Methodology for IUU Fishing Index

This paper describes the methodology used to develop and update the IUU Fishing Index. The methodology paper was first developed and published when the IUU Fishing Index was launched early in 2019. This paper is an update of the original methodology paper, and reflects the methodology used for the 2023 update of the Index and its scores.

The IUU Fishing Index comprises 40 indicators, with each indicator applied globally to 152 countries with a maritime coastline. The suite of indicators is considered to provide a reliable and robust basis for an Index of IUU fishing and scoring countries. The scores provide the basis for comparison between countries, regions, and ocean basins, and serve to identify where action to combat IUU fishing is most needed. For each country, a score is provided between 1 and 5 (1 good/strong, and 5 bad/weak) comprised of weighted indicators belonging to different 'indicator groups'.

The methodology used for the 2023 version of the Index remains the same as for 2021.

Countries included

All maritime countries are included in the Index. Overseas territories (of varying constitutional status) are not considered separately. Landlocked countries are not included because few indicators (see below) apply to them.

Countries are allocated to both a world region and an ocean basin, to allow for analysis of Index scores by individual country, region, and ocean basin.

Scores for any region or ocean basin are the average scores of all countries in that region/ocean basin. Where countries have a coastline spanning across two ocean basins, their scores are included in the averages of both ocean basins.

A full list of countries included, and their allocation by region and ocean basin is provided at the end of this document.

Indicators groups

Indicators included in the Index belong to different 'indicator groups'. Indicator groups relate to:

i. Responsibilities:

Coastal - indicators related to responsibilities and duties of the State regarding the management of the Exclusive Economic Zone (EEZ);

Flag – indicators related to things States can do and their obligations in relation to IUU fishing that are specific to vessels they flag i.e. that are on their vessel register;

Port – indicators related to steps States can take and their obligations in relation to IUU fishing that relate to port state control responsibilities; and

'General' - indicators that are not specific to flag, coastal, or port State responsibilities, including market-related indicators.

ii. Types:

Vulnerability – indicators that relate to elements that increase or reduce the inherent risk that IUU fishing is present (but which may often beyond the control of the state or fisheries administration);

Prevalence – indicators that relate to known/ suspected current IUU incidence; and

Response – indicators that relate to actions setting out to – or contributing to – combat and eliminate IUU fishing

Scoring, thresholds and weighting issues

For each country, a score is provided between 1 and 5 (1 good, and 5 bad).

All indicators are symmetric in design, but not all indicators use all five thresholds depending on the nature of the indicator and the data available.

- Twenty-three indicators are fully 'granular' and use all 5 threshold bands;

- Twelve indicators are binary with scores of 1 or 5 for Yes/No type values, typically to determine whether a country has taken some action or not e.g. has it ratified an international instrument such as the Port States Measures Agreement, or does it have a National Plan of Action to prevent, deter and eliminate IUU fishing. For these indicators, consideration was given as to whether all 5 threshold values could be used based on the timing of action. However this option was discounted as the Index attempts to provide a 'current' IUU score, not to take a historical and retrospective view of when actions took place, so the timing of actions is generally not considered of importance in assessing the current performance with regards to IUU fishing;

- Four indicators use thresholds 1,3 and 5 where the indicators lend themselves to one of three possible responses (for example does the country have a 'red card' under the EU IUU regulation, a 'yellow card', or 'no card'; and

- One indicator uses thresholds 1,2,4 and 5 (whether a country has been 'identified' by NOAA for IUU fishing, with four possible options being: not identified, of interest but not identified, identified, or negative certification after identification.

Indicators are weighted (Low, Medium or High) based on a value judgement as to how strongly they relate to potential or actual IUU fishing, and how relatively important they are within the full complement of indicators used.

Aggregation method: use of weighed arithmetic mean

The objective of the Index is to allow for countries to be both scored and ranked, and to compare scores over time, with updates of the Index being provided every two-three years to track change/progress in combatting IUU fishing. A weighted arithmetic mean was used to aggregate and compute scores across the various categories. Country scores are thus derived from a weighted average, and rankings are generated based on these scores.

Disregarding negative scores under specific circumstances

While all indicators apply in principle to all coastal countries, there are situations where their relevance is nil, when certain conditions prevail. In such circumstances, where indicators lack relevance, the indicator is simply not scored, and is excluded

from the calculation of the aggregate country score. These indicators are shown as 'not relevant' in the country profiles.

An example of this are the four countries in the set of 152 that have no port. If a country has no single port, and it has not signed the PSMA no score is provided, as the PSMA lacks relevance for such a state. The same disregarding of the score happens for the indicators related to designation of ports and entry of foreign vessels into port. However, ratification of the PSMA, even in the absence of a national port, is scored and included in the calculation (where/if these countries have done so), as it signals attention to, and commitment to combatting IUU fishing, while strengthening the legal standing of the treaty.

Missing values

To avoid problems of comparisons between countries, a minimum level of 60% data completion was established for indicators to be included in the Index when it was established in 2019. This led to several potential indicators being excluded at the design stage. For the 2023 update all indicators have well over 60% data completion, most reaching 100%.

Where individual indicator values for countries cannot be obtained, no score is assigned and the specific indicator is not used in the calculation of that country's aggregate score(s). For indicators with missing country values for some countries consideration was given to the feasibility of inferring values, however the nature of the indicators does not lend them well to such an approach. However, where a response and/or a value had been obtained in 2021, but none in 2023, the 2021 value was retained. This conservative approach of retaining an existing score was deemed superior to not having a score at all and eliminating such indicator from the computation of an aggregate country score. Out of the 40 indicators, only six indicators had any individual country scores thus retained/repeated (indicators 9, 11, 12, 13,17 and 36), resulting in a total of 240 repeats. This represents 4.22% of all collected data across the 40 indicators in 2023 (total count; n=5 686). For many repeated values (e.g. does have an NPOA-IUU, or does operate an FMC), the value, even though repeated, remains correct with very high certainty, or the repeated value is conservative (e.g. does not require commercial seagoing vessels to carry VMS).

Additionally, for some other indicator data (e.g. indicator 23), missing values could be filled from other existing sources. In the case of the existence of designated ports, missing values were completed by querying the FAO PSMA webpages, and missing country data were completed using this repository, which is mandatory under the PSMA. Overall, 111 blank values remained across eight indicators of the full dataset of 5 797 potential data points, translating into 1.91% missing data (when assuming all missing values to be relevant),

As can been seen from the table below, 36 of 40 indicators are relevant to all 152 countries, while 32 of 40 indicators have a 100% response rate. For the complete dataset used in the Index, data completion is very high, at 98%.

Indicator ID	Indicator Name	Count	Number of relevant countries	Response rate (%)
1	Distant water vessels on RFMO RAVs	152	152	100%
2	Distant water vessels under several RFMOs	96	96	100%
3	Vessels on IUU lists	152	152	100%
4	View of fisheries observers on flag state compliance incidents	152	152	100%
5	Views of MCS practitioners on flag state compliance incidents	152	152	100%
6	Accepted FAO Compliance Agreement	107	107	100%
7	Registered vessels with foreign or unknown ownership (new indicator in 2021)	135	152	89%
8	Provision of vessel data for inclusion in Global Record	152	152	100%
9	Mandatory vessel tracking for commercial seagoing fleet	121	137	88%
10	Size of EEZ	152	152	100%
11	Agreement over all maritime boundaries	152	152	100%
12	Dependency on fish for protein	152	152	100%
13	Authorise foreign vessels to operate in EEZ	132	152	87%
14	Has MSC-certified fisheries	152	152	100%
15	Views of MCS practitioners on coastal compliance incidents	152	152	100%
16	Coastal State is contracting party or cooperating non-contracting party to all relevant RFMOs	152	152	100%
17	Operate a national VMS/FMC centre	130	148	88%
18	Number of fishing ports	152	152	100%
19	Port visits by foreign fishing or carrier vessels	148	148	100%
20	Views of MCS practitioners on port compliance incidents	122	122	100%
21	View of fisheries observers on port compliance incidents	120	120	100%

Indicator ID	Indicator Name	Count	Number of relevant countries	Response rate (%)
22	Party to the PSMA	130	130	100%
23	Designated ports specified for entry by foreign vessels	123	123	100%
24	Trade balance for fisheries products	150	152	99%
25	Share of global imports	150	152	99%
26	Demand for MSC products	152	152	100%
27	Perception of levels of corruption	138	152	91%
28	Gross national income per capita	152	152	100%
29	Volume of catches	152	152	100%
30	'Carded' under the EU IUU Regulation	152	152	100%
31	'Identified' by NOAA for IUU fishing	152	152	100%
32	Mentions of IUU fishing in media reports	152	152	100%
33	Ratification/accession of UNCLOS Convention	152	152	100%
34	Ratification/accession of UNFSA	152	152	100%
35	Mentions in media reports to combatting IUU fishing	152	152	100%
36	Have a NPOA-IUU	130	152	86%
37	Compliance with RFMO flag state obligations	129	129	100%
38	Compliance with RFMO port state obligations	129	129	100%
39	Market State is contracting party or cooperating non-contracting party to relevant RFMOs	152	152	100%
40	Flag State is contracting party or cooperating non-contracting party to all relevant RFMOs	152	152	100%
Total		**5 686**	**5 797**	**98.1%**

Indicators included

The basis for the inclusion of indicators in the IUU Fishing Index is presented in the indicator tables below, with information provided on each indicator in table format.

Few indicators are likely to be especially robust in a conceptual sense as a measure of IUU fishing risk in a country when used on their own or in isolation. However, the suite of indicators taken together can be considered as providing a reliable and robust score of IUU fishing risk, given the wide range of issues they cover.

