

## Supplementary Materials for

### **Illicit trade in marine fish catch and its effects on ecosystems and people worldwide**

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## Supplementary Materials (“Illicit Trade in Marine Fish Catch”)

**Table S1. Catch, the economic and income multipliers.** The administrative countries included in each geographic region, the average annual total landed commercial catch, the economic and income multipliers from Dyck and Sumaila (39), and the average annual catch and revenue loss to likely illicit trade for each of the two scenarios.

Geographic Region	Administrative Country (including overseas territories)	Total Catch (t x 10 <sup>3</sup> year <sup>-1</sup> )	Economic Multiplier	Income Multiplier	Scenario 1		Scenario 2	
					Average catch loss (t-year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Average catch loss (t-year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
Africa	Algeria	223	1.19	0.25	31,969 - 52,427	107,783 - 176,428	19,200 - 39,658	68,032 - 136,676
	Angola	5,615	3.54	0.73	111,136 - 178,351	120,398 - 194,021	105,802 - 173,017	106,558 - 180,181
	Benin	55	1.52	0.32	13,929 - 23,052	15,855 - 26,103	6,263 - 15,387	8,510 - 18,758
	Cameroon	141	2.96	0.76	18,697 - 30,779	25,831 - 42,920	10,060 - 22,142	9,923 - 27,012
	Cape Verde	18	1.52	0.32	1,552 - 2,492	3,135 - 5,039	1,457 - 2,398	2,898 - 4,802
	Comoros	11	2.95	0.72	1,441 - 2,401	2,568 - 4,279	480 - 1,441	856 - 2,568
	Congo (ex - Zaire)	18	3.53	0.73	5,513 - 8,952	6,253 - 10,384	4,205 - 7,644	2,469 - 6,599
	Congo, R. of	71	2.96	0.76	18,227 - 29,202	8,594 - 13,779	17,839 - 28,814	8,298 - 13,484
	Côte d'Ivoire	122	1.52	0.32	30,363 - 48,852	25,048 - 40,430	27,648 - 46,137	21,521 - 36,903
	Djibouti	4	3.00	0.71	683 - 1,101	1,527 - 2,461	604 - 1,022	1,346 - 2,280
	Egypt	119	2.42	0.73	14,142 - 22,686	16,939 - 27,240	13,558 - 22,102	15,556 - 25,858
	Equatorial Guinea	35	2.97	0.77	11,309 - 18,136	24,688 - 39,686	10,888 - 17,715	22,836 - 37,834
	Eritrea	13	2.95	0.72	740 - 1,234	1,026 - 1,710	247 - 740	342 - 1,026
	France	19	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620
	Gabon	190	2.96	0.76	30,336 - 48,870	36,087 - 58,337	27,006 - 45,540	30,108 - 52,358
	Gambia	186	1.52	0.32	32,294 - 52,283	38,308 - 61,764	26,164 - 46,153	33,600 - 57,056
	Ghana	298	1.52	0.32	24,335 - 39,956	25,311 - 41,546	14,136 - 29,757	14,837 - 31,071
	Guinea	634	1.52	0.32	214,941 - 345,261	379,531 - 608,627	201,381 - 331,701	365,766 - 594,861
	Guinea-Bissau	364	1.52	0.32	134,372 - 215,232	188,951 - 302,688	132,004 - 212,864	185,297 - 299,033
	Kenya	11	2.95	0.72	1,830 - 3,010	4,880 - 8,023	1,022 - 2,201	2,728 - 5,872
	Liberia	79	1.52	0.32	28,529 - 45,853	40,947 - 65,699	26,465 - 43,789	39,117 - 63,868
	Libya	75	1.19	0.25	10,300 - 17,055	25,461 - 42,080	4,550 - 11,305	12,044 - 28,663
	Madagascar	93	2.34	0.77	7,382 - 12,178	13,838 - 22,938	3,713 - 8,509	5,865 - 14,965
	Mauritania	1,707	1.52	0.32	412,283 - 660,273	654,107 - 1,047,247	406,088 - 654,078	647,339 - 1,040,479
	Mauritius	15	1.62	0.5	769 - 1,255	2,602 - 4,225	527 - 1,013	1,973 - 3,597
	Morocco	2,555	2.81	0.91	628,814 - 1,008,609	1,011,360 - 1,629,027	603,739 - 983,535	902,848 - 1,520,515
	Mozambique	55	1.83	0.74	1,651 - 2,752	3,121 - 5,201	550 - 1,651	1,040 - 3,121
	Namibia	542	4.82	0.87	43,434 - 69,495	22,135 - 35,416	43,434 - 69,495	22,135 - 35,416
	Nigeria	483	0.28	0.05	54,209 - 88,760	114,826 - 188,472	33,956 - 68,507	67,321 - 140,967
	Sao Tome and Principe	11	2.96	0.77	951 - 1,540	2,518 - 4,058	769 - 1,358	2,236 - 3,775
	Senegal	704	2.21	0.84	128,119 - 207,753	192,420 - 310,741	100,490 - 180,125	163,724 - 282,045
	Seychelles	12	2.95	0.72	198 - 330	291 - 485	66 - 198	97 - 291
	Sierra Leone	281	1.52	0.32	34,769 - 57,154	29,503 - 48,030	19,523 - 41,908	21,249 - 39,776
Somalia	219	2.95	0.72	73,201 - 117,191	121,316 - 194,183	72,501 - 116,492	120,536 - 193,403	
South Africa	627	3.13	0.66	2,284 - 3,802	15,003 - 24,975	813 - 2,330	5,295 - 15,267	
Spain	26	3.86	1	29,288 - 47,182	98,456 - 158,874	26,074 - 43,968	85,007 - 145,425	
Tanzania	97	2.72	1.1	6,276 - 10,440	13,719 - 22,746	2,296 - 6,460	5,769 - 14,795	
Togo	61	1.52	0.32	19,158 - 30,715	22,500 - 36,065	18,530 - 30,087	21,850 - 35,415	
Tristan da Cunha Islands (UK)	0.5	4.26	1.09	34 - 56	267 - 429	24 - 46	251 - 412	
Tunisia	99	1.46	0.28	337 - 539	501 - 801	337 - 539	501 - 801	
United Kingdom (Ascension and Saint Helena Islands)	0.5	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026 - 26,010	

