1 **Supporting Material**

3 # Fish functional groups of the North Atlantic and Arctic Oceans

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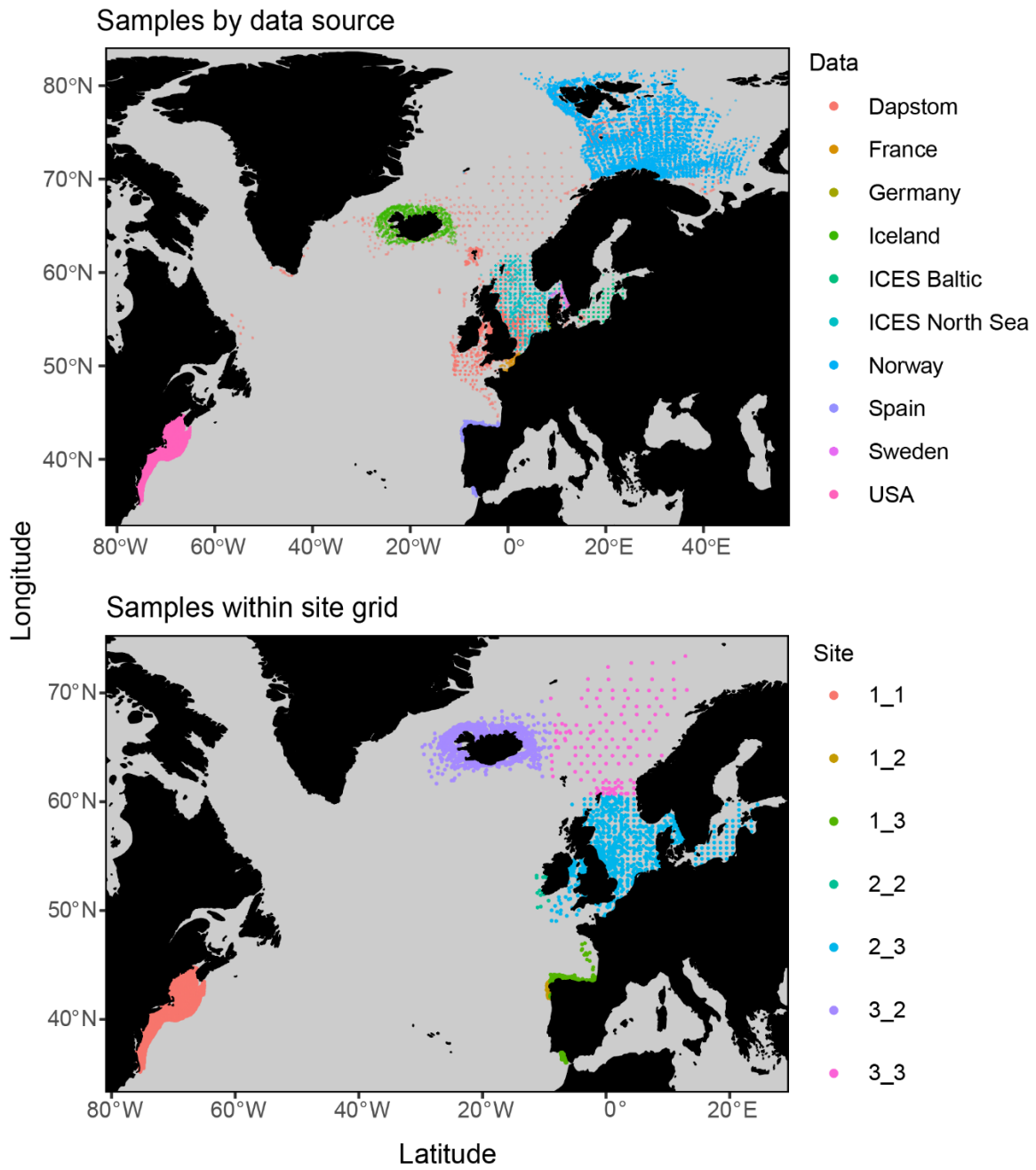
Figure S1: The sample distribution of different data sources and by site (see Table 1).

1 Table S1. AIC values for the full (top row) and nested models to assess the importance of all random
2 effects. The term dropped indicates which term from the model was removed from the model above.
3 * denotes an interaction with $\log_{10}$(predator weight), i.e., random slope and intercept, others are all
4 random intercepts only.

Termed dropped	AIC
	1051829
n stomachs	1052150
Site	1056090
Year	1075564
Data	1076274
Prey functional group*	1194755
Predator taxa*	1364124

7 Table S2. Body size bins, $\log_{10}$ transformed body mass in grams, $\log_{10}$ transformed bin width and
8 minimum and maximum body masses in grams of organisms by size bin.

Size bin	Log10(g)	Bin width	Min g	Max g
1	-7.579	0.813	1.03E-08	6.73E-08
2	-6.765	0.813	6.73E-08	4.38E-07
3	-5.952	0.813	4.38E-07	2.85E-06
4	-5.139	0.813	2.85E-06	1.85E-05
5	-4.326	0.813	1.85E-05	1.20E-04
6	-3.513	0.813	1.20E-04	7.83E-04
7	-2.699	0.813	7.83E-04	0.005095
8	-1.886	0.813	0.005095	0.033139
9	-1.073	0.813	0.033139	0.215543
10	-0.260	0.813	0.215543	1.401963
11	0.553	0.813	1.401963	9.11881
12	1.367	0.813	9.11881	59.31163
13	2.180	0.813	59.31163	385.7816
14	2.993	0.813	385.7816	2509.246
15	3.806	0.813	2509.246	16320.93
16	4.619	0.813	16320.93	106156.5
17	5.433	0.813	106156.5	690475.5
18	6.246	0.813	690475.5	4491071
19	7.059	0.813	4491071	29211349
20	7.872	0.813	29211349	1.9E+08

1 Table S3. Data used to generate trait-based feeding guilds and produce Fig. 4. Taxa, size bin, distribution of stomach samples by taxa and size (*n*), feeding
2 guild (Plank = planktivore, Benth = benthivore, B-pisc = bentho-piscivore, Pisc = piscivore), log10 transformed average biomass-weighted predator-prey mass
3 ratios (PPMR), log10 transformed average individual prey mass (g), average predator size in cm, the % of different prey functional groups (zoop=zooplankton,
4 ben=benthos, nek=nekton, oth=other), axes scores from non-metric multidimensional scaling analysis (Fig. S4) and the hierarchy of feeding guilds from cluster
5 analysis (h2 = first split in the classification tree; h3 = third split; h5 = fifth split).

Taxa	S. bin	*n*	Guild	PPMR	Prey mass	Pred cm	fish	zoop	ben	nek	oth	Axis 1	Axis 2	h2	h3	h5
Alosa aestivalis	13	37	Plank	4.09	-1.554	19	0	78	22	0	0	0.573	-0.282	2	2	2
Ammodytes	11	144	Plank	5.03	-2.899	13	2	83	7	0	8	0.877	-0.4	2	2	2
Ammodytes	12	104	Plank	5.22	-2.454	17	17	70	10	0	2	0.774	-0.103	2	2	2
Argentina silus	13	145	Plank	4.08	-0.674	30	2	60	0	0	38	0.592	-0.101	2	2	2
Argentina silus	14	141	Plank	4.4	-0.208	48	10	61	2	1	26	0.523	0.024	2	2	2
Boreogadus saida	11	513	Plank	3.88	-2.589	10	0	95	0	0	5	0.938	-0.313	2	2	2
Boreogadus saida	12	1658	Plank	4.13	-2.302	14	0	95	0	0	5	0.891	-0.302	2	2	2
Boreogadus saida	13	31	Plank	4.16	-1.967	23	0	95	0	0	5	0.846	-0.277	2	2	2
Clupea harengus	10	32	Plank	3.69	-1.936	5	0	98	0	0	2	0.864	-0.254	2	2	2
Clupea harengus	11	236	Plank	4.43	-1.449	11	0	67	8	0	25	0.633	-0.249	2	2	2
Clupea harengus	12	359	Plank	5.1	-0.892	16	4	79	16	0	1	0.561	-0.198	2	2	2
Clupea harengus	13	1606	Plank	5.08	-0.801	29	5	72	22	0	1	0.491	-0.184	2	2	2
Clupea harengus	14	202	Plank	5.44	-0.953	36	3	96	0	0	2	0.762	-0.182	2	2	2
Engraulis encrasicolus	12	72	Plank	2.78	-0.899	18	0	99	0	0	1	0.819	-0.089	2	2	2
Etmopterus spinax	12	184	Plank	3.99	-0.352	20	9	86	4	1	0	0.594	-0.028	2	2	2
Etmopterus spinax	13	241	Plank	4.58	0.165	31	22	64	12	2	0	0.419	0.104	2	2	2
Gadus morhua	8	30	Plank	2.11	-3.596	1	0	100	0	0	0	1.366	-0.274	2	2	2
Gadus morhua	9	149	Plank	2.72	-3.038	3	0	99	1	0	0	1.131	-0.275	2	2	2
Gadus morhua	10	625	Plank	3.06	-2.243	4	0	96	3	0	0	0.922	-0.24	2	2	2
Gadus morhua	11	2395	Plank	3.41	-1.997	9	0	80	14	3	3	0.687	-0.271	2	2	2
Galeus atlanticus	13	134	Plank	4.94	-1.217	34	2	62	5	31	0	0.625	-0.381	2	2	2
Galeus melastomus	12	1082	Plank	4.1	-0.335	22	10	69	18	3	0	0.429	-0.04	2	2	2

Species																	
Galeus melastomus	13	1847	Plank	3.91	0.133	39	19	58	20	3	0	0.329	0.073	2	2	2
Hoplostethus mediterraneus	12	35	Plank	4.42	-0.493	13	3	89	6	3	0	0.616	-0.1	2	2	2
Hoplostethus mediterraneus	13	48	Plank	2.8	-0.186	23	9	58	16	17	0	0.447	0.08	2	2	2
Lepidopus caudatus	13	96	Plank	4.82	-0.478	57	12	82	1	5	0	0.614	-0.015	2	2	2
Mallotus villosus	11	815	Plank	4.07	-2.72	11	0	92	0	0	8	0.949	-0.332	2	2	2
Mallotus villosus	12	2189	Plank	4.08	-2.311	15	0	95	0	0	5	0.897	-0.301	2	2	2
Melanogrammus aeglefinus	9	31	Plank	2.85	-2.975	3	0	100	0	0	0	1.107	-0.28	2	2	2
Melanogrammus aeglefinus	10	138	Plank	3.06	-2.33	4	0	99	0	0	1	0.969	-0.25	2	2	2
Merlangius merlangus	9	259	Plank	3.03	-3.187	3	0	100	0	0	0	1.118	-0.301	2	2	2
Merlangius merlangus	10	738	Plank	3.2	-2.303	4	0	98	1	0	1	0.936	-0.252	2	2	2
Merlangius merlangus	11	1409	Plank	3.42	-1.51	8	2	66	22	6	5	0.497	-0.234	2	2	2
Merluccius merluccius	11	498	Plank	3.68	-0.565	10	9	55	10	27	0	0.497	-0.005	2	2	2
Micromesistius poutassou	12	3054	Plank	3.62	-0.549	17	10	83	4	3	0	0.586	-0.025	2	2	2
Micromesistius poutassou	13	4373	Plank	3.52	-0.028	24	22	65	10	3	0	0.424	0.124	2	2	2
Peprilus triacanthus	13	189	Plank	4.5	-1.769	12	0	93	5	2	0	0.768	-0.265	2	2	2
Peprilus triacanthus	12	70	Plank	4.15	-0.941	13	0	93	6	1	0	0.677	-0.169	2	2	2
Pollachius virens	10	61	Plank	2.9	-2.115	4	0	100	0	0	0	0.96	-0.223	2	2	2
Sardina pilchardus	13	109	Plank	5.94	-1.683	24	0	76	1	0	23	0.782	-0.341	2	2	2
Scomber scombrus	12	488	Plank	3.33	-0.534	18	12	79	6	2	0	0.565	0.008	2	2	2
Scomber scombrus	13	11527	Plank	5.64	-0.075	30	17	73	7	2	0	0.549	0.073	2	2	2
Scomber scombrus	14	5692	Plank	5.77	-0.238	39	17	79	3	1	0	0.622	0.061	2	2	2
Sebastes norvegicus	11	226	Plank	3.21	-1.829	8	0	92	0	0	8	0.865	-0.217	2	2	2
Sebastes norvegicus	12	842	Plank	3.94	-1.419	15	1	85	1	0	14	0.746	-0.212	2	2	2
Sebastes norvegicus	13	861	Plank	4.24	-0.389	25	12	69	2	0	18	0.564	0.001	2	2	2
Sebastes norvegicus	14	901	Plank	4.22	0.145	38	25	57	2	0	16	0.451	0.182	2	2	2
Sprattus sprattus	11	636	Plank	4.85	-1.398	9	0	90	1	0	8	0.764	-0.248	2	2	2
Sprattus sprattus	12	322	Plank	5.16	-1.33	12	3	88	4	0	6	0.73	-0.228	2	2	2
Trachurus trachurus	12	270	Plank	4.16	-1.01	16	1	54	22	2	21	0.413	-0.193	2	2	2
Trachurus trachurus	13	2528	Plank	4.72	-0.595	27	10	53	18	4	16	0.394	-0.072	2	2	2