The indicator tables below provide information for each indicator on:

- The indicator ID (number)
- Its indicator group i.e. a combination of i) responsibility, and ii) type
- The indicator name
- An indicator description, defining what the indicator is measuring
- The unit of the indicator
- The threshold values used so that for each indicator a score of 1-5 can be assigned (1 = best performing, 5 = poorly performing)
- The source of the data used
- The year for which data are available. As a general rule the Index uses the most up-to-date data that are available. It should be noted that where the data sourced relate to 2023 they have been extracted from relevant secondary sources during the work to update the Index (on the dates indicated in the indicator tables), and may not remain valid for any subsequent changes that may occur in 2023
- Some justification for why the indicator is important/useful to include
- Some comments on the strengths and weaknesses of the indicator
- Some additional technical notes where relevant
- A weighting of the indicator, into one of three categories: Low (L), Medium (M), and High (H)

Acronyms

Acronyms used included in the indicator tables are as follows:

AIS Automatic Identification Systems

FAOCA FAO Compliance Agreement

CCAMLR Convention on Conservation of Antarctic Marine Living Resources

CCSBT Commission for the Conservation of Southern Bluefin Tuna

CMM Conservation and Management Measure

CNCP Cooperating Non-Contracting Party

CP Contracting Party

DWFV Distant Water Fishing Vessel

EEZ Exclusive Economic Zone

EU European Union

FAO Food and Agriculture Organisation (of the UN)

FMC Fisheries Monitoring Centre

FoC Flag of Convenience

GFCM General Fisheries Commission for the Mediterranean

GR Global Record

HSVAR High Seas Vessel Authorization Record

IATTC Inter-American Tropical Tuna Commission

ICCAT International Commission for the Conservation of Atlantic Tunas

IOTC Indian Ocean Tuna Commission

IUU Illegal Unreported and Unregulated (fishing)

MCS Monitoring Control and Surveillance

MSC Marine Stewardship Council

MSRA Magnuson-Steven Reauthorization Act

NAFO Northwest Atlantic Fisheries Organization

NEAFC North-East Atlantic Fisheries Commission

NOAA National Oceanic and Atmospheric Administration

NPFC North Pacific Fisheries Commission

NPOA-IUU National Plan of Action – Illegal, Unreported and Unregulated fishing)

OECD Organisation for Economic Co-operation and Development

PSMA Port State Measures Agreement

RAV Record of Authorized Vessels

RFMO Regional Fisheries Management Organisation

SDG Sustainable Development Goal

SEAFO South-East Atlantic Fisheries Organisation

SIOFA South Indian Ocean Fisheries Agreement

SPRFMO South Pacific Regional Fisheries Management Organisation

UNCLOS United Nations Convention of the Law of the Sea

UNFSA United Nations Fish Stocks Agreement

US United States

VMS Vessel Monitoring System

WCPFC Western and Central Pacific Fisheries Commission

Indicator ID	1.	**Indicator group**	Flag state/Vulnerability
Indicator name	Distant water vessels on RFMO RAVs		
Indicator description	This indicator measures the number of vessels countries have fishing in regulatory areas of RFMOs		
Unit of indicator	Number		
Threshold values	1	0 - 10	
	2	11 - 50	
	3	51 - 100	
	4	101 - 500	
	5	>500	
Source of data	RFMO records of authorised vessels (RAV) – all of those accessible via web. RFMOs covered: ICCAT, IOTC, CCSBT, WCPFC, IATTC,NEAFC, NAFO,SEAFO, SIOFA, SPRFMO, NPFC, CCAMLR, GFCM. Data accessed August 2023		
Year for which data available and used in current version of the Index	The most recent listing, most RAVs covering 2023, and being updated in real time; depending on how the interface allows to query RAV data, some might be from 2022.		
Justification	Flag states have responsibilities for managing distant water vessels fishing outside of their own EEZs and doing so is intrinsically difficult when vessels are operating far away. It can be supposed that the greater the number of distant water vessels a country has, the greater the risk of illegal fishing taking place.		
Comments, strengths and weaknesses	Double-counting may inflate numbers for flag states that have same vessels fishing under several RFMOs. However, it also implies that the same States need to monitor the same vessels under different sets of rules, which amounts in some ways to having to monitor several vessels instead of just one.		
Additional technical notes on indicator definitions, thresholds, etc.	For NAFO, the number of vessels per contracting party were not publicly available in 2018, but they were as of 2021. Thresholds selected to provide a distribution of country scores in different scoring ranges.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	2.	**Indicator group**	Flag state/Vulnerability
Indicator name	Distant water vessels under several RFMOs		
Indicator description	This indicator measures the number of RFMOs in which individual countries have DWFVs operating		
Unit of indicator	Number		
Threshold values	1	1	
	2	2	
	3	3	
	4	4	
	5	≥5	
Source of data	RFMO records of authorised vessels (RAV) – accessible via web. RFMOs covered: ICCAT, IOTC, CCSBT, WCPFC, IATTC, NEAFC, NAFO, SEAFO, SIOFA, SPRFMO, NPFC, CCAMLR, and GFCM. Data accessed August 2023		
Year for which data available and used in current version of the Index	The most recent listing, most RAVs covering 2023, and being updated in real time; depending on how the interface allows to query RAV data, some might be from 2022.		
Justification	Flag states have responsibilities for managing distant water vessels fishing outside of their own EEZs and doing so is intrinsically difficult when vessels are operating far away. It is reasonable to conject that the greater the number of RFMOs under which distant water vessels of a single flag state operate, the greater the burden on the flag state to monitor and ensure adherence to multiple rule sets, and thus the greater the risk of illegal fishing taking place and/or going undetected.		
Comments, strengths and weaknesses			
Additional technical notes on indicator definitions, thresholds, etc.	For NAFO, the number of vessels per contracting party were not publicly available in 2018, but they were as of 2021.		
Weighting of the indicator (L, M, H)	*H*		

Indicator ID	3.	**Indicator group**	Flag state/Prevalence
Indicator name	Vessels on IUU lists		
Indicator description	This indicator measures how many vessels countries have on lists of IUU vessels maintained by RFMOs		
Unit of indicator	Number		
Threshold values	1	0	
	2	1	
	3	2	
	4	3	
	5	4 or more	
Source of data	Trygg Mat Tracking (TMT), a Norwegian not-for-profit organisation **http://iuu-vessels.org/** Data downloaded 4 August 2023		
Year for which data available and used in current version of the Index	2023 (assumed as latest update given date weblink accessed)		
Justification	The Combined IUU Vessel List maintained by Trygg Mat Tracking (TMT) provides up to date information on all vessels that appear on the lists of IUU fishing vessels published by RFMOs and CCAMLR. The database indicates flag for 60 of 312 vessels currently listed (some vessels are listed as unknown). It also includes vessels identified through Interpol 'purple notices', hence why a separate indicator on such vessels is not included in the Index.		
Comments, strengths and weaknesses	Readily available and constantly updated. Strong indicator of illegal fishing by vessels under different flag state responsibility. Some vessels' flag not known so can't be attributed to countries.		
Additional technical notes on indicator definitions, thresholds, etc.	Note that as the Index only includes coastal countries, no data provided for landlocked countries with vessel registries and flagged vessels. Some countries with vessels on the IUU list have more than 1 vessel on the list, but most countries with vessels on the list have less than 5, hence the selection of threshold values. Note that industrialised nations may have a better ability to avoid due listings through highly skilled political and diplomatic representation in RFMO meetings, generally not given for developing nations, introducing bias in the existing IUU vessel listings. In 2023 there were 173 vessels on the IUU list for which the flags are provided in the downloadable excel file		
Weighting of the indicator (L, M, H)	H		

Indicator ID	4.	**Indicator group**	Flag state/Prevalence
Indicator name	View of fisheries observers on flag state compliance incidents		
Indicator description	This indicator measures the number of times that fisheries observers who responded to a survey, mention individual countries' vessels as being the source of compliance incidents		
Unit of indicator	Number		
Threshold values	1	0	
	2	0-0.24	
	3	0.25-0.49	
	4	0.5-0.99	
	5	≥1	
Source of data	Observers (anonymous online survey). Survey completed over August 2023		
Year for which data available and used in current version of the Index	2022 and 2023 (views of observers obtained in August 2023 but with responses related to all of 2022 and up to August 2023)		
Justification	Fisheries observers typically represent the eyes and ears of MCS operations at sea, and are well placed to have a good understanding of those vessels most frequently engaged in IUU in the fisheries they cover		
Comments, strengths and weaknesses	Use of survey monkey to distribution lists of observers held by observer scheme managers in different oceans, and suvey monkey link posted on Facebook by the Association of Professional Observers, can provide up to date expert opinion from observers. Weaknesses include that many observer schemes focus on tuna purse seine fisheries, and that a limited number of responses were received given reluctance of many observer scheme managers to aid the collection of data for use in this indicator. Indicator may not be directly comparable if updated in future years if different individuals respond. And results from survey may not be representative depending on who responded however responses were provided by observers from all ocean regions		
Additional technical notes on indicator definitions, thresholds, etc.	Threshold values are the average number of mentions for a country by those responding. But the indicator is based on the weighted average per observer response; weighted meaning that the sequence of countries in which observers named them is taken into account (first ranking counting as the worst, etc.) Where/if the "EU" was mentioned (rare), the country and ocean basin the observer hailed from/worked in was verified, and then the EU CPs with vessels on the RAV of the RFMO(s) established there were assigned that mark.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	5.	**Indicator group**	Flag state/Prevalence
Indicator name	Views of MCS practitioners on flag state compliance incidents		
Indicator description	This indicator measures the number of times that MCS practitioners who responded to a survey, mention individual countries' vessels as being the source of compliance incidents		
Unit of indicator	Number		
Threshold values	1	0	
	2	0-0.24	
	3	0.25-0.49	
	4	0.5-0.99	
	5	≥1	
Source of data	MCS practitioners (anonymous online survey). Survey completed over Aug/Sep 2023		
Year for which data available and used in current version of the Index	2022/2023		
Justification	Views of MCS practitioners (i.e. typically those working for government enforcement agencies) are useful as an indicator of prevalence, especially given the dearth of many reliable quantitative data on prevalence.		
Comments, strengths and weaknesses	Indicator may not be directly comparable if updated in future years if different members of network respond. And results from survey may not be representative depending on who responded and from which regions.		
Additional technical notes on indicator definitions, thresholds, etc.	Survey asked respondents to list five countries considered most problematic in terms of illegal activity and state weaknesses. Threshold values are the average number of mentions by those responding. But the indicator is based on the weighted average per response; weighted meaning that the sequence of countries in which respondents named them is taken into account (first ranking counting as the worst, etc.)		
Weighting of the indicator (L, M, H)	H		