**Table S1. Catch, the economic and income multipliers.** The administrative countries included in each geographic region, the average annual total landed commercial catch, the economic and income multipliers from Dyck and Sumaila (39), and the average annual catch and revenue loss to likely illicit trade for each of the two scenarios.

Geographic Region	Administrative Country (including overseas territories)	Total Catch (t x 10 <sup>3</sup> year <sup>-1</sup> )	Economic Multiplier	Income Multiplier	Scenario 1		Scenario 2	
					Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
Antarctic & sub-Antarctic	France (St. Paul & Amsterdam Isl., Crozet Isl., Kerguelen Isl.)	7.4	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620
	Norway (Bouvet Isl.)	0.075	3.36	0.87	10,307 - 16,589	17,054 - 27,514	9,327 - 15,609	14,785 - 25,244
	South Africa (Prince Edward Isl.)	1.8	3.13	0.66	2,284 - 3,802	15,003 - 24,975	813 - 2,330	5,295 - 15,267
	United Kingdom (South Georgia & Sandwich Isl.)	41	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026 - 26,010
Asia	Australia (Christmas Isl. and Cocos-Keeling Isl.)	0.042	3.69	1.1	22 - 36	73 - 120	18 - 32	46 - 93
	Bahrain	44	1.02	0.25	7,799 - 12,993	30,816 - 51,341	2,651 - 7,845	10,459 - 30,985
	Bangladesh	679	2.97	0.88	46,794 - 76,622	36,374 - 59,308	29,284 - 59,112	25,276 - 48,210
	Brunei Darussalam	18	2.16	0.62	5,218 - 8,591	7,944 - 13,114	2,799 - 6,172	3,905 - 9,075
	Cambodia	877	1.73	0.54	368,060 - 589,145	287,568 - 460,442	365,579 - 586,663	284,234 - 457,108
	China	9,591	3.34	0.79	291,307 - 470,167	667,154 - 1,084,321	250,552 - 429,412	498,400 - 915,568
	Georgia	141	2.04	0.53	51,565 - 82,559	22,794 - 36,526	51,015 - 82,009	22,245 - 35,976
	India	2,845	1.36	0.53	173,554 - 283,070	234,161 - 381,403	119,729 - 229,244	166,711 - 313,953
	Indonesia	7,210	1.66	0.52	1,055,950 - 1,690,137	915,916 - 1,466,482	1,049,787 - 1,683,974	905,753 - 1,456,319
	Iran	319	1.94	0.14	36,384 - 58,741	72,127 - 116,147	31,119 - 53,476	64,695 - 108,714
	Iraq	6	1.03	0.25	4 - 6	3 - 5	1 - 4	1 - 3
	Israel	8	1.03	0.25	697 - 1,162	1,727 - 2,878	232 - 697	576 - 1,727
	Japan	4,163	2.75	0.86	27,378 - 43,983	58,826 - 95,491	25,594 - 42,199	45,135 - 81,800
	Jordan	0.2	2.67	0.71	-	0	0	0
	Korea (North)	115	3.04	0.71	6,143.71 - 10,119.05	4,905 - 8,082	3,252.55 - 7,227.89	2,571 - 5,748
	Korea (South)	3,285	2.91	0.62	3,476 - 5,793	4,525 - 7,542	1,159 - 3,476	1,508 - 4,525
	Kuwait	6	1.02	0.25	702 - 1,134	1,230 - 1,985	605 - 1,036	1,051 - 1,806
	Lebanon	6	1.02	0.25	650 - 1,083	1,223 - 2,038	217 - 650	408 - 1,223
	Malaysia	3,057	2.58	0.7	801,184 - 1,286,553	940,233 - 1,513,760	754,594 - 1,239,963	846,349 - 1,419,877
	Maldives	40	2.97	0.77	5,691 - 9,263	9,100 - 14,896	4,124 - 7,695	5,749 - 11,544
	Myanmar	1,605	0.85	0.32	200,844 - 321,350	269,230 - 430,768	200,844 - 321,350	269,230 - 430,768
	Oman	187	1.02	0.25	5,511 - 9,185	12,958 - 21,596	1,837 - 5,511	4,319 - 12,958
	Pakistan	664	2.16	0.58	125,245 - 204,199	81,657 - 132,528	87,167 - 166,122	62,886 - 113,757
	Philippines	1,860	1.19	0.34	376,509 - 611,252	399,790 - 654,206	288,124 - 522,867	254,370 - 508,786
	Qatar	34	1.02	0.25	1,672 - 2,777	2,713 - 4,511	660 - 1,765	1,011 - 2,809
	Saudi Arabia	91	1.02	0.25	3,261 - 5,371	10,666 - 17,641	1,728 - 3,838	4,909 - 11,884
	Sri Lanka	425	1.01	0.32	688 - 1,147	2,537 - 4,229	229 - 688	846 - 2,537
	Syria	6	1.02	0.25	935 - 1,533	2,165 - 3,535	569 - 1,167	1,447 - 2,818
	Taiwan	311	3.28	0.97	44,906 - 72,271	61,864 - 99,552	40,691 - 68,057	56,168 - 93,856
	Thailand	1,685	2.12	0.24	128,957 - 214,929	190,354 - 317,256	42,986 - 128,957	63,451 - 190,354
	Turkey	639	1.59	0.51	90,503 - 145,719	107,638 - 174,437	81,364 - 136,580	85,467 - 152,266
	United Arab Emirates	74	1.02	0.25	8,449 - 14,082	25,020 - 41,699	2,816 - 8,449	8,340 - 25,020
	United Kingdom (Chagos Archipelago)	29	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026 - 26,010