Trisopterus esmarkii	10	46	Plank	3.45	-2.364	5	0	98	0	0	2	0.936	-0.274	2	2	2
Trisopterus esmarkii	11	751	Plank	2.91	-1.424	10	0	76	13	10	1	0.646	-0.202	2	2	2
Trisopterus esmarkii	12	649	Plank	3.46	-1.064	15	2	68	13	14	3	0.545	-0.155	2	2	2
Trisopterus esmarkii	13	106	Plank	3.16	-0.824	21	4	67	12	17	0	0.535	-0.09	2	2	2
Zeus faber	11	40	Plank	3.03	-0.531	7	13	66	18	3	0	0.433	0.004	2	2	2
Agonus cataphractus	11	99	Benth	3.24	-1.954	9	0	0	75	0	25	-0.387	-0.424	1	1	1
Amblyraja radiata	12	76	Benth	3.63	-0.735	19	4	11	66	13	7	-0.127	-0.209	1	1	3
Anarhichas lupus	12	456	Benth	3.07	-1.116	15	1	1	84	0	14	-0.378	-0.294	1	1	1
Anarhichas lupus	13	1328	Benth	3.69	-0.689	30	2	0	78	0	20	-0.288	-0.248	1	1	1
Anarhichas lupus	14	1137	Benth	4.11	0.081	50	5	0	85	0	10	-0.305	-0.152	1	1	1
Anarhichas lupus	15	495	Benth	4.24	0.343	70	14	0	75	0	11	-0.264	-0.058	1	1	1
Anarhichas minor	13	37	Benth	3.26	-0.461	24	0	0	80	0	20	-0.341	-0.212	1	1	1
Anarhichas minor	14	256	Benth	3.68	-0.027	47	5	2	74	0	19	-0.263	-0.129	1	1	1
Arnoglossus imperialis	12	38	Benth	4.42	-0.775	13	3	5	61	30	0	-0.093	-0.403	1	1	3
Arnoglossus laterna	11	165	Benth	4.66	-2.046	10	0	2	93	4	1	-0.331	-0.491	1	1	1
Arnoglossus laterna	12	150	Benth	4.93	-1.971	13	0	10	78	11	0	-0.182	-0.495	1	1	1
Callionymus lyra	12	742	Benth	2.93	-0.905	17	0	7	90	1	1	-0.346	-0.277	1	1	1
Callionymus lyra	13	1338	Benth	2.99	-0.659	23	0	7	92	0	0	-0.349	-0.249	1	1	1
Centropristis striata	12	61	Benth	2.35	0.075	26	9	2	87	2	0	-0.425	-0.07	1	1	1
Centropristis striata	13	453	Benth	3.17	0.225	27	8	2	87	4	0	-0.328	-0.088	1	1	1
Chelidonichthys cuculus	11	74	Benth	2.36	-0.922	10	1	23	51	24	0	0.075	-0.421	1	1	3
Chelidonichthys cuculus	12	939	Benth	2.69	-0.878	13	1	14	57	27	0	-0.027	-0.405	1	1	3
Chelidonichthys cuculus	13	3987	Benth	3.02	-0.379	23	10	19	54	16	0	-0.023	-0.087	1	1	3
Chelidonichthys lucerna	13	915	Benth	3.57	0.252	27	16	11	70	2	0	-0.183	-0.027	1	1	1
Chelidonichthys obscurus	12	94	Benth	5	-1.235	16	0	2	94	4	0	-0.296	-0.411	1	1	1
Chelidonichthys obscurus	13	512	Benth	4.68	-0.794	24	0	9	64	26	0	-0.087	-0.393	1	1	3
Chimaera monstrosa	14	60	Benth	5.5	-1.279	26	0	6	94	0	0	-0.29	-0.452	1	1	1
Chimaera monstrosa	15	51	Benth	6.47	-0.488	45	0	2	96	2	0	-0.383	-0.386	1	1	1
Ciliata mustela	12	63	Benth	3.33	-0.672	17	9	0	87	0	3	-0.342	-0.19	1	1	1

Species																
Citharichthys arctifrons	13	43	Benth	4.01	-1.494	11	0	26	74	0	0	-0.072	-0.366	1	1	1
Citharus linguatula	12	156	Benth	5.18	-2.234	16	0	21	75	4	0	-0.084	-0.527	1	1	1
Coris julis	12	228	Benth	2.58	-0.677	15	2	19	50	29	0	0.067	-0.363	1	1	3
Dicentrarchus labrax	12	39	Benth	2.98	-0.991	15	0	0	100	0	0	-0.438	-0.31	1	1	1
Dicentrarchus labrax	13	144	Benth	3	-0.464	22	4	0	79	0	17	-0.353	-0.179	1	1	1
Dipturus laevis	12	80	Benth	1.83	0.084	57	5	0	95	0	0	-0.558	-0.117	1	1	1
Dipturus laevis	13	1020	Benth	2.52	0.486	64	11	1	88	1	0	-0.419	-0.032	1	1	1
Dipturus laevis	15	96	Benth	3.58	1.228	65	18	1	81	0	0	-0.328	0.024	1	1	1
Dipturus laevis	14	906	Benth	3.24	1	67	15	0	84	1	0	-0.35	0.005	1	1	1
Enchelyopus cimbrius	12	65	Benth	3.61	-1.199	20	2	15	72	0	12	-0.15	-0.294	1	1	1
Enchelyopus cimbrius	13	86	Benth	3.8	-0.96	27	0	13	77	0	9	-0.186	-0.29	1	1	1
Eutrigla gurnardus	11	31	Benth	2.64	-1.207	9	0	0	74	26	0	-0.523	-0.344	1	1	3
Eutrigla gurnardus	12	6076	Benth	3	-0.809	16	5	15	61	17	3	-0.072	-0.222	1	1	3
Gadus morhua	13	47491	Benth	3.2	0.201	29	18	8	71	1	2	-0.225	-0.009	1	1	1
Gaidropsarus macrophthalmus	11	205	Benth	1.87	-0.623	10	2	13	76	9	0	-0.461	-0.182	1	1	1
Gaidropsarus macrophthalmus	12	587	Benth	2.24	-0.402	14	6	12	76	6	0	-0.347	-0.125	1	1	1
Glyptocephalus cynoglossus	13	68	Benth	3.55	-0.477	32	0	4	90	6	0	-0.303	-0.229	1	1	1
Hippoglossoides platessoides	11	81	Benth	2.92	-1.723	8	0	5	18	0	77	0.219	-0.586	1	1	1
Hippoglossoides platessoides	12	1972	Benth	3.12	-1.139	15	1	15	34	0	50	0.112	-0.265	1	1	1
Lepidorhombus boscii	11	151	Benth	2.23	-0.999	11	1	10	83	6	0	-0.424	-0.271	1	1	1
Lepidorhombus boscii	12	13164	Benth	2.6	-0.64	16	3	15	74	8	0	-0.196	-0.216	1	1	1
Lepidorhombus boscii	13	14638	Benth	2.65	-0.126	24	12	11	74	2	0	-0.251	-0.06	1	1	1
Lepidorhombus boscii	14	51	Benth	2.99	0.185	37	23	3	74	0	0	-0.287	0.021	1	1	1
Lepidotrigla cavillone	11	49	Benth	4.65	-3.35	9	0	0	61	39	0	-0.254	-0.89	1	1	3
Lepidotrigla cavillone	12	56	Benth	4.96	-3.022	11	0	0	49	51	0	-0.088	-0.96	1	1	3
Lepidotrigla dieuzeidei	12	65	Benth	5.14	-3.045	12	0	0	53	47	0	-0.128	-0.938	1	1	3
Lepophidium profundorum	13	46	Benth	4.08	-1.182	23	2	32	66	0	0	0.006	-0.301	1	1	1
Lepophidium profundorum	14	41	Benth	4.7	-1.362	23	0	24	76	0	0	-0.071	-0.384	1	1	1
Leucoraja erinacea	12	301	Benth	2.7	-0.299	40	7	3	88	2	0	-0.375	-0.14	1	1	1

Species																
Leucoraja erinacea	13	5733	Benth	3.16	-0.108	40	7	3	89	1	0	-0.332	-0.133	1	1	1
Leucoraja erinacea	14	5402	Benth	3.79	-0.027	41	8	2	89	1	0	-0.3	-0.14	1	1	1
Leucoraja garmani	13	190	Benth	3.21	-0.412	37	5	8	86	2	0	-0.277	-0.176	1	1	1
Leucoraja garmani	14	173	Benth	3.93	-0.435	37	4	2	93	1	0	-0.309	-0.227	1	1	1
Leucoraja naevus	13	231	Benth	4.37	-0.308	33	3	10	68	18	0	-0.11	-0.22	1	1	3
Limanda ferruginea	13	268	Benth	4.01	-0.583	30	6	6	88	0	0	-0.263	-0.228	1	1	1
Limanda ferruginea	14	192	Benth	4.43	-0.717	30	2	10	88	0	0	-0.222	-0.29	1	1	1
Limanda limanda	11	67	Benth	3.47	-2.229	8	0	5	71	0	23	-0.293	-0.472	1	1	1
Limanda limanda	12	1134	Benth	3.17	-1.282	16	0	1	96	0	2	-0.407	-0.338	1	1	1
Limanda limanda	13	4080	Benth	3.44	-0.819	22	4	4	90	0	1	-0.312	-0.249	1	1	1
Lipophrys pholis	10	35	Benth	2.47	-2.471	4	0	7	45	0	48	-0.098	-0.718	1	1	1
Lumpenus lampretaeformis	12	87	Benth	4.31	-1.701	30	0	5	51	0	44	-0.075	-0.452	1	1	1
Macrozoarces americanus	13	355	Benth	3.13	0.177	50	0	0	99	0	0	-0.421	-0.156	1	1	1
Macrozoarces americanus	14	314	Benth	3.81	0.133	51	1	0	99	0	0	-0.378	-0.185	1	1	1
Malacocephalus laevis	12	32	Benth	3.75	-1.432	5	0	5	91	3	0	-0.3	-0.356	1	1	1
Malacoraja senta	13	453	Benth	2.93	0.105	45	9	5	86	0	0	-0.339	-0.093	1	1	1
Malacoraja senta	14	452	Benth	3.52	0.143	46	12	4	84	0	0	-0.285	-0.084	1	1	1
Melanogrammus aeglefinus	11	368	Benth	3.54	-1.76	9	0	34	62	2	2	0.049	-0.373	1	1	1
Melanogrammus aeglefinus	12	10564	Benth	3.56	-0.992	15	5	17	65	5	9	-0.094	-0.22	1	1	3
Microchirus variegatus	12	45	Benth	4.23	-0.746	12	0	6	94	0	0	-0.278	-0.31	1	1	1
Microstomus kitt	12	94	Benth	3.94	-1.928	16	0	0	91	0	9	-0.376	-0.45	1	1	1
Microstomus kitt	13	580	Benth	4.64	-1.397	25	0	2	88	1	9	-0.3	-0.406	1	1	1
Microstomus kitt	14	587	Benth	4.83	-1.277	37	0	0	87	0	13	-0.306	-0.411	1	1	1
Mullus surmuletus	12	163	Benth	4.98	-1.4	14	0	4	86	7	3	-0.257	-0.421	1	1	1
Mullus surmuletus	13	888	Benth	4.56	-0.668	23	0	7	84	8	1	-0.222	-0.296	1	1	1
Mullus surmuletus	14	66	Benth	3.33	-0.365	31	0	7	89	2	2	-0.296	-0.206	1	1	1
Mustelus canis	12	112	Benth	1.82	0.357	80	10	2	82	6	0	-0.483	-0.005	1	1	1
Mustelus canis	13	1758	Benth	2.04	0.814	89	11	1	82	7	0	-0.471	0.034	1	1	1
Mustelus canis	14	1782	Benth	3.83	1.142	90	10	1	82	7	0	-0.322	-0.025	1	1	1

Myoxocephalus octodecemspinosus	12	95	Benth	2.29	0.044	26	8	0	92	0	0	-0.473	-0.097	1	1	1
Myoxocephalus octodecemspinosus	13	2555	Benth	3.01	0.141	26	8	1	91	0	0	-0.373	-0.102	1	1	1
Myoxocephalus octodecemspinosus	14	545	Benth	3.23	0.121	26	6	1	93	0	0	-0.368	-0.124	1	1	1
Nezumia aequalis	12	74	Benth	4.94	-1.734	6	0	3	73	24	0	-0.204	-0.547	1	1	1
Pagellus acarne	13	782	Benth	4.48	-0.018	26	7	18	61	14	0	-0.041	-0.127	1	1	3
Pagellus acarne	14	615	Benth	3.44	0.187	32	9	9	70	12	0	-0.197	-0.062	1	1	3
Pagellus erythrinus	14	121	Benth	2.98	0.398	36	10	6	78	5	0	-0.283	-0.037	1	1	1
Paralichthys oblongus	13	2252	Benth	3.07	0.21	28	14	2	73	11	0	-0.285	-0.009	1	1	3
Paralichthys oblongus	14	1932	Benth	3.62	0.327	28	17	2	70	12	0	-0.241	0.004	1	1	3
Paralichthys oblongus	12	116	Benth	2.49	0.107	29	9	4	69	17	0	-0.392	0.017	1	1	3
Paralichthys oblongus	15	36	Benth	4.15	0.662	30	19	6	63	11	0	-0.177	0.045	1	1	3
Phycis blennoides	12	1200	Benth	2.81	-0.552	17	2	10	83	5	0	-0.291	-0.204	1	1	1
Phycis blennoides	13	570	Benth	3.56	-0.181	25	5	9	83	4	0	-0.233	-0.153	1	1	1
Phycis blennoides	14	92	Benth	3.03	0.538	41	17	8	73	2	0	-0.25	0.015	1	1	1
Platichthys flesus	10	524	Benth	2.41	-2.107	4	0	0	100	0	0	-0.58	-0.468	1	1	1
Platichthys flesus	11	120	Benth	3	-1.275	7	0	0	98	0	2	-0.443	-0.345	1	1	1
Platichthys flesus	12	94	Benth	3.51	-0.868	12	1	0	97	0	2	-0.37	-0.297	1	1	1
Platichthys flesus	13	1075	Benth	3.95	-0.38	21	4	0	93	0	2	-0.332	-0.227	1	1	1
Pleuronectes platessa	11	354	Benth	3.3	-1.334	7	0	9	77	0	14	-0.248	-0.331	1	1	1
Pleuronectes platessa	12	1829	Benth	3.66	-1.311	13	0	11	85	0	4	-0.247	-0.342	1	1	1
Pleuronectes platessa	13	7220	Benth	3.83	-0.82	25	6	5	88	0	1	-0.279	-0.251	1	1	1
Pleuronectes platessa	14	2079	Benth	4.37	-0.577	40	6	5	83	0	7	-0.249	-0.238	1	1	1
Pomatoschistus minutus	11	52	Benth	3.6	-1.886	6	0	3	80	0	17	-0.34	-0.412	1	1	1
Prionotus carolinus	13	273	Benth	3.78	-0.757	21	1	6	93	0	0	-0.296	-0.282	1	1	1
Prionotus carolinus	12	36	Benth	2.84	-0.816	22	0	6	94	0	0	-0.39	-0.276	1	1	1
Prionotus carolinus	14	109	Benth	4.04	-0.664	23	4	4	93	0	0	-0.295	-0.267	1	1	1

