.24	0.01	0.01	0.00	0.02	0.01	0.13	0.09	0.34	0.15	0.00	0.00	0.01	0.08
2011	0.59	0.03	0.12	0.01	0.05	0.07	0.03	0.01	0.29	0.01	0.01	0.00	0.04	0.01	0.23	0.18	0.04	0.14	0.00	0.00	0.03	0.09
2012	0.59	0.02	0.12	0.00	0.06	0.10	0.11	0.01	0.17	0.02	0.01	0.01	0.03	0.01	0.12	0.25	0.13	0.15	0.00	0.00	0.27	0.20
2013	0.60	0.06	0.17	0.01	0.06	0.17	0.07	0.01	0.14	0.02	0.02	0.04	0.04	0.01	0.13	0.30	0.11	0.21	0.00	0.00	0.01	0.08

Supplementary Table S8. Time series of forced catches (used to drive the model for groups for which fishing mortality could not be calculated due to lack of either catch or biomass) used to fit Ecosim.

	Sandeel	Nephrops	Lobster	Edible crab	Velvet Crab	Crustaceans	Cephalopods	Scallops	Epifauna
1985		12488	617	4815	430		33	6566	
1986		11329	519	4536	666	2	36	5778	13
1987		11363	619	7792	1200	1	129	6934	95
1988		12730	793	10820	1344	5	42	4903	23
1989		10985	853	9332	1250	211	361	6258	42
1990		10091	817	7860	1386	180	188	4271	1
1991		10496	735	9801	1502	259	156	4157	1
1992		10849	827	10130	2099	433	91	4959	111
1993		11376	621	9286	1987	502	107	7331	319
1994	10627		552	11700	1938	565	184	7741	377
1995	7111		675	11216	2916	321	366	6875	66
1996	13257		414	8797	890	204	177	6938	663
1997	12679		675	11944	1995	223	201	8491	643
1998	5320		634	12127	1617	300	121	9946	156
1999	2627		452	11771	1522	184	12	6388	308
2000	5771		319	12778	937	119	8	11951	1551
2001	295		332	15569	1356	102	3	13625	518
2002	706		362	15424	1290	107	5	21537	332
2003			346	15816	826	393	83	13359	805
2004	566		496	18681	1286	316	70	12335	652
2005			295	10742	448	216	16	7528	120
2006			822	18531	90	118	118	9304	501

2007			824	26566	24	246	155	5912	285
2008			811	15569	2051	208	371	9520	213
2009			712	14189	2113	163	338	10637	207
2010			766	17034	2078	320	460	12471	221
2011			668	17763	1667	256		15372	
2012			608	15287	1711	417		21741	
2013			484	14804	1201	345		12023	

Supplementary Table S9. Species composition of fish functional groups with their corresponding asymptotic lengths obtained from Fishbase (www.fishbase.org).

Functional group	Common name	Latin name	L_{∞} (cm)
Cod	Cod	<i>Gadus morhua</i>	200
Juvenile cod	Cod	<i>Gadus morhua</i>	63.4
Haddock	Haddock	<i>Melanogrammus aeglefinus</i>	112
Juvenile haddock	Haddock	<i>Melanogrammus aeglefinus</i>	34.9
Whiting	Whiting	<i>Merlangius merlangus</i>	70
Juvenile whiting	Whiting	<i>Merlangius merlangus</i>	29
Monkfish	Anglerfish	<i>Lophius piscatorius</i>	200
	Black bellied angler	<i>Lophius budegassa</i>	100
Flatfish	Atlantic halibut	<i>Hippoglossus hippoglossus</i>	470
	Atlantic sole	<i>Pegusa lascaris</i>	40
	Brill	<i>Scophthalmus rhombus</i>	75
	Common European sole	<i>Solea vulgaris</i>	70
	Common topknot	<i>Zeugopterus punctatus</i>	25
	Dab	<i>Limanda limanda</i>	40
	European flounder	<i>Platichthys flesus</i>	60
	European plaice	<i>Pleuronectes platessa</i>	100
	Fourspot megrim	<i>Lepidorhombus boscii</i>	40
	Grohmann's scaldfish	<i>Arnoglossus thori</i>	18
	Imperial scaldfish	<i>Arnoglossus imperialis</i>	25
	Lemon sole	<i>Microstomus kitt</i>	65
	Long rough dab	<i>Hippoglossoides platessoides</i>	82.6
	Megrim	<i>Lepidorhombus whiffiagonis</i>	60
	Norwegian topknot	<i>Phrynorhombus norvegicus</i>	12
	Scaldfish	<i>Arnoglossus laterna</i>	25
	Solenette	<i>Buglossidium luteum</i>	15
	Thickback sole	<i>Microchirus variegatus</i>	35
	Turbot	<i>Psetta maxima</i>	100
	Witch flounder	<i>Glyptocephalus cynoglossus</i>	60
Gurnards	Grey gurnard	<i>Eutrigla gurnardus</i>	60
	Piper gurnard	<i>Trigla lyra</i>	60
	Red gurnard	<i>Aspitrigla cuculus</i>	50
	Streaked gurnard	<i>Trigloporus lastoviza</i>	40
	Tub gurnard	<i>Trigla lucerna</i>	75
Herring	Herring	<i>Clupea harengus</i>	45