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	Viet Nam	2,456	3.47	0.77	189,949 - 307,147	180,138 - 292,332	157,654 - 274,852	139,030 - 251,224
	Yemen	348	1.02	0.25	55,492 - 92,485	45,538 - 75,895	18,517 - 55,510	15,194 - 45,551
<b>Europe</b>	Belgium	4	6.22	1.57	127 - 204	856 - 1,369	127 - 204	856 - 1,369
	Bosnia and Herzegovina	0.01	3.12	0.76	0.9 - 1.6	1.2 - 2.	0.3 - 0.9	0.4 - 1.2
	Bulgaria	18	18.34	0.69	5,062 - 8,102	6,620 - 10,608	5,027 - 8,068	6,456 - 10,444
	Croatia	64	3.27	0.78	7,436 - 11,959	6,042 - 9,722	6,826 - 11,348	5,487 - 9,168
	Cyprus	2	3.12	0.76	157 - 258	1,090 - 1,802	86 - 188	508 - 1,221
	Denmark	798	3.72	1.04	9,289 - 14,915	11,358 - 18,222	8,766 - 14,392	10,862 - 17,726
	Estonia	74	3.81	0.51	3,595 - 5,765	1,299 - 2,083	3,456 - 5,627	1,252 - 2,036
	Finland	101	1.56	0.43	4,280 - 6,866	1,301 - 2,086	4,097 - 6,683	1,254 - 2,039
	France	319	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620
	Germany	146	3.28	0.9	3,968 - 6,354	4,592 - 7,351	3,921 - 6,307	4,547 - 7,306
	Iceland	1,122	2.49	0.51	.02 - .03	.03 - .05	-	0.03 - 0.05
	Ireland	567	2.15	0.38	3,676 - 5,907	7,550 - 12,173	3,430 - 5,660	6,621 - 11,244
	Italy	313	1.75	0.51	39,283 - 63,021	218,276 - 350,550	37,604 - 61,342	205,195 - 337,468
	Latvia	89	4.31	1.11	5,970 - 9,571	3,585 - 5,748	5,787 - 9,388	3,462 - 5,625
	Lithuania	25	3.79	0.63	2,871 - 4,598	2,580 - 4,132	2,829 - 4,556	2,532 - 4,085
	Montenegro	0.9	3.12	0.76	83 - 133	92 - 147	76 - 127	83 - 139
	Netherlands	104	2.95	0.68	1,383 - 2,219	4,138 - 6,661	1,324 - 2,160	3,724 - 6,248
	Norway	2,618	3.36	0.87	10,307 - 16,589	17,054 - 27,514	9,327 - 15,609	14,785 - 25,244
	Poland	121	4.27	0.75	16,772 - 26,972	14,792 - 23,779	15,399 - 25,600	13,685 - 22,671
	Portugal	183	4.78	1.52	3,534 - 5,729	9,127 - 14,804	2,786 - 4,981	7,110 - 12,788
	Romania	1.1	3.73	0.87	67 - 107	571 - 913	67 - 107	571 - 913
	Russia	361	2.50	0.5	48,899 - 78,383	59,607 - 95,591	47,460 - 76,943	57,415 - 93,398
	Russian Federation	5,236	2.50	0.5	714,113 - 1,151,761	573,131 - 924,169	622,307 - 1,059,955	501,545 - 852,582
	Spain	366	3.86	1	29,288 - 47,182	98,456 - 158,874	26,074 - 43,968	85,007 - 145,425
	Sweden	272	2.66	0.68	20,930 - 33,515	15,446 - 24,730	20,669 - 33,254	15,292 - 24,576
	Ukraine	78	5.56	1.05	6,995 - 11,271	4,044 - 6,534	6,203 - 10,480	3,412 - 5,901
	United Kingdom	1,444	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026 - 26,010
<b>North America</b>	Antigua and Barbuda	3	1.22	0.28	38 - 63	381 - 636	13 - 38	127 - 381
	Bahamas	14	1.22	0.28	460 - 747	2,699 - 4,352	354 - 641	2,367 - 4,020
	Barbados	4	1.21	0.29	397 - 661	457 - 762	132 - 397	152 - 457
	Belize	5	3.46	0.78	505 - 842	874 - 1,457	168 - 505	291 - 874
	Canada	999	3.30	1.07	34,542 - 55,360	73,029 - 117,065	33,611 - 54,429	70,837 - 114,873
	Costa Rica	46	2.16	0.52	1,071 - 1,717	1,761 - 2,821	1,037 - 1,683	1,732 - 2,792
	Cuba	24	1.22	0.28	1,082 - 1,803	2,727 - 4,545	361 - 1,082	909 - 2,727
	Denmark (Greenland)	275	3.72	1.04	9,289 - 14,915	11,358 - 18,222	8,766 - 14,392	10,862 - 17,726
	Dominica	0.8	1.22	0.29	55 - 92	135 - 225	18 - 55	45 - 135
	Dominican Republic	25	1.21	0.28	3,799 - 6,332	7,532 - 12,554	1,266 - 3,799	2,511 - 7,532
	El Salvador	26	3.46	0.78	3,807 - 6,169	3,385 - 5,490	3,019 - 5,382	2,641 - 4,746
	France (Clipperton Isl., Guadeloupe, Martinique, Saint Pierre & Miquelon, St Barthelemy, St Martin)	28	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620