Prionotus evolans	13	184	Benth	2.84	0.138	28	21	2	76	1	0	-0.309	0.015	1	1	1
Prionotus evolans	14	61	Benth	3.35	0.165	28	27	3	70	0	0	-0.255	0.042	1	1	1
Pseudopleuronectes americanus	12	37	Benth	3.41	-0.924	27	0	0	100	0	0	-0.394	-0.312	1	1	1
Pseudopleuronectes americanus	13	260	Benth	4.01	-0.641	32	2	3	95	0	0	-0.308	-0.28	1	1	1
Pseudopleuronectes americanus	14	299	Benth	5.04	-0.329	33	1	2	97	0	0	-0.328	-0.311	1	1	1
Raja clavata	12	154	Benth	3.71	-0.652	18	3	4	78	15	0	-0.234	-0.243	1	1	3
Raja clavata	13	1476	Benth	3.33	-0.357	31	2	3	77	18	0	-0.298	-0.186	1	1	3
Raja clavata	14	3012	Benth	3.18	0.525	53	6	2	84	7	0	-0.334	-0.064	1	1	1
Raja clavata	15	638	Benth	3.26	0.924	78	16	1	81	3	0	-0.321	0.015	1	1	1
Raja montagui	13	553	Benth	3.31	-0.339	32	6	6	62	26	0	-0.135	-0.17	1	1	3
Raja montagui	14	1512	Benth	3.4	0.302	52	17	4	61	17	0	-0.219	0.052	1	1	3
Scophthalmus aquosus	12	96	Benth	2.55	-0.29	27	18	3	77	1	0	-0.353	-0.035	1	1	1
Scophthalmus aquosus	13	1612	Benth	3.13	-0.208	27	18	4	78	0	0	-0.281	-0.061	1	1	1
Scophthalmus aquosus	14	1576	Benth	3.83	-0.183	27	18	4	77	1	0	-0.235	-0.075	1	1	1
Scorpaena notata	12	56	Benth	4.92	-0.868	12	0	7	88	4	2	-0.229	-0.342	1	1	1
Scorpaena notata	13	34	Benth	4.44	-0.261	16	0	6	84	7	3	-0.234	-0.235	1	1	1
Serranus hepatus	12	134	Benth	4.99	-2.759	11	0	4	84	11	0	-0.314	-0.609	1	1	1
Solea solea	12	221	Benth	3.76	-1.758	15	1	1	79	0	19	-0.325	-0.395	1	1	1
Solea solea	13	450	Benth	3.78	-0.956	26	3	2	92	0	3	-0.32	-0.295	1	1	1
Solea solea	14	39	Benth	4.12	-0.548	37	9	9	82	0	0	-0.215	-0.195	1	1	1
Spondyliosoma cantharus	13	124	Benth	5.02	0.047	23	8	28	46	14	4	0.107	-0.101	1	1	3
Stenotomus chrysops	13	114	Benth	4.22	-0.971	17	3	12	78	7	0	-0.161	-0.281	1	1	1
Stenotomus chrysops	14	80	Benth	5.36	-0.485	19	6	10	80	4	0	-0.173	-0.261	1	1	1
Tautogolabrus adspersus	13	33	Benth	3.47	-0.627	30	2	0	98	0	0	-0.375	-0.262	1	1	1
Trigla lyra	12	732	Benth	2.55	-0.883	12	1	8	64	27	0	-0.169	-0.445	1	1	3
Trigla lyra	13	568	Benth	3	-0.197	25	6	14	67	13	0	-0.152	-0.116	1	1	3
Trigla lyra	14	31	Benth	2.78	0.49	47	3	0	95	0	2	-0.44	-0.098	1	1	1
Trisopterus luscus	12	812	Benth	2.87	-0.685	15	3	17	77	3	0	-0.189	-0.217	1	1	1
Trisopterus luscus	13	3147	Benth	3.03	-0.193	23	10	9	79	2	0	-0.25	-0.107	1	1	1

Trisopterus luscus	14	207	Benth	3.01	0.227	33	23	4	71	1	0	-0.266	0.035	1	1	1
Trisopterus minutus	12	1511	Benth	2.88	-0.828	15	2	17	76	4	0	-0.176	-0.241	1	1	1
Trisopterus minutus	13	883	Benth	2.95	-0.561	20	4	16	78	2	0	-0.196	-0.19	1	1	1
Urophycis chuss	12	60	Benth	2.89	-0.175	27	4	3	93	0	0	-0.38	-0.165	1	1	1
Urophycis chuss	15	63	Benth	4.31	-0.194	28	6	7	87	0	0	-0.246	-0.192	1	1	1
Urophycis chuss	13	2391	Benth	3.31	0.094	31	9	5	85	1	0	-0.296	-0.1	1	1	1
Urophycis chuss	14	2434	Benth	3.82	0.402	32	13	4	82	1	0	-0.271	-0.063	1	1	1
Amblyraja radiata	13	1466	B-pisc	3.5	0.611	39	24	8	60	7	1	-0.174	0.083	1	1	4
Amblyraja radiata	14	2031	B-pisc	3.41	0.861	50	37	6	54	3	0	-0.179	0.189	1	1	4
Anarhichas minor	15	312	B-pisc	4.42	1.01	77	24	4	56	0	16	-0.184	0.115	1	1	4
Argentina sphyraena	12	61	B-pisc	3.55	-1.497	19	0	59	40	0	0	0.344	-0.314	1	1	4
Brosme brosme	14	94	B-pisc	3.2	0.512	45	39	14	35	1	11	-0.053	0.262	1	1	4
Chelidonichthys cuculus	14	67	B-pisc	3.3	0.409	36	31	11	55	3	0	-0.145	0.121	1	1	4
Chelidonichthys lucerna	14	299	B-pisc	2.66	0.873	39	30	4	65	1	0	-0.297	0.16	1	1	4
Conger conger	12	642	B-pisc	3.37	-0.169	31	17	23	57	3	0	-0.048	-0.021	1	1	4
Conger conger	13	7544	B-pisc	3.1	0.367	46	40	14	44	2	0	-0.089	0.221	1	1	4
Conger conger	14	300	B-pisc	2.92	1.068	71	57	4	36	3	0	-0.146	0.404	1	1	4
Coris julis	13	438	B-pisc	2.88	0.232	34	19	51	27	2	0	0.262	0.127	1	1	4
Dicentrarchus labrax	14	48	B-pisc	2.6	0.724	42	47	0	39	0	13	-0.226	0.384	1	1	4
Echiichthys vipera	12	383	B-pisc	2.34	-0.148	13	17	65	13	5	0	0.488	0.172	1	1	4
Eutrigla gurnardus	13	10342	B-pisc	3.21	-0.09	25	31	17	35	10	7	0.01	0.169	1	1	4
Gadus morhua	12	10404	B-pisc	3.14	-0.861	16	4	28	62	4	3	-0.017	-0.211	1	1	4
Gadus morhua	14	88240	B-pisc	3.62	0.638	47	39	8	51	0	2	-0.147	0.19	1	1	4
Galeus melastomus	14	712	B-pisc	3.73	0.514	59	28	50	17	6	0	0.284	0.197	1	1	4
Gobiidae	10	43	B-pisc	2.93	-2.214	4	0	46	47	0	7	0.288	-0.483	1	1	4
Helicolenus dactylopterus	11	64	B-pisc	1.86	-0.748	6	3	66	29	2	0	0.505	-0.201	1	1	4
Helicolenus dactylopterus	12	1328	B-pisc	2.52	-0.238	13	14	26	57	3	0	-0.03	-0.029	1	1	4
Helicolenus dactylopterus	13	1715	B-pisc	3.25	0.197	19	21	23	54	2	0	-0.054	0.047	1	1	4
Helicolenus dactylopterus	14	183	B-pisc	4.32	0.658	30	24	18	53	4	1	-0.053	0.075	1	1	4

Species																
Hemitripterus americanus	12	37	B-pisc	1.96	0.1	27	43	3	54	0	0	-0.348	0.295	1	1	4
Hemitripterus americanus	13	870	B-pisc	2.31	0.865	28	52	2	45	2	0	-0.253	0.395	1	1	4
Hippoglossoides platessoides	13	5335	B-pisc	3.18	-0.221	27	19	11	38	1	32	-0.04	0.071	1	1	4
Hippoglossoides platessoides	14	508	B-pisc	3.58	0.052	41	20	6	46	0	29	-0.119	0.061	1	1	4
Hippoglossus hippoglossus	13	137	B-pisc	3.03	1.018	43	29	1	67	0	4	-0.298	0.141	1	1	4
Hippoglossus hippoglossus	14	166	B-pisc	3.09	1.231	54	45	1	50	1	3	-0.225	0.295	1	1	4
Hyperoplus lanceolatus	12	294	B-pisc	3.3	-0.128	23	40	37	23	0	0	0.206	0.237	1	1	4
Lepidorhombus whiffiagonis	11	44	B-pisc	2.08	-0.765	10	2	55	39	5	0	0.34	-0.239	1	1	4
Lepidorhombus whiffiagonis	12	2379	B-pisc	2.46	-0.385	17	19	58	19	4	0	0.414	0.136	1	1	4
Lepidorhombus whiffiagonis	13	8879	B-pisc	2.68	0.097	26	47	33	18	2	0	0.196	0.374	1	1	4
Leucoraja naevus	14	520	B-pisc	3.84	0.183	52	33	12	49	6	0	-0.09	0.118	1	1	4
Leucoraja ocellata	12	77	B-pisc	2.36	-0.003	56	30	1	66	3	0	-0.338	0.122	1	1	4
Leucoraja ocellata	13	2547	B-pisc	2.73	0.428	60	37	2	58	2	0	-0.254	0.192	1	1	4
Leucoraja ocellata	14	3313	B-pisc	3.53	0.664	61	36	2	60	2	0	-0.212	0.155	1	1	4
Leucoraja ocellata	15	66	B-pisc	3.76	0.882	61	41	2	54	3	0	-0.194	0.207	1	1	4
Limanda limanda	14	241	B-pisc	3.84	0.064	35	36	6	45	0	12	-0.108	0.161	1	1	4
Lophius piscatorius	12	145	B-pisc	1.98	0.26	13	59	38	3	0	0	0.33	0.61	1	1	4
Melanogrammus aeglefinus	13	23259	B-pisc	3.83	-0.143	28	24	12	56	2	6	-0.096	0.012	1	1	4
Melanogrammus aeglefinus	14	12740	B-pisc	4.25	0.068	43	19	13	57	1	10	-0.089	-0.012	1	1	4
Melanogrammus aeglefinus	15	1185	B-pisc	4.79	0.282	69	21	16	42	1	20	0.014	0.055	1	1	4
Merlangius merlangus	12	29333	B-pisc	3.84	-0.516	15	20	34	27	15	3	0.219	0.034	1	1	4
Merluccius albidus	13	43	B-pisc	2.87	0.568	27	16	26	40	19	0	0.052	0.152	1	1	4
Merluccius bilinearis	12	201	B-pisc	3.33	-0.118	22	10	25	58	6	0	-0.041	-0.067	1	1	4
Merluccius bilinearis	13	4959	B-pisc	3.6	0.454	24	25	16	56	3	0	-0.106	0.071	1	1	4
Merluccius bilinearis	15	50	B-pisc	4.3	0.825	24	36	16	44	4	0	-0.037	0.188	1	1	4
Merluccius bilinearis	14	4585	B-pisc	3.92	0.833	25	30	12	55	3	0	-0.126	0.124	1	1	4
Merluccius merluccius	12	9093	B-pisc	3.3	0.105	15	39	38	13	10	0	0.254	0.296	1	1	4
Micropogonias undulatus	13	64	B-pisc	3.51	-0.238	27	34	6	57	3	0	-0.16	0.078	1	1	4
Pagellus erythrinus	13	111	B-pisc	4.66	-0.343	24	12	18	67	3	0	-0.08	-0.137	1	1	4

