PROPOSED UPDATES TO THE DEFINITIONS OF *FISHERIES*

IN SUPPORT TO THE REPORTING OF STATISTICAL DATA TO THE IOTC

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Purpose

To inform participants to the 18th Working Party on Data Collection and Statistics (WPDCS18) on a proposal to rationalize the definition and structure of the *fishery* concept, with a view to improve the reporting of statistical data to the IOTC as well as their dissemination. This proposal defines a *fishery* as a combination of several factors (mandatory and optional), which determine the *nature* and unique codification of the fishery itself and guarantee its identity across the Indian Ocean region, eliminating potential ambiguities to the maximum extent possible.

Background

Most of the statistical fishery data submitted to and disseminated by the IOTC Secretariat are stratified by *fishery*, that is – in a broad sense – by the type of gear used by the vessels to interact with target and bycatch species and perform the fishing activities included in a specific data set.

More in detail, the approach currently adopted by the IOTC assumes that a *fishery* (in its statistical sense) is determined by the type of gear it employs and by other characteristics such as the target species (which might impact how the gear is set up), the area of operation (i.e., coastal or offshore waters, which also give an indication of the capacity of the vessel to perform long-range trips and remain at sea for extended period of time), the fishing mode (which indicates the nature of the tuna schools associations) as well as other aspects of gear configuration and technology such as the number of hooks per line, the mechanization status, and whether or not multiple gears are used at the same time.

A reference set of possible fisheries of statistical relevance to the IOTC was first published in the *Guidelines for the reporting of Fisheries Statistics to the IOTC* (IOTC 2014), and more specifically in its Table 11, which provides the alphabetic codes, natural language description (both in English and French), and type of operation (*artisanal*, *semi-industrial*, and *industrial*) assigned to 47 different fisheries for tuna and tuna-like species that are known to occur in the Indian Ocean.

This set of reference fisheries was eventually updated with the inclusion of additional entries which were found to be of importance to the IOTC (e.g., handline fisheries operating in offshore waters), and eventually adopted as the official list of fisheries included in the recommended IOTC forms for data reporting, i.e., forms 1-RC, 1-DI, 2-FC, 3-AR, 3-CE, 3-FA, 3-SU, and 4-SF.

While the current definitions capture well the specificity of some Indian Ocean fisheries (e.g., HLPA – *handlines on anchored FADs*, or PLDF – *dolphin-associated school pole-and-line*), at the same time these suffer from a lack of standardization and do not provide explicit references to important socio-economic aspects of the fisheries themselves, such as their purpose (*commercial*, *subsistence*, *recreational*, *scientific*), which also characterize the way in which the fisheries operate.

Furthermore, while some fisheries explicitly include a reference to the target species (e.g., LLSI – ***swordfish*** *longline (semi-industrial)*, LLSW – ***swordfish*** *longline (Florida longline*), LLSK – ***shark*** *longline*, PS – **tuna** purse seine, LLTU – ***tuna*** *longline*), all other fisheries lack this information and its provision is therefore delegated to the electronic form used to report statistical information to the IOTC, which now includes an additional "*target species*" field either at the level of the form or attached to each record.

The reference list of current IOTC fisheries includes some *catch-all* entries such as LLTU – *tuna longline*, or PS – *tuna purse seine*, which CPCs have often used in place of more specific fisheries such as LL – *drifting longline (over 1800 hooks)*, LLFR – drifting longline (up to 1800 hooks), PSFS – *free-school tuna purse seine*, or PSLS – *log-school tuna*

purse seine, therefore reducing the resolution at which the expected information is made available to the Secretariat and eventually to the public.

Additionally, the type of operation (i.e., artisanal, semi-industrial, or industrial; Table 10 - IOTC 2014), originally defined by Moreno and Herrera (2013) and assigned to each fishery can be a limiting factor in some geographical areas, even more so in lack of a proper characterization of subsistence and small-scale fisheries. For instance, an *artisanal* gillnet fishery is conceptually and operationally different from a *subsistence* gillnet fishery, while they both use the same code GI in the existing classification. The current categorization of IOTC types of operation is given in **Table** 1 which also indicates whether vessels participating to a fishery with a specific type of operation must be registered in the IOTC Record of Authorized Vessels (RAV) as vessels *authorised to fish for tuna and tuna-like species in areas under national jurisdiction of their flag state or beyond*, or not (Res. 19/04).

Table 1: current definitions of IOTC *types of operation* by type of vessel, vessel size and area of operation. EEZ = Exclusive Economic Zone; AFV = Authorised Fishing Vessel.