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Geographic Region	Administrative Country (including overseas territories)	Total Catch (t x 10 <sup>3</sup> year <sup>-1</sup> )	Economic Multiplier	Income Multiplier	Scenario 1		Scenario 2	
					Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
	Grenada	2	1.21	0.28	216 - 360	396 - 660	72 - 216	132 - 396
	Guatemala	37	1.87	0.52	12,556 - 20,596	17,277 - 28,293	7,491 - 15,531	10,775 - 21,791
	Haiti	20	2.12	0.45	727 - 1,210	1,408 - 2,342	268 - 751	513 - 1,447
	Honduras	15	1.22	0.28	1,529 - 2,519	2,858 - 4,699	804 - 1,794	1,605 - 3,445
	Jamaica	16	3.46	0.78	55 - 92	81 - 134	18 - 55	27 - 81
	Mexico	1,775	1.21	0.28	131,977 - 218,021	204,704 - 338,406	63,401 - 149,445	95,916 - 229,617
	Netherlands (Aruba, Bonaire, Curacao, Saba and Sint Eustatius, Sint Maarten)	5	2.95	0.68	1,383 - 2,219	4,138 - 6,661	1,324 - 2,160	3,724 - 6,248
	Nicaragua	26	1.50	0.41	2,390 - 3,824	4,674 - 7,479	2,390 - 3,824	4,674 - 7,479
	Panama	123	2.56	0.91	5,013 - 8,105	6,659 - 10,839	4,168 - 7,260	4,812 - 8,992
	Saint Kitts and Nevis	1.1	1.22	0.28	210 - 350	1,099 - 1,832	70 - 210	366 - 1,099
	Saint Vincent & the Grenadines	2	1.22	0.28	38 - 60	95 - 152	38 - 60	95 - 152
	Trinidad and Tobago	16	1.22	0.28	1,504 - 2,408	4,675 - 7,483	1,489 - 2,393	4,643 - 7,451
	United Kingdom (Anguilla, Bermuda, British Virgin Isl., Cayman Isl., Montserrat, Turks & Caicos Isl.)	14	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026 - 26,010
	USA	5,017	3.10	1.29	134,345 - 216,461	433,696 - 702,010	119,253 - 201,369	352,740 - 621,053
<b>Oceania</b>	Australia	172	3.69	1.1	22 - 36	73 - 120	18 - 32	46 - 93
	Fiji	22	3.34	0.65	112 - 184	376 - 624	54 - 127	150 - 398
	France (French Polynesia, New Caledonia, Wallis & Futuna Isl.)	24	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620
	Kiribati	264	3.34	0.65	353 - 588	570 - 950	118 - 353	190 - 570
	Marshall Islands	36	3.34	0.65	-	0	0	0
	Micronesia	171	3.34	0.65	-	0	0	0
	New Zealand	609	2.58	0.65	27,812 - 44,683	56,736 - 91,217	25,966 - 42,837	52,337 - 86,818
	Papua New Guinea	377	3.34	0.65	2,681 - 4,371	1,973 - 3,223	1,867 - 3,557	1,300 - 2,551
	Samoa	7	3.34	0.65	79 - 132	131 - 218	26 - 79	44 - 131
	Solomon Islands	140	3.34	0.65	34 - 57	54 - 90	11 - 34	18 - 54
	Timor Leste	3	3.27	0.73	-	0	0	0
	Tonga	7	3.34	0.65	33 - 55	59 - 99	11 - 33	20 - 59
	Tuvalu	37	3.34	0.65	21 - 36	20 - 33	7 - 21	7 - 20
	USA (American Samoa, Hawaii Main Islands, Northern Marianas, Wake Isl.)	0.01	3.10	1.29	134,345 - 216,461	433,696 - 702,010	119,253 - 201,369	352,740 - 621,053
	Vanuatu	23	3.34	0.65	9 - 15	26 - 43	3 - 9	9 - 26
<b>South America</b>	Argentina	1,208	2.97	0.85	133,336 - 213,338	123,797 - 198,076	133,336 - 213,338	123,797 - 198,076
	Brazil	638	2.39	0.81	11,888 - 19,434	28,905 - 47,460	7,759 - 15,305	16,784 - 35,340
	Chile	3,440	2.44	0.55	310,963 - 500,890	159,412 - 260,144	277,473 - 467,400	108,560 - 209,292
	Colombia	51	3.14	1.43	2,103 - 3,366	3,248 - 5,196	2,103 - 3,366	3,248 - 5,196
	Ecuador	439	3.25	0.67	39,658 - 64,795	43,121 - 70,970	26,238 - 51,375	23,362 - 51,210
	France	11	4.11	1.13	15,157 - 24,941	61,257 - 100,832	8,259 - 18,043	33,045 - 72,620
	Guyana	53	2.12	0.45	2,128 - 3,547	3,137 - 5,228	709 - 2,128	1,046 - 3,137

