nature ecology & evolution

SUPPLEMENTARY INFORMATION

DOI: 10.1038/s41559-017-0257-9

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Mapping the global potential for marine aquaculture

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Supplementary Information:

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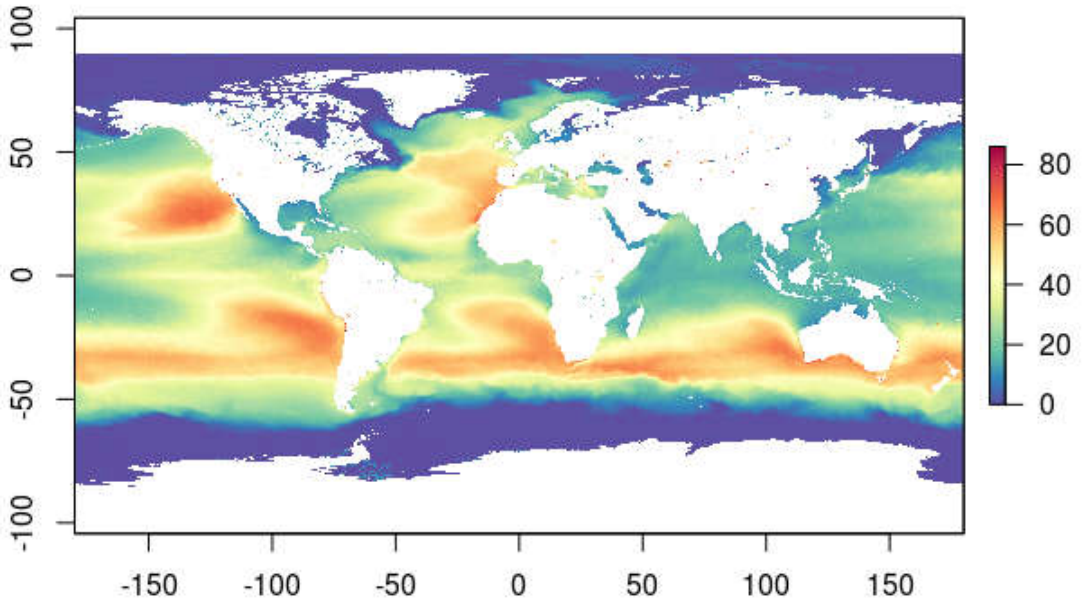
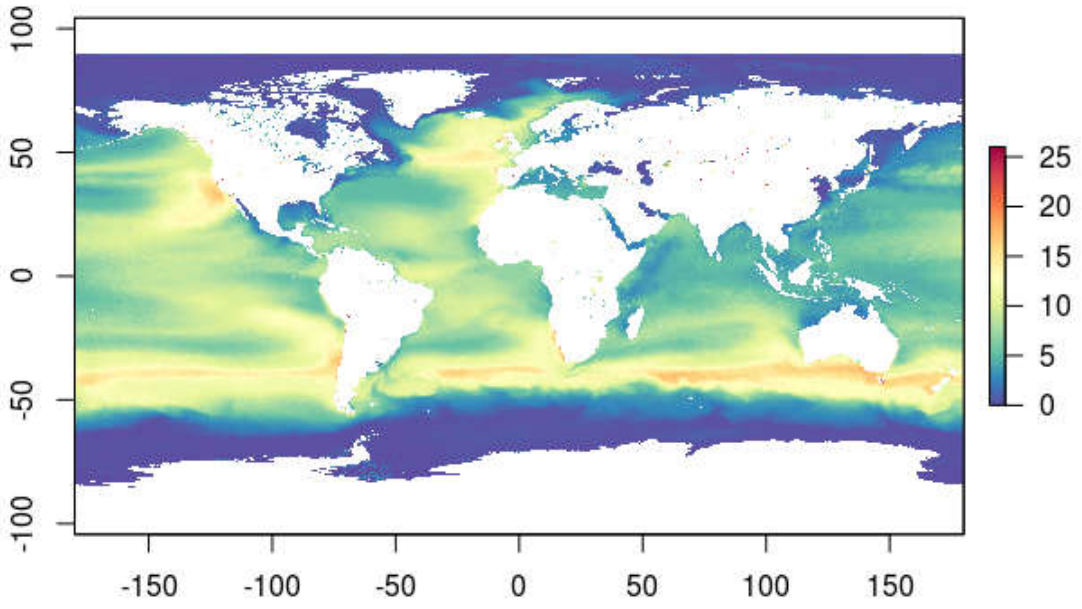
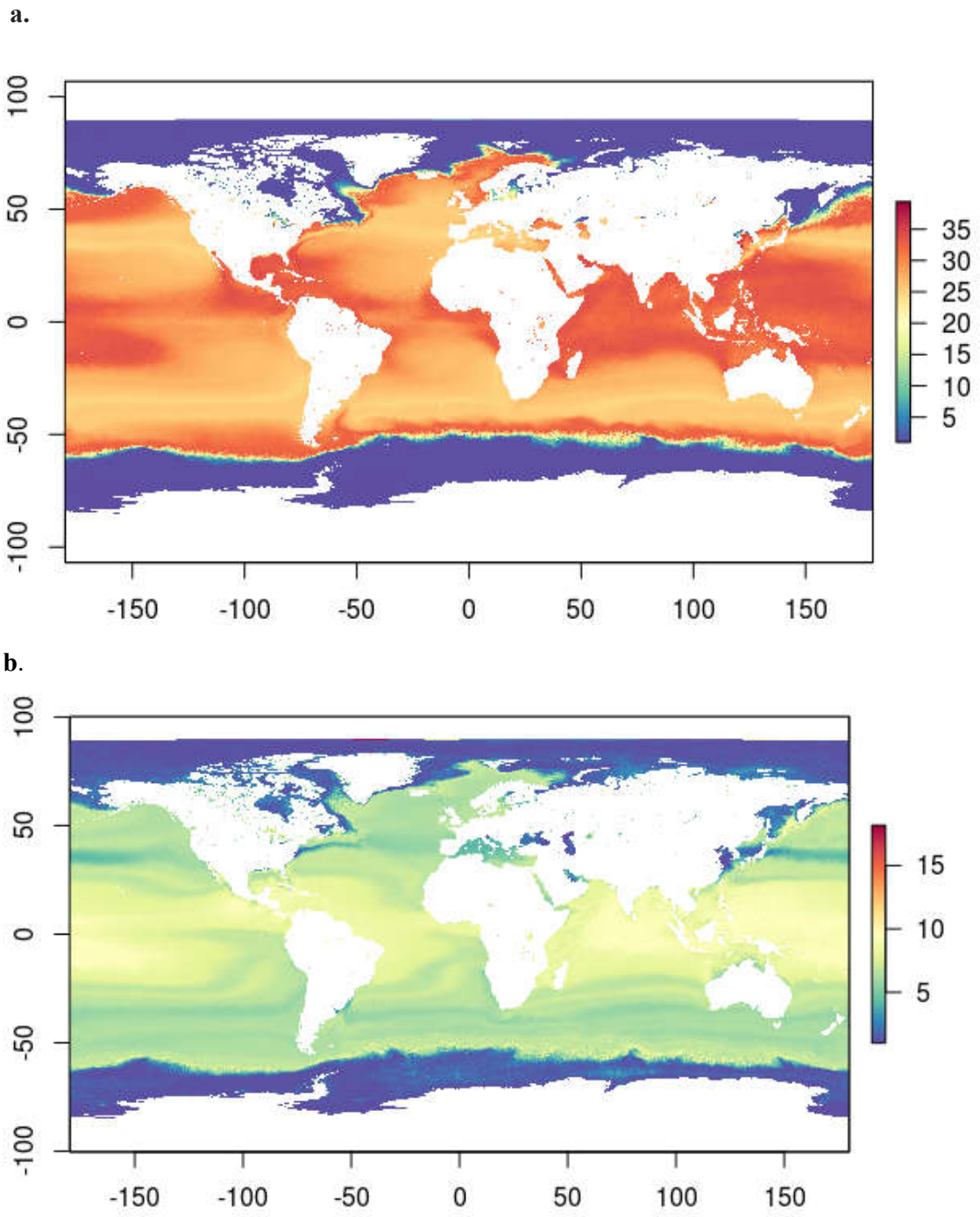
a.



b.