Vessel type	Vessel size	Area of operation	Type of operation	AFVs
Non-motorised	All	Flag state EEZ only	Artisanal	NO
Motorised outboard	All	Flag state EEZ only	Artisanal	NO
Motorised inboard	< 15 m	Flag state EEZ only	Artisanal	NO
Motorised inboard	15 – 24 m	Flag state EEZ only	Semi-industrial	NO
Motorised inboard	< 15 m	Includes other EEZs and/or high seas	Semi-industrial	YES
Motorised inboard	15 – 24 m	Includes other EEZs and/or high seas	Industrial	YES
Motorised inboard	≥ 24m	Anywhere	Industrial	YES

One of the issues with the definitions in **Table 1** is the ambiguity in the requirement that vessels participating to *semi-industrial* fisheries be also *authorised*. In fact, only one type of semi-industrial fisheries should have its vessels registered in the RAV, and namely those of less than 15 m in length overall that operate outside the EEZ of their flag state.

Several IOTC resolutions are applicable to *authorised vessels* only, and by extension to the fisheries to which these vessels participate.

Many of the affected resolutions are related to the collection and provision of fisheries statistics to the IOTC, as well as on the use of IOTC fisheries statistics for management purposes (e.g., Res. 15/01 – *On the recording of catch and effort data by fishing vessels in the IOTC area of competence*, Res. 19/01 – *On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock in the IOTC area of competence*, or Res. 22/04 – *On a Regional Observer Scheme*).

Therefore, the current ambiguity might affect the proper implementation of these Resolutions and hinder the effectiveness of important conservation and management measures.

Proposed approach

Considering the above, and with a view of overcoming the issues encountered by several CPCs when attempting to categorize their fisheries for IOTC reporting purposes, the IOTC Secretariat is hereby proposing a new approach to the definition and codification of fisheries catching tuna and tuna-like species in the Indian Ocean.

This approach is inspired by the work of the FAO Coordinating Working Party on fisheries statistics (CWP) that at its 27th session in 2022 recalled the original work from Mesnil and Shepherd (1990) and Laurec et al. (1991) which introduced the concept of *métier* as "*... the use of a given fishing gear in a given area, in order to target a single species or group of species, e.g. inshore shrimp trawling, offshore flatfish trammel netting*".

The CWP Task Group on Effort concepts (***TG-Effort***) agreed that the métier combines concepts from the fishing effort domain (fishing gear, fishing ground, and fishing mode) with concepts from the catches' domain (target species) and that by doing so it can accurately describe fishing practices for groups of vessels and be used to characterize sub-units within a fishery.

On these grounds, and in recognition of the specificity of Indian Ocean tuna fisheries, as well as of the criteria of applicability of several IOTC resolutions, this new approach proposes the following formal definition of *fishery* **F** in the IOTC:

(1) $F = f(P, A, L, GC, G, C, M, T)$

Where:

P = purpose of the fishery; can be one among:

a) ***recreational***, i.e., *the fish is caught for recreational purposes only*
b) ***subsistence***, i.e., *the fish is exclusively consumed by the fishermen and their households*
c) ***commercial***, i.e., *the fish is sold at the landing site or at a market, exported, or sold to processing / canning factories*
d) ***scientific***, i.e., *the fishery only operates to collect scientific information or support the training of scientists and fishermen*

A = area of operation of the vessels engaged in the fishery; can be one among:

a) **EEZ**, i.e., *vessels operate exclusively within areas under national jurisdiction of their flag state (territorial sea, contiguous zone as well as EEZ waters)*
b) **EEZ and ABNJ**, i.e., vessels operate in areas under national jurisdiction as well as in areas beyond national jurisdiction of their flag state (i.e., high seas or areas under national jurisdiction of other coastal states)
c) **ABNJ**, i.e., *vessels operate exclusively in areas beyond national jurisdiction of their flag state (i.e., high seas or areas under national jurisdiction of other coastal states)*