Pollachius pollachius	13	110	B-pisc	4.03	-0.774	28	23	16	60	0	1	-0.06	-0.086	1	1	4
Pollachius virens	13	725	B-pisc	4.42	0.937	47	44	18	35	3	1	0.012	0.272	1	1	4
Raja eglanteria	13	657	B-pisc	2.39	0.548	58	23	1	67	9	0	-0.348	0.126	1	1	4
Raja eglanteria	14	580	B-pisc	3.19	0.641	59	23	3	70	5	0	-0.259	0.066	1	1	4
Raja eglanteria	12	82	B-pisc	1.62	0.29	60	35	2	57	5	0	-0.399	0.271	1	1	4
Scophthalmus maximus	11	141	B-pisc	2.14	-1.06	7	32	24	44	0	0	0.104	0.161	1	1	4
Scophthalmus maximus	12	103	B-pisc	3.14	-0.594	11	44	24	32	0	0	0.095	0.222	1	1	4
Scophthalmus rhombus	12	96	B-pisc	2.32	-0.455	12	22	50	27	1	0	0.348	0.134	1	1	4
Scyliorhinus canicula	12	1223	B-pisc	3.38	-0.212	22	11	40	42	7	0	0.131	-0.041	1	1	4
Scyliorhinus canicula	13	6587	B-pisc	3.31	0.331	38	25	18	51	6	0	-0.078	0.091	1	1	4
Scyliorhinus canicula	14	5811	B-pisc	3.88	0.659	54	41	14	42	3	0	-0.062	0.214	1	1	4
Sebastes fasciatus	14	93	B-pisc	3.81	0.244	29	16	19	65	0	0	-0.106	-0.033	1	1	4
Sebastes fasciatus	13	239	B-pisc	3.65	0.354	30	12	19	69	0	0	-0.131	-0.052	1	1	4
Spondyliosoma cantharus	14	171	B-pisc	2.99	0.532	33	13	24	45	16	2	0.01	0.091	1	1	4
Squalus acanthias	12	55	B-pisc	3.24	0.642	46	29	26	26	20	0	0.115	0.272	1	1	4
Trachinus draco	13	193	B-pisc	4.4	-0.009	25	29	36	24	10	0	0.217	0.14	1	1	4
Trachurus trachurus	14	195	B-pisc	4.73	0.141	37	34	42	17	7	0	0.292	0.2	1	1	4
Trisopterus minutus	11	31	B-pisc	2.37	-1.271	9	0	47	43	10	0	0.278	-0.364	1	1	4
Urophycis regia	12	137	B-pisc	3.18	-0.318	22	9	17	68	5	0	-0.135	-0.107	1	1	4
Urophycis regia	15	42	B-pisc	4.38	0.133	22	22	6	69	2	0	-0.18	-0.014	1	1	4
Urophycis regia	13	1930	B-pisc	3.43	0.263	23	16	13	65	5	0	-0.151	-0.004	1	1	4
Urophycis regia	14	1645	B-pisc	3.83	0.334	24	18	11	64	7	0	-0.146	0.003	1	1	4
Urophycis tenuis	15	40	B-pisc	3.68	1.485	40	48	0	52	0	0	-0.228	0.287	1	1	4
Urophycis tenuis	13	1903	B-pisc	2.45	0.75	42	39	1	59	1	0	-0.3	0.247	1	1	4
Urophycis tenuis	14	2383	B-pisc	3.39	1.321	43	41	1	56	1	0	-0.231	0.238	1	1	4
Zeus faber	12	512	B-pisc	2	-0.122	11	44	51	2	2	0	0.469	0.467	1	1	4
Amblyraja radiata	15	103	Pisc	4.45	1.353	82	65	1	34	0	0	-0.118	0.432	1	3	5
Cynoscion regalis	13	883	Pisc	3.38	0.333	28	67	14	16	3	0	0.052	0.445	1	3	5
Cynoscion regalis	12	57	Pisc	2.55	0.234	30	74	11	12	3	0	0.033	0.585	1	3	5

Species																
Cynoscion regalis	14	651	Pisc	3.78	0.44	30	72	10	15	3	0	0.045	0.467	1	3	5
Eutrigla gurnardus	14	476	Pisc	2.96	0.574	38	69	7	13	2	9	0	0.54	1	3	5
Gadus morhua	15	28530	Pisc	4.24	0.972	78	57	14	26	1	2	0.022	0.378	1	3	5
Gadus morhua	16	707	Pisc	5.27	1.681	125	83	1	15	1	0	0.008	0.633	1	3	5
Hippoglossus hippoglossus	15	42	Pisc	3.03	1.699	77	56	3	30	10	1	-0.15	0.475	1	3	5
Hyperoplus lanceolatus	13	133	Pisc	1.98	0.438	30	92	8	0	0	0	0.066	0.835	1	3	5
Lepidorhombus whiffiagonis	14	545	Pisc	3.36	0.645	42	70	7	19	2	2	-0.017	0.476	1	3	5
Lophius americanus	12	44	Pisc	1.1	0.583	33	79	0	2	19	0	-0.1	0.98	1	3	5
Lophius americanus	13	1081	Pisc	1.89	1.104	40	78	1	9	12	0	-0.107	0.797	1	3	5
Lophius americanus	14	1291	Pisc	2.65	1.658	44	80	1	8	11	0	-0.071	0.723	1	3	5
Lophius americanus	15	45	Pisc	3.07	1.787	46	89	2	7	2	0	-0.022	0.705	1	3	5
Lophius budegassa	12	168	Pisc	1.74	0.233	12	77	22	1	0	0	0.204	0.769	1	3	5
Lophius budegassa	13	216	Pisc	2.17	0.676	19	80	14	6	0	0	0.083	0.718	1	3	5
Lophius budegassa	14	372	Pisc	2.39	1.35	38	92	1	6	1	0	-0.045	0.794	1	3	5
Lophius budegassa	15	61	Pisc	2.61	1.825	64	90	0	5	5	0	-0.055	0.777	1	3	5
Lophius piscatorius	13	1279	Pisc	2.08	0.721	19	81	14	4	1	0	0.092	0.743	1	3	5
Lophius piscatorius	14	682	Pisc	2.08	1.549	42	92	1	5	2	0	-0.055	0.846	1	3	5
Lophius piscatorius	15	225	Pisc	2.36	1.927	76	85	0	10	5	0	-0.091	0.773	1	3	5
Merlangius merlangus	13	62030	Pisc	3.55	0.329	27	55	17	23	5	1	0.042	0.351	1	3	5
Merlangius merlangus	14	4175	Pisc	3.29	0.732	40	67	7	22	3	1	-0.037	0.459	1	3	5
Merluccius merluccius	13	7379	Pisc	3.41	1.035	27	84	8	6	1	1	0.045	0.616	1	3	5
Merluccius merluccius	14	2044	Pisc	3.46	1.481	43	94	3	2	1	0	0.022	0.713	1	3	5
Merluccius merluccius	15	58	Pisc	2.72	1.916	84	97	0	3	0	0	-0.023	0.828	1	3	5
Molva macrophthalma	12	993	Pisc	1.78	0.218	24	73	26	1	0	0	0.247	0.742	1	3	5
Molva macrophthalma	13	131	Pisc	2.24	0.683	37	76	21	3	0	0	0.15	0.696	1	3	5
Molva macrophthalma	14	37	Pisc	3.21	1.334	77	78	22	0	0	0	0.166	0.631	1	3	5
Morone saxatilis	13	174	Pisc	2.11	0.629	63	70	2	25	3	0	-0.149	0.598	1	3	5
Morone saxatilis	14	296	Pisc	2.83	1.551	67	79	1	18	1	0	-0.086	0.632	1	3	5
Paralichthys dentatus	12	86	Pisc	2.09	0.39	39	48	7	27	18	0	-0.201	0.518	1	3	5

Paralichthys dentatus	13	1057	Pisc	2.42	0.816	41	52	3	20	25	0	-0.195	0.592	1	3	5
Paralichthys dentatus	14	1275	Pisc	3.09	1.063	41	50	1	22	27	0	-0.169	0.526	1	3	5
Pollachius pollachius	14	38	Pisc	4.27	0.572	51	59	20	20	1	0	0.103	0.378	1	3	5
Pollachius virens	14	7219	Pisc	4.17	0.959	52	58	26	14	2	0	0.161	0.413	1	3	5
Pollachius virens	15	2024	Pisc	4.23	0.98	81	62	30	5	2	2	0.232	0.465	1	3	5
Pollachius virens	16	210	Pisc	4.31	1.173	125	79	20	0	1	0	0.196	0.582	1	3	5
Pomatomus saltatrix	12	72	Pisc	1.86	0.392	35	76	6	0	18	0	0.014	0.842	1	3	5
Pomatomus saltatrix	13	956	Pisc	2.06	0.707	38	79	4	1	16	0	-0.04	0.82	1	3	5
Pomatomus saltatrix	14	850	Pisc	2.8	1.181	43	75	3	1	21	0	-0.03	0.742	1	3	5
Reinhardtius hippoglossoides	14	190	Pisc	3.03	0.644	53	65	14	14	1	6	0.048	0.498	1	3	5
Salmo trutta	14	38	Pisc	4.36	-0.018	41	79	0	18	0	3	0.028	0.515	1	3	5
Scophthalmus maximus	14	2058	Pisc	2.55	0.856	36	92	3	4	1	0	-0.01	0.752	1	3	5
Scophthalmus maximus	15	563	Pisc	2.71	1.205	53	98	0	2	0	0	-0.012	0.801	1	3	5
Scophthalmus rhombus	13	219	Pisc	2.79	-0.016	24	67	18	2	13	0	0.177	0.58	1	3	5
Scophthalmus rhombus	14	1111	Pisc	2.58	0.895	36	86	3	3	8	0	-0.023	0.729	1	3	5
Squalus acanthias	13	3417	Pisc	3.39	1.302	73	58	5	25	12	0	-0.081	0.459	1	3	5
Squalus acanthias	14	5491	Pisc	3.34	1.373	77	64	4	21	11	0	-0.071	0.503	1	3	5
Squalus acanthias	15	360	Pisc	3.52	1.577	91	62	3	22	14	0	-0.083	0.508	1	3	5
Zenopsis conchifer	13	73	Pisc	2.48	1.019	34	62	6	0	32	0	-0.122	0.786	1	3	5
Zenopsis conchifer	14	48	Pisc	2.42	1.599	38	59	2	0	39	0	-0.181	0.857	1	3	5
Zeus faber	13	944	Pisc	2.73	0.52	21	74	23	2	1	0	0.171	0.611	1	3	5
Zeus faber	14	625	Pisc	2.4	1.275	38	94	5	1	0	0	0.007	0.81	1	3	5

2 Table S4. Otter trawl surveys, the OSPAR Region in which they operate, the period over which they
3 have been undertaken and the number of unique hauls (*n*).

Survey acronym[1]	OSPAR Region[1]	Quarter[1]	Years	*n*
BBICFraOT4	BBIC	4	1997-2020	1693
BBICnSpaOT4	BBIC	4	2011-2018	902
BBICPorOT4	BBIC	4	2005-2018	1045
BBICsSpaOT1	BBIC	1	2000-2020	673
BBICsSpaOT4	BBIC	4	2002-2020	691
CSFraOT4	CS	4	1997-2020	1180
CSIreOT4	CS	4	2003-2020	2353
CSNIrOT1	CS	1	2008-2020	756
CSNIrOT4	CS	4	2009-2020	698
CSScoOT1	CS	1	1997-2020	1082
CSScoOT4	CS	4	1997-2020	1210
GNSFraOT4	GNS	4	1998-2020	1907
GNSIntOT1	GNS	1	1997-2020	8827
WAScoOT3	WA	3	1999-2020	701
WASpaOT3	WA	3	2006-2018	1019

4 [1.] *Survey acronym convention: First 2 to 4 capitalised letters indicate the OSPAR Region (BBIC: Bay of*
5 *Biscay and Iberian Coast; CS: Celtic Seas; GNS: Greater North Sea; WA – Wider Atlantic). Next*
6 *capitalised and lowercase letters signify the country involved (Spa: Spain; Bel: Belgium; Por: Portugal;*
7 *Fra: France; Eng: England; Ire: Republic of Ireland; Nir: Northern Ireland; Sco: Scotland; Ger: Germany;*
8 *Int: International; Net: The Netherlands. International refers to the two international bottom trawl*
9 *surveys carried out in the Greater North Sea under the International Council for the Exploration of the*
10 *Sea (ICES). In the Bay of Biscay and Iberian Coast Region, Spanish surveys are further delimited by (n)*
11 *for surveys operating in the northern Iberian Coast area and (s) for surveys operating in the southern*
12 *Iberian Coast area. Next two capitalised letters indicate the type of survey (OT: otter trawl). Final*
13 *number indicates the season in which the survey is primarily undertaken (1: January to March; 3: July*
14 *to September; 4: October to December).*