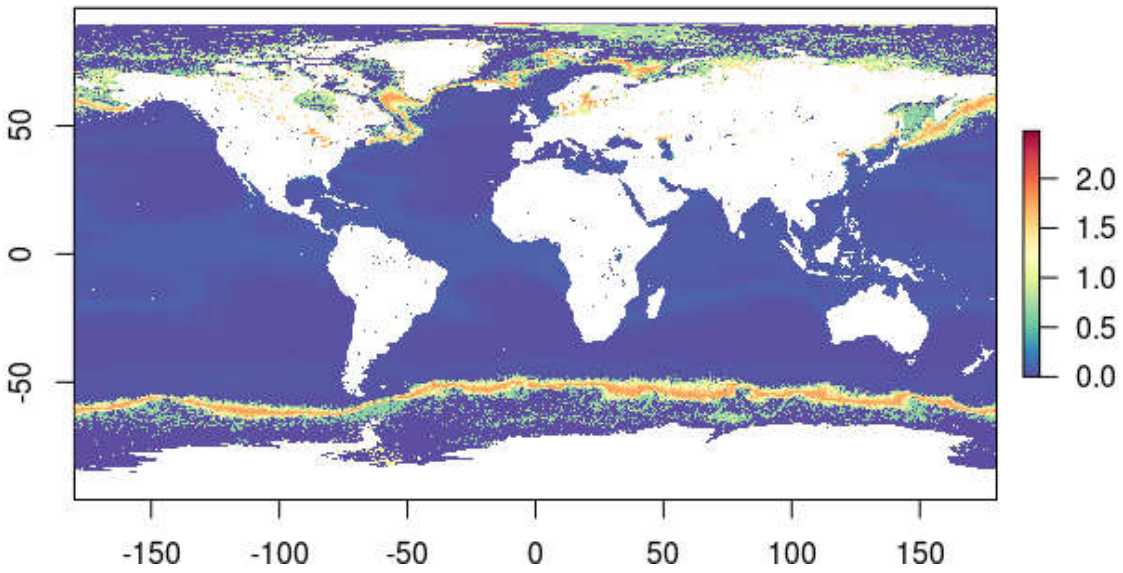


Supplementary Figure 1. The mean number of species that can be grown (due to temperature tolerance) across all aquatic environments. Panel **a** shows the results for fish and **b** for bivalves

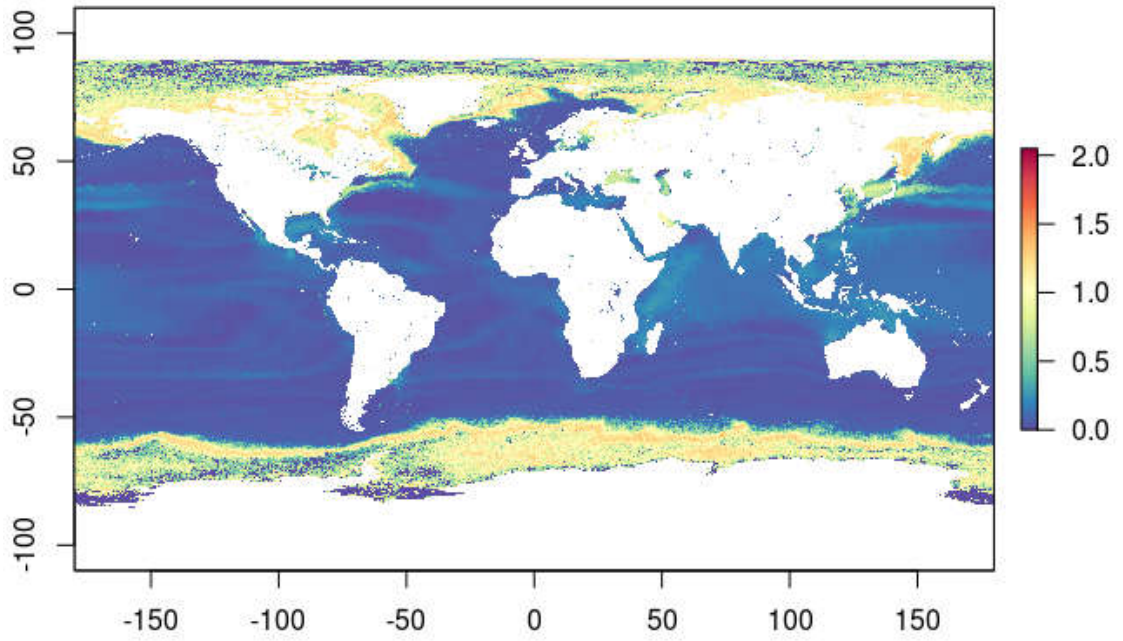


Supplementary Figure 2. Mean Growth Performance Index across all aquatic environments. Panel **a** shows the results for fish and **b** for bivalves. The Growth Performance Index values have been exponentially transformed in order to more clearly show the variation in values near the top end of the scale.

a.

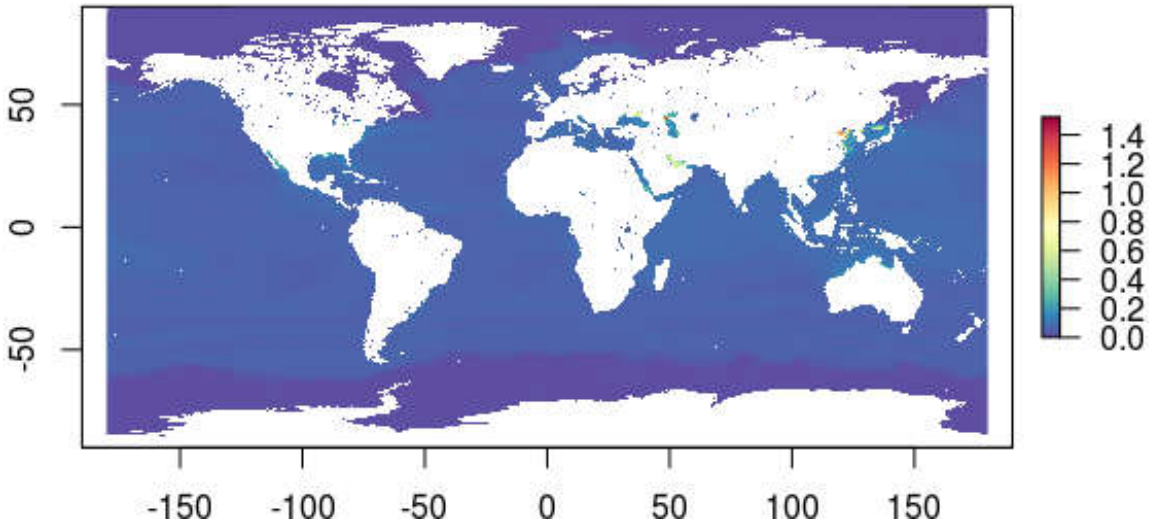


b.



Supplementary Figure 3. **Standard Deviation of Growth Performance over the period from 1982-2011.** Panel **a** shows the results for fish and **b** for bivalves.

a.



