

Eco²: a simple index of economic–ecological deficits

U. Rashid Sumaila*, Ngaio Hotte, Alessandro Galli, Vicky W.Y. Lam, Andrés M. Cisneros-Montemayor, Mathis Wackernagel

*Corresponding author: r.sumaila@fisheries.ubc.ca

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Table S1. 2010 Ecological and financial deficits and GDP, by country.

Country name	Population (million)	Ecological Footprint (gha, millions)	Total Biocapacity (gha, millions)	Ecological Deficit (/Surplus) (gha, millions)	GDP (USD, billions)	Financial Deficit (/Surplus) (USD, billions)
Afghanistan	26.3	19.9	14.2	−5.7	12.5	0.4
Albania	3.1	5.7	3.7	−2.0	12.0	−1.9
Algeria	33.9	62.5	20.2	−42.3	137.2	0.4
Angola	17.6	19.7	55.0	35.2	75.5	−7.6
Argentina	39.5	110.1	296.3	186.2	378.5	8.3
Armenia	3.1	4.9	1.9	−3.0	8.6	−1.4
Australia	20.9	139.2	309.5	170.3	926.7	−48.9
Austria	8.3	44.7	26.0	−18.7	383.7	10.3
Azerbaijan	8.6	14.7	6.2	−8.5	44.3	10.2
Bangladesh	157.8	107.3	63.1	−44.2	89.4	3.6
Belarus	9.7	39.1	31.7	−7.4	49.2	−6.1
Belgium	10.5	80.0	11.0	−69.0	473.3	−2.9
Benin	8.4	12.5	9.0	−3.4	6.6	−0.6
Bolivia	9.5	24.4	175.8	151.4	17.3	0.8
Bosnia and Herzegovina	3.8	9.5	6.4	−3.1	17.1	−1.1
Botswana	1.9	5.5	7.1	1.6	10.1	−0.9
Brazil	190.1	581.8	1834.1	1252.3	1620.2	−24.3
Bulgaria	7.6	22.4	22.4	−0.1	48.6	−4.3
Burkina Faso	14.7	24.9	22.6	−2.3	8.3	−0.4
Burundi	7.8	7.5	3.8	−3.8	1.7	−0.2
Cambodia	14.3	15.9	15.0	−0.9	10.4	−0.8
Cameroon	18.7	25.4	39.1	13.7	22.2	−1.1
Canada	32.9	217.7	491.3	273.6	1370.8	−40.3
Central African Republic	4.3	5.5	35.3	29.8	2.0	−0.2
Chad	10.6	20.1	33.7	13.6	9.3	−2.7
Chile	16.6	48.9	64.4	15.5	172.3	3.5
China	1336.6	3002.7	1354.6	−1648.1	4990.2	243.3
Colombia	44.4	84.7	172.0	87.3	233.8	−5.1