L = category of length overall (LoA) of the vessels engaged in the fishery; can be one among:

a) LoA < 15 m
b) 15 m ≤ LoA < 24 m
c) LoA ≥ 24 m

GC = gear category; mapped on the latest ISSCFG gear groups, can be one among:

a) **Purse seines**, *a subset of ISSCFG 01 (surrounding nets) that includes purse seines (01.1) and ringnets, i.e., surrounding nets without purse seines (01.2)*
b) **Gillnets**, *a subset of ISSCFG 07 (gillnets and encircling nets)- that includes set gillnets (07.1), drift gillnets (07.2) and encircling gillnets (07.3)*
c) **Hooks and lines**, *a subset of ISSCFG 09 (hooks and lines) that includes manual (09.1) and mechanized handlines (09.2), vertical lines (09.4) and trolling lines (09.5)*
d) **Longlines**, *a subset of ISSCFG 09 (hooks and lines) that includes set longlines (09.31), drifting longlines (09.32) and longlines (nei) (09.39)*
e) **Pole-and-lines**, *a subset of ISSCFG 09 (hooks and lines) that includes manual (09.1) and mechanized pole-and-lines (09.2)*
f) **Other,** *a subset of ISSCFG 02 (seine nets), 03 (trawls), 05 (lift nets), 07 (falling gear), 08 (traps), and 10 (miscellaneous gear)*

G = gear used to catch the fish; mapped on the latest ISSCFG gear codes, and more specifically on those belonging to the selected gear category **GC**

C = the specific configuration of the gear used to catch the fish (optional); chosen from an ad hoc classification whose possible values are determined by the specific gear **G** selected among those available for the gear category **GC**

M = fishing mode (optional); chosen from an ad hoc classification whose possible values are determined by the specific gear **G** selected among those available for the gear category **GC**

T = target species (optional), i.e., the species that most accurately represent(s) the target of the fishery; chosen from an ad hoc classification, can be one among:

a) neritic tunas and seerfish
b) tropical tunas
c) temperate tunas
d) temperate and tropical tunas
e) marlins and sailfish
f) tunas NEI
g) sharks
h) albacore tuna
i) southern bluefin tuna
j) swordfish
k) swordfish and albacore tuna
l) yellowfin and albacore
m) non-IOTC species

The *purpose* of the fishery, which is not considered by the *current* IOTC classification, is now actively used to determine the fishery and its categorization.

In fact, the *type* of fishery derives from the combination of a) purpose, b) characteristics of the participating vessels, and c) their area of operation (to remain consistent with the RAV requirements) and introduces a more fine-grained characterization (**Table 2**) compared to current definitions (**Table 1**).

Table 2: proposed definitions of IOTC *fishery types* by fishery purpose, vessel size, and area of operation. EEZ = Exclusive Economic Zone. AFVs = Authorised Fishing Vessels. * indicates an *implicit* categorization

Purpose	Vessel size	Area of operation	Type	AFVs
Recreational	< 24 m*	Flag state EEZ only*	Recreational	NO
Subsistence	< 15 m*	Flag state EEZ only*	Subsistence	NO
Commercial	< 15 m	Flag state EEZ only	Small-scale	NO
Commercial	15 – 24 m	Flag state EEZ only	Semi-industrial	NO
Commercial	< 24 m	Includes other EEZs and / or high seas	Semi-industrial (ABNJ)	YES
Commercial	≥ 24 m	Anywhere	Industrial	YES
Scientific	≥ 24 m*	Anywhere*	Exploratory	YES

More formally, and in analogy to what proposed for the definition of *fishery*, a *fishery type* Y is defined as:

(2) $Y = f(P, A, L)$

Where:

P = purpose of the fishery

A = area of operation of the vessels engaged in the fishery

L = category of length overall (in meters) of the vessels engaged in the fishery

Therefore, by combining (1) and (2) we can give the following, more compact definition of fishery as:

(3) $F = f(Y, GC, G, C, M, T)$

Results

The IOTC Secretariat reviewed the existing literature (including the latest ISSCFG classifications; FAO 2016) and re-assessed the fisheries statistical data submissions received from its CPCs in the last decade to determine the most

common factors (gears, gear configurations, fishing modes, and target species) that could uniquely identify the Indian Ocean fisheries according to the definitions in (1), (2) and (3).

This review resulted in a set of reference codes included in Appendix 1, and in the implementation of a filtering process that, based on expert knowledge, removes from all the possible combinations of identifying factors those items corresponding to implausible or non-existing fisheries (e.g., *Industrial longline fishery fishing on log-associated schools and targeting neritic tunas*).