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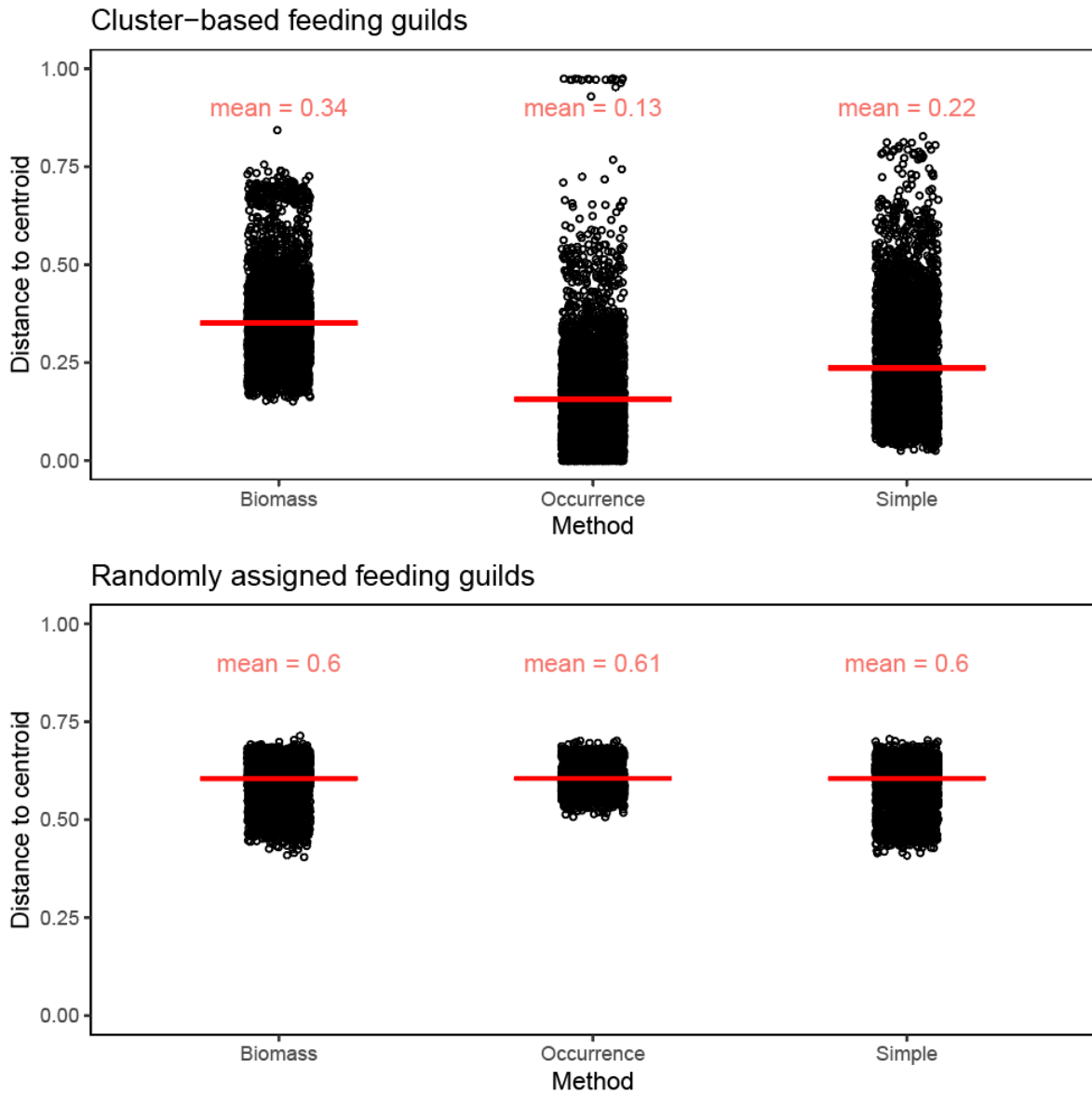
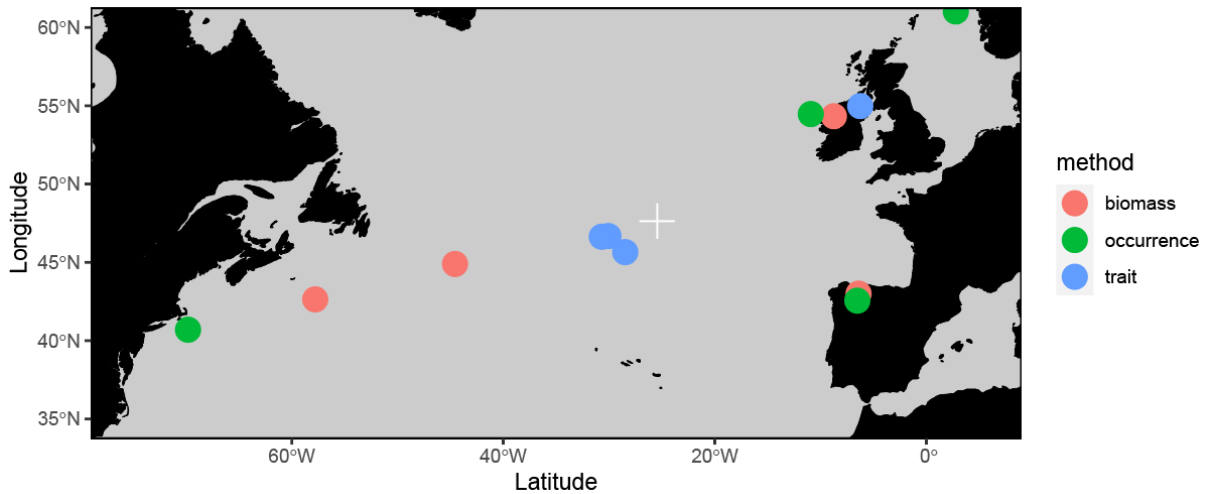
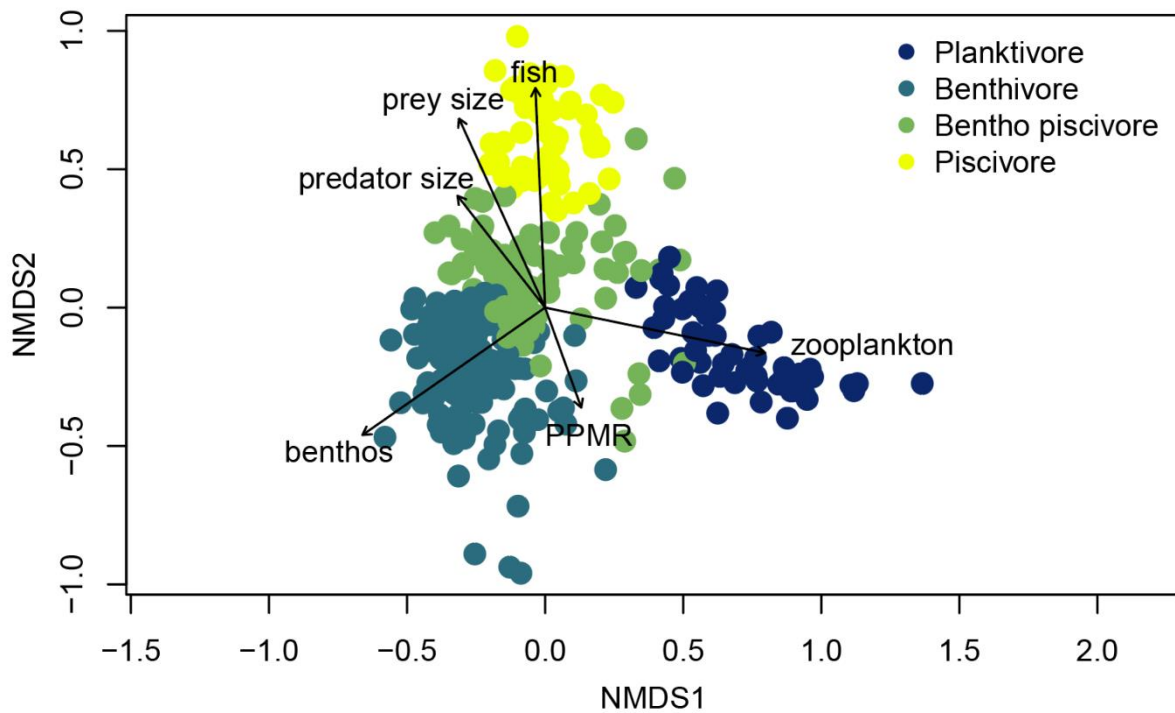
1 *Feeding guild classification*

4 Figure S2: Differences in cluster-based methods used to assign feeding guilds and those randomly
5 generated measured using mean distance to centroid of re-sampled stomach contents data (see also
6 Table S7). Each point shows the distance to centroid per feeding guild per resampling event per
7 method. Feeding guild composition was more similar following resampling where distance to centroid
8 was lower.
9
10 Table S5. Tukey's all-pairwise comparisons of mean distance to centroid (square root transformed)
11 between feeding guild classification methods following analysis of variance of re-sampled stomach
12 contents data.

Test	Fit	SE	*t*-value	*p*-value
Occurrence - Biomass	-0.22	0.003	-78.862	0.001
Trait - Biomass	-0.117	0.003	-41.920	0.001
Trait - Occurrence	0.103	0.003	36.977	0.001

2 Figure S3: Method-specific feeding guild spatial centroids. Guilds for the trait method were closest to
3 the data centroid (white cross) which shows that each guild contained fish found widely across the
4 study region. The occurrence and biomass methods were more susceptible to large spatial gradients
5 in prey composition meaning guilds were composed of fish largely found in the same area.

8 Figure S4: A non-metric multidimensional scaling analysis of the dissimilarities used in our cluster
9 analysis which provide a more nuanced understanding (i.e., bounded data as opposed to categorical)
10 of different predator feeding traits in relation to others' (see Table S3 for unique species size class axis
11 scores). Arrows show the direction of increasing values for the variables used in our cluster analysis.
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15 Table S6. Taxa and sizes observed in the survey data with insufficient stomach contents data to be
16 classified into feeding guilds. Fish are ordered by the sum of their biomass (kg per km^2) observed
17 across all hauls to help direct future stomach sampling by prioritising those contributing most to the
18 fish assemblage across the study region.

Taxa	Min cm	Max cm	Sum kg per km2
Capros aper	8	16	3240041
Trachurus trachurus	5	10	1042657
Capros aper	4	8	441428
Trachurus picturatus	9	16	428259
Sebastes viviparus	15	28	419466
Sardina pilchardus	11	19	389717
Gadiculus argenteus	10	18	360658
Argentina sphyraena	21	38	337196
Trachurus picturatus	16	30	313069
Engraulis encrasicolus	6	11	265764
Capros aper	16	31	242370
Sebastes viviparus	8	15	221067
Mustelus asterias	50	92	176023
Molva molva	77	142	132724
Scomber colias	19	33	114984
Galeorhinus galeus	82	153	111270
Conger conger	110	191	95179
Gadiculus argenteus	6	10	89462
Trachurus mediterraneus	18	34	86786
Scyliorhinus stellaris	85	160	84060
Platichthys flesus	33	60	79759
Maurolicus muelleri	36	58	77134
Boops boops	18	33	76843
Lepidion eques	23	39	76313
Molva molva	42	77	73287
Diplodus vulgaris	15	27	68597
Dipturus batis	102	187	61092
Mustelus asterias	92	167	55315
Raja brachyura	70	125	55209
Chimaera monstrosa	30	55	54496
Deania calcea	87	154	54264
Dipturus batis	187	343	48680
Dipturus batis	55	102	41609
Argentina silus	11	20	40851
Scyliorhinus stellaris	45	85	36300
Trachurus mediterraneus	10	18	32564
Dicentrarchus labrax	61	114	30554
Pollachius pollachius	64	116	30073
Micromesistius poutassou	38	69	29757
Raja brachyura	39	70	29703
Scomber colias	10	19	29396
Scymnodon ringens	70	128	27806
Deania calcea	49	87	26632
Cyclopterus lumpus	38	71	23205

Lophius piscatorius	112	217	22100
Dipturus nidarosiensis	126	226	21348
Raja undulata	74	137	19993
Glyptocephalus cynoglossus	38	67	19115
Serranus hepatus	95	175	18942
Cyclopterus lumpus	20	38	18593
Sprattus sprattus	3	6	18436
Coelorinchus caelorhincus	8	15	16722
Galeorhinus galeus	153	286	15889
Argentina sphyraena	6	11	15738
Sardina pilchardus	6	11	15568
Boops boops	10	18	14845
Micromesistius poutassou	6	12	14300
Molva macrophthalma	98	174	14125
Mustelus mustelus	46	90	12942
Mora moro	34	61	12709
Leucoraja circularis	78	142	12328
Myoxocephalus scorpius	15	28	12301
Spondyliosoma cantharus	9	16	11753
Raja microocellata	68	123	11751
Raja montagui	65	115	10425
Sparus aurata	16	30	10399
Trachurus mediterraneus	5	10	10053
Dipturus batis	30	55	9798
Coelorinchus caelorhincus	27	49	9779
Dasyatis pastinaca	62	116	9115
Mustelus asterias	28	50	8518
Trachurus mediterraneus	34	65	8370
Scymnodon ringens	39	70	8338
Callionymus maculatus	11	21	8108
Hoplostethus mediterraneus	27	50	8077
Mora moro	19	34	7896
Leucoraja circularis	44	78	7040
Microchirus variegatus	18	33	6951
Raja undulata	40	74	6807
Galeorhinus galeus	44	82	6685
Etmopterus spinax	44	79	6577
Phycis blennoides	66	119	6512
Epigonus telescopus	17	32	6417
Trachinus draco	11	20	6258
Chimaera monstrosa	16	30	5688
Cepola macrophthalma	21	54	5475
Coelorinchus caelorhincus	49	89	5401
Arnoglossus laterna	104	180	5207
Raja microocellata	37	68	5060
Lepidion eques	14	23	5014

Zeus faber	55	105	4936
Raja brachyura	125	224	4908
Macroramphosus scolopax	12	23	4820
Buglossidium luteum	9	16	4815
Trachyrincus scabrus	16	28	4786
Boops boops	33	61	4731
Diplodus vulgaris	27	50	4630
Brosme brosme	61	109	4603
Buglossidium luteum	5	9	4532
Dasyatis pastinaca	34	62	4519
Aphanopus carbo	69	122	4475
Glyptocephalus cynoglossus	13	22	4232
Argyrosomus regius	35	67	4138
Lamna nasus	102	193	4120
Sparus aurata	30	56	4022
Agonus cataphractus	9	18	3903
Trachurus picturatus	30	54	3795
Conger conger	191	333	3780
Mustelus mustelus	90	178	3735
Scyliorhinus stellaris	24	45	3647
Merlangius merlangus	227	416	3638
Molva molva	23	42	3553
Molva molva	142	262	3511
Callionymus maculatus	5	11	3439
Trisopterus luscus	5	9	3383
Malacocephalus laevis	28	54	3366
Leucoraja fullonica	46	83	3341
Brama brama	29	51	3266
Malacocephalus laevis	54	103	3219
Argyrosomus regius	18	35	3207
Leucoraja fullonica	83	151	3188
Dalatias licha	74	136	3188
Scorpaena scrofa	27	51	3183
Balistes capriscus	29	53	3133
Chelon labrosus	31	56	3091
Atherina presbyter	6	11	3079
Dipturus oxyrinchus	81	139	3021
Trachinus draco	37	67	2950
Nezumia aequalis	25	47	2763
Zenopsis conchifer	57	99	2762
Dicologlossa cuneata	11	20	2735
Mola mola	36	66	2683
Hydrolagus mirabilis	24	44	2618
Mola mola	19	36	2615
Callionymus lyra	5	10	2591
Merlangius merlangus	67	123	2547