Indicator ID	6.	**Indicator group**	Flag state/Response
Indicator name	Acceptance of FAO Compliance Agreement		
Indicator description	This indicator measures whether countries that have DWFVs are signatories to the Compliance Agreement		
Unit of indicator	Yes/No		
Threshold values	1	Accepted	
	5	Not accepted	
Source of data	https://treaties.un.org/pages/showDetails.aspx?objid=080000028007be1a (Weblink accessed 16 August 2023) and RFMO records of authorised vessels covered: ICCAT, IOTC, CCSBT, WCPFC, IATTC, NEAFC, NAFO, SEAFO, SIOFA, SPRFMO, NPFC, CCAMLR, and GFCM (Ind. 1 above)		
Year for which data available and used in current version of the Index	August 2023		
Justification	The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (The Compliance Agreement), aims to enhance the role of flag States and ensure that a State strengthens its control over its vessels to ensure compliance with international conservation and management measures. The Compliance Agreement seeks to prevent the "re-flagging" of vessels fishing on the high seas under the flags of States that are unable or unwilling to enforce international fisheries conservation and management measures. The maintenance of records of fishing vessels, international cooperation, and enforcement are covered extensively by the provisions of the Agreement. States allowing their vessels to operate on the high seas, AND not applying the framework of the CA to their vessels is a sign of failing to implement their international duties in the domain of combatting illegal fishing.		
Comments, strengths and weaknesses	It is understood that countries with distant water fishing vessels may be subject to CMMs covering high-seas fisheries and stocks, also as parties to RFMOs. Regardless of their membership status, it is considered that an element of vulnerability to IUU is introduced by not being party to the CA and therefore not having to meet the obligations/requirements as laid out in the CA.		
Additional technical notes on indicator definitions, thresholds, etc.	This indicator is relevant for countries that have vessels on RFMO RAVs. States that do not operate DWFs, but which have ratified the CA are positively scored, while similar states not having ratified the CA are not "marked down".		
Weighting of the indicator (L, M, H)	L		

Indicator ID	7. (OLD in 2019 version)	**Indicator group**	Flag state/Response
Indicator name	Authorised vessel data provided to FAO HSVAR		
Indicator description	This indicator measures whether countries that are signatories to the Compliance Agreement have provided data on DWFVs to FAO		
Unit of indicator	Yes/No		
Threshold values	1	Provided since 1/1/17	
	2	Provided since 1/1/15	
	3	Provided since 1/1/13	
	4	Provided since 1/1/11	
	5	never provided or not since 1/1/11	
Source of data	http://www.fao.org/fishery/collection/hsvar/2/en#table1 (Accessed FAO weblink 18/9/18)		
Year for which data available and used in current version of the Index	2017/2018 (not clear how up to date data on website are).		
Justification	States having ratified the Compliance Agreement are bound to notify and update their fleets authorized to operate on the high seas, and this is a key legal instrument for the implementation of the Agreement. It thus signals the intent of the flag State in abiding with its tenets.		
Comments, strengths and weaknesses	Including this indicator may motivate countries to keep the register updated, and for those countries not yet having provided any data to provide data.		
Additional technical notes on indicator definitions, thresholds, etc.	States without DWFVs, but party to CA, are excluded from scoring along with countries providing vessel data voluntarily but not party to the CA. Thresholds based on the latest provision of data are appropriate as data should be kept up to date to be of maximum use in combatting IUU fishing.		
Weighting of the indicator (L, M, H)	L		

Indicator ID	7. (NEW in 2021 version and used thereafter)	**Indicator group**	Flag state/Response
Indicator name	Vessels with foreign or unknown ownership		
Indicator description	This indicator measures the proportion of a country's flagged fishing vessels for which the flag state and country of apparent ownership differ, or for which the country of ownership is not known/provided		
Unit of indicator	Proportion/number		
Threshold values	1	0	
	2	<5	
	3	<15	
	4	<25	
	5	>25	
Source of data	Trygg Mat Tracking (TMT) data, in turn extracted from the Maritime Sea-web Online Ship Register (IHS Markit) database of vessels and those identified as fishing vessels.		
Year for which data available and used in current version of the Index	Data accessed August 2023		
Justification	2023 (data from IHS is 'live' and constantly updated).		
Comments, strengths and weaknesses	In cases where the nationality of vessel ownership differs from the flag state, or where such information is not provided, this implies that the genuine link between the vessel and the flag state is weak, or does not exist. This situation arises when owners seek to avoid regulations, taxes, and scrutiny. Opted-for flag states often have weak ability to monitor and control the fishing vessels they flag, and in some cases, the very registries are not run from the national territory, and fisheries authorities might not be aware of the existence of such flagged fishing vessels, and the related duties to regulate, monitor and control them. A flag of convenience vessel is, in general, far more likely to engage in IUU fishing than vessels flagged in the same country of established beneficial ownership.		
Additional technical notes on indicator definitions, thresholds, etc.			
Weighting of the indicator (L, M, H)	L		

Indicator ID	8.	**Indicator group**	Flag state/Response
Indicator name	Provision of vessel data for inclusion in the Global Record		
Indicator description	This indicator measures whether countries that provided data on vessels to the FAO for inclusion in the Global Record		
Unit of indicator	Yes/No		
Threshold values	1	Data provided	
	5	Not provided	
Source of data	FAO Global Record **Dashboard | Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (fao.org)**Accessed FAO weblink 21 August 2023		
Year for which data available and used in current version of the Index	2023		
Justification	The Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record) is a phased and collaborative global initiative to make available certified data from State authorities about vessels and vessel-related activities. The programme aims towards providing a single access point for information on vessels used for fishing and fishing-related activities with the primary objective being to combat IUU fishing by enhancing transparency and traceability. Provision of data by State authorities for use in the record is therefore a response which should serve to reduce illegal activity.		
Comments, strengths and weaknesses	Inclusion of this indicator could encourage States to provide data to FAO		
Additional technical notes on indicator definitions, thresholds, etc.	Data are submitted to the global record by flag states (**http://www.fao.org/global-record/background/global-record-pilot-project/en/** and **http://www.fao.org/global-record/information-system/en/**). Indicator weighting is M because of very direct role that transparency over vessels can play in the fight against IUU fishing.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	9.	**Indicator group**	General/Response
Indicator name	Mandatory vessel tracking for commercial seagoing fleet		
Indicator description	This indicator measures whether it is compulsory in countries to have tracking systems onboard commercial vessels		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	Direct country knowledge. Email survey of government contacts between June and September 2023. Plus expert knowledge for countries where responses are difficult to obtain.		
Year for which data available and used in current version of the Index	2023 For countries not having responded to the 2023 survey, but that responded in 2021 or 2019, the earlier score was maintained.		
Justification	The absence of VMS or other tracking mechanisms on commercial offshore fleets is a clear sign that the flag state has not yet graduated to an able fisheries administration, and that MCS is not endowed with the right amount of resources and tools. The lack of VMS is likely to directly facilitate illegal fishing in national and ABNJ waters.		
Comments, strengths and weaknesses	One weakness of the indicator can relate to a commercial national fleet (all types) not having to observe any zonal rules, in which case tracking generally only has limited application. Yet, such cases are extremely rare.		
Additional technical notes on indicator definitions, thresholds, etc.	Countries informing that they do not operate commercial offshore fleets, and that they do not allow foreign commercial vessels to fish in their EEZ are not assigned a score, as the operation of an FMC is then unwarranted.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	10.	**Indicator group**	Coastal state / Vulnerability
Indicator name	Size of EEZ		
Indicator description	This indicator measures the size of a country's EEZ		
Unit of indicator	km^2		
Threshold values	1	<35,000 km^2	
	2	35,000-140,000 km^2	
	3	140,000-360,000 km^2	
	4	360,000-1,2000,000 km^2	
	5	>1,200,000 km^2	
Source of data	http://www.seaaroundus.org		
Year for which data available and used in current version of the Index	2021		
Justification	Coastal states have responsibility to control fishing activity within their EEZs. Larger EEZs are harder to patrol effectively due to the costs involved, so represent an increased risk/vulnerability of illegal fishing		
Comments, strengths and weaknesses	Data readily available from stated source (and already provided in excel format for EEZ and shelf area by country). A high concentration of fisheries resources are typically associated with continental shelf and inshore fishing areas, so using EEZ size as the indicator is implicitly focussing more on offshore pelagic resources. However the choice of EEZ is considered valid as inshore areas are easier to patrol due to proximity to ports/harbours.		
Additional technical notes on indicator definitions, thresholds, etc.	EEZ area data obtained from Seas Around Us is split into ocean areas and overseas territories. As this indicator relates to coastal state responsibilities, country level data used in the index amalgamate Seas Around Us records so that country EEZs include all their sea areas including their overseas territories. Indicator values and scores do not change over time.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	11.	**Indicator group**	Coastal state / Vulnerability
Indicator name	Agreement over all maritime boundaries		
Indicator description	This indicator measures whether countries have agreed all their maritime borders with their neighbours		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	Direct country knowledge, (survey of government contacts over June to September 2023 period), and additional expert knowledge where conflicts are known to have an impact on fisheries matters.		
Year for which data available and used in current version of the Index	2023 For countries not having responded to the 2023 survey, but that responded in 2021 or 2019, the earlier score was maintained.		
Justification	Lack of agreement over maritime boundaries results in 'grey zones' with a lack of clarity over the legality of fishing activity in such zones, and often an informal agreement between countries not to actively engage in patrols or enforcement in these areas		
Comments, strengths and weaknesses	Settlement of outstanding disputes continues to take place, but many disputes remain, ranging from active and conflictual to dormant, or successfully managed. Not all maritime boundary disputes are thus equally important, in stakes, and also in overall area, making a yes/no approach somewhat insensitive – which is an indicator weakness.		
Additional technical notes on indicator definitions, thresholds, etc.	Countries with overseas territories (OT), such as Denmark, France or the UK, that have unresolved claims within their OTs are listed against the mother country. In the answers received from countries, when countries indicated that maritime boundaries were all "agreed" with neighbouring jurisdictions – even pending final settlement/agreement as per UNCLOS provisions – we accepted that as a "yes", unless there was knowledge that an existing dispute was actually having an impact on fisheries matters.		
Weighting of the indicator (L, M, H)	L		