The alphabetic code of each identified fishery is built with the following structure:

(4) **FC** := GG.*GC*-*FM*[FC]*TS*

Where:

1) **FC** is the fishery code
2) GG is the gear code (mandatory, can also be a sequence of multiple gear codes separated by a **+**)
3) GC is the gear configuration code (*optional*, dependent on the gear and fishery type)
4) FM is the fishing mode code (*optional*, dependent on the gear and fishery type)
5) FC is the fishery category code (mandatory), and
6) TS is the target species code (*optional*, dependent on the gear and fishery type)

The following are all plausible examples of IOTC fisheries, with their corresponding codes built in agreement with (4):

- **DL.DF[IN]TT** (closest current IOTC code: **LL**)
  Industrial drifting longline fishery (over 1800 hooks per line) targeting temperate and tropical tunas
- **TL.ME-FS[RC]MS** (closest current IOTC code: **TLME**)
  Recreational trolling line fishery (mechanized), fishing on free schools and targeting marlins and sailfish
- **GE[SU]NS** (closest current IOTC code: **GI**)
  Subsistence encircling gillnet fishery targeting neritic tunas and seerfish
- **DL.DF[EX]** (closest current IOTC code: **LLEX**)
  E*xploratory drifting longline fishery (over 1800 hooks per line)*
- **GD[SS]** (closest current IOTC code: **GI**)
  Small-scale drifting gillnet fishery
- **PS-DF[IN]TR** (closest current IOTC code: **PSFS**)
  Industrial purse seine fishery, fishing on schools associated to drifting FOBs and targeting tropical tunas
- **PL-AF[IS]TR** (closest current IOTC code: **PLPA**)
  Semi-industrial (ABNJ) pole-and-line fishery, fishing on schools associated to anchored FOBs and targeting tropical tunas
- **SL.SH[SI]SK** (closest current IOTC code: **LLSK**)
  Semi-industrial set longline fishery (shallow setting) targeting sharks
- **GS+LL[SS]TR**
  Small-scale set gillnet and longline fishery targeting tropical tunas

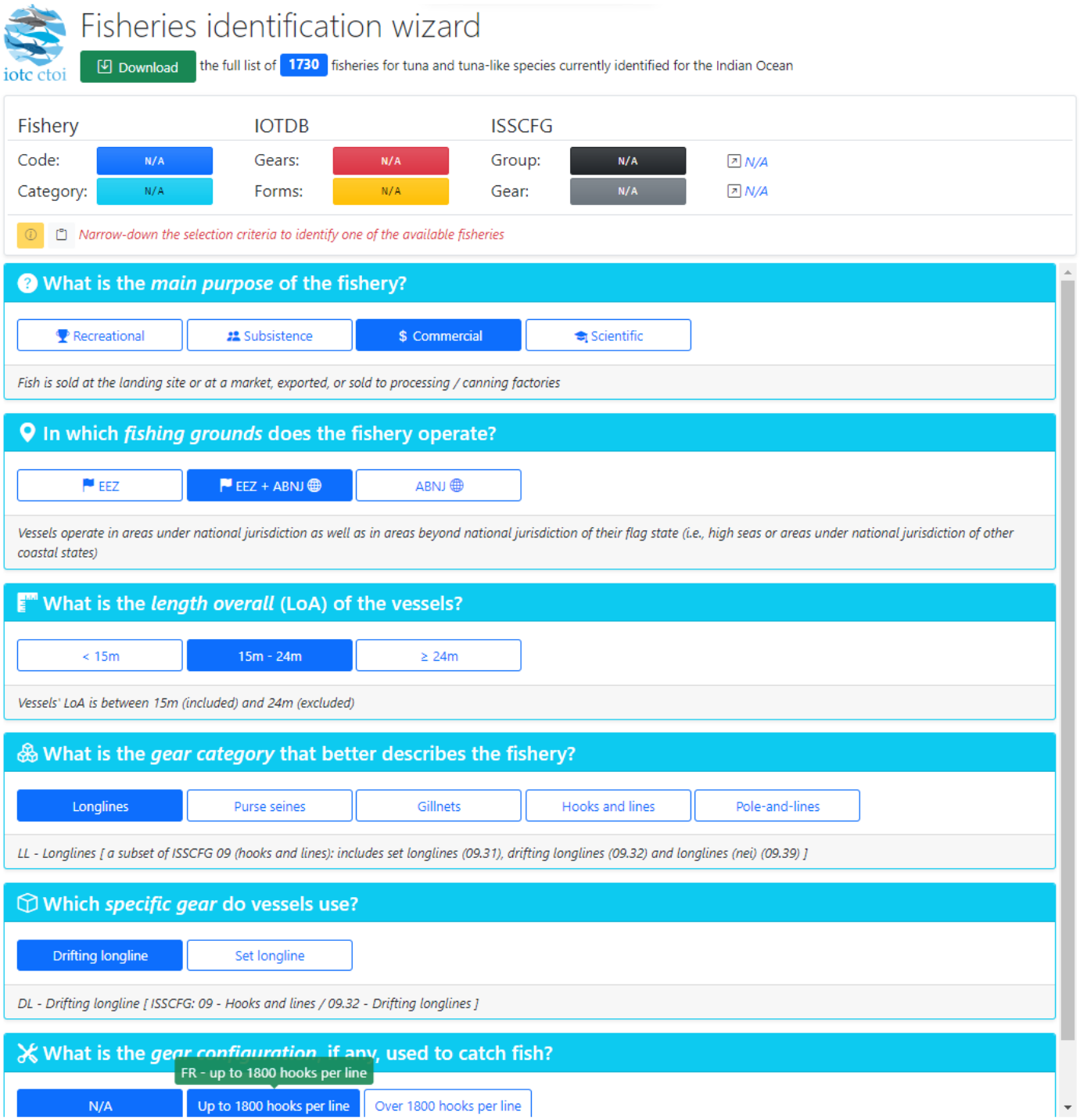
It is always possible to generate the human-readable description of a fishery from its code, as well as generate the fishery code from the human-readable description of a fishery, provided that the reference values used for its components are among those listed in the tables under Appendix 1.