**Table S1. Catch, the economic and income multipliers.** The administrative countries included in each geographic region, the average annual total landed commercial catch, the economic and income multipliers from Dyck and Sumaila (39), and the average annual catch and revenue loss to likely illicit trade for each of the two scenarios.

Geographic Region	Administrative Country (including overseas territories)	Total Catch (t x 10 <sup>3</sup> year <sup>-1</sup> )	Economic Multiplier	Income Multiplier	Scenario 1		Scenario 2	
					Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Average catch loss (t·year <sup>-1</sup> )	Average gross revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
	Peru	8,404	2.95	0.82	576,195 - 925,222	261,874 - 426,719	543,092 - 892,119	184,674 - 349,518
	Suriname	52	2.12	0.45	4,760 - 7,902	8,181 - 13,521	1,905 - 5,046	3,870 - 9,210
	United Kingdom (Falkland Isl.)	571	4.26	1.09	11,502 - 18,523	19,124 - 31,109	10,296 - 17,318	14,026, 26,010
	Uruguay	123	2.63	0.63	8,776 - 14,627	10,992 - 18,320	2,925 - 8,776	3,664 - 10,992
	Venezuela	223	1.06	0.44	14,048 - 23,414	35,685 - 59,475	4,683 - 14,048	11,895 - 35,685

**Table S2. Corporate tax rate and revenue by country.** The administrative countries included in each geographic region, the corporate tax rate for the country from (56), and the average annual tax revenue loss to likely illicit trade for each of the two scenarios. Where a country's tax rate was not available the average tax rate for that region was used.

Geographic Region	Administrative Country (including overseas territories)	Tax rate (%)	Scenario 1	Scenario 2
			Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
Africa	Algeria	26	28,024 - 45,871	17,688 - 35,536
	Angola	30	36,119 - 58,206	31,967 - 54,054
	Benin	30	4,757 - 7,831	2,553 - 5,627
	Cameroon	33	8,524 - 14,164	3,275 - 8,914
	Cape Verde	28.24	885 - 1,423	818 - 1,356
	Comoros	28.24	725 - 1,209	242 - 725
	Congo (ex - Zaire)	35	2,189 - 3,634	864 - 2,310
	Congo, R. of	28.24	2,427 - 3,891	2,343 - 3,808
	Côte d'Ivoire	25	6,262 - 10,107	5,380 - 9,226
	Djibouti	25	382 - 615	337 - 570
	Egypt	23	3,896 - 6,265	3,578 - 5,947
	Equatorial Guinea	28.24	6,972 - 11,207	6,449 - 10,684
	Eritrea	28.24	290 - 483	97 - 290
	France	33	20,215 - 33,275	10,905 - 23,965
	Gabon	30	10,826 - 17,501	9,032 - 15,707
	Gambia	31	11,875 - 19,147	10,416 - 17,687
	Ghana	25	6,328 - 10,386	3,709 - 7,768
	Guinea	28.24	107,180 - 171,876	103,292 - 167,989
	Guinea-Bissau	28.24	53,360 - 85,479	52,328 - 84,447
	Kenya	30	1,464 - 2,407	819 - 1,761
	Liberia	28.24	11,564 - 18,553	11,047 - 18,036
	Libya	20	5,092 - 8,416	2,409 - 5,733
	Madagascar	20	2,768 - 4,588	1,173 - 2,993
	Mauritania	28.24	184,720 - 295,743	182,808 - 293,831
	Mauritius	15	390 - 634	296 - 539
	Morocco	31	313,522 - 504,998	279,883 - 471,360
	Mozambique	32	999 - 1,664	333 - 999
	Namibia	32	7,083 - 11,333	7,083 - 11,333
	Nigeria	30	34,448 - 56,542	20,196 - 42,290
	Sao Tome and Principe	28.24	711 - 1,146	631 - 1,066
	Senegal	30	57,726 - 93,222	49,117 - 84,614
	Seychelles	28.24	82 - 137	27 - 82
Sierra Leone	30	8,851 - 14,409	6,375 - 11,933	
Somalia	28.24	34,260 - 54,837	34,039 - 54,617	
South Africa	28	4,201 - 6,993	1,483 - 4,275	
Spain	25	24,614 - 39,718	21,252 - 36,356	
Tanzania	30	4,116 - 6,824	1,731 - 4,439	
Togo	28.24	6,354 - 10,185	6,170 - 10,001	
Tristan da Cunha Islands (UK)	28.24	75 - 121	71 - 116	
Tunisia	25	125 - 200	125 - 200	
United Kingdom (Ascension and Saint Helena Islands)	19	3,634 - 5,911	2,665 - 4,942	
Antarctic & sub-Antarctic	France (St. Paul & Amsterdam Isl., Crozet Isl., Kerguelen Isl.)	33	20,215 - 33,275	10,905 - 23,965
	Norway (Bouvet Isl.)	23	3,923 - 6,328	3,401 - 5,806
	South Africa (Prince Edward Isl.)	28	4,201 - 6,993	1,483 - 4,275