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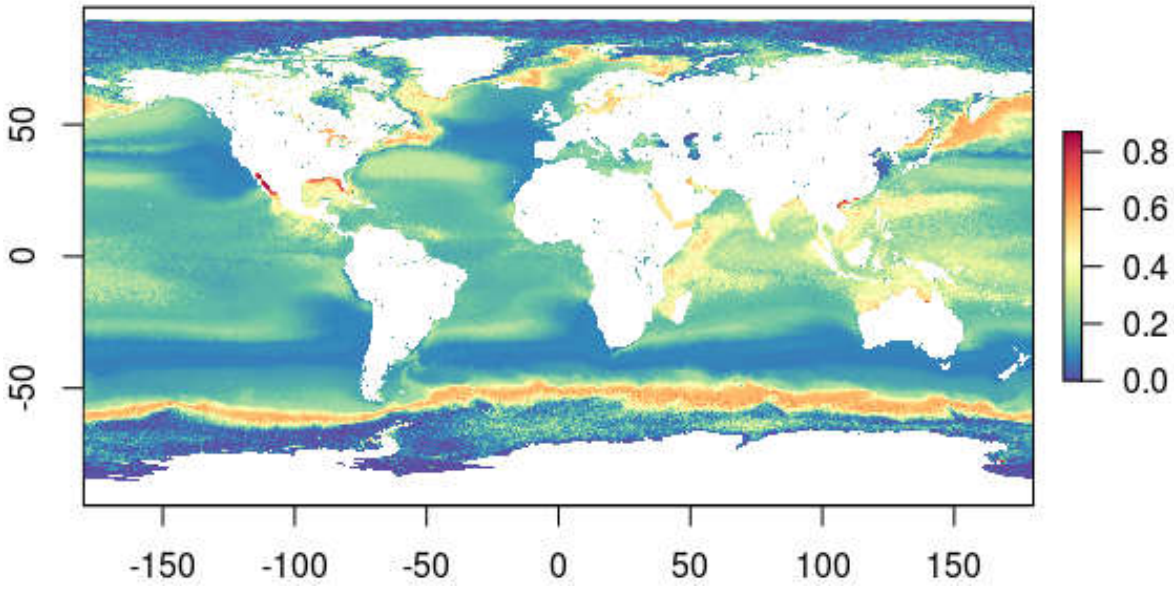
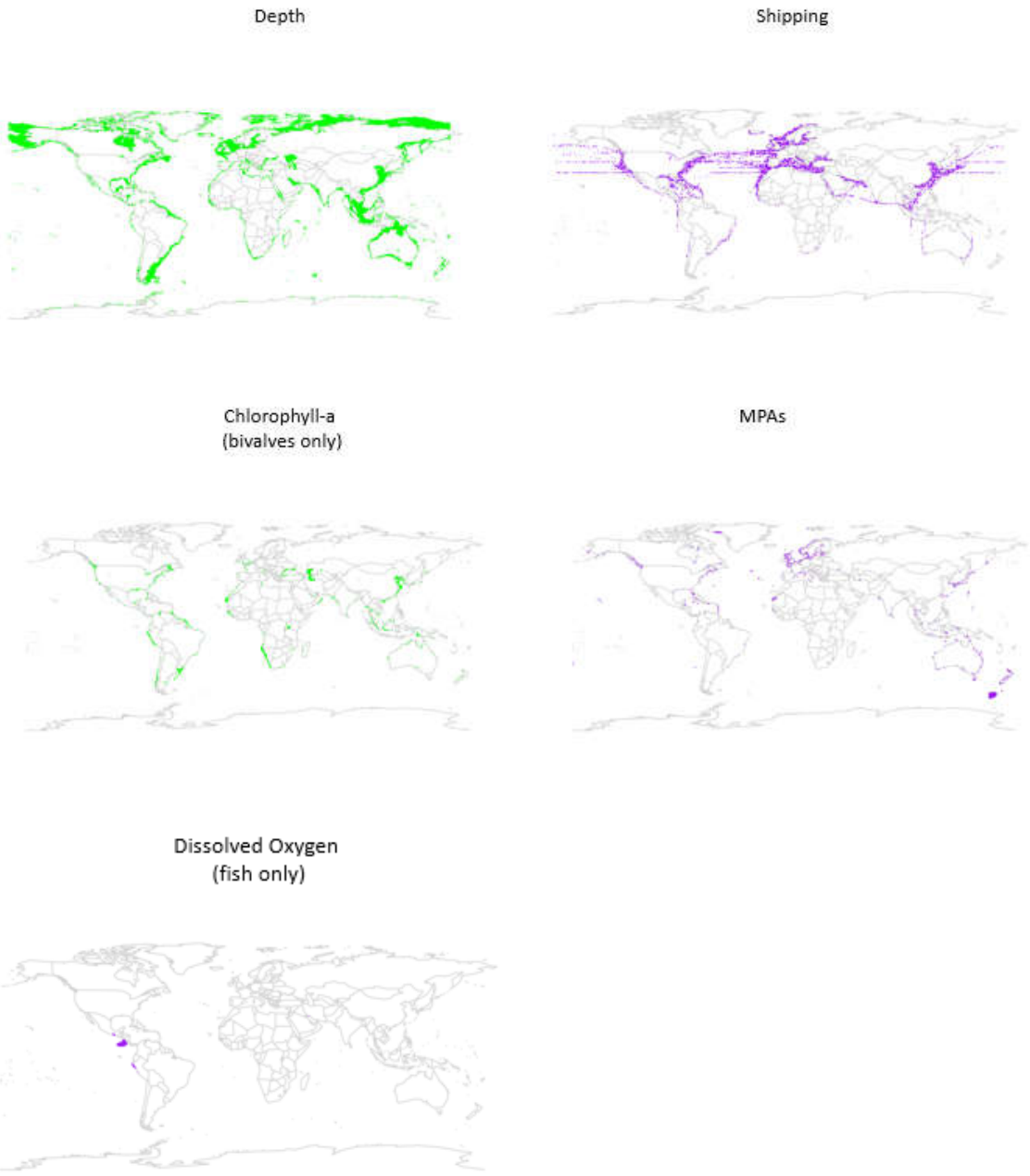
b.

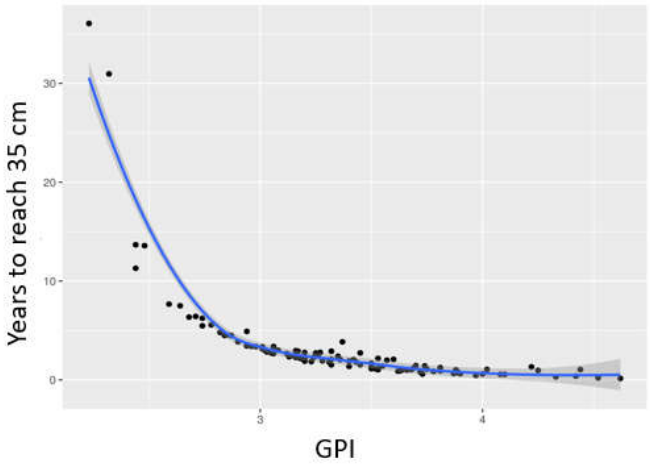


Supplementary Figure 4. The average difference of GPI between the complete model and the 10 alternative reduced species scenarios. Panel **a** shows the results for fish and **b** for bivalves. Warmer colour areas indicate regions where our phi prime measurements are likely to be most sensitive to the species chosen in the analysis.