Country name	Population (million)	Ecological Footprint (gha, millions)	Total Biocapacity (gha, millions)	Ecological Deficit (/Surplus) (gha, millions)	GDP (USD, billions)	Financial Deficit (/Surplus) (USD, billions)
Congo, Democratic Republic of	62.5	48.8	197.5	148.7	18.3	-1.1
Congo, Republic of	3.6	48.8	197.5	148.7	9.6	0.6
Costa Rica	4.5	11.3	7.2	-4.1	29.4	-0.6
Côte d'Ivoire	20.1	19.5	33.3	13.8	23.0	1.6
Croatia	4.4	14.2	12.1	-2.2	62.2	-3.1
Cuba	11.2	19.1	7.8	-11.3	62.1	0.2
Czech Republic	10.3	51.3	26.0	-25.3	197.2	-4.8
Denmark	5.4	41.9	26.2	-15.7	310.5	10.8
Dominican Republic	9.8	14.2	5.7	-8.5	46.5	-2.3
Ecuador	13.3	26.6	30.5	3.9	62.5	0.1
Egypt	80.1	145.5	43.4	-102.1	189.0	-3.3
El Salvador	6.1	12.2	3.7	-8.5	20.7	-0.3
Eritrea	4.8	2.8	7.4	4.6	1.9	-0.2
Estonia	1.3	6.5	11.9	5.4	19.4	0.6
Ethiopia	78.6	92.8	57.4	-35.4	31.8	-2.2
Finland	5.3	28.8	68.9	40.1	239.4	6.7
France	61.7	292.3	186.0	-106.3	2619.7	-35.4
Gabon	1.4	3.8	41.7	37.9	12.0	3.5
Gambia	1.6	2.9	2.1	-0.8	0.9	0.1
Georgia	4.4	5.3	4.8	-0.5	10.8	-1.1
Germany	82.3	375.6	152.2	-223.4	3298.2	199.5
Ghana	22.9	43.1	29.6	-13.6	26.0	-1.9
Greece	11.1	50.1	16.0	-34.2	321.0	-35.9
Guatemala	13.4	25.7	15.0	-10.7	37.7	0.0
Guinea	9.6	16.7	27.0	10.3	4.6	-0.4
Guinea-Bissau	1.5	2.6	5.1	2.5	0.8	-0.0
Haiti	9.7	5.8	2.6	-3.2	6.6	-0.2
Honduras	7.2	12.4	13.9	1.5	14.6	-0.6
Hungary	10.0	27.6	22.9	-4.7	126.6	-0.2
India	1164.7	1115.6	591.7	-523.9	1365.4	-26.2
Indonesia	224.7	334.1	318.2	-15.9	539.6	10.6
Iran, Islamic Republic of	72.4	209.5	73.2	-136.3	362.7	15.4
Iraq	29.5	48.5	9.4	-39.1	111.7	-1.1
Ireland	4.4	24.5	16.0	-8.5	225.4	-5.0
Israel	6.9	31.6	2.0	-29.6	205.8	7.9
Italy	59.3	273.8	62.9	-211.0	2111.1	-40.9
Jamaica	2.7	5.6	1.0	-4.6	12.1	-1.1
Japan	127.4	497.7	71.1	-426.6	5035.1	147.0
Jordan	5.9	11.9	1.6	-10.4	23.8	-1.2
Kazakhstan	15.4	70.9	52.0	-18.9	115.3	-4.1
Kenya	37.8	39.9	22.2	-17.7	30.7	-1.7
Korea, Republic of	48.0	212.4	32.1	-180.3	901.9	32.8
Kuwait	2.9	28.3	1.3	-27.0	105.9	28.4