**Table S2. Corporate tax rate and revenue by country.** The administrative countries included in each geographic region, the corporate tax rate for the country from (56), and the average annual tax revenue loss to likely illicit trade for each of the two scenarios. Where a country's tax rate was not available the average tax rate for that region was used.

Geographic Region	Administrative Country (including overseas territories)	Tax rate (%)	Scenario 1	Scenario 2
			Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
	United Kingdom (South Georgia & Sandwich Isl.)	19	3,634 - 5,911	2,665 - 4,942
<b>Asia</b>	Australia (Christmas Isl. and Cocos-Keeling Isl.)	30	22 - 36	14 - 28
	Bahrain	0	-	-
	Bangladesh	25	9,093 - 14,827	6,319 - 12,052
	Brunei Darussalam	18.5	1,470 - 2,426	722 - 1,679
	Cambodia	20	57,514 - 92,088	56,847 - 91,422
	China	25	166,788 - 271,080	124,600 - 228,892
	Georgia	15	3,419 - 5,479	3,337 - 5,396
	India	35	81,956 - 133,491	58,349 - 109,883
	Indonesia	25	228,979 - 366,621	226,438 - 364,080
	Iran	19.35	13,957 - 22,474	12,518 - 21,036
	Iraq	15	0.49 - 0.82	0.16 - 0.49
	Israel	23	397 - 662	132 - 397
	Japan	30.86	18,154 - 29,469	13,929 - 25,243
	Jordan	20	0	0
	Korea (North)	21.09	1,035 - 1,704	542 - 1,212
	Korea (South)	25	1,131 - 1,885	377 - 1,131
	Kuwait	15	184 - 298	158 - 271
	Lebanon	15	183 - 306	61 - 183
	Malaysia	24	225,656 - 363,303	203,124 - 340,770
	Maldives	21.09	1,919 - 3,142	1,212 - 2,435
	Myanmar	25	67,308 - 107,692	67,308 - 107,692
	Oman	15	1,944 - 3,239	648 - 1,944
	Pakistan	30	24,497 - 39,758	18,866 - 34,127
	Philippines	30	119,937 - 196,262	76,311 - 152,636
	Qatar	10	271 - 451	101 - 281
	Saudi Arabia	20	2,133 - 3,528	982 - 2,377
	Sri Lanka	28	710 - 1,184	237 - 710
	Syria	28	606 - 990	405 - 789
	Taiwan	20	12,373 - 19,910	11,234 - 18,771
	Thailand	20	38,071 - 63,451	12,690 - 38,071
	Turkey	22	23,680 - 38,376	18,803 - 33,499
	United Arab Emirates	55	13,761 - 22,935	4,587 - 13,761
	United Kingdom (Chagos Archipelago)	19	3,634 - 5,911	2,665 - 4,942
	Viet Nam	20	36,028 - 58,466	27,806 - 50,245
	Yemen	20	9,108 - 15,179	3,039 - 9,110
<b>Europe</b>	Belgium	29	248 - 397	248 - 397
	Bosnia and Herzegovina	10	0.12 - 0.2	0.04 - 0.12
	Bulgaria	10	662 - 1,061	646 - 1,044
	Croatia	20	1,208 - 1,944	1,097 - 1,834
	Cyprus	12.5	136 - 225	64 - 153
	Denmark	22	2,499 - 4,009	2,390 - 3,900
	Estonia	20	260 - 417	250 - 407
	Finland	20	260 - 417	251 - 408
	France	33	20,215 - 33,275	10,905 - 23,965
	Germany	30	1,377 - 2,205	1,364 - 2,192



**Table S2. Corporate tax rate and revenue by country.** The administrative countries included in each geographic region, the corporate tax rate for the country from (56), and the average annual tax revenue loss to likely illicit trade for each of the two scenarios. Where a country's tax rate was not available the average tax rate for that region was used.

