



FURTHER UPDATES ON THE IOTC DATA REPORTING FORMS

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Purpose

To provide participants to the 19th Working Party on Data Collection and Statistics (WPDCS19) with an overview of the current state-of-the-art regarding the electronic forms for the submission of mandatory statistical data to the IOTC, including additions originating from requests by other Working Parties, and improvements in the rationalization of the data reporting workflow.

Background

The timely and accurate submission of fisheries statistics to the IOTC is a core task for all CPCs, as the information provided is eventually used for purposes such as supporting the work of the Scientific Committee (SC) and its subsidiary bodies, assessing the status of compliance with respect to mandatory reporting requirements, and determining annual contributions for members.

At its previous meeting in 2022, the Working Party on Data Collection and Statistics (WPDCS) discussed about [proposals for the improvement of all existing IOTC data reporting forms](#) and noted the effort made by the Secretariat to simplify and rationalize these forms, introduce a publicly accessible reference data catalogue, and streamline the data provision workflow from CPCs to the IOTC and *vice versa*.

On that occasion, the IOTC Secretariat presented a first version of the new data reporting forms which were endorsed by the WPDCS and eventually by the SC. The latter further recommended the Commission to endorse the proposed improvements in the data reporting of fishery statistics, adding a specific recommendation that the Commission delegates all matters related to data standards and submissions to the SC itself.

Finally, at its 27th Session held in May 2023, the Commission [endorsed all above requests from the SC](#), *de facto* acknowledging that the process of submitting fishery statistics from the CPCs to the IOTC Secretariat should now adopt the proposed data reporting forms and be consistent with all newly adopted standards.

Summary of recent developments

Considering the methodological changes introduced by these decisions of the Commission, the IOTC Secretariat continued with its efforts to further rationalise and simplify the structure of the forms to serve the needs of the CPCs in fulfilling their mandatory reporting obligations.

Also, the IOTC Secretariat acknowledged the necessity for CPCs to better understand and familiarize with the [new definition of fishery](#) introduced during the past session of the WPDCS, which is a crucial component of the revised forms and whose full adoption requires significant efforts from both the IOTC Secretariat (to develop supporting material and deliver dedicated workshops) and the CPCs (to align their data collection and management systems).

For this reason, the IOTC Secretariat has introduced in 2023 *interim* versions of the data reporting forms that maintain a reference to the previous definition of *fisheries* (with which CPCs are more familiar) as a standalone code complemented, when necessary, by separate information on the species targeted by the fishery. All other data elements remain coherent with the revised structure and definition of the data reporting forms as presented at the WPDCS in 2022.

Proposed changes

The following changes were also introduced for acknowledgement and discussion during this meeting:

- **Consider endorsing the decommissioning** of **Form 1-RC-YFT** for the provision of yellowfin tuna catches by year, fleet, fishery, and vessel size / area of operation ([Res. 19/01](#), para. 26) due to the limited number of CPCs to which the requirement applies
- **Decommissioning Form 3-AR** for the submission of catch and effort data for coastal¹ fisheries in favour of **Form 3-CE**, which now can also account for the provision of data by irregular areas (when required by such fisheries)
- **Decommissioning Form 3-SU** for the submission of supply vessels efforts in favour of **Form 3-CE**, which can now be seamlessly used to report this same type of information (number of days at sea by 1°x1° grid)
- **Decommissioning Form 3-FA** following the requests in this regard from the Working Group on FADs endorsed by the Working Party on Tropical Tunas in 2023
- **Introducing Form 3-DA** for the submission of detailed activities, catches, and efforts for fisheries operating on drifting floating objects following the recommendations of the WGFAD and WPTT. This form captures all data elements prescribed by [Res. 15/02](#) and [19/02](#), as [described in a separate document](#), and as such does not require changes to any standing IOTC Resolution
- **Consider endorsing the introduction** of **Form 3-AA** for the submission of detailed information on interactions with anchored Fish Aggregating Devices (aFADs). This form captures all data elements prescribed by [Res. 23/01](#) as [described in a separate document](#)
- **Consider endorsing the introduction** of **Form 1-IN** for the submission of aggregated information on interactions by all fisheries with Endangered, Threatened, and Protected species (ETPs) in order to better capture information on the presence of national legislations preventing CPCs from reporting on such interactions

The [IOTC reference data catalogue](#) has also been updated to include refinements to existing codelists as well as new codelists required by the introduction of additional forms (e.g., the new [FOB activity type codelist](#) referenced by Form 3-DA and 3-AA) and is linked to the new reporting forms via the header / labels attached to each data field.