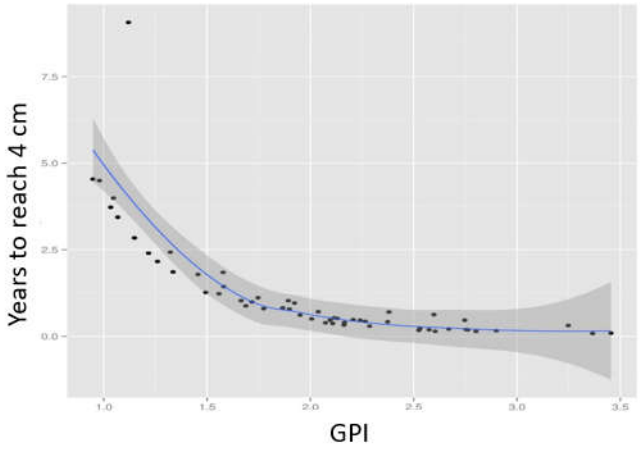


Supplementary Figure 5. Excluded areas for each constraint listed in Extended Data Table 1 (except for oil rigs, for which excluded areas were not easily visible on the global map). For depth and Chlorophyll-a concentration, the suitable areas are shown in green. For the other constraints, the excluded areas are shown in purple. Unless specified, each constraint map applies to both finfish and bivalve aquaculture.

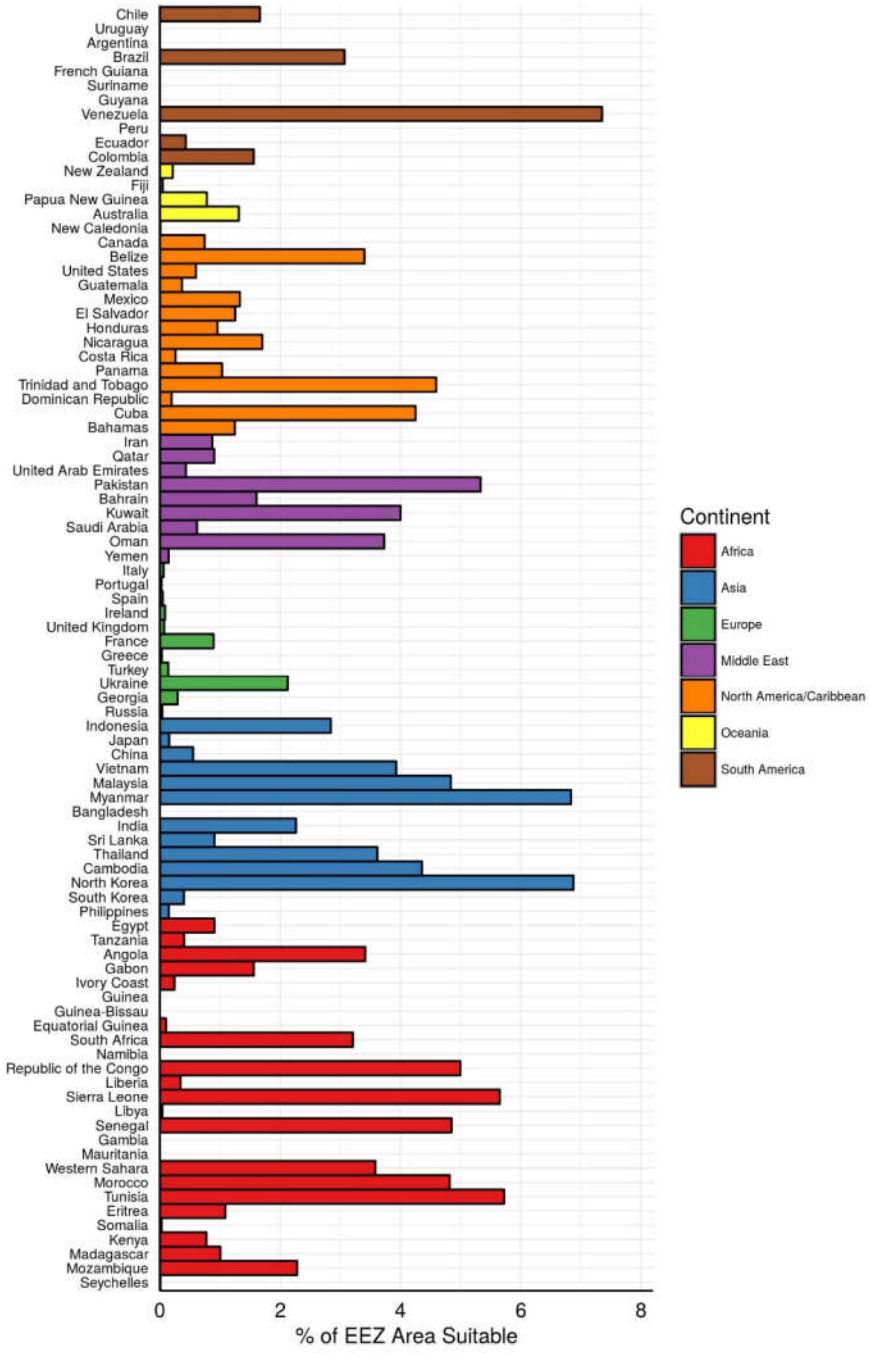
a.



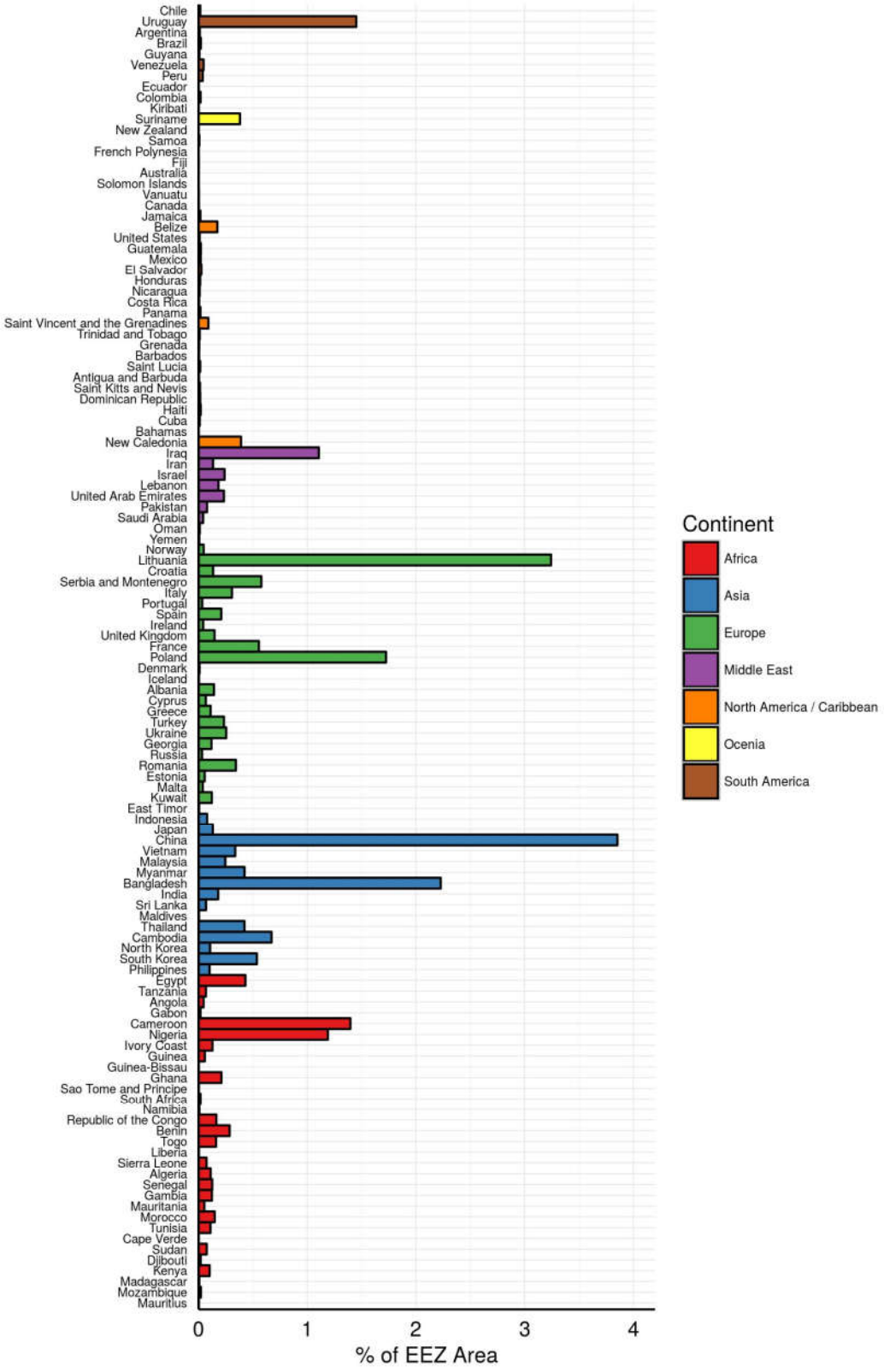
b.