Country name	Population (million)	Ecological Footprint (gha, millions)	Total Biocapacity (gha, millions)	Ecological Deficit (/Surplus) (gha, millions)	GDP (USD, billions)	Financial Deficit (/Surplus) (USD, billions)
Kyrgyzstan	5.3	7.5	7.0	-0.5	4.7	-0.1
Lao People's Democratic Republic	6.1	8.4	10.1	1.7	5.8	-0.1
Latvia	2.3	8.6	15.2	6.6	25.9	2.3
Lebanon	4.2	14.1	1.4	-12.7	35.1	-6.7
Lesotho	2.0	2.3	1.8	-0.5	1.7	0.1
Liberia	3.6	4.7	10.6	5.9	1.2	-0.3
Libyan Arab Jamahiriya	6.2	20.8	4.1	-16.6	62.4	9.4
Lithuania	3.4	13.9	11.4	-2.5	37.1	1.5
Macedonia, TFYR	2.0	7.4	0.9	-6.6	49.4	3.5
Madagascar	18.6	6.1	3.3	-2.8	9.3	-0.6
Malawi	14.4	23.2	58.0	34.8	8.6	-2.1
Malaysia	26.6	12.2	10.2	-2.1	5.0	-0.5
Mali	12.4	82.2	68.9	-13.3	202.3	31.8
Mauritania	3.1	27.9	34.0	6.1	9.0	-0.7
Mauritius	1.3	8.3	17.4	9.1	3.0	-0.7
Mexico	107.5	5.7	0.7	-5.0	8.8	-0.7
Moldova, Republic of	3.7	362.1	158.1	-204.0	895.3	-7.9
Mongolia	2.6	5.8	4.1	-1.7	5.4	-0.4
Morocco	31.2	47.2	26.4	-20.7	90.9	-5.0
Mozambique	21.9	20.5	53.0	32.4	9.7	-1.2
Myanmar	49.1	91.9	106.6	14.7	41.5	1.0
Namibia	2.1	4.3	15.7	11.5	8.7	-0.1
Nepal	28.3	24.9	15.6	-9.3	12.9	0.0
Netherlands	16.5	104.3	16.1	-88.2	796.3	41.6
New Zealand	4.2	13.5	45.0	31.5	119.0	-3.0
Nicaragua	5.6	8.3	12.9	4.5	8.4	-0.8
Niger	14.1	37.3	36.6	-0.7	5.4	-1.3
Nigeria	147.7	217.5	143.3	-74.2	169.5	13.9
Norway	4.7	18.2	32.8	14.6	378.8	45.2
Oman	2.7	13.4	6.1	-7.4	48.2	-0.6
Pakistan	173.2	122.8	67.6	-55.3	167.9	-4.0
Panama	3.3	8.0	8.9	0.9	25.9	-0.2
Papua New Guinea	6.4	18.0	23.9	5.9	7.9	-0.6
Paraguay	6.1	26.0	70.0	43.9	15.9	0.5
Peru	28.5	44.4	110.2	65.8	121.2	-0.7
Philippines	88.7	103.2	54.1	-49.1	168.3	9.4
Poland	38.1	159.6	74.9	-84.7	430.9	-17.2
Portugal	10.6	48.2	14.0	-34.2	234.1	-25.7
Qatar	1.1	14.9	2.9	-12.0	97.8	32.2
Romania	21.5	51.8	52.1	0.4	164.3	-7.0
Russian Federation	141.9	580.3	900.1	319.8	1222.6	50.4

Country name	Population (million)	Ecological Footprint (gha, millions)	Total Biocapacity (gha, millions)	Ecological Deficit (/Surplus) (gha, millions)	GDP (USD, billions)	Financial Deficit (/Surplus) (USD, billions)
Rwanda	9.5	9.4	6.2	-3.2	5.2	-0.4
Saudi Arabia	24.7	117.6	15.7	-102.0	429.1	21.0
Senegal	11.9	17.1	17.9	0.7	12.8	-0.9
Serbia and Montenegro	9.8	24.6	15.1	-9.5	40.2	-2.9
Sierra Leone	5.4	6.5	6.6	0.1	2.5	-0.3
Singapore	4.5	36.4	0.3	-36.1	192.4	33.5
Slovakia	5.4	19.7	14.3	-5.4	87.2	-3.2
Slovenia	2.0	9.3	4.7	-4.6	49.2	-0.2
South Africa	49.2	127.7	59.3	-68.4	284.2	-11.4
Spain	44.1	186.4	66.2	-120.2	1454.3	-69.8
Sri Lanka	19.9	27.1	9.9	-17.2	42.1	-0.2
Sudan	40.4	62.6	64.2	1.6	52.8	-4.9
Swaziland	1.2	2.1	1.1	-1.0	3.1	-0.4
Sweden	9.2	61.0	93.1	32.2	405.8	25.2
Switzerland	7.5	39.7	9.3	-30.4	509.5	36.2
Syrian Arab Republic	20.5	33.2	12.1	-21.1	0.0	-1.0
Tajikistan	6.7	5.9	4.2	-1.7	5.0	-0.2
Tanzania, United Republic of	41.3	55.3	47.7	-7.6	21.4	-1.8
Thailand	67.0	158.5	82.1	-76.4	263.7	21.9
Timor-Leste	1.1	0.5	1.0	0.5	0.8	1.2
Togo	6.3	6.1	4.1	-2.0	3.2	-0.2
Trinidad and Tobago	1.3	9.9	2.1	-7.9	19.3	1.6
Tunisia	10.1	19.2	7.9	-11.3	43.5	-1.2
Turkey	73.0	186.2	112.1	-74.0	614.6	-12.2
Turkmenistan	5.0	19.6	14.6	-5.0	20.2	-1.1
Uganda	30.6	45.9	24.5	-21.4	14.8	-1.1
Ukraine	46.3	116.7	95.5	-21.2	117.2	-1.7
United Arab Emirates	6.2	76.5	7.1	-69.4	254.8	6.1
United Kingdom	61.1	278.2	84.1	-194.2	2208.0	-37.1
United States of America	308.7	2166.4	1171.2	-995.2	14417.9	-381.6
Uruguay	3.3	18.0	33.9	15.9	30.5	-0.4
Uzbekistan	26.9	48.4	24.6	-23.8	32.8	5.8
Venezuela, Bolivarian Republic of	27.7	90.8	84.5	-6.3	329.4	2.3
Viet Nam	86.1	142.1	95.6	-46.5	106.0	-6.6
Yemen, Republic of	22.3	21.5	14.1	-7.5	27.8	-2.6
Zambia	12.3	11.7	31.3	19.6	12.8	0.6
Zimbabwe	12.4	17.3	8.8	-8.6	8.2	-0.8