Geographic Region	Administrative Country (including overseas territories)	Tax rate (%)	Scenario 1	Scenario 2
			Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
	Iceland	20	0.01 - 0.01	0.01 - 0.01
	Ireland	12.5	944 - 1,522	828 - 1,406
	Italy	24	52,386 - 84,132	49,247 - 80,992
	Latvia	20	717 - 1,150	692 - 1,125
	Lithuania	15	387 - 620	380 - 613
	Montenegro	9	8 - 13	8 - 13
	Netherlands	25	1,034 - 1,665	931 - 1,562
	Norway	23	3,923 - 6,328	3,401 - 5,806
	Poland	19	2,811 - 4,518	2,600 - 4,307
	Portugal	21	1,917 - 3,109	1,493 - 2,685
	Romania	16	91 - 146	91 - 146
	Russia	20	11,921 - 19,118	11,483 - 18,680
	Russian Federation	20	114,626 - 184,834	100,309 - 170,516
	Spain	25	24,614 - 39,718	21,252 - 36,356
	Sweden	22	3,398 - 5,441	3,364 - 5,407
	Ukraine	18	728 - 1,176	614 - 1,062
	United Kingdom	19	3,634 - 5,911	2,665 - 4,942
<b>North America</b>	Antigua and Barbuda	25	95 - 159	32 - 95
	Bahamas	0	-	-
	Barbados	30	137 - 228	46 - 137
	Belize	26.75	234 - 390	78 - 234
	Canada	26.5	19,353 - 31,022	18,772 - 30,441
	Costa Rica	30	528 - 846	520 - 838
	Cuba	26.75	729 - 1,216	243 - 729
	Denmark (Greenland)	22	2,499 - 4,009	2,390 - 3,900
	Dominica	25	34 - 56	11 - 34
	Dominican Republic	27	2,034 - 3,389	678 - 2,034
	El Salvador	30	1,015 - 1,647	792 - 1,424
	France (Clipperton Isl., Guadeloupe, Martinique, Saint Pierre & Miquelon, St Barthelemy, St Martin)	33	20,215 - 33,275	10,905 - 23,965
	Grenada	30	119 - 198	40 - 119
	Guatemala	25	4,319 - 7,073	2,694 - 5,448
	Haiti	26.75	377 - 627	137 - 387
	Honduras	25	715 - 1,175	401 - 861
	Jamaica	25	20 - 34	7 - 20
	Mexico	30	61,411 - 101,522	28,775 - 68,885
	Netherlands (Aruba, Bonaire, Curacao, Saba and Sint Eustatius, Sint Maarten)	25	1,034 - 1,665	931 - 1,562
	Nicaragua	30	1,402 - 2,244	1,402 - 2,244
	Panama	25	1,665 - 2,710	1,203 - 2,248
	Saint Kitts and Nevis	33	363 - 605	121 - 363
	Saint Vincent & the Grenadines	33	31 - 50	31 - 50
	Trinidad and Tobago	25	1,169 - 1,871	1,161 - 1,863
	United Kingdom (Anguilla, Bermuda, British Virgin Isl., Cayman Isl., Montserrat, Turks & Caicos Isl.)	19	3,634 - 5,911	2,665 - 4,942
	USA	27	117,098 - 189,543	95,240 - 167,684

**Table S2. Corporate tax rate and revenue by country.** The administrative countries included in each geographic region, the corporate tax rate for the country from (56), and the average annual tax revenue loss to likely illicit trade for each of the two scenarios. Where a country's tax rate was not available the average tax rate for that region was used.

Geographic Region	Administrative Country (including overseas territories)	Tax rate (%)	Scenario 1	Scenario 2
			Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )	Tax revenue loss (US\$ x 10 <sup>3</sup> ·year <sup>-1</sup> )
Oceania	Australia	30	22 - 36	14 - 28
	Fiji	20	75 - 125	30 - 80
	France (French Polynesia, New Caledonia, Wallis & Futuna Isl.)	33	20,215 - 33,275	10,905 - 23,965
	Kiribati	28.43	162 - 270	54 - 162
	Marshall Islands	28.43	0	0
	Micronesia	28.43	0	0
	New Zealand	28	15,886 - 25,541	14,654 - 24,309
	Papua New Guinea	30	592 - 967	390 - 765
	Samoa	27	35 - 59	12 - 35
	Solomon Islands	30	16 - 27	5 - 16
	Timor Leste	28.24	0	0
	Tonga	28.43	17 - 28	6 - 17
	Tuvalu	28.43	6 - 9	2 - 6
	USA (American Samoa, Hawaii Main Islands, Northern Marianas, Wake Isl.)	27	117,098 - 189,543	95,240 - 167,684
Vanuatu	0	-	-	
South America	Argentina	30	37,139 - 59,423	37,139 - 59,423
	Brazil	34	9,828 - 16,137	5,707 - 12,015
	Chile	26	41,447 - 67,638	28,225 - 54,416
	Colombia	33	1,072 - 1,715	1,072 - 1,715
	Ecuador	25	10,780 - 17,743	5,840 - 12,803
	France	33	20,215 - 33,275	10,905 - 23,965
	Guyana	27.24	854 - 1,424	285 - 854
	Peru	29.5	77,253 - 125,882	54,479 - 103,108
	Suriname	36	2,945 - 4,867	1,393 - 3,315
	United Kingdom (Falkland Isl.)	19	3,634 - 5,911	2,665 - 4,942
	Uruguay	25	2,748 - 4,580	916 - 2,748
	Venezuela	34	12,133 - 20,222	4,044 - 12,133