Spondyliosoma cantharus	5	9	2470
Dasyatis pastinaca	116	215	2446
Coelorinchus caelorhincus	15	27	2354
Sarda sarda	21	38	2353
Coelorinchus caelorhincus	89	163	2336
Pagellus acarne	9	16	2319
Cepola macrophthalma	54	137	2262
Alosa fallax	38	69	2262
Chelidonichthys lucerna	61	114	2217
Macroramphosus scolopax	6	12	2213
Myoxocephalus scorpius	8	15	2188
Coelorinchus caelorhincus	4	8	2137
Diplodus bellottii	8	15	2086
Dalatias licha	41	74	2039
Umbrina canariensis	17	31	2039
Somniosus microcephalus	94	168	2018
Raja brachyura	22	39	1947
Maurolicus muelleri	23	36	1858
Entelurus aequoreus	18	37	1814
Alosa fallax	21	38	1813
Myliobatis aquila	38	82	1795
Torpedo marmorata	27	51	1753
Beryx splendens	26	48	1740
Myxine glutinosa	21	36	1738
Lamna nasus	193	364	1678
Diplodus bellottii	15	27	1672
Lepidopus caudatus	25	45	1669
Atherina presbyter	11	20	1664
Scophthalmus maximus	16	29	1635
Lithognathus mormyrus	30	56	1625
Centrolophus niger	36	63	1617
Xiphias gladius	80	145	1520
Scophthalmus rhombus	56	104	1519
Dipturus nidarosiensis	70	126	1491
Epigonus telescopus	9	17	1490
Blennius ocellaris	9	17	1483
Pagrus pagrus	27	51	1464
Ammodytes	27	52	1462
Pagellus bellottii	15	28	1426
Echiichthys vipera	5	9	1422
Dicologlossa cuneata	20	37	1399
Spicara maena	9	17	1398
Dasyatis tortonesei	62	116	1352
Dasyatis tortonesei	116	215	1328
Mola mola	66	123	1296
Dipturus oxyrinchus	139	238	1243

Diplodus vulgaris	8	15	1217
Spicara maena	17	31	1208
Pagellus bogaraveo	16	29	1177
Gaidropsarus vulgaris	35	62	1164
Beryx decadactylus	26	47	1149
Engraulis encrasicolus	132	243	1129
Alepocephalus rostratus	41	74	1121
Centrolophus niger	63	110	1056
Gaidropsarus vulgaris	19	35	1016
Tetronarce nobiliana	69	131	1008
Syngnathus acus	8	14	994
Galeus atlanticus	15	27	984
Liparis liparis	13	23	980
Capros aper	2	4	918
Alepocephalus rostratus	22	41	918
Notacanthus bonaparte	19	34	916
Scomber colias	33	58	902
Labrus mixtus	18	31	902
Hippoglossus hippoglossus	113	204	880
Brama brama	51	91	868
Sebastes viviparus	5	8	859
Entelurus aequoreus	37	75	843
Anguilla anguilla	58	105	835
Beryx splendens	14	26	833
Dicentrarchus punctatus	61	105	829
Arnoglossus imperialis	6	11	825
Trisopterus minutus	3	5	807
Deania profundorum	48	86	803
Trachyrincus scabrus	9	16	800
Rajella bathyphila	126	226	792
Microstomus kitt	5	10	787
Notacanthus bonaparte	34	63	775
Balistes capriscus	16	29	760
Liparis liparis	7	13	758
Pagellus bogaraveo	29	53	746
Taurulus bubalis	16	30	684
Nezumia aequalis	47	87	664
Taurulus bubalis	9	16	663
Argyrosomus regius	67	129	660
Maurolicus muelleri	58	94	646
Raja undulata	22	40	645
Zeus faber	105	201	639
Malacocephalus laevis	199	381	638
Lepidotrigla cavillone	17	30	630
Serranus cabrilla	17	33	627
Notoscopelus kroyeri	118	220	623

Pagrus pagrus	51	96	614
Labrus bergylta	30	55	598
Tetronarce nobiliana	37	69	580
Molva dypterygia	48	88	573
Gadiculus argenteus	3	6	571
Chelidonichthys lucerna	9	17	568
Trachipterus arcticus	111	207	556
Gasterosteus aculeatus	5	9	556
Scymnodon ringens	21	39	556
Sarda sarda	38	69	554
Sphoeroides pachygaster	27	51	554
Sphoeroides pachygaster	14	27	553
Boops boops	5	10	542
Bathysolea profundicola	12	21	542
Cyclopterus lumpus	11	20	540
Anthias anthias	10	20	528
Schedophilus medusophagus	27	49	527
Nemichthys scolopaceus	66	123	517
Schedophilus medusophagus	49	92	513
Alosa fallax	11	21	503
Lumpenus lampretaeformis	8	21	495
Pegusa lascaris	18	32	492
Sparus aurata	56	104	490
Leucoraja circularis	142	255	481
Scyliorhinus canicula	88	157	478
Xiphias gladius	145	262	471
Lithognathus mormyrus	16	30	461
Molva dypterygia	88	159	441
Engraulis encrasicolus	3	6	440
Chelon labrosus	56	101	436
Zeugopterus norvegicus	8	14	431
Scymnodon ringens	128	234	428
Squalus blainville	45	84	423
Leucoraja fullonica	25	46	419
Molva dypterygia	27	48	415
Heptranchias perlo	73	133	413
Microchirus variegatus	5	10	396
Deania calcea	28	49	395
Scyliorhinus canicula	9	15	395
Centrophorus granulosus	76	136	388
Myoxocephalus scorpius	28	53	387
Diplodus sargus	30	54	369
Syngnathus acus	25	46	362
Alopias vulpinus	157	303	355
Argyrosomus regius	9	18	351
Enchelyopus cimbrius	7	13	346

Mullus surmuletus	5	9	343
Xenodermichthys copei	11	21	337
Argentina sphyraena	3	6	337
Citharus linguatula	20	37	332
Epigonus telescopus	32	61	327
Deania profundorum	86	153	327
Coryphaenoides rupestris	90	162	327
Leucoraja circularis	24	44	327
Hippoglossoides platessoides	3	6	324
Dicentrarchus punctatus	35	61	321
Leucoraja naevus	13	23	320
Mustelus mustelus	23	46	316
Myliobatis aquila	82	175	314
Nezumia aequalis	4	7	309
Polyprion americanus	53	100	305
Scomber scombrus	64	117	300
Sarpa salpa	29	54	298
Dipturus oxyrinchus	47	81	296
Acantholabrus palloni	16	30	295
Notoscopelus kroyeri	10	18	286
Rajella bathyphila	70	126	285
Pholis gunnellus	13	24	282
Hydrolagus mirabilis	44	79	280
Trachipterus arcticus	60	111	275
Lophius budegassa	5	9	267
Nesiarchus nasutus	73	134	267
Gaidropsarus vulgaris	11	19	262
Pomatoschistus minutus	3	6	258
Stomias boa	25	45	256
Agonus cataphractus	18	36	253
Scorpaena loppei	8	14	248
Rostroraja alba	73	134	244
Amblyraja radiata	6	11	242
Umbrina canariensis	31	56	241
Sebastes viviparus	28	50	241
Serranus cabrilla	9	17	239
Raja clavata	138	248	239
Pagellus bogaraveo	9	16	239
Halargyreus johnsonii	12	22	234
Dipturus batis	16	30	232
Raja miraletus	26	46	230
Diplodus annularis	15	27	229
Synaphobranchus kaupii	22	38	227
Torpedo torpedo	56	110	223
Callanthias ruber	9	17	223
Aphia minuta	3	5	222

Trachurus trachurus	3	5	219
Rostroraja alba	134	248	219
Mora moro	61	110	218
Acipenser sturio	80	148	218
Chimaera monstrosa	9	16	216
Torpedo marmorata	14	27	207
Torpedo marmorata	51	98	207
Alosa alosa	19	34	207
Echiichthys vipera	17	31	204
Citharus linguatula	6	11	202
Labrus bergylta	17	30	201
Raja asterias	39	69	200
Maurolicus muelleri	3	5	196
Phycis phycis	33	59	193
Pollachius virens	10	19	190
Lycodes vahlii	18	32	189
Maurolicus muelleri	5	9	185
Pagellus bellottii	8	15	179
Lycodes vahlii	10	18	174
Solea senegalensis	18	34	173
Pagellus erythrinus	8	15	172
Leucoraja naevus	73	130	167
Argentina silus	6	11	166
Alepocephalus bairdii	40	72	165
Argentina sphyraena	38	69	162
Acantholabrus palloni	9	16	159
Stomias boa	14	25	158
Anguilla anguilla	32	58	154
Raja miraletus	46	82	153
Dicentrarchus punctatus	21	35	152
Pagrus auriga	27	52	151
Brosme brosme	19	34	149
Xenodermichthys copei	6	11	149
Limanda limanda	3	6	147
Alosa alosa	34	61	147
Taurulus bubalis	5	9	146
Symphodus roissali	28	52	145
Pomadasys incisus	16	31	144
Alosa fallax	6	11	144
Aphanopus carbo	39	69	144
Cyttopsis rosea	14	27	143
Arnoglossus laterna	4	7	143
Nesiarchus nasutus	40	73	142
Sprattus sprattus	71	130	141
Umbrina canariensis	9	17	140
Cepola macrophthalma	8	21	138

Diplodus annularis	8	15	138
Belone belone	61	110	135
Raja montagui	12	21	133
Diplodus cervinus	28	50	132
Raja microocellata	20	37	132
Pagrus pagrus	15	27	130
Galeorhinus galeus	23	44	129
Polymetme thaeocoryla	12	22	128
Mora moro	11	19	127
Echiodon drummondii	18	41	124
Ephippion guttifer	27	51	121
Galeus melastomus	8	14	120
Blennius ocellaris	17	32	120
Gobius niger	5	9	119
Lepidion eques	39	66	119
Etmopterus spinax	7	13	115
Halargyreus johnsonii	7	12	114
Solea solea	6	10	113
Dentex canariensis	28	53	111
Sardinella aurita	19	36	109
Malacocephalus laevis	8	15	109
Rostroraja alba	40	73	108
Galeus atlanticus	50	93	108
Scorpaena loppei	25	45	106
Synchiropus phaeton	13	28	102
Dasyatis tortonesei	34	62	101
Merluccius merluccius	3	6	101
Alepocephalus bairdii	22	40	100
Liparis montagui	8	16	96
Malacocephalus laevis	103	199	94
Dalatias licha	22	41	94
Malacocephalus laevis	4	8	93
Beryx decadactylus	14	26	88
Microchirus boscanion	9	17	85
Ctenolabrus rupestris	10	18	83
Belone belone	34	61	82
Arnoglossus thori	10	18	81
Beryx decadactylus	47	85	80
Engraulis encrasicolus	21	39	80
Zeugopterus punctatus	8	14	80
Molva molva	12	23	78
Callionymus reticulatus	6	12	78
Molva dypterygia	15	27	77
Pagrus auriga	52	98	77
Labrus mixtus	31	55	77
Microchirus boscanion	5	9	74

Serranus hepatus	4	8	74
Microchirus azevia	17	31	72
Gaidropsarus vulgaris	3	6	71
Myxine glutinosa	36	63	69
Lepidopus caudatus	82	150	68
Nezumia aequalis	7	13	67
Callionymus maculatus	3	5	66
Gadiculus argenteus	18	32	66
Polymetme corythaeola	13	23	65
Myxine glutinosa	12	21	65
Buglossidium luteum	16	29	65
Phycis phycis	18	33	65
Hyperoplus lanceolatus	8	15	65
Lycodes gracilis	11	26	63
Maurolicus muelleri	2	3	63
Helicolenus dactylopterus	52	94	63
Osmerus eperlanus	6	11	61
Zoarces viviparus	12	23	61
Synaphobranchus kaupii	12	22	61
Zeugopterus norvegicus	4	8	61
Arnoglossus rueppelii	12	22	57
Trachyrincus scabrus	49	88	56
Arctozenus risso	13	24	56
Oxynotus paradoxus	73	133	55
Stomias boa	82	147	55
Atherina presbyter	3	6	55
Lampanyctus crocodilus	12	23	52
Hygophum benoiti	30	54	51
Pholis gunnellus	24	44	51
Ciliata mustela	7	13	50
Anthias anthias	20	41	50
Caranx rhonchus	8	17	50
Galeus murinus	43	79	49
Pegusa lascaris	10	18	49
Myoxocephalus scorpius	5	8	49
Umbrina cirrosa	31	58	49
Sardina pilchardus	35	64	48
Oxynotus paradoxus	40	73	48
Mugil cephalus	31	59	48
Arnoglossus imperialis	19	35	48
Gobius niger	9	17	46
Ciliata mustela	23	41	46
Deania profundorum	27	48	46
Hyperoplus lanceolatus	4	8	46
Alosa agone	17	33	45
Dicologlossa cuneata	6	11	45

Squalus blainville	25	45	44
Alepocephalus rostratus	12	22	43
Callionymus maculatus	21	41	42
Symphodus bailloni	15	28	41
Labrus mixtus	10	18	41
Rajella bathyphila	39	70	41
Microchirus theophila	17	32	40
Sphyraena sphyraena	36	69	39
Sprattus sprattus	21	38	38
Uranoscopus scaber	29	53	38
Ephippion guttifer	14	27	37
Dipturus nidarosiensis	39	70	37
Trachyrincus scabrus	28	49	37
Syngnathus acus	14	25	36
Citharus linguatula	3	6	36
Alosa alosa	11	19	36
Raja asterias	69	123	35
Coryphaenoides rupestris	27	50	35
Lepidion eques	8	14	35
Pollachius pollachius	11	19	35
Molva macrophthalma	10	17	34
Lampanyctus crocodilus	7	12	34
Halargyreus johnsonii	22	40	34
Scyliorhinus stellaris	13	24	33
Pomadasys incisus	8	16	33
Cyttopsis rosea	8	14	33
Lepidotrigla dieuzeidei	17	31	33
Pagrus pagrus	8	15	31
Lepidotrigla dieuzeidei	5	9	31
Callionymus reticulatus	12	26	31
Trigla lyra	5	10	30
Coryphaenoides rupestris	50	90	29
Myliobatis aquila	18	38	29
Syngnathus rostellatus	9	15	29
Pomatoschistus minutus	33	58	28
Bathysolea profundicola	21	39	28
Callanthias ruber	5	9	28
Spicara smaris	10	18	27
Maurolicus muelleri	9	14	27
Glyptocephalus cynoglossus	7	13	27
Echiodon dentatus	20	36	26
Spicara maena	5	9	26
Scomber scombrus	6	11	26
Liparis liparis	4	7	26
Gnathophis mystax	20	36	26
Ruvettus pretiosus	77	140	26