Indicator ID	12.	**Indicator group**	Coastal/vulnerability
Indicator name	Dependency on fish for protein		
Indicator description	This indicator measures the dependency of countries on fish as a source of protein, based on the volume of fish consumed per person		
Unit of indicator	Kg consumed per person per year		
Threshold values	1	0-10	
	2	10-20	
	3	20-30	
	4	30-40	
	5	>40	
Source of data	The data source has changed in the 2021 Index, based on modifications of publishing these data by FAO. In 2019, they originated from Fishery and Aquaculture Statistics. Food balance sheets of fish and fishery products 1961-2013 (FishstatJ). In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 2017. **www.fao.org/fishery/statistics/software/fishstatj/en** Since then they are sourced from FAO's online food balance sheets, hosted at: **www.fao.org/faostat/en/#data/FBS**		
Year for which data available and used in current version of the Index	2020 For countries where the data had not been updated on the new interface, their earlier score (rendering data collected by FAO in 2018) was maintained/		
Justification	If fish consumption is very low, and fish relatively unimportant as a contributor to animal or total protein, fishing pressure and incentives to fish illegally, and to import high volumes of fish, etc. are limited. Conversely, high dependency on fish as a source of protein increases the need for fish, and therefore the likelihood of illegal activity (especially in times when other sources of protein may be compromised).		
Comments, strengths and weaknesses	For countries with very high inland fisheries and aquaculture production, and comparatively lower marine production (which is rare per se), the score could be slightly biased with regards to specific marine IUU fishing vulnerability. Age of data available is a weakness.		
Additional technical notes on indicator definitions, thresholds, etc.	Consumption of fish as a percentage of total daily protein intake is not used, as this would complicate calculation of the indicator, and increase potential errors. It is simply assumed that the higher the nominal recurrent fish intake, the higher its contribution to total protein intake, notwithstanding variations between countries.		
Weighting of the indicator (L, M, H)	L		

Indicator ID	13.	**Indicator group**	Coastal state/vulnerability
Indicator name	Authorise foreign vessels to operate in EEZ		
Indicator description	This indicator measures whether countries allow foreign vessels access to their EEZ's to fish		
Unit of indicator	Yes/No		
Threshold values	1	No	
	5	Yes	
Source of data	Direct country knowledge. Survey of government contacts from June to September 2023		
Year for which data available and used in current version of the Index	2023 For countries not having responded to the 2023 survey, but that responded in 2021 or 2019, the earlier score was maintained.		
Justification	This is often indicative of a State whose fishing sector has not developed to the point of being able to fully harvest the resources available in the EEZ. It is also indicative of a State that is seeking a resource rent through providing paid access – creating a dependency in developing country contexts that often works against putting in place tight oversight mechanisms – favouring illegal fishing practices. States granting foreign access often lack the resources and means to exercise proper oversight. In other instances, direct competition between foreign fleets and national smaller-scale fleets occurs, in which case resource rarefication may occur – driving illegal fishing dynamics.		
Comments, strengths and weaknesses	Not appropriate for countries in the EU which share quota to resources between its members.		
Additional technical notes on indicator definitions, thresholds, etc.	EU Member State vessels flying a flag other than the EU coastal state in which they operate are considered as "not foreign", while non-EU states fishing under agreements (e.g. Norway) are considered "foreign". Using thresholds based on other information to allow for higher granularity and using of all 5 thresholds (such as number of foreign flag states or vessels authorized) could be considered in a future iteration of the Index.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	14.	**Indicator group**	Coastal state/Prevalence
Indicator name	Has MSC-certified fisheries (or not)		
Indicator description	This indicator measures whether countries have any fisheries which have been certified by the Marine Stewardship Council following assessment against the MSC's standard		
Unit of indicator	Number		
Threshold values	1	6+	
	2	3-5	
	3	2	
	4	1	
	5	0	
Source of data	Marine Stewardship Council		
Year for which data available and used in current version of the Index	As at July 2023		

Justification	The MSC label can be considered the 'gold standard' of eco-labelling when considering its third-party nature, principles and criteria, and assessment processes. MSC-certification is provided based on an assessment against criteria which include strong management and MCS arrangements (to combat illegal fishing) being in place. As per the MSC Fisheries standard • The unit of assessment (UoA) should be free from IUU catches of target (P1) species. This is assessed in P1 and in P3 (compliance with national and international laws and monitoring, control and surveillance [MCS]; PIs 3.1.1, 3.2.2, 3.2.3). • The stocks that are the source of P1 certified fish should have only minimal IUU fishing, which must be taken into account by management and must not have a material impact on the ability of the management system to deliver a sustainable fishery; this should be clearly considered by assessment teams in the PIs on harvest control rules, information, and assessment of stock status in P1 (e.g. 1.2.2, 1.2.3, 1.2.4), including in documentation of unobserved mortality • The requirement for compliance with national and international laws combined with the requirement that the UoA should not be causing serious and irreversible harm in P2 means that the UoA should also be free from IUU fishing for P2 species. While the impact of other IUU fishing on P2 components should be documented where known, unlike in P1, it need not be introduced into the assessment of the specific impact of the UoA (or cumulative UoAs). Even though certification is fisheries-specific within a country, it can be assumed that certification in one or more fisheries implies a level of management at national level that is likely to effectively deter and prevent substantial illegal fishing activity more generally. Having MSC certification implies that illegal fishing is actively suppressed, and hence likely lower than without certification.
Comments, strengths and weaknesses	Indicator works well for fisheries within national jurisdictions, and also for RFMO/ regional fisheries (e.g. PNA) as countries involved are also known. Indicator might be considered biased against data poor/developing country fisheries, and reflective of location of MSC offices and outreach work. Indicator unit doesn't account for volumes
Additional technical notes on indicator definitions, thresholds, etc.	Indicator could also be considered a response. Fisheries previously certified but either withdrawn from the programme or currently suspended are not included. Neither are fisheries under assessment. Fisheries certified with a component in assessment also included Where certified fisheries cover more than one country, a count of 1 is provided for all countries involved (e.g. PNA)
Weighting of the indicator (L, M, H)	M

Indicator ID	15.	**Indicator group**	Coastal state//Prevalence
Indicator name	Views of MCS practitioners		
Indicator description	This indicator measures the number of times that MCS practitioners who responded to a survey, mention individual countries' as being notable for compliance incidents in their EEZs		
Unit of indicator	Number		
Threshold values	1	0	
	2	0-0.24	
	3	0.25-0.49	
	4	0.5-0.99	
	5	≥1	
Source of data	MCS practitioners (anonymous online survey). Survey completed over Aug/Sep 2023		
Year for which data available and used in current version of the Index	2022/2023		
Justification	As for indicator 5		
Comments, strengths and weaknesses	As for indicator 5		
Additional technical notes on indicator definitions, thresholds, etc.	As for indicator 5		
Weighting of the indicator (L, M, H)	H		

Indicator ID	16.	**Indicator group**	Coastal state/Response
Indicator name	Coastal State is contracting party or cooperating non-contracting party to all relevant RFMOs		
Indicator description	This indicator measures whether countries located in sea basins with fisheries under the mandate of RFMOs are party to those RFMOs		
Unit of indicator	Yes/No		
Threshold values	1	Membership of all relevant RFMOs	
	2		
	3	not CP/CNCP as CS adjacent to one RFMO	
	4		
	5	not CP/CNCP as CS adjacent to ≥two RFMOs	
Source of data	RFMO websites and membership lists		
Year for which data available and used in current version of the Index	2023		
Justification	RFMOs are multilateral organisations formed by coastal states and distant-water fishing nations (DWFNs) in ABNJ areas adjacent to such coastal states. Few RFMOs manage all the fish stocks found in a specific area, while most focus on particular species, such as tuna or deep-water species. RFMO membership is open both to adjacent coastal states and DWFNs, and conservation and management measures, including the combatting of IUU fishing are developed by these organisations. Its members are bound by these measures. A lack of at least cooperating non-contracting party status of RFMOs means that coastal states are neither involved in rule making, nor actively involved in implementing conservation and management measures, thereby increasing the likelihood of IUU fishing occurring in their waters, or being perpetrated by vessels flying their flag in areas or fisheries under RFMO competence.		
Comments, strengths and weaknesses	It is difficult to determine the individual importance of adjacent non-member and non-cooperating coastal states with regards to their stake in the management of the resources under the purview of individual RFMOs. For some, the absence as cooperating parties is more important than for others, but the indicator does not make such distinction.		

	This indicator covers tuna RFMOs as follows: • International Commission for the Conservation of Atlantic Tunas (ICCAT) • Indian Ocean Tuna Commission (IOTC) • Western and Central Pacific Fisheries Commission (WCPFC) • Inter-American Tropical Tuna Commission (IATTC) • Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
Additional technical notes on indicator definitions, thresholds, etc.	And general RFMOs as follows: • North-East Atlantic Fisheries Commission (NEAFC) • Northwest Atlantic Fisheries Organization (NAFO) • North Pacific Fisheries Commission (NPFC) • South-East Atlantic Fisheries Organisation (SEAFO) • South Indian Ocean Fisheries Agreement (SIOFA) • South Pacific Regional Fisheries Management Organisation (SPRFMO) • Convention on Conservation of Antarctic Marine Living Resources (CCAMLR) • General Fisheries Commission for the Mediterranean (GFCM)
Weighting of the indicator (L, M, H)	M