In order to support the adoption of this new approach, the IOTC Secretariat has designed a preliminary version of an interactive tool, the ***IOTC fisheries identification wizard***, with the purpose of helping IOTC CPCs in the identification and categorization of their fisheries (**Figs 1-2**).

The interactive wizard is publicly accessible here, and is capable of:

1) Identifying the unique code of a fishery
2) Providing a human-readable description of the fishery
3) Assigning the proper category[1] to the fishery (one among LONGLINE, SURFACE, and COASTAL)
4) Identifying the IOTC current fishery code that better approximates the fishery
5) Identifying the ISSCFG gear category and gear codes for the fishery.

Furthermore, the wizard gives access to the full list of potential IOTC fisheries which (as of today) amounts to 1,753 unique fisheries and can be downloaded from here.



[1] See footnote 1 in Res. 15/02

Fig. 1: screenshot of the IOTC fisheries identification wizard used to narrow down all possible fisheries

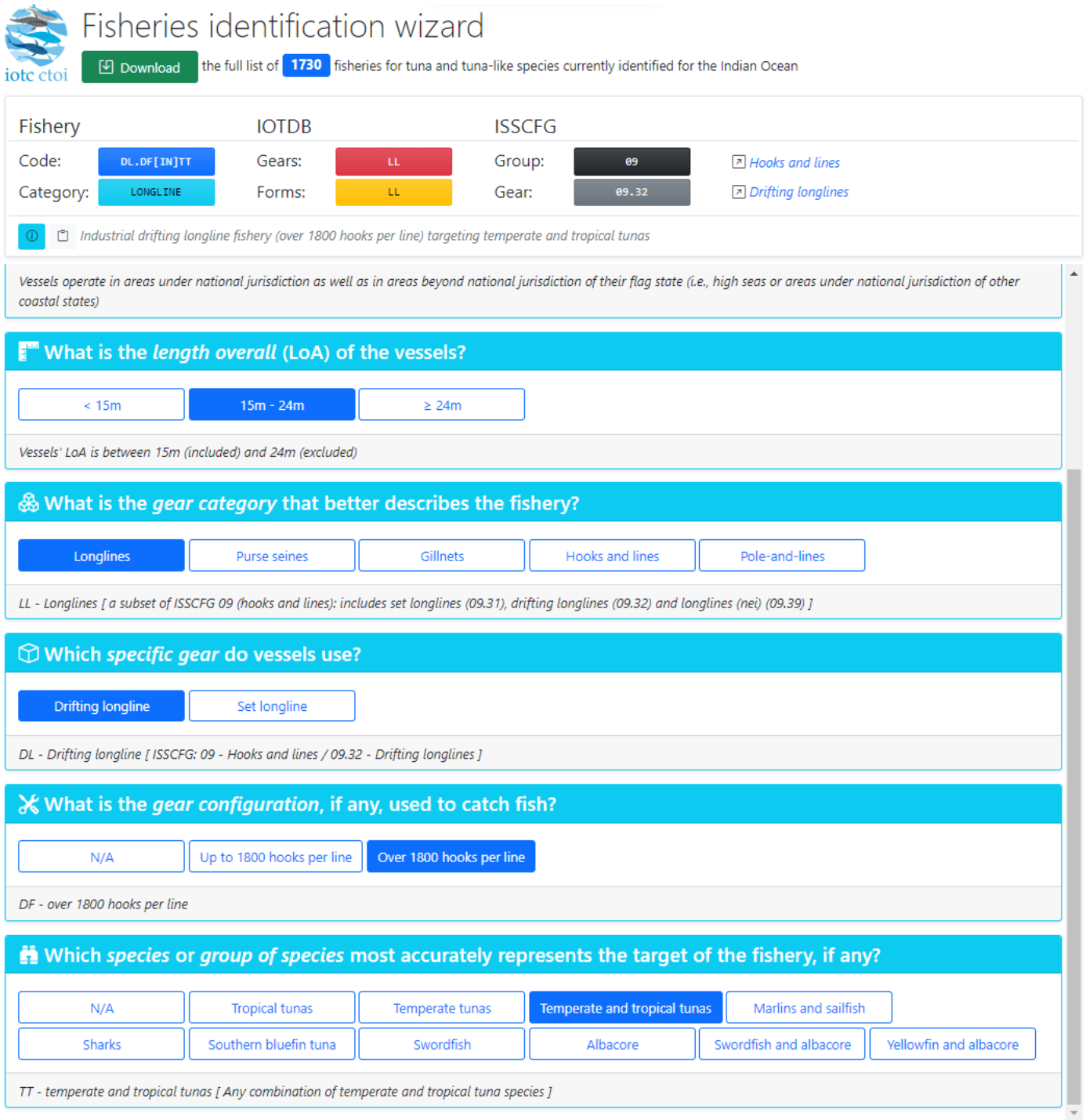


Fig. 2: screenshot of the IOTC fisheries identification wizard used to identify a specific fishery (*Industrial drifting longline fishery (over 1800 hooks per line) targeting temperate and tropical tunas*, with fishery code **DL.DF[IN]TT**)

Conclusions and recommendations

The proposed approach for the systematic definition of Indian Ocean fisheries introduces a marked shift in the way in which these are identified and characterized within the IOTC.

Furthermore, while the Secretariat has carefully reviewed the existing information regarding gears, gear configurations, fishing modes, and species commonly targeted by regional fisheries, it is possible that the filtering

criteria applied to the cartesian product of all identifying factors might have removed by mistake some relevant fisheries or, on the contrary, kept some unplausible ones.