Supplementary Figure 6. The estimated amount of time to reach harvestable size as a function of GPI. Panel **a** shows the relationship for fish and **b** for bivalve species used in this analysis.



Supplementary Figure 7. Potential growing area for bivalves by country. The percentage of each country's Exclusive Economic Zone (EEZ) that has potentially suitable growing conditions for bivalves and no known conflicting uses. Each bar represents a single country, grouped by continent. This figure is an expanded version of Fig. 2 in the main text.


Chile
Uruguay
Argentina
Brazil
Guyana
Venezuela
Peru
Ecuador
Colombia
Kiribati
Suriname
New Zealand
Samoa
French Polynesia
Fiji
Australia
Solomon Islands
Vanuatu
Canada
Jamaica
Belize
United States
Guatemala
Mexico
El Salvador
Honduras
Nicaragua
Costa Rica
Panama
Saint Vincent and the Grenadines
Trinidad and Tobago
Grenada
Barbados
Saint Lucia
Antigua and Barbuda
Saint Kitts and Nevis
Dominican Republic
Haiti
Cuba
Bahamas
New Caledonia
Iraq
Iran
Israel
Lebanon
United Arab Emirates
Pakistan
Saudi Arabia
Oman
Yemen
Norway
Lithuania
Croatia
Serbia and Montenegro
Italy
Portugal
Spain
Ireland
United Kingdom
France
Poland
Denmark
Iceland
Albania
Cyprus
Greece
Turkey
Ukraine
Georgia
Russia
Romania
Estonia
Malta
Kuwait
East Timor
Indonesia
Japan
China
Vietnam
Malaysia
Myanmar
Bangladesh
India
Sri Lanka
Maldives
Thailand
Cambodia
North Korea
South Korea
Philippines
Egypt
Tanzania
Angola
Gabon
Cameroon
Nigeria
Ivory Coast
Guinea
Guinea-Bissau
Ghana
Sao Tome and Principe
South Africa
Namibia
Republic of the Congo
Benin
Togo
Liberia
Sierra Leone
Algeria
Senegal
Gambia
Mauritania
Morocco
Tunisia
Cape Verde
Sudan
Djibouti
Kenya
Madagascar
Mozambique
Mauritius
0
1
2
3
4
% of EEZ Area
Continent
Africa
Asia
Europe
Middle East
North America / Caribbean
Ocenia
South America

Supplementary Figure 8. Percent of each country's EEZ required for finfish aquaculture to supply its current seafood consumption. Each bar represents a single country, grouped by continent. This figure is an expanded version of Fig. 3 in the main text.

Supplementary Table 1. Environmental and conflict constraints that excluded aquaculture development.

Constraint Layer	Source	Resolution of input data	Area exclusion threshold for fish aquaculture	Area exclusion threshold for bivalve aquaculture	Additional area within 200m depth area excluded
Depth	Satellite geodesy data [1]	.0083 degrees (30 arc seconds)	>200 meters depth	> 200 meters depth	N/A
Dissolved Oxygen	World Ocean Atlas [2]	1 degree	<4.41 mg/L	N/A	1,041,975 km^2
Chlorophyll-A Concentration	Vertically generalized production model (VGPM) chlorophyll-based primary production estimate[3]	0.083 degree	N/A	Chlorophyll – required an annual average equal to 2 mg/m^3 and no more than 2 months below 1 mg/m^3	23,932,076 km^2
Shipping traffic	Halpern *et al.* [4]	934.5 m	The top 5% of ocean area with the highest shipping density was excluded	The top 5% of ocean area with the highest shipping density was excluded	6,755,497 km^2
Oil rigs	Halpern *et al.* [4]	934.5 m	Excluded if oil rig present	Excluded if oil rig present	680,126 km^2
Marine protected areas	2010 World Database of protected Areas [5]	Originally as a shapefile	excluded in categories Ia, Ib, II, III, and IV	excluded in categories Ia, Ib, II, III, and IV	30,980 km^2

Supplementary Table 2. Results from robustness testing. This analysis showed that locations with the highest production potential are relatively robust to species selection for fish, but that species selection has more impact on the locations of highest productivity for bivalves.

	Percent of 10% highest production cells from complete model that are also in the top 20% most productive cells in the alternative models	
Alternative Scenario	FISH	BIVALVES
1	98.9	98.4
2	80.8	57.4
3	91.5	1.4
4	98.8	10.7
5	91.0	96.5
6	92.4	71.8
7	75.8	6.7
8	83.3	74.8
9	91.8	84.2
10	99.9	98.6
Mean	90.4	60.0

Supplementary Table 3. Phi prime values and potential productive area for each country / territory included in the analysis

Country/Territory	Total Area for Fish (km2)	Total Area for Bivalves(km2)	Fish GPI Average	Bivalve GPI Average
Albania	2013	0	3.24	NA
Algeria	2358	0	3.22	NA
Angola	40271	17245	3.41	1.88
Antarctica	68	0	2.71	NA
Antigua and Barbuda	2288	0	3.45	NA
Argentina	779603	107769	3.33	1.79
Australia	1891412	90867	3.39	1.83
Australian Southern Ocean Territories	4674	0	2.99	NA
Australian Tropical Territories	4102	0	3.30	NA
Bahamas	77441	7434	3.49	1.94
Bahrain	1595	135	3.50	1.31
Bangladesh	60980	15548	3.49	1.99
Belize	9641	1364	3.46	2.04
Benin	1942	0	3.47	NA
Brazil	517115	111718	3.41	2.02
British Caribbean Territories	8141	0	3.48	NA
British Indian Ocean Territory	21243	0	3.50	NA
British Pacific Territories (Pitcairn)	92	0	3.32	NA
British Southern Ocean Territories	171621	0	3.43	NA
Cambodia	34968	2109	3.46	2.14
Cameroon	8625	0	3.49	NA
Canada	136533	42706	3.12	1.67
Cape Verde	4180	0	3.31	NA

Chile	161312	59747	3.32	1.83
China	71442	4864	3.48	1.90
Colombia	35742	12459	3.46	2.16
Comoros	1123	0	3.49	NA
Costa Rica	10194	1490	3.49	2.21
Croatia	1781	0	3.25	NA
Cuba	50476	15602	3.45	1.85
Cyprus	728	0	3.36	NA
Democratic Republic of the Congo	128	0	3.48	NA
Denmark	24618	0	3.16	NA
Disputed	68755	3707	3.45	1.77
Djibouti	1641	0	3.43	NA
Dominica	335	0	3.45	NA
Dominican Republic	7237	527	3.49	2.14
East Timor	1972	0	3.44	NA
Ecuador	26716	4620	3.35	2.01
Egypt	14476	2424	3.39	1.89
El Salvador	13252	1203	3.43	2.06
Equatorial Guinea	9361	315	3.49	2.12
Eritrea	41002	879	3.48	1.66
Estonia	810	0	2.47	NA
Fiji	40055	591	3.49	2.15
Finland	170	0	2.18	NA
France	7560	3005	3.27	1.87
French Caribbean Territories	2074	0	3.46	NA
French Guiana	43197	23168	3.48	2.14
French Indian Ocean Territories	4747	0	3.49	NA
French Polynesia	26061	0	3.47	NA
French Southern Ocean Territories	67085	0	3.43	NA