Indicator ID	17.	**Indicator group**	Coastal state/Response
Indicator name	Operate a national VMS/FMC centre		
Indicator description	This indicator measures whether countries have a functioning Fisheries monitoring centre relying on VMS technology		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	Direct country knowledge. Survey of government contacts between June and September 2023		
Year for which data available and used in current version of the Index	2023 For countries not having responded to the 2023 survey, but that responded in 2021 or 2019, the earlier score was maintained.		
Justification	This provides a gauge for one of the most fundamentally important MCS tools having been adopted by the coastal state, indicating its resolve to monitoring fishing activity, and ensuring rules in its waters are complied with.		
Comments, strengths and weaknesses			
Additional technical notes on indicator definitions, thresholds, etc.	Countries that neither flag a domestic commercial fishing fleet, nor grant access to foreign fishing vessels into their EEZ are not assigned a score, as the indicator is of no relevance to them.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	18.	**Indicator group**	Port state/Vulnerability
Indicator name	Number of fishing ports		
Indicator description	This indicator measures the number of ports in a country		
Unit of indicator	Number		
Threshold values	1	0	
	2	1	
	3	2-10	
	4	11-100	
	5	>100	
Source of data	Direct country knowledge. The number of commercial fishing ports indicated to exist by respondents to survey of government contacts in 2023. For countries not providing an answer, the number of ports as identified resulting from a global AIS data assessment covering AIS data for calendar year 2020 (analysis by Global Fishing Watch) as part of a project funded by Pew Charitable Trusts.		
Year for which data available and used in current version of the Index	Direct country knowledge. Survey of government contacts between June and September 2023; or 2020 AIS data		
Justification	The more fishing ports there are, the more challenging it is for administrations to exercise oversight, and to design and achieve coordination between ports (monitoring and data acquisition, information exchange, etc.). Therefore, a large number of ports generally provides more opportunities for fraudsters to land illegal fish more easily.		
Comments, strengths and weaknesses	An authoritative international listing of fishing ports does not exist, creating fluctuations and error between years.		
Additional technical notes on indicator definitions, thresholds, etc.	For countries that indicated “more than” a certain number of ports, 10% were added to the number provided, in order to return an integer, which was needed to calculate the indicator scores. AIS data for countries with no values from survey of country correspondents only include larger commercial ports being used by vessels with AIS, so likely to be an under-estimate and not directly comparable with the numbers of ports provided by the survey. But considered valuable for inclusion nevertheless where the survey failed to obtain responses. But a decision was made not just to use AIS data to derive number of ports, because the risk of IUU is a factor not just of volume of catch going through bigger ports but also risks of lack of detection which increases with smaller ports not picked up by AIS data.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	19.	**Indicator group**	Port state/Vulnerability
Indicator name	Port visits by foreign fishing vessels		
Indicator description	This indicator measures whether foreign fishing vessels make visits to ports in countries		
Unit of indicator	Yes/No		
Threshold values	1	No	
	5	Yes	
Source of data	Survey of government contacts between June and September 2023, or 2020 AIS data (see indicator 18), or direct country knowledge		
Year for which data available and used in current version of the Index	2023		
Justification	If foreign vessels enter fishing ports of a port state, then the onus to monitor and control those vessels under the terms of the PSMA, increases the administrative and regulatory burden on the port state. The increased burden of control also increases the risks that illegally harvested products may slip through. Some vessel operators are known to visit foreign (non-flag state) ports with lenient oversight in order to land and monetize their illegal catches.		
Comments, strengths and weaknesses	The indicator does not capture how many foreign vessels enter ports on a regular basis. However, erratic visits can be more problematic than regular visits – as an administration may be better prepared in the latter case – but not necessarily.		
Additional technical notes on indicator definitions, thresholds, etc.	Using of thresholds based on other information to allow for granularity and use of all 5 thresholds (such as number of foreign vessel visits) could be considered in a future iteration of the Index. In the absence of a government response to the survey, the 2020 AIS (see indicator 18) data were used to answer the question.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	20.	**Indicator group**	Port state/Prevalence
Indicator name	Views of MCS practitioners on port compliance incidents		
Indicator description	This indicator measures the number of times that MCS practitioners who responded to a survey, mention individual countries' as being notable for compliance incidents in their ports		
Unit of indicator	Number		
Threshold values	1	0	
	2	0-0.24	
	3	0.25-0.49	
	4	0.5-0.99	
	5	≥1	
Source of data	MCS practitioners (anonymous online survey). Survey completed over Aug/Sep 2023		
Year for which data available and used in current version of the Index	2022/2023		
Justification	As for indicator 5		
Comments, strengths and weaknesses	As for indicator 5		
Additional technical notes on indicator definitions, thresholds, etc.	As for indicator 5 Indicator not relevant to those countries identified in indicator 19 as having no foreign vessels visits to ports		
Weighting of the indicator (L, M, H)	H		

Indicator ID	21.	**Indicator group**	Port state/Prevalence
Indicator name	View of fisheries observers on port compliance incidents		
Indicator description	This indicator measures the number of times that fisheries observers who responded to a survey, mention individual countries' as being notable for compliance incidents in their ports		
Unit of indicator	Number		
Threshold values	1	0	
	2	0-0.24	
	3	0.25-0.49	
	4	0.5-0.99	
	5	≥1	
Source of data	Observers (anonymous online survey). Survey completed over August 2023		
Year for which data available and used in current version of the Index	2022 and 2023 (views of observers obtained in August 2023 but with responses related to all of 2022 and up to August 2023)		
Justification	As per indicator 4		
Comments, strengths and weaknesses	As per indicator 4		
Additional technical notes on indicator definitions, thresholds, etc.	As per indicator 4 Indicator not relevant to those countries identified in indicator 19 as having no foreign vessels visits to ports		
Weighting of the indicator (L, M, H)	H		

Indicator ID	22.	**Indicator group**	Port state/Response
Indicator name	Party to the PSMA		
Indicator description	This indicator measures whether countries have acceded to the PSMA		
Unit of indicator	Yes/No		
Threshold values	1	Yes (a party)	
	5	No (not a party)	
Source of data	http://www.fao.org/port-state-measures/background/parties-psma/en/ (accessed August 2023)		
Year for which data available and used in current version of the Index	2023		
Justification	The Agreement on Port State Measures is the first binding international agreement that specifically targets illegal, unreported and unregulated (IUU) fishing. It lays down a minimum set of standard measures for Parties to apply when foreign vessels seek entry into their ports or while they are in their ports. Highly relevant, as being a party to the PSMA signals that the port state has recognised its responsibility, and that this has led to political decisions at the highest level of the state.		
Comments, strengths and weaknesses	Being a party to an agreement is only a proxy-indication of whether the country also undertakes concrete steps towards addressing the related issues.		
Additional technical notes on indicator definitions, thresholds, etc.	Countries having ratified the PSMA are assigned the top score (1), while countries allowing foreign vessels into their ports (as determined by indicator 19) and not having ratified the agreement are assigned the bottom score (5). Indicator weighting is M because ratification of the PSMA does not in itself mean other port actions to reduce IUU fishing have taken place, even though ratification places certain obligations on states. Indicator not relevant to countries identified in indicator 18 as not having a port, and/or indicator 19 as having no foreign vessels visits to ports, except where those countries have chosen to become party to the agreement.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	23.	**Indicator group**	Port state/Response
Indicator name	Designated ports specified for entry by foreign vessels		
Indicator description	This indicator measures whether countries have specified specific ports as being places in which foreign vessels must land their fish and have reported as such to FAO in line with Article 7 of PSMA (Each Party shall designate and publicize the ports to which vessels may request entry pursuant to this Agreement. Each Party shall provide a list of its designated ports to FAO, which shall give it due publicity.)		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	https://www.fao.org/fishery/port-state-measures/psmaapp/?locale=en&action=qry		
Year for which data available and used in current version of the Index	2023		
Justification	Designation of ports is a first and key step in implementing the tenets of the PSMA, and starting to formally close national ports to illegally harvested fish by denying their landing, and subsequent access into markets, by designating ports for foreign fishing vessel entry, and ensuring adequate inspection services are in place.		
Comments, strengths and weaknesses			
Additional technical notes on indicator definitions, thresholds, etc.	For countries having no ports, the score is left blank. For countries having ports and foreign vessel visits, the score is assigned regardless of PSMA ratification. For countries having ports and no foreign vessel visits, no score is assigned if answer is “no”, regardless of PSMA ratification.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	24.	**Indicator group**	General/Vulnerability
Indicator name	Trade balance for fisheries products		
Indicator description	This indicator measures whether countries import a lot of fish compared to exports or export a lot of fish compared to imports (in value terms)		
Unit of indicator	Number - % (absolute value)		
Threshold values	1	0-20%	
	2	20+-40%	
	3	40+-60%	
	4	60+-80%	
	5	>80%	
Source of data	FAO FISHSTATJ, FAO Global Aquaculture Trade Statistics (global aquatic trade all partners aggregated). © FAO 2023. Global Aquatic Trade Statistics. Fisheries and Aquaculture Division [online]. Rome. https://www.fao.org/fishery/en/collection/global_commodity_prod		
Year for which data available and used in current version of the Index	2021		
Justification	The more the trade balance for seafood is out of balance (surplus or deficit), the higher the contribution of the seafood sector to the economy, or the higher the demand for imports for consumption. An unbalanced reliance on fish supplies vs exports (and vice-versa) as a distinctive feature of the economy exposes states to an increased risk that illegal products enter the national supply chain before being consumed or exported /re-exported.		
Comments, strengths and weaknesses	This is a proxy indicator for vulnerability via inferred economic and financial incentives of suppliers to flout the rules.		
Additional technical notes on indicator definitions, thresholds, etc.	Freshwater products are excluded from the statistic. Re-export data are added to exports to obtain total exports.		
Weighting of the indicator (L, M, H)	L		

Indicator ID	25.	**Indicator group**	General/Vulnerability
Indicator name	Share of global imports		
Indicator description	This indicator measures the contribution of a country to total global imports of fish products (in value terms)		
Unit of indicator	Number – as a % of world total imports		
Threshold values	1	<0.5%	
	2	0.5-1%	
	3	1-3%	
	4	3-5%	
	5	>5%	
Source of data	FAO FISHSTATJ, FAO Global Aquaculture Trade Statistics (global aquatic trade all partners aggregated). © FAO 2023. Global Aquatic Trade Statistics. Fisheries and Aquaculture Division [online]. Rome. https://www.fao.org/fishery/en/collection/global_commodity_prod		
Year for which data available and used in current version of the Index	2021		
Justification	This positions every nation in the pool of global nations as an importer of fish. Extraordinarily high relative imports signal very high nominal demand, which generally goes hand in hand with higher prices, and more incentives for economic operators to successfully target such markets. The risk for such markets to be importing IUU fish is naturally increased.		
Comments, strengths and weaknesses	This is a proxy indicator for vulnerability via inferred economic and financial incentives to flout rules, and works in similar ways to the previous indicator.		
Additional technical notes on indicator definitions, thresholds, etc.			
Weighting of the indicator (L, M, H)	L		