Table S2. 2010 Eco² and Eco²_{cost} Index scores and rankings, by country.

Country name	Eco ² Index	Eco ² Index Rank	Country name	Eco ² _{cost} Index	Eco ² _{cost} Index Rank
Timor-Leste	0.97	1	Congo, Republic of Central African Republic	37.52	1
Gabon	0.60	2	Bolivia	36.21	2
Bolivia	0.45	3	Congo, Democratic Republic of	21.15	3
Congo, Republic of Central African Republic	0.41	4	Liberia	19.61	4
Namibia	0.37	5	Madagascar	12.07	5
Congo, Democratic Republic of	0.36	6	Mozambique	9.60	6
New Zealand	0.35	7	Gabon	7.98	7
Zambia	0.34	8	Gabon	7.91	8
Brazil	0.34	9	Guinea-Bissau	7.32	9
Paraguay	0.33	10	Mauritania	7.04	10
Argentina	0.33	11	Paraguay	6.69	11
Finland	0.33	12	Eritrea	5.86	12
Peru	0.31	13	Guinea	5.33	13
Norway	0.30	14	Zambia	3.75	14
Angola	0.28	15	Chad	3.26	15
Canada	0.27	16	Namibia	3.16	16
Latvia	0.26	17	Timor-Leste	2.90	17
Eritrea	0.26	18	Brazil	1.85	18
Australia	0.25	19	Papua New Guinea	1.73	19
Mozambique	0.25	20	Mali	1.57	20
Colombia	0.24	21	Côte d'Ivoire	1.52	21
Côte d'Ivoire	0.24	22	Cameroon	1.45	22
Estonia	0.24	23	Peru	1.31	23
Uruguay	0.24	24	Uruguay	1.25	24
Guinea-Bissau	0.23	25	Argentina	1.21	25
Sweden	0.23	26	Nicaragua	1.21	26
Russian Federation	0.22	27	Angola	1.03	27
Madagascar	0.20	28	Myanmar	0.88	28
Liberia	0.18	29	Colombia	0.88	29
Cameroon	0.16	30	Latvia	0.70	30
			Estonia	0.70	31
			Lao People's Democratic Republic	0.69	32
Guinea	0.15	32	Russian Federation	0.67	33
Mauritania	0.14	33	New Zealand	0.62	34
Chile	0.13	34	Canada	0.45	35
Nicaragua	0.13	35	Finland	0.43	36
Papua New Guinea	0.09	36	Australia	0.39	37
Myanmar	0.08	37			
Lao People's Democratic Republic	0.08	38	Botswana	0.31	38
Botswana	0.07	39	Sweden	0.25	39
Ecuador	0.07	40	Chile	0.24	40
Chad	0.06	41	Honduras	0.22	41
Mali	0.05	42	Norway	0.21	42
Panama	0.05	43	Ecuador	0.15	43
Honduras	0.04	44	Panama	0.08	44
Senegal	-0.01	45	Senegal	0.07	45