Gabon	31617	3047	3.46	2.00
Gambia	3237	2259	3.47	1.96
Georgia	1636	74	3.37	1.48
Germany	934	0	3.21	NA
Ghana	7928	0	3.44	NA
Greece	5231	163	3.24	1.78
Grenada	971	0	3.48	NA
Guatemala	10696	442	3.42	1.93
Guinea	42376	18494	3.50	2.11
Guinea-Bissau	21143	17608	3.50	2.05
Guyana	49658	19640	3.49	2.16
Haiti	3566	0	3.48	NA
Honduras	47133	2104	3.50	2.12
Iceland	48863	0	3.19	NA
India	316124	51791	3.48	2.06
Indian	487	0	2.63	NA
Indian	42031	0	3.51	NA
Indonesia	1601956	169103	3.46	2.11
Iran	11127	1466	3.43	1.46
Iraq	153	0	3.33	NA
Ireland	55432	353	3.27	1.83
Israel	780	0	3.40	NA
Italy	7297	329	3.24	1.26
Ivory Coast	10728	428	3.44	2.06
Jamaica	10532	0	3.50	NA
Japan	111186	6209	3.34	1.80
Kenya	7752	873	3.50	2.14
Kiribati	5771	0	3.48	NA
Kuwait	3440	515	3.32	1.12
Latvia	277	0	2.60	NA
Lebanon	309	0	3.37	NA

Liberia	17125	852	3.47	2.12
Libya	56319	145	3.29	1.58
Lithuania	789	0	2.74	NA
Madagascar	114940	12034	3.44	1.99
Malaysia	267886	22987	3.43	2.08
Maldives	27133	0	3.50	NA
Malta	416	0	3.29	NA
Marshall Islands	19279	0	3.51	NA
Mauritania	19248	14566	3.31	1.92
Mauritius	39094	0	3.47	NA
Mexico	343827	43421	3.45	1.93
Micronesia	22926	0	3.51	NA
Morocco	32006	13163	3.24	1.88
Mozambique	82357	13091	3.48	2.03
Myanmar	212762	35551	3.45	2.11
Namibia	91055	79330	3.24	1.78
New Caledonia	49912	157	3.37	2.04
New Zealand	251162	14251	3.25	1.82
Nicaragua	62497	2579	3.49	2.11
Nigeria	18644	0	3.48	NA
North Korea	17840	8017	3.31	1.63
Norway	14844	0	3.08	NA
Oman	33865	20004	3.38	1.96
Pakistan	16182	11838	3.45	1.95
Palau	2963	0	3.50	NA
Panama	29974	3442	3.48	2.13
Papua New Guinea	163089	18678	3.47	2.02
Peru	45494	69431	3.24	1.84
Philippines	213333	2733	3.47	2.13
Poland	970	0	3.04	NA
Portugal	2599	464	3.24	1.78

Qatar	3553	317	3.52	1.64
Republic of the Congo	4448	2083	3.47	1.89
Romania	602	0	3.45	NA
Russia	80467	2969	2.86	1.58
Saint Lucia	341	0	3.46	NA
Saint Vincent and the Grenadines	1705	0	3.47	NA
Samoa	1759	0	3.51	NA
Sao Tome and Principe	1661	0	3.45	NA
Saudi Arabia	57084	1366	3.45	1.32
Senegal	14266	7627	3.44	1.96
Serbia and Montenegro	2260	0	3.23	NA
Seychelles	50222	146	3.49	2.12
Sierra Leone	22802	9094	3.49	2.12
Solomon Islands	26625	0	3.48	NA
Somalia	45922	236	3.48	1.98
South Africa	90053	49231	3.24	1.81
South Korea	8798	1297	3.38	1.46
Spain	2333	468	3.24	1.59
Sri Lanka	23621	4818	3.45	2.05
Sudan	10967	0	3.44	NA
Suriname	53973	17159	3.46	2.12
Sweden	422	0	2.77	NA
Syria	291	0	3.38	NA
Taiwan	595	0	3.50	NA
Tanzania	17407	988	3.49	2.07
Thailand	157310	11056	3.44	2.05
Togo	970	0	3.45	NA
Tonga	7915	0	3.39	NA
Trinidad and Tobago	9634	3658	3.49	2.16

Tunisia	31665	5809	3.24	1.32
Turkey	5314	359	3.35	1.42
Tuvalu	4161	0	3.50	NA
Ukraine	32211	2864	3.16	1.24
United Arab Emirates	14272	236	3.54	1.27
United Kingdom	56028	560	3.31	1.89
United States	643610	51933	3.36	1.69
Uruguay	48377	34784	3.25	1.62
USA Caribbean Territories	1443	0	3.50	NA
USA Pacific Inhabited Territories	1345	0	3.51	NA
USA Pacific Uninhabited Territories	449	0	3.43	NA
Vanuatu	5401	0	3.47	NA
Venezuela	72232	34644	3.46	2.12
Vietnam	251378	25429	3.48	2.05
Western Sahara	12333	10763	3.23	1.88
Yemen	35000	803	3.48	1.83

Supplementary Table 4. All species included in the analysis, along with key attribute information. Attribute information were initially extracted from the FishBase[6], SeaLifeBase[7], and/or Encyclopedia of Life (EOL)[8] online databases; additional references used to check initial values and fill in missing information are noted.

Scientific Name	Common Name	Minimum Temperature	Maximum Temperature	L_∞	K	Additional References
FISH						
Acanthopagrus berda	Goldsilk seabream	14.6	25.7	56	0.29	
Acanthopagrus latus	Yellowfin seabream	4.9	38.2	35.2	0.17	
Acanthopagrus schlegeli schlegelii	Blackhead seabream	10.4	26.3	50	0.22	
Acipenser gueldenstaedtii	Danube (diamond) sturgeon	10	20	236	0.04	www.orchardfisheries.co.uk/
Acipenser nudiventris	Fringebarbel sturgeon	10	20	200	0.07	
Acipenser stellatus	Starry sturgeon	10	20	218.7	0.08	www.sturgeon-web.co.uk/
Acipenser transmontanus	White sturgeon	10	23.3	610	0.04	Crocker & Cech [9], Conte[10]
Anarhichas lupus	Atlantic wolffish	0	13	152	0.09	O'Dea *et al.*[11]
Anarhichas minor	Spotted wolffish	4	12	190	0.1	Imsland *et al.*[12] ; Foss *et al.*[13]
Anguilla anguilla	European eel	4	33	152.8	0.24	Sadler [14]
Anguilla rostrata	American eel	4	25	120	0.33	
Anoplopoma fimbria	Sablefish	1.8	14.6	120	0.25	
Argyrosomus japonicus	Japanese meagre	12	28	200	0.14	
Argyrosomus regius	Meagre	11.9	23	185.5	0.14	