Horse Mackerel	Horse mackerel	<i>Trachurus trachurus</i>	70
Hake	Blue-Mouth	<i>Helicolenus dactylopterus</i>	47
	Sea trout	<i>Salmo trutta</i>	140
	Atlantic salmon	<i>Salmo salar</i>	150
	Catfish	<i>Anarhichas lupus</i>	150
	Common eel	<i>Anguilla anguilla</i>	50
	Conger eel	<i>Conger conger</i>	300
	Cusk	<i>Brosme brosme</i>	120
	Greater Forkbeard	<i>Phycis blennoides</i>	110
	Hake	<i>Merluccius merluccius</i>	140
	John Dory	<i>Zeus faber</i>	90
	Ling	<i>Molva molva</i>	200
	Lumpsucker	<i>Cyclopterus lumpus</i>	61
	Norway haddock	<i>Sebastes viviparus</i>	35
	Redfish	<i>Sebastes norvegicus</i>	100
	Ocean perch	<i>Sebastes marinus</i>	100
	Red bandfish	<i>Cepola rubescens</i>	80
	Red bandfish	<i>Cepola macrophthalma</i>	80
Red sea bream	<i>Pagellus bogaraveo</i>	70	
Mackerel	Atlantic mackerel	<i>Scomber scombrus</i>	60
Norway pout	Norway pout	<i>Trisopterus esmarkii</i>	35
Other pelagics	Alice shad	<i>Alosa alosa</i>	69
	European anchovy	<i>Engraulis encrasicolus</i>	20
	Pearlside	<i>Maurolicus muelleri</i>	8
	True sardine	<i>Sardina pilchardus</i>	27.5
	Twaite shad	<i>Alosa fallax</i>	60
Poor cod	Poor cod	<i>Trisopterus minutus</i>	40
Saithe	Pollock	<i>Pollachius pollachius</i>	130
	Saithe	<i>Pollachius virens</i>	130
Sandeel	Corbin's sandeel	<i>Hyperoplus immaculatus</i>	35
	Greater sandeel	<i>Hyperoplus lanceolatus</i>	40
	Sandeel	<i>Ammodytes marinus</i>	25
	Smoothed sandeel	<i>Gymnammodytes semisquamatus</i>	30
Other small fish	Alaskan Stickleback	<i>Gasterosteus aculeatus</i>	11
	Atlantic argentine	<i>Argentina silus</i>	70
	Atlantic warbonnet	<i>Chirolophis ascanii</i>	25
	Ballan wrasse	<i>Labrus bergylta</i>	65.9
	Bib	<i>Trisopterus luscus</i>	46
	Boarfish	<i>Capros aper</i>	30
	Bridled triggerfish	<i>Balistes carolinensis</i>	60
	Bull rout	<i>Myoxocephalus scorpius</i>	60