For this reason, the Secretariat is seeking the active contribution of IOTC CPCs to verify if, and to which level of accuracy, all existing regional fisheries can be mapped onto the new IOTC fishery codes.

The authors **strongly recommend** that**:**

1) CPCs and the WPDCS familiarize with the proposed approach for the identification of IOTC fisheries and with the *interactive wizard* designed for its support

2) CPCs and the WPDCS consider the possibility of having short feedback sessions with the Secretariat (after or before the daily WPDCS sessions) to work together on mapping local fisheries against the new classifications

3) CPCs and the WPDCS provide advice on the improvement and / or revision of the current proposal

4) the Secretariat incorporate (when necessary) any suggestions and advice received from the group for the inclusion of new reference gear codes, gear configurations, fishing modes and target species

5) the WPDCS **ENDORSE** the proposed approach for the identification of IOTC fisheries and **RECOMMEND** the SC to endorse it as well so that this be included in:

    a) all **IOTC forms** for the submission of statistical fisheries data to the Secretariat

    b) all publicly disseminated **IOTC datasets** and reference manuals and guidelines

    c) the **IOTC databases** and supporting applications

    starting with the 2023 data reporting cycle.

References

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Moreno, G., and Herrera, M. 2013. Estimation of fishing capacity by tuna fishing fleets in the Indian Ocean. IOTC, Busan, Rep. of Korea, 2-6 December 2013. p. 77. Available from https://iotc.org/documents/estimation-fishing-capacity-tuna-fishing-fleets-indian-ocean.

Appendix 1 – reference codes

ISSCFG gear groups

ISSCFG_GROUP_CODE	ISSCFG_GROUP_EN	ISSCFG_GROUP_ID
1	Surrounding nets	101
2	Seine nets	102
3	Trawls	103
4	Dredges	104
5	Lift nets	105
6	Falling gear	106
7	Gillnets and entangling nets	107
8	Traps	108
9	Hooks and lines	109
10	Miscellaneous gears	113
99	Gear not known	244