Atherina boyeri	Big-scale sand smelt	6	25	10.9	0.62	
Bolbometopon muricatum	Green humphead parrotfish	26.3	29	125	0.12	
Carangoides malabaricus	Malabar trevally	19.9	28.4	37.3	0.82	
Caranx hippos	Crevalle jack	9.6	27.8	80	0.65	
Caranx sexfasciatus	Bigeye trevally	21	30	74.1	0.24	Gilbey[15]
Centropomus undecimalis	Common snook	25	31	140	0.4	
Chaetodipterus faber	Atlantic spadefish	2.5	28	50.4	0.34	
Chanos chanos	Milkfish	15	42.5	180	1.03	https://www.spc.int/aquaculture/ ; http://www.fao.org/fishery/culturedspecies/search
Chelon macrolepis	Largescale mullet	20	28.9	23	0.1	http://www.fao.org/fishery/culturedspecies/search
Coregonus lavaretus	European whitefish	4	29.8	59.7	0.38	Vielma *et al*. [16]
Coryphaena hippurus	Common dolphinfish	21	30	157.9	1.67	
Cromileptes altivelis	Humpback grouper	26.5	29	65.4	0.35	
Dentex dentex	Common dentex	9.7	17.6	100	0.09	
Dentex tumifrons	Yellowback seabream	10.4	26.3	35	0.25	
Dicentrarchus labrax	European seabass	8	24	77	0.2	
Dicentrarchus punctatus	Spotted seabass	10.5	23.5	70	0.11	
Diplodus puntazzo	Sharpsnout seabream	24.3	24.3	60	0.47	García *et al*[17]

Diplodus sargus sargus	White seabream	14.7	18	42.3	0.16	
Diplodus vulgaris	Common two-banded seabream	14.7	19.7	40.8	0.26	
Dormitator latifrons	Pacific fat sleeper	24.6	33	41	0.57	
Eleutheronema tetradactylum	Fourfinger threadfin	27.6	27.7	128.7	0.37	
Epinephelus akaara	Hong Kong (redspotted) grouper	19	30.2	54.5	0.36	
Epinephelus areolatus	Areolate grouper	18.5	28.6	40.6	0.31	http://library.enaca.org/Grouper/Research/Breeding/2000/0803.htm
Epinephelus coioides	Orange-spotted grouper	17	35	108	0.15	Lin *et al.* [18]
Epinephelus fuscoguttatus	Brown-marbled grouper	10	36.5	113.3	0.18	Cheng *et al*. [19]
Epinephelus lanceolatus	Giant grouper	26.3	26.3	270	0.36	Hseu *et al.*[20]
Epinephelus malabaricus	Malabar grouper	19	30.2	163.6	0.8	
Epinephelus tauvina	Greasy grouper	17	29.2	115.4	0.13	http://library.enaca.org/Grouper/Research/Breeding/2000/0803.htm
Evynnis japonica	Crimson seabream	10.4	26.3		0.22	
Gadus morhua	Atlantic cod	0	15	115	0.19	Schurmann and Steffensen [21];
Gnathanodon speciosus	Golden trevally	23	29.3	108.2	0.39	saltwater.aqua-fish.net/?gold-trevally
Hippoglossus hippoglossus	Atlantic halibut	0.9	18	470	0.08	Stuart *et al*.[22]
Huso huso	Beluga	10	20	800	0.04	
Konosirus punctatus	Dotted gizzard shad	8.5	27.2	19.7	0.27	
Larimichthys crocea	Large yellow croaker	9	30	80	0.32	

Lateolabrax japonicus	Japanese seabass	13	23	25	0.18	
Lates calcarifer	Barramundi	15	38	176	0.39	
Lethrinus miniatus	Trumpet emperor	21	29.3	80	0.3	
Liza aurata	Golden grey mullet	10.8	18.8	56	0.25	
Liza ramada	Thinlip grey mullet	8	24	62.5	0.26	
Liza saliens	Leaping mullet	9	32	30.5	0.25	Katselis *et al.* [23]
Lutjanus argentimaculatus	Mangrove red snapper	16	30	119.5	0.19	
Lutjanus goldiei	Papuan black snapper	18.3	27.2	100	0.28	
Lutjanus johnii	John's snapper	20.8	26.8	70	0.21	
Lutjanus russelli	Russell's snapper	23.3	26.4	45	0.56	
Megalops atlanticus	Tarpon	4.3	27.5	189.5	0.09	
Melanogrammus aeglefinus	Haddock	2	15.5	74.5	0.27	
Miichthys miiuy	Mi-iuy (brown) croaker	6	25	70	0.32	
Morone saxatilis	Striped bass	6.4	25	200	0.19	Breitburg *et al.* [24]
Mugil cephalus	Flathead grey mullet	8	24	71.2	0.29	
Mugil curema	White mullet	10	29.3	28	0.57	txstate.fishesoftexas.org/
Muraenesox cinereus	Daggertooth pike conger	10	27.9	111.2	0.37	Golani and Ben-Tuvia [25]
Mycteroperca bonaci	Black grouper	16	28	133.3	0.15	www.sms.si.edu/irlspec/Mycter_bonaci.htm
Oncorhynchus gorbuscha	Pink salmon	0.3	21	76	0.54	Raleigh [26]
Oncorhynchus keta	Chum salmon	0	23.7	95	0.35	

Oncorhynchus kisutch	Coho salmon	0	24.8	98	0.98	Carter[27]
Oncorhynchus mykiss	Rainbow trout	0	29	89.5	0.54	Molony[28]; Elloitt [29]
Oncorhynchus nerka	Sockeye salmon	0	24.9	84	0.48	
Oncorhynchus tshawytscha	Chinook salmon	0	24.9	120.8	0.54	
Pagellus bogaraveo	Blackspot seabream	9.8	19.7	35.3	0.14	
Pagellus erythrinus	Common pandora	7.1	20.2	37.6	0.2	
Pagrus auratus	Silver seabream	9.2	29.3	130	0.13	
Pagrus major	Red (Japanese) seabream	7.7	22	100	0.15	Foscarini [30]; Ishibashi *et al.* [31]; Woo and Fung[32]
Pagrus pagrus	Red porgy	8.3	25.4	62.9	0.18	
Paralichthys olivaceus	Bastard halibut	14	23	103	0.15	
Platax orbicularis	Orbicular batfish	22	28	53.3	0.56	
Platichthys flesus	European flounder	5	25	43.3	0.37	
Plectropomus maculatus	Spotted coralgrouper	22	28.9	100.3	0.21	
Pleurogrammus azonus	Okhotsk atka mackerel	10	29	50	0.35	
Pleuronectes platessa	European plaice	2	25	100	0.15	Freitas *et al.*[33]
Pollachius pollachius	Pollack	6.5	12.3	130	0.19	
Polydactylus sexfilis	Sixfinger threadfin (moi)	25.3	40	60.7	0.56	Halwart and Gupta[34]
Pomatomus saltatrix	Bluefish	6.1	27.4	103	0.17	
Psetta maxima	Turbot	8	20	60.3	0.29	Imsland *et al.* [35]; Burel *et al.* [36]

Pseudocaranx dentex	White trevally	13.3	26.3	89.3	0.22	
Pseudopleuronectes americanus	Winter flounder	0.8	23.9	39.7	0.38	
Rachycentron canadum	Cobia	26	32	152.8	0.33	Kaiser & Holt [37]
Rhabdosargus sarba	Goldlined seabream	21.1	26.9	63.1	1.36	
Salmo salar	Atlantic salmon	2	28	128.6	0.37	Elliott & Elliott[38] ; http://www.fao.org/fishery/culturedspecies/search
Salmo trutta	Sea (brown) trout	0	24	69.2	0.29	Elliott[39]; Molony ; Elliott & Elliott [38]; Elliott [29]
Salvelinus alpinus alpinus	Arctic char	4	22	92.5	0.04	Elliott & Elliott [38]
Salvelinus fontinalis	Brook trout	0	25	67.5	0.32	Raleigh[40]; Elliott [29]
Sciaenops ocellatus	Red drum	9.6	26	104.5	0.4	
Sebastes schlegelii	Korean (Schlegel's) rockfish	15	24	65	0.27	
Seriola dumerili	Greater amberjack	3.2	26.8	144	0.23	
Seriola quinqueradiata	Japanese amberjack	18	29	150	0.44	
Seriola rivoliana	Longfin yellowtail (Almaco jack)	18	26.9	114.7	0.56	
Siganus canaliculatus	White-spotted spinefoot	21	34	27.7	1.87	Grandcourt *et al*. [41]
Siganus guttatus	Goldlined spinefoot	24	28	39	1.66	
Siganus javus	Streaked spinefoot	25	28	44.6	0.56	
Siganus rivulatus	Marbled spinefoot	15	28.7	40	0.46	Galil[42]