	Butterfish	<i>Pholis gunnellus</i>	25
	Common dragonet	<i>Callionymus lyra</i>	30
	Common goby	<i>Pomatoschistus microps</i>	9
	Crystal goby	<i>Crystallogobius linearis</i>	4.7
	Cuckoo wrasse	<i>Labrus mixtus</i>	40
	Echiodon drummondii	<i>Echiodon drummondii</i>	30
	Fivebearded rockling	<i>Ciliata mustela</i>	25
	Fourbeard rockling	<i>Enchelyopus cimbrius</i>	41
	Freckled goby	<i>Pomatoschistus minutus</i>	11
	Fries' goby	<i>Lesueurigobius friesii</i>	13
	Goldsinny wrasse	<i>Ctenolabrus rupestris</i>	18
	Great Pipefish	<i>Syngnathus acus</i>	50
	Hook-nose	<i>Agonus cataphractus</i>	21
	Lesse forkbeard	<i>Raniceps raninus</i>	27.5
	Lesser weever	<i>Echiichthys vipera</i>	15
	Longspine snipefish	<i>Macroramphosus scolopax</i>	20
	Longspined sea scorpion	<i>Taurulus bubalis</i>	17.5
	Moustache sculpin	<i>Triglops murrayi</i>	20
	Northern rockling	<i>Ciliata septentrionalis</i>	20
	Norway bullhead	<i>Taurulus lilljeborgii</i>	7.4
	Ocean Pipefish	<i>Entelurus aequoraesus</i>	40
	Red mullet	<i>Mullus surmuletus</i>	40
	Reticulated dragonet	<i>Callionymus reticulatus</i>	11
	Silver smelt	<i>Argentina sphyraena</i>	30.5
	Silvery pout	<i>Gadiculus argenteus</i>	15
	Snake blenny	<i>Lumpenus lumpretaeformis</i>	50
	Spotted dragonet	<i>Callionymus maculatus</i>	16
	Striped seasnail	<i>Liparis liparis</i>	15
	Threebearded rockling	<i>Gaidropsarus vulgaris</i>	60
	Tompot blenny	<i>Blennius gattorugine</i>	30
	Gobies	<i>Gobiidae</i>	
	Viviporous blenny	<i>Zoarces viviparus</i>	52
Sharks	Black-mouthed dogfish	<i>Galeus melastomus</i>	75
	Nursehound	<i>Scyliorhinus stellaris</i>	170
	Spurdog	<i>Squalus acanthias</i>	160
	Lesser spotted dogfish	<i>Scyliorhinus canicula</i>	100
	Smooth hound	<i>Mustelus mustelus</i>	200

	Starry smooth hound	<i>Mustelus asterias</i>	140
	Tope	<i>Galeorhinus galeus</i>	193
Sprat	Sprat	<i>Sprattus sprattus</i>	16
Rays	Blonde ray	<i>Raja brachyura</i>	120
	Blue skate	<i>Dipturus batis</i>	285
	White skate	<i>Rostroraja alba</i>	230
	Sandy ray	<i>Leucoraja circularis</i>	120
	Cuckoo ray	<i>Raja naevus</i>	71
	Homelyn Ray	<i>Raja montagui</i>	61
	Shagreen ray	<i>Leucoraja fullonica</i>	120
	Starry skate	<i>Amblyraja radiata</i>	105
	Thornback Ray	<i>Raja clavata</i>	105
Blue Whiting	Blue whiting	<i>Micromesistius poutassou</i>	50

Supplementary Table S10. Summary table displaying the number of scenarios, out of the 180,000 scenarios tested, which achieved the recovery of cod and/or whiting above B_{lim} and/or B_{pa} by a given year (no scenario achieved the recovery of cod or whiting before 2021).

	Cod > Blim	Cod > Bpa	Whiting > Blim	Whiting > Bpa	Cod & whiting > Blim	Cod > Blim & whiting > Bpa	Cod > Bpa & whiting > Blim	Cod & whiting > Bpa
2021	7015							
2022	20096	323						
2023	23097	13954						
2024	19661	15488	675		675		31	
2025	15724	14892	891		851		1170	
2026	15020	16822	1721		1761		1431	
2027	8741	6624	1137	10	1063	10	1023	10
2028	6130	8960	1279	85	1013	85	989	85
2029	8675	8437	1116	110	1409	110	918	110
2030	9520	9442	791	55	743	55	1078	55
2031	2905	4243	155		41		120	
2032	1344	1253	5				90	
2033	480							
Total	138408	100438	7770	260	7556	260	6850	260