Country name	Eco ² Index	Eco ² Index Rank	Country name	Eco ² _{cost} Index	Eco ² _{cost} Index Rank
Indonesia	-0.02	46	Qatar	0.03	46
Romania	-0.02	47	Malaysia	0.00	47
Malaysia	-0.02	48	Sudan	-0.02	48
Sudan	-0.03	49	Romania	-0.04	49
Venezuela, Bolivarian Republic of	-0.03	50	Venezuela, Bolivarian Republic of	-0.04	50
Bulgaria	-0.04	51	Indonesia	-0.05	51
Kyrgyzstan	-0.05	52	Sierra Leone	-0.06	52
Sierra Leone	-0.06	53	Switzerland	-0.07	53
Cambodia	-0.07	54	Denmark	-0.09	54
Burkina Faso	-0.07	55	Bulgaria	-0.09	55
Lithuania	-0.09	56	Austria	-0.09	56
Hungary	-0.10	57	Hungary	-0.09	57
Georgia	-0.11	58	Germany	-0.10	58
Croatia	-0.12	59	France	-0.11	59
Ukraine	-0.12	60	Ireland	-0.11	60
Tanzania, United Republic of	-0.12	61	Lithuania	-0.12	61
Niger	-0.13	62	Croatia	-0.13	62
Lesotho	-0.13	63	Japan	-0.18	63
Malawi	-0.15	64	Slovakia	-0.19	64
Gambia	-0.16	65	United States of America	-0.19	65
Belarus	-0.18	66	Netherlands	-0.22	66
Afghanistan	-0.18	67	Georgia	-0.22	67
Kazakhstan	-0.20	68	United Kingdom	-0.23	68
Turkmenistan	-0.20	69	Azerbaijan	-0.23	69
Slovakia	-0.21	70	Slovenia	-0.23	70
Nigeria	-0.22	71	Spain	-0.25	71
Tajikistan	-0.22	72	Luxembourg	-0.25	72
Benin	-0.24	73	Italy	-0.26	73
Moldova, Republic of	-0.25	74	Singapore	-0.28	74
Ghana	-0.27	75	Cambodia	-0.28	75
Togo	-0.27	76	Kyrgyzstan	-0.30	76
Viet Nam	-0.27	77	Israel	-0.31	77
Ireland	-0.28	78	Turkey	-0.31	78
Bosnia and Herzegovina	-0.28	79	Czech Republic	-0.33	79
Denmark	-0.28	80	Kuwait	-0.35	80
Costa Rica	-0.29	81	Costa Rica	-0.35	81
France	-0.29	82	Belgium	-0.36	82
Rwanda	-0.29	83	Greece	-0.37	83
Nepal	-0.30	84	Oman	-0.38	84
Yemen, Republic of	-0.31	85	Kazakhstan	-0.43	85
Bangladesh	-0.33	86	Cuba	-0.44	86
Turkey	-0.34	87	Korea, Republic of	-0.45	87
Ethiopia	-0.34	88	Ukraine	-0.45	88
Austria	-0.35	89	Portugal	-0.46	89
Serbia and Montenegro	-0.35	90	Belarus	-0.49	90
Albania	-0.35	91	Dominican	-0.49	91