Indicator ID	26.	**Indicator group**	General/Response
Indicator name	Demand for MSC certified products		
Indicator description	This indicator measures the relative amount of fish with a MSC-label that is sold in countries		
Unit of indicator	% (of apparent consumption that is MSC product)		
Threshold values	1	>5%	
	2	2-5%	
	3	1-2%	
	4	<1%	
	5	0%	
Source of data	Marine Stewardship Council		
Year for which data available and used in current version of the Index	April 2022 to March 2023 (compared to 2019 fish food consumption)		
Justification	National market demand for MSC products indicates consumer awareness and readiness to pay a premium for sustainably and legally sourced products, and reduces opportunities for illegal product to penetrate the market. As per the MSC Chain of Custody standard • The MSC chain of custody standard requires that neither chain of custody certificate holders nor certified UoAs should use vessels that are listed on IUU blacklists to catch or transport fish. • The MSC chain of custody standard is designed to ensure that MSC-labelled products cannot be mixed with products from a non-certified UoA, where there may be a risk of IUU fishing		
Comments, strengths and weaknesses	Weakness is that volume of sales may be reflective of MSC offices and outreach (which is not fully global).		
Additional technical notes on indicator definitions, thresholds, etc.	The data on volumes of seafood sold is an output from MSC databases, where data input is provided by MSC license holders. Volume data provided is in Metric Tonnes of total product weight (note, for value added products this includes non-seafood ingredients. E.g. sandwiches, ready meals, breaded and battered products). The figures are for the MSC last full financial year, running April 2019 to March 2020 inclusive. Figures are for consumer facing MSC labelled products only, sold in supermarkets and restaurants. This indicator is constructed using the MSC-provided data (for the most recent year) and FAO datasets providing estimates of food fish supply by country (for the most recent year and excluding freshwater fish), to generate estimates for all countries of percentage of apparent consumption that is MSC-certified.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	27.	**Indicator group**	General/vulnerability
Indicator name	Perception of levels of corruption		
Indicator description	This indicator measures the perceived level of corruption in countries		
Unit of indicator	Number		
Threshold values	1	80+	
	2	61-80	
	3	41-60	
	4	21-40	
	5	0-20	
Source of data	Transparency International www.transparency.org/en/cpi (accessed 22 August 2023)		
Year for which data available and used in current version of the Index	2022		
Justification	Countries with high levels of corruption are more likely to sponsor, tolerate and experience illegal fishing, given the ability of those caught infringing regulations in such countries to avoid due process and sanctions (whether administrative or criminal in nature). The assumption can be made that general levels of corruption in a country are equally likely to apply to the fisheries sector as it does to other sectors.		
Comments, strengths and weaknesses			
Additional technical notes on indicator definitions, thresholds, etc.	Not a fisheries-specific indicator. Given scores are out of 100, the five thresholds are based on bands of 20.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	28.	**Indicator group**	General/vulnerability
Indicator name	Gross National Income per capita		
Indicator description	This indicator measures the income (domestic and foreign) of a country divided by the number of people in the country. It compares the GNI of countries with different population sizes and standards of living		
Unit of indicator	US$		
Threshold values	1	>25,000	
	2	10,001-25,000	
	3	4,751-10,000	
	4	2,001-4,750	
	5	<2,000	
Source of data	https://data.worldbank.org/income-level/low-income & and other as available for missing countries (accessed 25 August 2023)		
Year for which data available and used in current version of the Index	2022 (in almost all cases)		
Justification	The costs of aerial, marine and land-based inspections, and of MCS operations in general, can be considerable. Countries with low-income levels are less likely to have government resources available for allocation in national budgets to fisheries, navy and coastguard administrations for use on MCS. This in turn means that low-income countries are, in general, less likely to spend resources preventing illegal fishing activity.		
Comments, strengths and weaknesses	Does not capture priorities given by governments to fisheries sector as reflected in fisheries sector budgets.		
Additional technical notes on indicator definitions, thresholds, etc.	Not a fisheries-specific indicator. Thresholds are set to distribute countries evenly between the 5 thresholds, so as to use all 5 bands, rather than the World Bank's four levels of low income, lower middle, higher middle, and high income		
Weighting of the indicator (L, M, H)	M		

Indicator ID	29.	**Indicator group**	General/vulnerability
Indicator name	Volume of catches		
Indicator description	This indicator measures the contribution of a country's catch to global marine catches		
Unit of indicator	Number - % of global marine fisheries production		
Threshold values	1	<0.5%	
	2	0.5-1%	
	3	1-2%	
	4	2-2.5%	
	5	>2.5%	
Source of data	FAO. 2023. Fishery and Aquaculture Statistics. Global capture production 1950-2021 (FishstatJ). In: FAO Fisheries and Aquaculture Department [online]. Rome. Updated 31/3/23. FishStatJ - Software for Fishery and Aquaculture Statistical Time Series - Fisheries and Aquaculture.		
Year for which data available and used in current version of the Index	2021		
Justification	Illegal activity is incentivised when the economic gains of illegal activity outweigh the chances of being identified as non-compliant with regulations and the associated sanctions imposed for non-compliance when infringements are identified. Other things being equal, countries with high volumes/value fisheries resources are therefore more at risk of illegal fishing activity; exacerbated by the fact that very high volumes pose a challenge to law enforcement to exercise full and effective oversight.		
Comments, strengths and weaknesses	Indicator based on volume does not account for different values of species, and species mix, in different countries. But a linear relationship between volume and value could be broadly justified. Another weakness is the fact that FAO data report catches generated by flag states, but these may not have been made in the EEZ of the flag state – but rather on the high seas or the EEZ of other countries. Therefore this indicator is "general" in nature, rendering (primarily) coastal and flag state vulnerabilities.		
Additional technical notes on indicator definitions, thresholds, etc.	Inland fisheries data are excluded from the underlying data set, given the focus of the Index on marine IUU fishing.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	30.	**Indicator group**	General/Prevalence
Indicator name	‘Carded’ (identified) under EU IUU Regulation		
Indicator description	This indicator measures whether a country has been issued with a yellow or red card by the EU under the EU Regulation		
Unit of indicator	Yes/No		
Threshold values	1	No card	
	2		
	3	Yellow card	
	4		
	5	Red card	
Source of data	DG MARE of the European Commission illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf (europa.eu)accessed 25 August 2023		
Year for which data available and used in current version of the Index	2023		
Justification	Countries that have been pre-identified (or identified) do generally fall short with regards to their duties and responsibilities to prevent, deter and eliminate IUU fishing. The EU Commission engages in a process of dialogue with countries (confidentially) and yellow cards are issued only after this process shows that countries have a problem with illegal fishing. Red cards are issued when countries are not seen to be acting to reduce IUU after a yellow card has been issued.		
Comments, strengths and weaknesses	EU issuing of cards may focus more on some issues (e.g. flag state issues and distant water vessels) than on others. The EU can only sanction the state in its capacity as the flag state under the EU Regulation, but they provide reasons relating to coastal, flag, and port state shortcomings, to justify the carding.		
Additional technical notes on indicator definitions, thresholds, etc.	Yellow card already indicates that IUU is a serious issue but specified as threshold 3 so as to ensure that thresholds are symmetric.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	31.	**Indicator group**	General/Prevalence
Indicator name	US MSRA NOAA identified		
Indicator description	This indicator measures whether a country is included in NOAAs bi-annual report highlighting countries which may/do face problems of IUU fishing		
Unit of indicator	Yes/No		
Threshold values	1	not identified	
	2	'of interest' but not identified	
	3		
	4	identified	
	5	negative certification (on previous identification)	
Source of data	NOAA: **www.fisheries.noaa.gov/national/international-affairs/identification-iuu-fishing-activities**		
Year for which data available and used in current version of the Index	most recent biennial round (2021)		
Justification	The Moratorium Protection Act requires NOAA Fisheries to produce a biennial Report to Congress that lists nations the United States has identified for IUU fishing and/or bycatch of protected species and shark catches on the high seas for nations that do not have regulatory measures comparable to the United States. The Moratorium Protection Act requires NOAA Fisheries to produce a biennial Report to Congress that lists nations the United States has identified for IUU fishing and/or bycatch of protected species and shark catches on the high seas for nations that do not have regulatory measures comparable to the United States. Countries that have been pre-identified as 'of concern' or 'identified' do generally fall short with regards to their duties and responsibilities to prevent, deter and eliminate IUU fishing. Countries which receive a negative certification have failed to act sufficiently to address issues identified in an earlier identification		
Comments, strengths and weaknesses	The USA define illegal fishing as forms of fishing in contravention of rules that directly undermine US interests. Therefore, the bias in US identifications is clearly stated in the MSRA.		
Additional technical notes on indicator definitions, thresholds, etc.	Note that scores do not use threshold 3.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	32.	**Indicator group**	General/Prevalence
Indicator name	Mentions of illegal fishing events in media reports		
Indicator description	This indicator measures how many times individual countries were mentioned negatively in news articles included/referenced in Pew's International Fisheries News emails, relative to other countries		
Unit of indicator	% of total number of mentions		
Threshold values	1	0	
	2	0-0.99%	
	3	1-1.99%	
	4	2-4.99%	
	5	≥5%	
Source of data	Pew International Fisheries News emails/listserv during January 2022 to 2023		
Year for which data available and used in current version of the Index	2022 - 2023		
Justification	If countries are named in news as being involved in IUU fishing cases, as flag, coastal or port states, then there is an indication that; a) there is illegal fishing affecting the country, and b) there may be a need for more solid law enforcement.		
Comments, strengths and weaknesses	Pew news are strongly focussed on illegal fishing and responses. Some geographical areas will be reported on more than others, depending on social, economic and political importance of given fisheries; implying a likely bias in the indicator. Likewise, the extent to which the circular picks up news in different languages also differs. However, Pew International Fisheries News sources from a wide range of sources as follows: FIS; Google Alerts (key words like illegal fishing, IUU, port State measures, Africa fisheries); gCaptain; MercoPress; FISHupdate; ISSF; Seafood Source News/Seafood News; Samudra alerts; Paper.li (FAO); Maritime Executive; Environmental Crime (Interpol)		
Additional technical notes on indicator definitions, thresholds, etc.	Approach used is to review all articles, and count the number of times individual countries were mentioned in relation to IUU-specific issues.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	33.	**Indicator group**	General/Response
Indicator name	Signature/Ratification of UNCLOS Convention		
Indicator description	This indicator measures whether countries have ratified/signed the UNCLOS Convention		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm (accessed 28 August 2023)		
Year for which data available and used in current version of the Index	2023		
Justification	UNCLOS is the international legal foundation for the use, exploitation, administration and management of the sea and its resources. Failure to ratify means that national interests run counter to international law, and that the state is not prepared to align with all tenets. This in turn may weaken the resolve of the state to play its due part in the prevention, deterrence and elimination of illegal fishing.		
Comments, strengths and weaknesses	It is a proxy indicator that is located at quite a distance from immediate and more detailed/involved international jurisdiction on fisheries		
Additional technical notes on indicator definitions, thresholds, etc.			
Weighting of the indicator (L, M, H)	L		