Gear groups of relevance to IOTC

ISSCFG gears

ISSCFG_GROUP_CODE	ISSCGFG_CODE	ISSCFG_EN	ISSCFG_ABBR	ISSCFG_ID
1	**1.1**	Purse seines	PS	249
1	**1.2**	Surrounding nets without purse lines	LA	201
1	**1.9**	Surrounding nets (nei)	SUX	111
2	**2.1**	Beach seines	SB	202
2	**2.2**	Boat seines	SV	203
2	**2.9**	Seine nets (nei)	SX	204
3	**3.11**	Beam trawls	TBB	305
3	**3.12**	Single boat bottom otter trawls	OTB	306
3	**3.13**	Twin bottom otter trawls	OTT	208
3	**3.14**	Multiple bottom otter trawls	OTP	209
3	**3.15**	Bottom pair trawls	PTB	307
3	**3.19**	Bottom trawls (nei)	TB	206
3	**3.21**	Single boat midwater otter trawls	OTM	309
3	**3.22**	Midwater pair trawls	PTM	310
3	**3.29**	Midwater trawls (nei)	TM	400
3	**3.3**	Semipelagic trawls	TSP	210
3	**3.9**	Trawls (nei)	TX	211
4	**4.1**	Towed dredges	DRB	212
4	**4.2**	Hand dredges	DRH	213
4	**4.3**	Mechanized dredges	DRM	239
4	**4.9**	Dredges (nei)	DRX	240
5	**5.1**	Portable lift nets	LNP	214
5	**5.2**	Boat-operated lift nets	LNB	215
5	**5.3**	Shore-operated stationary lift nets	LNS	255
5	**5.9**	Lift nets (nei)	LN	216
6	**6.1**	Cast nets	FCN	217

6	**6.2**	Cover pots/Lantern nets	FCO	218
6	**6.9**	Falling gear (nei)	FG	440
7	**7.1**	Set gillnets (anchored)	GNS	219
7	**7.2**	Drift gillnets	GND	220
7	**7.3**	Encircling gillnets	GNC	221
7	**7.4**	Fixed gillnets (on stakes)	GNF	247
7	**7.5**	Trammel nets	GTR	223
7	**7.6**	Combined gillnets-trammel nets	GTN	252
7	**7.9**	Gillnets and entangling nets (nei)	GEN	224
8	**8.1**	Stationary uncovered pound nets	FPN	246
8	**8.2**	Pots	FPO	225
8	**8.3**	Fyke nets	FYK	226
8	**8.4**	Stow nets	FSN	227
8	**8.5**	Barriers, fences, weirs, etc.	FWR	228
8	**8.6**	Aerial traps	FAR	229
8	**8.9**	Traps (nei)	FIX	230
9	**9.1**	Handlines and hand-operated pole-and-lines	LHP	248
9	**9.2**	Mechanized lines and pole-and-lines	LHM	313
9	**9.31**	Set longlines	LLS	232
9	**9.32**	Drifting longlines	LLD	233
9	**9.39**	Longlines (nei)	LL	234
9	**9.4**	Vertical lines	LVT	231
9	**9.5**	Trolling lines	LTL	235
9	**9.9**	Hooks and lines (nei)	LX	236
10	**10.1**	Harpoons	HAR	237
10	**10.2**	Hand Implements (Wrenching gear, Clamps, Tongs, Rakes, Spears)	MHI	315
10	**10.3**	Pumps	MPM	238
10	**10.4**	Electric fishing	MEL	242
10	**10.5**	Pushnets	MPN	253
10	**10.6**	Scoopnets	MSP	254
10	**10.7**	Drive-in nets	MDR	325
10	**10.8**	Diving	MDV	326
10	**10.9**	Gear nei	MIS	112
99	**99.9**	Gear not known	NKX	245

Gears of relevance to IOTC

Gear groups

CODE	NAME_EN	DESCRIPTION_EN
PS	Purse seines	a subset of ISSCFG 01 (surrounding nets): includes purse seines (01.1) and ringnets, i.e. surrounding nets without purse seines (01.2)
GI	Gillnets	a subset of ISSCFG 07 (gillnets and encircling nets): includes set gillnets (07.1), drift gillnets (07.2) and encircling gillnets (07.3)
HL	Hooks and lines	a subset of ISSCFG 09 (hooks and lines): includes manual (09.1) and mechanized handlines (09.2), vertical lines (09.4) and trolling lines (09.5)
LL	Longlines	a subset of ISSCFG 09 (hooks and lines): includes set longlines (09.31), drifting longlines (09.32) and longlines (nei) (09.39)
PL	Pole-and-lines	a subset of ISSCFG 09 (hooks and lines): includes hand-operated (09.1) and mechanized pole-and-lines (09.2)
OT	Other gears	a subset of ISSCFG 02 (seine nets), 03 (trawls), 05 (lift nets), 07 (falling gear), 08 (traps), and 10 (miscellaneous gear)