Solea senegalensis	Senegalese sole	15	21	60	0.18	Campos *et al.*[43]
Solea solea	Common sole	5.7	27	50.3	0.35	Pörtner *et al.*[44]
Sparidentex hasta	Sobaity seabream	17.8	26.3	66.5	0.35	
Sparus aurata	Gilthead seabream	11.5	22.7	70	0.3	
Takifugu rubripes	Tiger pufferfish	10	29	80	0.52	
Thunnus albacares	Yellowfin tuna	15	31	180.6	0.38	NOAA Fisheries [45]
Thunnus maccoyii	Southern bluefin tuna	5	30	212.7	0.14	Patterson *et al.* [46]; http://www.fao.org/fishery/topic/16082/en
Thunnus orientalis	Pacific bluefin tuna	13.6	29	50	0.16	
Thunnus thynnus	Atlantic bluefin tuna	2.8	31	298	0.12	www.newworldencyclopedia.org/entry/Bluefin_tuna
Tilapia guineensis	Guinean tilapia	14	33	30	2.13	http://www.fao.org/fishery/culturedspecies/search
Trachinotus blochii	Snubnose (silver) pompano	20	31	96.7	0.56	Kalidas *et al*. [47]; Wen *et al.*[48]
Trachinotus carolinus	Florida pompano	13.2	25.9	64	0.27	
Trachinotus goodei	Great pompano	12	34	150	0.29	Jory *et al*. [49]
Trachurus japonicus	Japanese jack mackerel	10	29	31.7	0.35	
Umbrina cirrosa	Shi drum	9.6	26	73	0.63	
BIVALVES						
Aequipecten opercularis	Queen scallop	4.9	19.2	11	0.74	

Anadara grandis (tuberculosa)	Grand ark	26	37.5	63.2	0.14	Broom [50]; Stern-Pirlot and Wolff [51]
Anadara granosa	Blood cockle	25	32.8	9	1.8	Brom[52]; Yurimoto *et al*. [53]
Anadara tuberculosa	Black ark	22	31	63.2	0.71	Nieves-Soto *et al.* [54]; Stern-Pirlot & Wolff [51]
Argopecten purpuratus	Peruvian calico scallop	16	20	12	2.32	Navarro *et al*. [55]
Argopecten ventricosus	Pacific calico scallop	20	29	17.5	0.6	Maeda-Martínez *et al*. [56]
Aulacomya ater	Cholga mussel	0	25.6	6.3	0.35	Urban [57]
Cerastoderma edule	Common edible cockle	6.8	12	5.6	0.58	
Chamelea gallina	Striped venus	6.5	13.1	5	0.43	
Chlamys varia	Variegated scallop	3.5	19.2	9	0.57	
Choromytilus chorus	Choro mussel	20	26.3	5	0.35	Urban [57]
Crassostrea gasar	Gasar cupped oyster	18	26	15.4	1.58	Ramos *et al*. [58]
Crassostrea gigas	Pacific cupped oyster	15	30	45	1.15	
Crassostrea iredalei	Slipper cupped oyster	14	34	9	1.58	
Crassostrea madrasensis	Indian backwater oyster	30	45	11.6	1.44	Rajagopal *et al*. [59]; Alam & Das [60]
Crassostrea rhizophorae	Mangrove cupped oyster	24.8	24.8	12	2.79	
Crassostrea virginica	American cupped oyster	-1.6	24.3	30	0.88	
Cyclina sinensis	Oriental cyclina	20	35	5	0.87	Ying-Jie [61]
Hippopus hippopus	Bear paw clam	24.7	29.2	40	0.15	

Lyropecten subnodosus	Pacific lion's paw	15.5	25.1	17.8	0.55	Arellano-Martinez *et al.*[62]
Mactra glabrata	Smooth mactra	10	30	27.6	0.02	
Mactra veneriformis	Globose clam	10	30	27.6	0.02	Yu *et al.* [63]; Nakano *et al.*[64]
Mercenaria mercenaria	Northern quahog (Hard clam)	9.2	24.4	13	0.33	
Meretrix lusoria	Japanese hard clam	5.5	15.9	5	0.47	
Mya arenaria	Sand gaper	4.7	23.6	10	0.29	
Mytilus chilensis	Chilean mussel	12	16	10.2	0.5	Duarte *et al.*[65]; Gray *et al.*[66]
Mytilus coruscus	Korean mussel	2.9	20	10	0.21	Wang *et al.* [67]
Mytilus edulis	Blue mussel	-1.4	23.4	11	0.31	
Mytilus galloprovincialis	Mediterranean mussel	7.6	9	15	0.58	
Mytilus planulatus	Australian mussel	12.3	21.3	6	0.46	Allen[68]
Mytilus platensis	River Plata mussel	13.7	20.9	9	0.73	
Ostrea chilensis	Chilean flat oyster	14	14	10	1.01	
Ostrea conchaphila	Olympia oyster	6	20	12.5	0.47	
Ostrea edulis	European flat oyster	8.4	11.9	12	1.01	
Panopea generosa (abrupta)	Pacific geoduck	8.5	10.2	12.5	0.47	Hidalgo-De-La-Toba *et al.* [69]
Paphia gallus	Rooster venus	21.8	28.3	7.5	0.87	
Patinopecten yessoensis	Yesso scallop	5	23	25	0.93	Gosling[70]
Pecten fumatus	Southern Australia scallop	12	21	8.6	1.6	Heasman *et al.* [71]; Gwyther and McShane[72]

Pecten maximus	Great Atlantic scallop	7.9	15.9	17	0.56	
Perna canaliculus	New Zealand mussel	18.2	18.2	15	0.6	
Perna perna	South American rock mussel	10	30	17	0.38	http://www.biosecurity.govt.nz/pests/perna-perna
Perna viridis	Green mussel	23.6	23.6	16.5	1.24	
Protothaca staminea	Pacific littleneck clam	9.2	10.2	7.5	0.17	
Ruditapes decussatus	Grooved carpet shell	11.8	11.8	6	0.87	
Ruditapes philippinarum	Japanese carpet shell	10.2	24.7	8	0.56	
Saccostrea commercialis	Sydney cupped oyster	10.8	19.7	22.4	0.93	http://www.fao.org/fishery/culturedspecies/search
Saccostrea cucullata	Hooded oyster	18.7	25.6	20	1.58	
Saxidomus giganteus	Butter clam	9	11.8	13	0.47	
Scapharca broughtonii	Inflated ark	22	25	17.8	0.26	
Scrobicularia plana	Peppery furrow	9.6	12.3	17.8	0.55	
Sinonovacula constricta	Constricted tagelus	15	20	25.6	0.87	http://www.fao.org/fishery/culturedspecies/search
Soletellina diphos	Diphos sanguin	21.8	28.3	12	0.87	
Tresus nuttallii	Pacific horse clam	2	20	22.5	0.47	Lauzier *et al.*[73]
Tridacna crocea	Crocus giant clam	26.8	28.4	15	0.17	
Tridacna derasa	Smooth giant clam	28.5	28.5	60	0.11	

Tridacna squamosa	Fluted giant clam	24.5	28.9	45	0.22	
Venerupis aurea	Golden carpet shell	7.2	10	4.5	0.55	
Venerupis pullastra	Pullet carpet shell	10.3	12.3	5	0.47	
Venerupis rhomboides	Banded carpet shell	7.2	10	4.5	0.55	
Venus verrucosa	Warty venus	9.6	15.9	17.8	0.25	

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