Indicator ID	34.	**Indicator group**	General/Response
Indicator name	Ratification of UNFSA		
Indicator description	This indicator measures whether countries have ratified the UNFSA		
Unit of indicator	Yes/No		
Threshold values	1	Ratified/acceded	
	5	Not ratified/acceded	
Source of data	http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm (accessed 28 August 2023)		
Year for which data available and used in current version of the Index	2023		
Justification	UNFSA is the international legal reference regarding the management of shared transboundary and straddling fishery resources. States failing to ratify/accede to this instrument, are more likely to fail in their responsibilities and duties as flag and coastal states in abiding with their international obligations in sustainably managing and lawfully exploiting fishery resources.		
Comments, strengths and weaknesses	There may be states that are not directly affected, but given the fact that countries like Luxembourg have opted to ratify the Agreement, it is fair to consider that any coastal state is directly concerned.		
Additional technical notes on indicator definitions, thresholds, etc.	This indicator follows a different logic to indicator 6 on the Compliance Agreement, where only flag states operating vessels on the high seas and not having ratified the agreement may be attributed a negative score. Here, any coastal state not having ratified the agreement is attributed a negative score.		
Weighting of the indicator (L, M, H)	L		

Indicator ID	35.	**Indicator group**	General/Response
Indicator name	Mentions of positive responses in media reports to combatting IUU fishing		
Indicator description	This indicator measures how many times individual countries were mentioned positively in news articles included/referenced in Pew's International Fisheries News emails, relative to other countries		
Unit of indicator	% of mentions		
Threshold values	1	≥5%	
	2	2-4.99%	
	3	1-1.99%	
	4	0-0.99%	
	5	0%	
Source of data	PEW fisheries newsletter service January 2022 to June 2023		
Year for which data available and used in current version of the Index	2022 - 2023		
Justification	If countries are named in news as being involved in combatting IUU fishing, as flag, coastal or port states, then there is an indication that the particular state is developing and implementing responses to addressing IUU fishing, and combatting the phenomenon.		
Comments, strengths and weaknesses	Pew news circular is strongly focused on illegal fishing and responses. Some geographical areas will be reported on more than others, depending on social, economic and political importance of given fisheries; implying a likely bias in the indicator. Likewise, the extent to which the circular picks up news in different languages also differs. However, Pew International Fisheries News sources from a wide range of other sources as follows: FIS; Google Alerts (key words like illegal fishing, IUU, port State measures, Africa fisheries); gCaptain; MercoPress; FISHupdate; ISSF; Seafood Source News/Seafood News; Samudra alerts; Paper.li (FAO); Maritime Executive; Environmental Crime (Interpol)		
Additional technical notes on indicator definitions, thresholds, etc.	Threshold bands used are similar to those in indicator 32. Of course not being mentioned in media reporting does not guarantee that no action is being taken by a country to combat IUU fishing. However the indicator is considered useful for inclusion because publicising efforts that are being undertaken is as important action in itself that can be taken by governments in support of practical operational actions taken to combat IUU fishing.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	36.	**Indicator group**	General/Response
Indicator name	Have NPAO-IUU		
Indicator description	This indicator measures whether countries have developed and agreed a NPOA-IUU		
Unit of indicator	Yes/No		
Threshold values	1	Yes	
	5	No	
Source of data	Survey of government contacts from June to September 2023, and direct country knowledge.		
Year for which data available and used in current version of the Index	2023 For countries not having responded to the 2023 survey, but that responded in 2021 or 2019, their earlier score was maintained.		
Justification	The existence of an NPOA-IUU indicates that the country has formally assessed the question of IUU fishing at the national level, and that there is interest in addressing the question.		
Comments, strengths and weaknesses	Having an NPOA-IUU does not imply necessarily that the country is also actively engaged in implementing it.		
Additional technical notes on indicator definitions, thresholds, etc.	Countries that are part of regional-type action plans (e.g. EU IUU Regulation or the Asian RPOA-IUU) are not recognized as having an NPOA, as such regional plans do not identify national gaps, priorities and necessary action. The same applies to EU countries, many of which understand the EU IUU Regulation as a substitute of an NPOA-IUU. Many countries that are part of regional plans also have an NPOA-IUU, indicating the merits and the need to do so. Indicator weighting is H because of the dedicated focus of NPOA-IUUs on IUU fishing and their role in providing a framework for action is paramount to tackling IUU fishing in a transparent and carefully planned manner.		
Weighting of the indicator (L, M, H)	H		

Indicator ID	37.	**Indicator group**	Flag state/Response
Indicator name	Compliance with RFMO flag state obligations		
Indicator description	This indicator measures how many times individual countries were mentioned in RFMO compliance reports as not being compliant with RFMO flag-related obligations		
Unit of indicator	Number		
Threshold values	1	no listing as non-compliant	
	2	listed with one single RFMO under either reporting (REP) or non-compliance(s) with CMMs (CMM)	
	3	listed with one single RFMO under both reporting & CMM	
	4	listed under multiple RFMOs under either reporting or CMM	
	5	listed under multiple RFMOs under both reporting and CMM	
	5	identified by an RFMO (regardless of RFMO member status)	
Source of data	RFMO websites and hosted compliance reports. RFMOs covered: ICCAT, IOTC, CCSBT, WCPFC, NEAFC, NAFO, SIOFA, SPRFMO, CCAMLR and GFCM. Reports for IATTC and SEAFO could not be secured/accessed, while NPFC had not updated its report because of the COVID-19 pandemic, but plans to update its report soonest.		
Year for which data available and used in current version of the Index	Latest annual reporting period. All issued in 2022 or 2023, with the exception of the WCPFC report, issued in 2021		
Justification	RFMOs typically have an annual mechanism to monitor and assess the compliance of members, and in some cases cooperating non-contracting parties (CNCPs), with their obligations under the RFMO convention and its conservation and management measures. Compliance committees report on non-compliance with agreed measures and reporting obligations, which signal weakness of individual states to commit to and implement RFMO management measures, directly favouring IUU fishing interests, and which may also include measures relating directly to the combatting of illegal fishing.		

Comments, strengths and weaknesses	RFMO Compliance Committee reports generally monitor and report on compliance of parties with recurrent more general reporting obligations, and flag state compliance with CMM implementation. This indicator does not seek to cover specific detected and reported illegal fishing events attributed to a particular flag, though some RFMOs report such events, and in which case – if established (not simply alleged) – they are accounted against the flag State. This indicator thus gauges flag state commitment to honouring responsibilities and duties within given RFMOs. Not all RFMOs are transparent in reporting on the deliberations of their Compliance Committee, which explains why some RFMOs are not covered.
Additional technical notes on indicator definitions, thresholds, etc.	Countries with no membership (contracting or non-contracting) in any RFMO and no vessels on the RAV are not assigned a score. All others are. The score is composed of compliance with reporting obligations and compliance with CMM provisions. The score is adjusted to the next tier if the averaged total relative amount of CMM non-compliances exceeds 8% of the total non-compliances reported. No threshold for relative compliance with reporting duties is factored into the score, and late reporting is not scored negatively. A country identified by an RFMO, and having measures enacted against it, is assigned a 5 automatically, regardless of its RFMO member status. If the EU is assigned a given number of non-compliances as an entity without the report naming of the actual State, then all EU Member States with vessels on the same RFMO RAV are assigned that same number individually, in addition to any non-compliance they might have been assigned in their individual right (e.g. for non-compliance events of an overseas territory they represent)
Weighting of the indicator (L, M, H)	H

Indicator ID	38.	**Indicator group**	Port state/Response
Indicator name	Compliance with RFMO port state obligations		
Indicator description	This indicator measures how many times individual countries were mentioned in RFMO compliance reports for not being compliant with RFMO port-related obligations		
Unit of indicator	Number		
Threshold values	1	no listing as non-compliant	
	2		
	3	single listing as non-compliant	
	4		
	5	multiple listings as non-compliant	
Source of data	RFMO websites and hosted compliance reports. RFMOs covered: ICCAT, IOTC, CCSBT, WCPFC, NEAFC, NAFO, SIOFA, SPRFMO, CCAMLR and GFCM. Reports for IATTC and SEAFO could not be secured/accessed, while NPFC had not updated its report because of the COVID-19 pandemic, but plans to update its report soonest.		
Year for which data available and used in current version of the Index	Latest annual reporting period. All issued in 2022 or 2023, with the exception of the WCPFC report, issued in 2021		
Justification	RFMOs typically have an annual mechanism to monitor and assess the compliance of members, and in some cases cooperating non-contracting parties (CNCPs), with their obligations under the RFMO convention and its conservation and management measures. Compliance committees report on non-compliance with agreed measures and reporting obligations, which signal weakness of individual states to commit to and implement RFMO management measures, directly favouring IUU fishing interests, and which may also include measures relating directly to the combatting of illegal fishing – especially in CMMs addressing port state measures.		
Comments, strengths and weaknesses	This indicator does not seek to cover specific detected and reported IUU events that can be attributed to a particular port. It merely gauges port state commitment to honouring responsibilities and duties under given RFMOs.		
Additional technical notes on indicator definitions, thresholds, etc.	Countries with no membership (contracting or non-contracting) in any RFMO covered are not assigned a score. The score is adjusted to the next tier if the averaged total relative amount of port-related CMM non-compliances exceeds 8% of the total non-compliances reported, which can land a country with a single listing in tier 4. If the EU is assigned a given number of non-compliances as an entity and the port state is not identified in the report, then the EU Member States with vessels on the same RFMOs RAV are assigned that same number of non-compliances individually, in addition to any non-compliance they might have been assigned in their individual right (e.g. for non-compliance events of an overseas territory they represent).		
Weighting of the indicator (L, M, H)	H		