Country name	Eco ² Index	Eco ² Index Rank	Country name	Eco ² _{cost} Index	Eco ² _{cost} Index Rank
Guatemala	-0.36	92	Republic Libyan Arab Jamahiriya	-0.49	92
Uzbekistan	-0.39	93	Bosnia and Herzegovina	-0.51	93
Morocco	-0.42	94	Poland	-0.51	94
Pakistan	-0.42	95	Saudi Arabia	-0.53	95
Thailand	-0.42	96	Niger	-0.56	96
Philippines	-0.43	97	Mexico	-0.56	97
Kenya	-0.43	98	Albania	-0.56	98
United States of America	-0.44	99	Morocco	-0.61	99
India	-0.45	100	Thailand	-0.62	100
Macedonia, TFYR	-0.45	101	South Africa	-0.62	101
Uganda	-0.47	102	United Arab Emirates	-0.63	102
Slovenia	-0.50	103	Serbia and Montenegro	-0.64	103
Czech Republic	-0.50	104	Philippines	-0.65	104
Swaziland	-0.51	105	Tunisia	-0.66	105
Zimbabwe	-0.54	106	Turkmenistan	-0.66	106
Burundi	-0.54	107	Guatemala	-0.69	107
Azerbaijan	-0.57	108	Burkina Faso	-0.70	108
China	-0.58	109	Lesotho	-0.72	109
Poland	-0.59	110	Yemen, Republic of	-0.74	110
South Africa	-0.60	111	Algeria	-0.74	111
Oman	-0.61	112	China	-0.75	112
Haiti	-0.62	113	Macedonia, TFYR	-0.79	113
Mexico	-0.65	114	Pakistan	-0.82	114
Germany	-0.70	115	Moldova, Republic of	-0.82	115
Cuba	-0.72	116	Iraq	-0.86	116
Tunisia	-0.73	117	Tajikistan	-0.86	117
Dominican Republic	-0.76	118	Iran, Islamic Republic of	-0.87	118
Sri Lanka	-0.87	119	Syrian Arab Republic	-0.88	119
Syrian Arab Republic	-0.88	120	Swaziland	-0.88	120
Armenia	-0.89	121	Trinidad and Tobago	-0.90	121
Iran, Islamic Republic of	-0.91	122	Tanzania, United Republic of	-0.94	122
Spain	-0.93	123	India	-0.95	123
Algeria	-1.04	124	Nigeria	-0.98	124
Greece	-1.12	125	Sri Lanka	-0.99	125
United Kingdom	-1.16	126	Armenia	-1.00	126
El Salvador	-1.17	127	Jamaica	-1.00	127
Egypt	-1.18	128	El Salvador	-1.01	128
Portugal	-1.28	129	Lebanon	-1.06	129
Switzerland	-1.60	130	Afghanistan	-1.07	130
Italy	-1.69	131	Malawi	-1.09	131
Trinidad and	-1.86	132	Jordan	-1.10	132

Country name	Eco ² Index	Eco ² Index Rank	Country name	Eco ² _{cost} Index	Eco ² _{cost} Index Rank
Tobago					
Qatar	-1.92	133	Viet Nam	-1.12	133
Libyan Arab Jamahiriya			Bangladesh	-1.15	134
Iraq	-1.94	134	Haiti	-1.20	135
Jamaica	-2.07	135	Egypt	-1.32	136
Netherlands	-2.31	136	Ghana	-1.34	137
Korea, Republic of	-2.72	137	Benin	-1.35	138
Japan	-2.79	138	Mauritius	-1.43	139
Belgium	-2.98	139	Kenya	-1.45	140
Saudi Arabia	-3.13	140	Rwanda	-1.56	141
Jordan	-3.23	141	Uzbekistan	-1.57	142
Mauritius	-3.30	142	Togo	-1.58	143
Luxembourg	-3.57	143	Nepal	-1.73	144
Lebanon	-3.78	144	Gambia	-2.11	145
United Arab Emirates			Zimbabwe	-2.63	146
Israel	-4.84	146	Ethiopia	-2.76	147
Kuwait	-7.55	147	Uganda	-3.56	148
Singapore	-9.93	148	Burundi	-5.30	149
Timor-Leste	-68.81	149	Congo, Republic of	37.52	150
Gabon	0.97	150	Central African Republic	36.21	151