**Table S3. Economic losses.** Estimated average annual economic losses to the legitimate (formal) international trading system due to likely illicit trade in marine fish catch over the last decade of total reconstructed catch data (2005-2014) for two scenarios of assumed fractions of unreported catches being redirected to illicit trade. Both scenarios assume 50-80% of unreported industrial landed catches are being redirected to illicit trade, while the fractions of artisanal unreported landed catches being redirected to illicit trade ranges from 30-50% and 10-30% for scenario 1 and 2, respectively. These estimates are compared with previous estimates of illegal fishing by Agnew and colleagues (3), the *Sea Around Us* total landed catch (reported and unreported landings) and total landed value of commercial fisheries averaged over the same time period, and the FAO total landed catch averaged over 2005 - 2014.

FAO Area	Scenario 1		Scenario 2		Agnew <i>et al.</i> (2009)		<i>Sea Around Us</i>		FAO
	Catch loss (t x10 <sup>3</sup> )	Gross revenue loss (US\$ x 10 <sup>6</sup> )	Catch loss (t x10 <sup>3</sup> )	Gross revenue loss (US\$ x 10 <sup>6</sup> )	Catch loss (t x10 <sup>3</sup> )	Gross revenue loss (US\$ x 10 <sup>6</sup> )	Landed catch (t x10 <sup>3</sup> )	Landed value (US\$ x 10 <sup>6</sup> )	Landed catch (t x10 <sup>3</sup> )
Arctic Sea	0.2 - 0.4	0.5 - 00.8	0.1 - 0.2	0.2 - 0.5	-	-	1	2	0.11
Atlantic, Eastern Central	1,838 - 2,956	2,834 - 4,561	1,683 - 2,801	2,564 - 4,291	294 - 562	265 - 506	8,018	11,093	4,082
Atlantic, Northeast	153 - 246	222 - 357	143 - 236	196 - 332	364 - 842	328 - 758	8,593	13,468	8,655
Atlantic, Northwest	91 - 147	318 - 514	80 - 136	263 - 459	22 - 82	20 - 74	2,213	7,936	2,057
Atlantic, Southeast	153 - 246	149 - 240	149 - 241	131 - 222	53 - 139	48 - 125	1,698	2,106	1,426
Atlantic, Southwest	154 - 247	164 - 264	144 - 237	144 - 244	228 - 674	205 - 606	2,479	4,221	2,082
Atlantic, Western Central	132 - 216	290 - 474	87 - 171	188 - 372	22 - 59	20 - 53	1,792	4,519	1,315
Antarctic <sup>s</sup>	0.1 - 0.1	0.5 - 0.7	0.1 - 0.1	0.5 - 0.7	9.6 - 9.6	9 - 9	114	241	185
Indian Ocean, Eastern	739 - 1,191	978 - 1,576	656 - 1,108	863 - 1,461	468 - 971	421 - 874	7,062	9,221	5,960
Indian Ocean, Western	435 - 710	582 - 949	292 - 567	404 - 771	229 - 560	206 - 504	4,158	5,761	4,366
Mediterranean and Black Sea	309 - 499	644 - 1,044	268 - 458	516 - 916	-	-	2,243	5,276	1,422
Pacific, Eastern Central	119 - 197	187 - 308	63 - 141	95 - 216	130 - 278	117 - 251	2,045	2,455	1,902
Pacific, Northeast	17 - 28	34 - 55	17 - 27	34 - 54	2.3 - 8.4	2 - 8	2,239	2,031	2,856
Pacific, Northwest	1,091 - 1,761	1,393 - 2,258	940 - 1,610	1,109 - 1,974	1,326 - 3,506	1,193 - 3,155	23,621	32,651	20,369
Pacific, Southeast	929 - 1,494	467 - 762	849 - 1,414	319 - 614	1,198 - 2,568	1,078 - 2,311	12,332	6,707	10,641
Pacific, Southwest	28 - 45	57 - 91	26 - 43	52 - 87	5.2 - 33	5 - 30	606	1,220	614
Pacific, Western Central	2,512 - 4,041	2,341 - 3,778	2,297 - 3,826	2,006 - 3,444	786 - 1,730	707 - 1,557	14,964	18,658	11,494
<b>Total</b>	<b>8,702 - 14,024</b>	<b>10,659 - 17,232</b>	<b>7,696 - 13,018</b>	<b>8,886 - 15,459</b>	<b>5,141 - 12,040</b>	<b>4,627 - 10,836</b>	<b>94,177</b>	<b>127,566</b>	<b>79,427</b>

<sup>s</sup> Includes Indian Ocean and Atlantic Antarctic FAO Area.