Indicator ID	39.	**Indicator group**	General/Response
Indicator name	Market State (MS) is contracting party or cooperating non-contracting party to all relevant RFMOs		
Indicator description	This indicator measures whether coastal states identified as markets for seafood products originating from an area under the competence of an RFMO have become cooperating non-contracting, or contracting parties to the RFMO, in cases where RFMOs have trade related obligations in the form of catch documentation schemes and have identified and requested specific countries to become parties.		
Unit of indicator	Yes/No		
Threshold values	1	Membership presents no issues	
	2		
	3	if not at least CNCP as MS in one RFMO	
	4		
	5	if not at least CNCP as MS in ≥ two RFMOs	
Source of data	ICCAT, CCSBT and CCAMLR annual reports and direct RFMO feedback		
Year for which data available and used in current version of the Index	All reports from 2022.		
Justification	Some RFMOs formally cover trade in resources for which they also oversee the management. Such coverage generally comes in the form of catch documentation schemes (CDS) and statistical document programs. The objective of those schemes is to combat IUU fishing. A lack of – generally – cooperating non-member status with such RFMOs for countries identified as actively involved in the trading (imports & re-exports) of such resources means that they are also actively undermining the effectiveness of such schemes.		
Comments, strengths and weaknesses	One weakness is that it is difficult for RFMOs to detect all market states exploiting this particular weakness/loophole, resulting in a likely underestimate of the phenomenon.		
Additional technical notes on indicator definitions, thresholds, etc.	This indicator covers all coastal states. RFMOs that have identified / encouraged / invited market states to cooperate with the RFMO are currently limited to CCSBT and CCAMLR – both operating a CDS. This indicator identifies when such states have not agreed to become parties to the RFMO.		
Weighting of the indicator (L, M, H)	M		

Indicator ID	40.	**Indicator group**	Flag state/Response
Indicator name	Flag State is contracting party of cooperating non-contracting party to all relevant RFMOs		
Indicator description	This indicator measures whether countries that have at least one DWFV operating in waters under the mandate of a RFMO are a party to the relevant RFMOs, and if not how many RFMOs they are not party to if they have vessels operating in more than one RFMO		
Unit of indicator	Yes/No		
Threshold values	1	Membership presents no issues	
	2	if not CNCP as FS in one RFMO	
	3	if not CNCP as FS in two RFMOs	
	4	if not CNCP as FS in three RFMOs	
	5	if not CNCP as FS in ≥ four RFMOs	
Source of data	Commission reports on membership (all of 2022 or 2023). RFMO websites and RAVs (accessed in second half of August 2023)		
Year for which data available and used in current version of the Index	2023		
Justification	Flag states operating support vessels in RFMO-managed fisheries – such as reefers – are often not required to become a full member of the organization, even though their operators pursue direct economic interests in those fisheries. However, the vessels they flag generally must appear on the Record of Authorised Vessels (RAV) in order to operate legally in those fisheries, and they generally have to comply with a number of specific rules on transhipment etc. However, a flag state operating such vessels while not participating in the Commission as a cooperating non-contracting party (CNCP) – as a minimum – means that they do not actively follow developments of the RFMO, do not contribute to its work, and thus face an increased risk that their vessels engage in activities that run contrary to RFMO rules.		
Comments, strengths and weaknesses			
Additional technical notes on indicator definitions, thresholds, etc.	Only countries with at least one vessel on a RAV, without being at least a CNCP of the same RFMO, are identified.		
Weighting of the indicator (L, M, H)	M		

Allocation of countries to regions and ocean basins

Countries	Region	Ocean Basin
Albania	Europe	Mediterranean & Black Sea
Algeria	Africa	Mediterranean & Black Sea
Angola	Africa	East Atlantic
Antigua & Barbuda	Caribbean & Central America	West Atlantic
Argentina	South America	West Atlantic
Australia	Oceania	East Indian Ocean and Western Pacific
Bahamas	Caribbean & Central America	West Atlantic
Bahrain	Middle East	West Indian Ocean
Bangladesh	Asia	East Indian Ocean
Barbados	Caribbean & Central America	West Atlantic
Belgium	Europe	East Atlantic
Belize	Caribbean & Central America	West Atlantic
Benin	Africa	East Atlantic
Bosnia & Herzegovina	Europe	Mediterranean & Black Sea
Brazil	South America	West Atlantic
Brunei Darussalam	Asia	Western Pacific
Bulgaria	Europe	Mediterranean & Black Sea
Cambodia	Asia	Western Pacific
Cameroon	Africa	East Atlantic
Canada	North America	Eastern Pacific and West Atlantic
Cape Verde	Africa	East Atlantic
Chile	South America	Eastern Pacific
China	Asia	Western Pacific
Colombia	South America	Eastern Pacific and West Atlantic
Comoros Isl.	Africa	West Indian Ocean
Congo (DRC)	Africa	East Atlantic
Congo, R. of	Africa	East Atlantic
Cook Islands	Oceania	Western Pacific
Costa Rica	Caribbean & Central America	Eastern Pacific and West Atlantic
Cote d'Ivoire	Africa	East Atlantic
Croatia	Europe	Mediterranean & Black Sea
Cuba	Caribbean & Central America	West Atlantic
Cyprus	Europe	Mediterranean & Black Sea
Denmark	Europe	East Atlantic
Djibouti	Africa	West Indian Ocean
Dominica	Caribbean & Central America	West Atlantic
Dominican Republic	Caribbean & Central America	West Atlantic
Ecuador	South America	Eastern Pacific

Countries	Region	Ocean Basin
Egypt	Africa	Mediterranean & Black Sea
El Salvador	Caribbean & Central America	Eastern Pacific
Equatorial Guinea	Africa	East Atlantic
Eritrea	Africa	West Indian Ocean
Estonia	Europe	East Atlantic
Fiji	Oceania	Western Pacific
Finland	Europe	East Atlantic
France	Europe	East Atlantic and Mediterranean
Gabon	Africa	East Atlantic
Gambia	Africa	East Atlantic
Georgia	Middle East	Mediterranean & Black Sea
Germany	Europe	East Atlantic
Ghana	Africa	East Atlantic
Greece	Europe	Mediterranean & Black Sea
Grenada	Caribbean & Central America	West Atlantic
Guatemala	Caribbean & Central America	Eastern Pacific and West Atlantic
Guinea	Africa	East Atlantic
Guinea-Bissau	Africa	East Atlantic
Guyana	South America	West Atlantic
Haiti	Caribbean & Central America	West Atlantic
Honduras	Caribbean & Central America	Eastern Pacific and West Atlantic
Iceland	Europe	East Atlantic
India	Asia	East Indian Ocean and West Indian Ocean
Indonesia	Asia	East Indian Ocean and Western Pacific
Iran	Middle East	West Indian Ocean
Iraq	Middle East	West Indian Ocean
Ireland	Europe	East Atlantic
Israel	Middle East	Mediterranean & Black Sea
Italy	Europe	Mediterranean & Black Sea
Jamaica	Caribbean & Central America	West Atlantic
Japan	Asia	Western Pacific
Jordan	Middle East	Mediterranean & Black Sea
Kenya	Africa	West Indian Ocean
Kiribati	Oceania	Western Pacific
Korea (North)	Asia	Western Pacific
Korea (Rep. South)	Asia	Western Pacific
Kuwait	Middle East	West Indian Ocean
Latvia	Europe	East Atlantic

Countries	Region	Ocean Basin
Lebanon	Middle East	Mediterranean & Black Sea
Liberia	Africa	East Atlantic
Libya	Africa	Mediterranean & Black Sea
Lithuania	Europe	East Atlantic
Madagascar	Africa	West Indian Ocean
Malaysia	Asia	East Indian Ocean and Western Pacific
Maldives	Asia	West Indian Ocean
Malta	Europe	Mediterranean & Black Sea
Marshall Isl.	Oceania	Western Pacific
Mauritania	Africa	East Atlantic
Mauritius	Africa	West Indian Ocean
Mexico	Caribbean & Central America	Eastern Pacific and West Atlantic
Micronesia (FS of)	Oceania	Western Pacific
Monaco	Europe	Mediterranean & Black Sea
Montenegro	Europe	Mediterranean & Black Sea
Morocco	Africa	East Atlantic and Mediterranean
Mozambique	Africa	West Indian Ocean
Myanmar	Asia	East Indian Ocean
Namibia	Africa	East Atlantic
Nauru	Oceania	Western Pacific
Netherlands	Europe	East Atlantic
New Zealand	Oceania	Western Pacific
Nicaragua	Caribbean & Central America	Eastern Pacific and West Atlantic
Nigeria	Africa	East Atlantic
Norway	Europe	East Atlantic
Oman	Middle East	West Indian Ocean
Pakistan	Asia	West Indian Ocean
Palau	Oceania	Western Pacific
Panama	Caribbean & Central America	Eastern Pacific and West Atlantic
Papua New Guinea	Oceania	Western Pacific
Peru	South America	Eastern Pacific
Philippines	Asia	Western Pacific
Poland	Europe	East Atlantic
Portugal	Europe	East Atlantic
Qatar	Middle East	West Indian Ocean
Romania	Europe	Mediterranean & Black Sea
Russia	Europe	East Atlantic and Western Pacific
Saint Kitts & Nevis	Caribbean & Central America	West Atlantic

Countries	Region	Ocean Basin
Saint Lucia	Caribbean & Central America	West Atlantic
Saint Vincent & the Grenadines	Caribbean & Central America	West Atlantic
Samoa	Oceania	Western Pacific
Sao Tome & Principe	Africa	East Atlantic
Saudi Arabia	Middle East	West Indian Ocean
Senegal	Africa	East Atlantic
Seychelles	Africa	West Indian Ocean
Sierra Leone	Africa	East Atlantic
Singapore	Asia	Western Pacific
Slovenia	Europe	Mediterranean & Black Sea
Solomon Isl.	Oceania	Western Pacific
Somalia	Africa	West Indian Ocean
South Africa	Africa	West Indian Ocean and East Atlantic
Spain	Europe	East Atlantic and Mediterranean
Sri Lanka	Asia	East Indian Ocean
Sudan	Africa	West Indian Ocean
Suriname	South America	West Atlantic
Sweden	Europe	East Atlantic
Syria	Middle East	Mediterranean & Black Sea
Taiwan	Asia	Western Pacific
Tanzania	Africa	West Indian Ocean
Thailand	Asia	East Indian Ocean and Western Pacific
Timor Leste	Asia	East Indian Ocean
Togo	Africa	East Atlantic
Tonga	Oceania	Western Pacific
Trinidad & Tobago	Caribbean & Central America	West Atlantic
Tunisia	Africa	Mediterranean & Black Sea
Turkey	Middle East	Mediterranean & Black Sea
Tuvalu	Oceania	Western Pacific
Ukraine	Europe	Mediterranean & Black Sea
United Arab Emirates	Middle East	West Indian Ocean
United Kingdom	Europe	East Atlantic
Uruguay	South America	West Atlantic
USA	North America	Eastern Pacific and West Atlantic
Vanuatu	Oceania	Western Pacific
Venezuela	South America	West Atlantic
Viet Nam	Asia	Western Pacific
Yemen	Middle East	West Indian Ocean