Pagellus acarne	5	9	25
Aphia minuta	5	8	25
Myoxocephalus scorpioides	18	32	25
Gaidropsarus vulgaris	6	11	24
Trachinus draco	6	11	24
Chaunax pictus	14	27	24
Myctophum punctatum	6	10	24
Hymenocephalus italicus	13	24	24
Galeus melastomus	96	181	24
Galeus murinus	24	43	24
Diplodus sargus	16	30	23
Raja brachyura	12	22	23
Dentex gibbosus	31	57	22
Dipturus oxyrinchus	28	47	22
Petromyzon marinus	63	109	22
Scorpaena scrofa	8	15	21
Liparis montagui	4	8	21
Solea senegalensis	34	62	21
Chaunax pictus	27	49	21
Monochirus hispidus	8	14	20
Lepidorhombus boscii	3	6	20
Hymenocephalus italicus	24	43	20
Pagellus erythrinus	4	8	18
Dasyatis pastinaca	18	34	18
Hyperoplus lanceolatus	53	101	18
Syngnathus acus	4	8	18
Arnoglossus thori	5	10	17
Ciliata septentrionalis	9	16	17
Cyttopsis rosea	27	49	17
Symphurus nigrescens	6	11	17
Nerophis ophidion	25	50	17
Gasterosteus aculeatus	9	17	17
Alosa agone	33	62	17
Micromesistius poutassou	4	6	17
Raja clavata	7	13	17
Nemichthys scolopaceus	36	66	17
Dentex maroccanus	15	29	17
Scorpaena loppei	14	25	17
Polymetme thaeocoryla	22	40	17
Phycis blennoides	6	11	16
Blennius ocellaris	4	9	16
Leucoraja circularis	13	24	16
Uranoscopus scaber	16	29	16
Trachyrincus scabrus	5	9	16
Pterycombus brama	28	53	16
Salmo salar	32	59	16

Dipturus nidarosiensis	22	39	16
Benthodesmus simonyi	60	104	16
Chelidonichthys lastoviza	18	33	15
Hydrolagus mirabilis	13	24	15
Labrus bergylta	9	17	15
Dentex gibbosus	17	31	14
Dentex canariensis	15	28	14
Chelidonichthys lastoviza	10	18	14
Microchirus theophila	9	17	14
Naucrates ductor	28	53	14
Eutrigla gurnardus	3	5	14
Rajella bathyphila	22	39	13
Raja undulata	12	22	13
Ciliata septentrionalis	5	9	13
Stromateus fiatola	27	50	13
Chlorophthalmus agassizi	11	22	13
Scorpaena scrofa	15	27	13
Centrolabrus exoletus	19	33	13
Buglossidium luteum	3	5	13
Helicolenus dactylopterus	3	5	13
Deania calcea	16	28	13
Rajella fyllae	43	80	12
Trachipterus trachypterus	66	123	12
Trachipterus arcticus	32	60	12
Chauliodus sloani	18	33	12
Monochirus hispidus	14	25	12
Lophius piscatorius	4	8	12
Stomias boa	8	14	12
Coryphaenoides rupestris	15	27	12
Chelidonichthys lucerna	5	9	12
Ciliata septentrionalis	16	29	11
Plectorhinchus mediterraneus	30	54	11
Chelidonichthys obscurus	35	62	11
Cyclopterus lumpus	6	11	11
Spratelloides lewisi	11	20	11
Dentex maroccanus	29	56	11
Notoscopelus kroyeri	5	10	11
Macrourus berglax	18	35	11
Zeugopterus punctatus	14	26	11
Pegusa lascaris	5	10	10
Osmerus eperlanus	11	20	10
Hoplostethus mediterraneus	4	8	10
Sarpa salpa	16	29	10
Pholis gunnellus	7	13	10
Lycenchelys sarsii	10	16	10
Dentex gibbosus	9	17	9

Gaidropsarus biscayensis	7	12	9
Torpedo marmorata	7	14	9
Symphurus nigrescens	11	19	9
Gaidropsarus mediterraneus	23	42	9
Mustelus asterias	15	28	9
Macrourus berglax	35	65	9
Triglops murrayi	9	19	9
Raja montagui	7	12	8
Lepidopus caudatus	14	25	8
Alosa agone	9	17	8
Synaphobranchus kaupii	38	66	8
Ophidion barbatum	23	42	8
Sardina pilchardus	3	6	8
Hygophum benoiti	16	30	8
Petromyzon marinus	21	36	8
Arctozenus risso	24	44	7
Brama brama	16	29	7
Coryphaenoides rupestris	8	15	7
Zenopsis conchifer	11	19	7
Melanostomias bartonbeani	22	40	7
Entelurus aequoreus	9	18	7
Agonus cataphractus	2	5	7
Spicara smaris	18	35	7
Parablennius gattorugine	9	17	7
Coelorinchus caelorhincus	2	4	7
Arctozenus risso	7	13	7
Zeugopterus punctatus	4	8	7
Umbrina canariensis	5	9	7
Centrolophus niger	21	36	7
Synaphobranchus kaupii	7	12	7
Arnoglossus rueppelii	6	12	6
Ctenolabrus rupestris	5	10	6
Zeugopterus regius	8	14	6
Zoarces viviparus	23	43	6
Arnoglossus laterna	20	34	6
Echiichthys vipera	31	58	6
Raniceps raninus	17	29	6
Nezumia aequalis	2	4	6
Maurolicus muelleri	14	23	6
Argyrosomus regius	5	9	6
Schedophilus medusophagus	14	27	6
Gaidropsarus mediterraneus	12	23	6
Clupea harengus	2	3	6
Benthodesmus elongatus	35	60	6
Trisopterus minutus	32	59	6
Leucoraja fullonica	14	25	6

Zenopsis conchifer	6	11	6
Epigonus denticulatus	6	10	5
Triglops murrayi	5	9	5
Diaphus dumerilii	6	11	5
Callionymus maculatus	41	81	5
Glyptocephalus cynoglossus	4	7	5
Gaidropsarus biscayensis	12	22	5
Nessorhamphus ingolfianus	36	66	5
Argyropelecus olfersii	4	8	5
Ophidion barbatum	13	23	5
Leucoraja naevus	7	13	5
Serranus scriba	16	30	5
Etmopterus pusillus	24	44	5
Raja miraletus	14	26	5
Anthias anthias	5	10	5
Sigmops bathyphilus	24	43	5
Microstomus kitt	3	5	5
Gaidropsarus macrophthalmus	22	42	5
Capros aper	1	2	5
Spinachia spinachia	30	57	5
Halobatrachus didactylus	28	51	5
Conger conger	12	21	5
Gnathophis mystax	36	67	5
Scorpaena loppei	5	8	5
Syngnathus acus	46	82	4
Petromyzon marinus	36	63	4
Gadella maraldi	20	35	4
Lepidorhombus whiffiagonis	3	6	4
Macrourus berglax	10	18	4
Lampetra fluviatilis	18	32	4
Symphodus bailloni	8	15	4
Serranus hepatus	15	28	4
Lycenchelys sarsii	16	26	4
Raniceps raninus	9	17	4
Pomatoschistus minutus	10	18	4
Magnisudis atlantica	13	24	4
Benthodesmus elongatus	60	104	4
Naucrates ductor	15	28	4
Spinachia spinachia	16	30	4
Argyropelecus olfersii	8	15	4
Lampetra fluviatilis	32	58	4
Microchirus azevia	9	17	4
Chelon labrosus	17	31	3
Chimaera monstrosa	5	9	3
Symphodus melops	9	17	3
Zoarces viviparus	7	12	3

Paraliparis membranaceus	9	17	3
Pontinus kuhlii	16	30	3
Trachurus picturatus	5	9	3
Myoxocephalus scorpioides	10	18	3
Mora moro	6	11	3
Caranx rhonchus	17	32	3
Argentina silus	3	6	3
Belone belone	19	34	3
Synchiropus phaeton	6	13	3
Serrivomer beanii	36	66	3
Gaidropsarus argentatus	21	39	3
Sphoeroides pachygaster	7	14	3
Labrus mixtus	6	10	3
Microchirus ocellatus	9	16	3
Myctophum punctatum	3	6	3
Anguilla anguilla	18	32	3
Boops boops	3	5	3
Notacanthus bonaparte	10	19	3
Sigmops bathyphilus	13	24	3
Scorpaena porcus	8	15	3
Callionymus lyra	2	5	3
Gadella maraldi	11	20	3
Polymetme corythaeola	7	13	2
Epigonus denticulatus	10	18	2
Alosa alosa	6	11	2
Trachurus mediterraneus	3	5	2
Echiodon drummondii	8	18	2
Paraliparis membranaceus	5	9	2
Symphodus roissali	15	28	2
Callionymus reticulatus	3	6	2
Macroramphosus scolopax	3	6	2
Pomatoschistus minutus	2	3	2
Bathysolea profundicola	7	12	2
Centrolabrus exoletus	10	19	2
Pomadasys incisus	4	8	2
Spinachia spinachia	5	9	2
Diplodus vulgaris	5	8	2
Lycodes vahlii	5	10	2
Zeus faber	2	4	2
Pagellus bellottii	4	8	2
Chauliodus sloani	10	18	2
Buglossidium luteum	2	3	2
Arnoglossus thori	18	33	2
Spratelloides lewisi	6	11	2
Melanonus zugmayeri	12	22	2
Neoraja iberica	12	22	2

Chelidonichthys obscurus	6	11	2
Hygophum benoiti	9	16	2
Callanthias ruber	17	31	2
Serranus scriba	9	16	2
Echiodon dentatus	11	20	2
Arnoglossus imperialis	3	6	2
Pagrus pagrus	4	8	2
Nessorhamphus ingolfianus	20	36	2
Macroparalepis affinis	13	24	2
Peristedion cataphractum	23	44	1
Diplecogaster bimaculata	2	4	1
Lycodes gracilis	5	11	1
Petromyzon marinus	12	21	1
Ophichthus rufus	38	72	1
Diplodus sargus	9	16	1
Argyropelecus hemigymnus	2	4	1
Argyropelecus gigas	8	15	1
Echiostoma barbatum	12	22	1
Cepola macrophthalma	3	8	1
Lestidiops jayakari	11	21	1
Syngnathus rostellatus	15	25	1
Chlorophthalmus agassizi	6	11	1
Limanda limanda	2	3	1
Spondyliosoma cantharus	2	5	1
Mullus surmuletus	3	5	1
Peristedion cataphractum	12	23	1
Benthodesmus simonyi	35	60	1
Scomberesox saurus	28	49	1
Raniceps raninus	5	9	1
Alepocephalus bairdii	12	22	1
Rostroraja alba	21	40	1
Pagrus auriga	14	27	1
Callionymus reticulatus	26	55	1
Lepidion eques	5	8	1
Chaunax pictus	8	14	1
Chelidonichthys lastoviza	6	10	1
Hippocampus hippocampus	8	16	1
Scomberesox saurus	15	28	1
Pleuronectes platessa	3	5	1
Syngnathus rostellatus	5	9	1
Polymetme thaeocoryla	7	12	1
Myxine glutinosa	7	12	1
Hoplostethus atlanticus	6	12	1
Leptoclinus maculatus	8	18	1
Paralepis coregonoides	13	24	1
Zeugopterus regius	14	25	1

Hippocampus hippocampus	5	8	1
Ceratoscopelus maderensis	6	11	1
Raja brachyura	7	12	1
Liparis montagui	16	30	1
Lycodes gracilis	26	59	1
Parasudis fraserbrunneri	12	21	1
Ciliata mustela	4	7	1
Syngnathus typhle	17	31	1
Cyclopterus lumpus	3	6	1
Serranus cabrilla	5	9	1
Squalus blainville	13	25	1
Dipturus oxyrinchus	16	28	1
Ciliata septentrionalis	3	5	1
Osmerus eperlanus	4	6	1
Galeus atlanticus	8	15	1
Alepocephalus rostratus	7	12	1
Centrolabrus exoletus	6	10	1
Hydrolagus mirabilis	7	13	1
Thunnus thynnus	9	18	1
Echiodon drummondii	41	91	1
Microchirus variegatus	3	5	1
Stromateus fiatola	8	15	1
Phycis phycis	10	18	1
Chirostomias pliopterus	12	22	1
Gobius paganellus	5	9	1
Centroscyllium fabricii	15	26	1
Argyropelecus olfersii	2	4	1
Lumpenus lampretaeformis	3	8	1
Gadella maraldi	6	11	1
Mustelus mustelus	12	23	1
Parablennius gattorugine	5	9	1
Polymetme corythaeola	23	42	1
Epigonus telescopus	5	9	1
Gaidropsarus mediterraneus	7	12	1
Gadiculus argenteus	2	3	1
Symphodus melops	5	9	1
Symphodus bailloni	5	8	1
Xenodermichthys copei	3	6	1
Trachyscorpia cristulata	9	17	1
Carapus acus	20	36	1
Pontinus kuhlii	9	16	0
Entelurus aequoreus	4	9	0
Molva molva	7	12	0
Echiodon drummondii	4	8	0
Cataetyx alleni	12	22	0
Arnoglossus thori	3	5	0