Gears

GEAR_GROUP_CODE	CODE	NAME_EN	ISSCFG_CODE
GI	**GE**	*Encircling gillnet*	7.3
GI	**GD**	*Drifting gillnet*	7.2
GI	**GS**	*Set gillnet*	7.1
GI	**GS+LL**	*Set gillnet and longline*	7.9
GI	**GS+HL+TL**	*Set gillnet, handline and troll line*	7.9
HL	**HL**	*Handline*	9.1, 9.2*
HL	**RR**	*Rod and reel*	9.9
HL	**TL**	*Trolling line*	9.5
HL	**TT**	*Trotline*	9.9
HL	**VL**	*Vertical line*	9.4
HL	**HL+TL**	*Handline and troll line*	9.9
HL	**HL+TL+LL**	*Hook and line*	9.9
HL	**HL+TL+PL**	*Handline, troll line and pole-and-line*	9.9
HL	**LL+TL**	*Longline and troll line*	9.9
LL	**DL**	*Drifting longline*	9.32
LL	**LL**	*Longline (nei)*	9.39
LL	**SL**	*Set longline*	9.31
LL	**LL+GS**	*Longline and set gillnet*	9.39
PL	**PL**	*Pole-and-line*	9.1, 9.2*
PL	**PL+PS**	*Pole-and-line and purse seine*	9.9
PS	**PS**	*Purse seine*	1.1
PS	**RN**	*Ringnet*	1.2
OT	**BS**	*Beach seine*	2.1
OT	**DS**	*Danish seine*	2.2
OT	**TR**	*Trawl*	3.9
OT	**LN**	*Liftnet*	5.9
OT	**CN**	*Cast net*	6.1
OT	**TP**	*Trap*	8.9

OT	**HR**	*Harpoon*	10.1
OT	**UN**	*Unknown gear*	99.9
OT	**SP**	*None (supply vessels)*	99.9

* Depending on the actual gear configuration

Target species

CODE	NAME_EN	DESCRIPTION_EN
NS	*neritic tunas and seerfish*	BLT (bullet tuna / Auxis rochei), FRI (frigate tuna / Auxis thazard), LOT (longtail tuna / Thunnus tonggol), KAW (kawakawa / Euthynnus affinis), COM (narrow-barred Spanish mackerel / Scomberomorus commerson), GUT (Indo-Pacific king mackerel / Scomberomorus guttatus) or any combination of these
TR	*tropical tunas*	BET (bigeye tuna / Thunnus obesus), SKJ (skipjack tuna / Katsuwonus pelamis), YFT (yellowfin tuna / Thunnus albacares) or any combination of these
TM	*temperate tunas*	ALB (albacore tuna / Thunnus alalunga), SBF (southern bluefin tuna / Thunnus maccoyii) or any combination of these
TT	*temperate and tropical tunas*	Any combination of temperate and tropical tuna species
MS	*marlins and sailfish*	BLM (black marlin / Istiompax indica), BUM (blue marlin / Makaira nigricans), MLS (striped marlin / Tetrapturus audax), SFA (Indo-Pacific sailfish / Istiophorus platypterus)
TN	*tunas NEI*	All other small tunas not included under the neritic, temperate or tropical tuna species
SK	*sharks*	Most commonly caught elasmobranch species
AL	*albacore*	ALB (Thunnus alalunga)
BF	*southern bluefin tuna*	SBF (Thunnus maccoyii)
SW	*swordfish*	SWO (Xiphias gladius)
SA	*swordfish and albacore*	SWO (swordfish / Xiphias gladius), ALB (albacore / Thunnus alalunga)
YA	*yellowfin and albacore*	YFT (yellowfin tuna / Thunnus albacares), ALB (albacore / Thunnus alalunga)

Fishery types

CODE	NAME_EN
SU	*Subsistence*
RC	*Recreational*
SS	*Small-scale*
SI	*Semi-industrial*
IS	*Semi-industrial (ABNJ)*
IN	*Industrial*
EX	*Exploratory*

Gear configurations

CODE	NAME_EN
AS	*at-surface setting*
SB	*sub-surface setting*
SH	*shallow setting*
DE	*deep setting*

FR	*up to 1800 hooks per line*
DF	*over 1800 hooks per line*
DM	*demersal*
ME	*mechanized*
NM	*non-mechanized*

Fishing modes

CODE	NAME
FS	*fishing on free schools*
DA	*fishing on dolphin-associated schools*
MA	*fishing on seamount-associated schools*
AF	*fishing on schools associated to anchored FOBs*
DF	*fishing on schools associated to drifting FOBs*