Diretmus argenteus	8	14	0
Sparus aurata	5	9	0
Etmopterus pusillus	13	24	0
Pagrus pagrus	2	4	0
Lobianchia gemellarii	6	11	0
Deania profundorum	15	27	0
Gaidropsarus macrophthalmus	3	6	0
Pagellus bogaraveo	5	9	0
Myctophum punctatum	10	19	0
Remora brachyptera	10	19	0
Symphodus roissali	8	15	0
Gasterosteus aculeatus	3	5	0
Microchirus theophila	5	9	0
Spinachia spinachia	9	16	0
Enchelyopus cimbrius	4	7	0
Liparis liparis	2	4	0
Scorpaena notata	4	8	0
Gobiidae	11	20	0
Scophthalmus rhombus	5	9	0
Chirolophis ascanii	11	26	0
Liparis montagui	2	4	0
Trisopterus luscus	3	5	0
Howella brodiei	9	17	0
Sebastes viviparus	3	5	0
Zeugopterus norvegicus	2	4	0
Sagamichthys schnakenbecki	12	22	0
Sparus aurata	9	16	0
Dentex maroccanus	8	15	0
Raja undulata	6	12	0
Hymenocephalus italicus	4	7	0
Leptagonus decagonus	9	18	0
Pagellus bellottii	2	4	0
Leucoraja circularis	7	13	0
Callionymus risso	3	5	0
Searsia koefoedi	9	17	0
Micrenophrys lilljeborgii	10	18	0
Nerophis ophidion	13	25	0
Chirolophis ascanii	5	11	0
Alosa alosa	3	6	0
Uranoscopus scaber	8	16	0
Squalus acanthias	7	14	0
Ceratoscopelus maderensis	3	6	0
Lithognathus mormyrus	5	9	0
Ammodytes	4	7	0
Chaunax pictus	4	8	0
Echiostoma barbatum	7	12	0

Carapus acus	11	20	0
Poromitra capito	9	17	0
Scyliorhinus stellaris	7	13	0
Serranus hepatus	2	4	0
Vinciguerria poweriae	5	9	0
Blennius ocellaris	2	4	0
Artediellus atlanticus	5	10	0
Taurulus bubalis	3	5	0
Scorpaena scrofa	4	8	0
Anarhichas lupus	7	12	0
Zenion hololepis	5	9	0
Paraliparis membranaceus	3	5	0
Gobius paganellus	9	16	0
Phycis blennoides	4	6	0
Myoxocephalus scorpius	2	5	0
Howella brodiei	5	9	0
Arctozenus risso	4	7	0
Zeugopterus regius	4	8	0
Dicentrarchus labrax	5	10	0
Aphia minuta	2	3	0
Leptoclinus maculatus	18	41	0
Nezumia sclerorhynchus	10	17	0
Notacanthus bonaparte	5	10	0
Guttigadus latifrons	7	12	0
Merluccius merluccius	2	3	0
Maurolicus muelleri	1	2	0
Torpedo marmorata	4	7	0
Scyliorhinus canicula	5	9	0
Paralepis coregonoides	7	13	0
Argentina sphyraena	2	3	0
Citharus linguatula	2	3	0
Leptoclinus maculatus	4	8	0
Poromitra crassiceps	9	17	0
Cyttopsis rosea	4	8	0
Benthosema glaciale	5	9	0
Coryphaenoides rupestris	5	8	0
Spratelloides lewisi	3	6	0
Lampanyctus photonotus	6	11	0
Diaphus dumerilii	3	6	0
Evermannella balbo	6	12	0
Brosme brosme	10	19	0
Notoscopelus elongatus	9	16	0
Scomber colias	6	10	0
Monochirus hispidus	4	8	0
Acantholabrus palloni	5	9	0
Scymnodon ringens	6	12	0

Lycenchelys sarsii	7	10	0
Peristedion cataphractum	7	12	0
Sprattus sprattus	2	3	0
Micrenophrys lilljeborgii	5	10	0
Nansenia tenera	7	12	0
Hippoglossoides platessoides	2	3	0
Notoscopelus kroyeri	3	5	0
Trisopterus esmarkii	2	3	0
Hymenocephalus italicus	2	4	0
Trisopterus minutus	2	3	0
Syngnathus typhle	9	17	0
Micrenophrys lilljeborgii	3	5	0
Molva dypterygia	8	15	0
Diplecogaster bimaculata	1	2	0
Hippocampus guttulatus	8	16	0
Lophius budegassa	2	5	0
Lepidorhombus boscii	2	3	0
Gadella maraldi	4	6	0
Pollachius pollachius	6	11	0
Benthosema glaciale	3	5	0
Lampanyctus crocodilus	4	7	0
Labrus bergylta	5	9	0
Alosa alosa	2	3	0
Molva molva	4	7	0
Brosme brosme	6	10	0
Gaidropsarus biscayensis	4	7	0
Dicologlossa cuneata	3	6	0
Ctenolabrus rupestris	3	5	0
Stomias boa	4	8	0
Arnoglossus rueppelii	3	6	0
Alosa agone	5	9	0
Belone belone	10	19	0
Chelidonichthys lucerna	3	5	0
Raniceps raninus	3	5	0
Microchirus ocellatus	4	9	0
Macrourus berglax	5	10	0
Brama brama	5	9	0
Chauliodus sloani	6	10	0
Centrolophus niger	7	12	0
Lepidotrigla cavillone	3	5	0
Zeugopterus punctatus	2	4	0
Sebastes mentella	4	8	0
Gobius niger	3	5	0
Pagellus acarne	3	5	0
Dysomma brevirostre	11	20	0
Chelidonichthys cuculus	3	6	0

Arnoglossus laterna	2	4	0
Phycis phycis	5	10	0
Nezumia aequalis	1	2	0
Halargyreus johnsonii	4	7	0
Bellottia apoda	5	9	0
Gobiidae	5	10	0
Gnathophis mystax	11	20	0
Glyptocephalus cynoglossus	2	4	0
Galeus melastomus	4	8	0
Echiichthys vipera	3	5	0
Anguilla anguilla	6	10	0
Triglops murrayi	2	5	0
Malacocephalus laevis	2	4	0
Anguilla anguilla	10	18	0
Micromesistius poutassou	2	4	0
Callanthias ruber	3	5	0
Sebastes mentella	2	4	0
Epigonus denticulatus	3	6	0
Setarches guentheri	5	9	0
Notoscopelus bolini	5	9	0
Conger conger	7	12	0
Serranus scriba	3	5	0
Trachinus draco	3	6	0
Pagellus bogaraveo	3	5	0
Molva macrophthalma	5	10	0
Lepadogaster lepadogaster	2	4	0
Lepidopus caudatus	7	14	0
Sander lucioperca	5	10	0
Chlorophthalmus agassizi	3	6	0
Arnoglossus imperialis	2	3	0
Cubiceps gracilis	5	9	0
Leucoraja naevus	4	7	0
Ammodytes	2	4	0
Gaidropsarus mediterraneus	3	7	0
Etmopterus spinax	4	7	0
Hippocampus hippocampus	2	5	0
Echiodon drummondii	2	4	0
Zeus faber	1	2	0
Argyropelecus aculeatus	2	4	0
Alosa fallax	3	6	0
Argyropelecus aculeatus	4	8	0
Trachurus trachurus	2	3	0
Lepidorhombus whiffiagonis	2	3	0
Squalus acanthias	4	7	0
Alepocephalus rostratus	4	7	0
Argyropelecus hemigymnus	1	2	0

Echiodon dentatus	6	11	0
Pholis gunnellus	4	7	0
Symphodus melops	3	5	0
Trigla lyra	3	5	0
Pomadasys incisus	2	4	0
Polymetme thaeocoryla	4	7	0
Acantholabrus palloni	3	5	0
Electrona risso	4	7	0
Symphurus nigrescens	3	6	0
Labrus mixtus	3	6	0
Amblyraja radiata	3	6	0
Scomber scombrus	3	6	0
Syngnathus rostellatus	3	5	0
Galeus melastomus	2	4	0
Epigonus constanciae	3	6	0
Cepola macrophthalma	1	3	0
Micrenophrys lilljeborgii	2	3	0
Lobianchia dofleini	3	5	0
Lobianchia gemellarii	3	6	0
Symphodus bailloni	3	5	0
Lophius piscatorius	2	4	0
Capros aper	1	1	0
Bathysolea profundicola	4	7	0
Arnoglossus thori	2	3	0
Alepocephalus bairdii	4	7	0
Callionymus lyra	1	2	0
Microstomus kitt	2	3	0
Spicara maena	3	5	0
Nezumia sclerorhynchus	3	5	0
Nezumia sclerorhynchus	5	10	0
Solea solea	3	6	0
Synaphobranchus kaupii	4	7	0
Cubiceps gracilis	3	5	0
Spinachia spinachia	3	5	0
Helicolenus dactylopterus	1	3	0
Apletodon dentatus	2	3	0
Hyperoplus lanceolatus	2	4	0
Phycis blennoides	2	4	0
Raja clavata	2	4	0
Chelidonichthys cuculus	1	2	0
Liparis liparis	1	1	0
Bathysolea profundicola	1	2	0
Nerophis lumbriciformis	6	13	0
Callionymus maculatus	1	3	0
Xenodermichthys copei	2	3	0
Chelidonichthys obscurus	2	3	0

Nerophis lumbriciformis	13	25	0
Coelorinchus caelorhincus	1	2	0
Nerophis ophidion	6	13	0
Hoplostethus atlanticus	1	2	0
Peristedion cataphractum	3	7	0
Ceratoscopelus maderensis	2	3	0
Coryphaenoides rupestris	3	5	0
Monochirus hispidus	1	2	0
Syngnathus typhle	5	9	0
Sprattus sprattus	1	2	0
Zeugopterus norvegicus	1	2	0
Nezumia bairdii	2	4	0
Agonus cataphractus	1	2	0
Bathysolea profundicola	2	4	0
Entelurus aequoreus	2	4	0
Callionymus reticulatus	1	3	0
Ctenolabrus rupestris	1	3	0
Gobiidae	1	3	0
Anguilla anguilla	3	6	0
Sardina pilchardus	2	3	0
Callionymus risso	1	3	0
Diaphus dumerilii	2	3	0
Syngnathus acus	2	4	0
Hymenocephalus italicus	1	2	0
Nezumia aequalis	1	1	0
Malacocephalus laevis	1	1	0
Microchirus variegatus	1	2	0
Trisopterus minutus	1	2	0
Argyropelecus olfersii	1	1	0
Zeus faber	1	1	0
Arnoglossus laterna	1	2	0
Arnoglossus laterna	1	1	0
Pholis gunnellus	1	2	0
Conger conger	2	4	0
Gobiidae	1	2	0
Malacocephalus laevis	1	2	0
Maurolicus muelleri	1	1	0
Trachurus trachurus	1	2	0
Merluccius merluccius	1	1	0
Sardina pilchardus	1	2	0
Nezumia bairdii	1	1	0
Coelorinchus caelorhincus	1	1	0
Squalus acanthias	1	1	0
Raja clavata	1	1	0
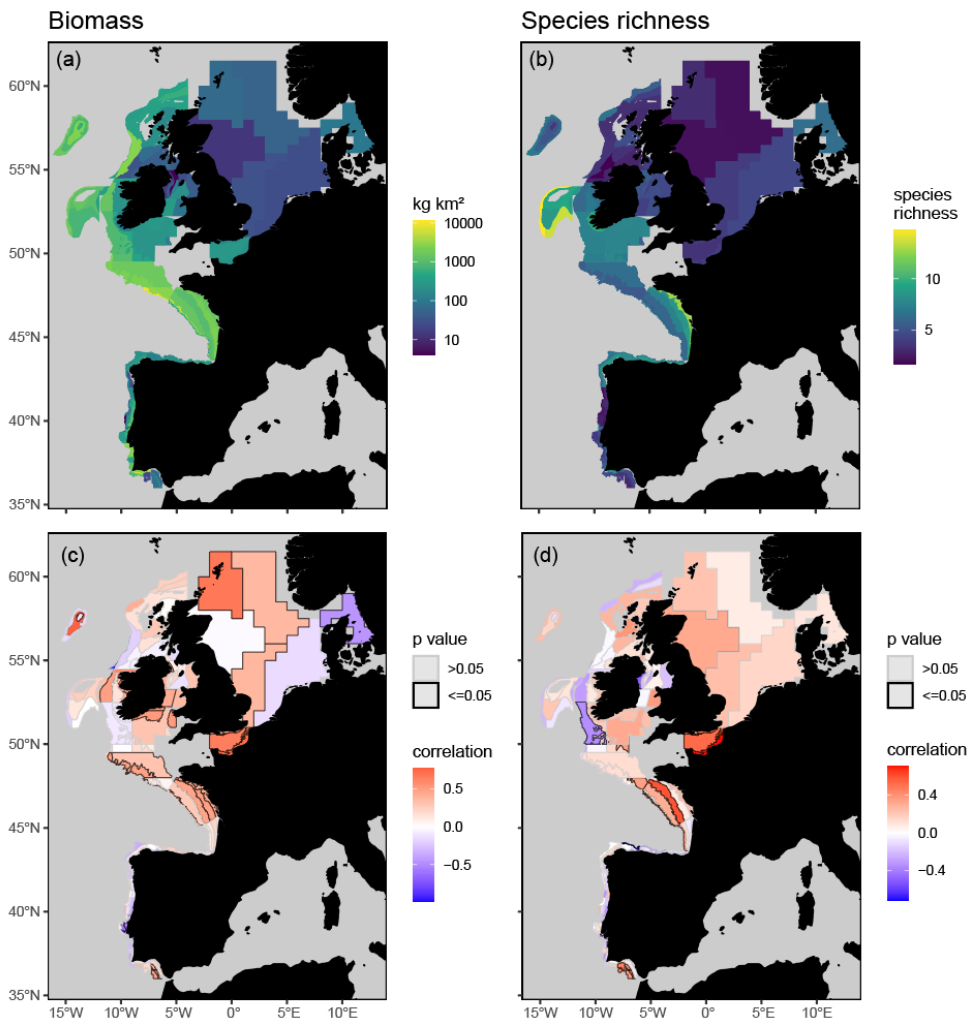
Figure S5: Mean spatial distribution (a, b) and temporal change (c, d) in unclassified fish biomass (a, c) and species richness (b, d) by assessment strata based on otter trawl data. Temporal increases and decreases are shown by red and blue cells, respectively (Kendall's τ scores of –1 to +1 represent a 100% probability of a decreasing or increasing trend, respectively). Assessment strata where the temporal change (correlation) is significant are highlighted with black borders.