¹ See footnote no. 1 in Res. 15/02

Overview and evolution of the IOTC data reporting forms

Dataset	Fisheries	Species group	Resolutions	Description	Mandatory	Original form	New form
Retained catches	All	IOTC species	15/02, 17/05, 18/02, 19/03	Total annual retained catches in live weight by IOTC Area, species and type of fishery	Yes	1-RC	1-RC (interim)
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
		Yellowfin tuna	19/01 para. 26	Annual retained catches of yellowfin tuna in live weight by IOTC Area, type of fishery and vessel category (≥24m LOA or <24m LOA and fishing outside the EEZ)	Yes	1-RC-YFT	N/A
Discarded catches	All	IOTC species	15/02, 17/05, 18/02, 19/03, 12/04, 12/06, 12/09, 13/04, 13/05	Estimates of total annual discard levels in live weight (or number) by IOTC Area, species and type of fishery	Yes	1-DI	1-DI (interim)
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
		ETP species			Yes		
Interaction with ETP species	All	ETP species	N/A	Binary matrix of interactions with ETP species by species group, fishery, and area, including details on national legislations to protect the species	Proposed	N/A	1-IN
Data reporting status	All	All (excluding ETPs)	18/07	Binary matrix of annual records of retained catches or discards by species and fishery group	Yes	1-DR	1-DR
Active fishing crafts	All	N/A	FSA-Annex 1, Article 4	Total annual number of fishing crafts operated by type of fishery, type of craft and craft size	Voluntary	2-FC	2-FC (interim)
Catch and effort	Longline	IOTC species	15/02, 17/05, 18/02, 19/03	Catch by species in number or live weight and effort in number of hooks set by 5° grid area and month strata (extrapolated to annual catch)	Yes	3-CE	3-CE (interim)
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
	Surface	IOTC species	15/02, 17/05, 18/02, 19/03	Catch by species in live weight and fishing effort by type of fishery by 1° grid area and month strata (extrapolated to annual catch)	Yes	3-AR	
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
	Coastal	IOTC species	15/02, 17/05, 18/02, 19/03	Catch by species and fishing effort by type of fishery, geographic area and month strata	Yes	3-SU	
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
	Supply vessels	N/A	15/02	Number of days-at-sea by 1° grid area and month strata	Yes		
Interactions with FOBs	Purse seine, supply vessels	All	15/02, 19/02	Interactions with floating objects (FADs and natural objects) by purse seiners and supply vessels, including number of sets and corresponding catches by 1° grid area and month strata	Yes	3-FA	3-DA
	All	All	23/01	Interaction with anchored floating objects	Proposed	N/A	3-AA
Active buoys positions	Purse seine, supply vessels	N/A	19/02	Daily positions of active buoys equipping FADs and natural floating objects for each purse seine vessel	Yes	3-BU	3-BU
Size-frequency	All	IOTC species	15/02, 17/05	Length/weight data by species, type of fishery and 5° grid area and month strata	Yes	4-SF	4-SF (interim)
		Sharks and rays			Yes		
		Other bycatch			Voluntary		
Fish prices	All	IOTC species	N/A	Average prices of fish per type of fish product (preservation, processing), weight units, type of currency, month and market	Voluntary	7-PR	N/A
Country indicators	All	N/A	N/A	Set of national socio-economic indicators (e.g. GDP, OECD status, number of fishermen, contribution of fisheries to GDP, etc.)	Voluntary	N/A	N/A

Table 1: IOTC datasets with previous and current forms for the reporting of their information to the IOTC

Overview of the new forms' stratification

Form	Version	Fleet stratification		Temporal stratification				Spatial stratification				Fishery stratification			Species stratification		
		Fleet	Vessel	Year	Quarter	Month	Day	Lat / Long	Grid 1x1	Grid 5x5	Irregular area	IO area	Fishery group	Fishery category	Fishery	Species group	Species
1-RC (interim)	Default	1		1	+							+	~		+	~	+
1-DI (interim)	Default	1		1	+							+	~		+	~	+
1-IN	Default	1		1								+	+			+	
1-DR	Default	1		1				N/A				+	+		+	+	
2-FC (interim)	Default	1		1								+		+		N/A	
3-CE (interim)	Multiple	1		1		+			+	+	+				+		+
	Single													1			+
3-DA	Multiple	1	+	1		1	+	+								~	+
	Single		1											1		~	+
3-AA	Multiple	1		1		+	+	+							+	~	+
	Single					1								1		~	+
3-BU	Multiple	1	+	1		1	+	+								N/A	
	Single		1													N/A	
4-SF (interim)	Multiple	1		1		+			~	+					+		+
	Single													1			1

- 1 Required, one occurrence per form
- +
- ~ Acceptable, multiple occurrences per form

Table 2: Stratification of IOTC forms by version (default / single / multiple) and by common criteria

These forms' stratification changes with the dataset and with the form version (see **Table 2**). Common strata generally include elements such as fleet, year, fishery, and species with some forms (and the underlining datasets) further stratified by quarter, month, Indian Ocean major area, grids, etc.

Table 2 also provides indications on whether a given form is designed to support the reporting of multiple occurrences (i.e., distinct values) for a given data element contributing to the stratum, and whether alternative stratification (e.g., by *species group* instead of *species*) can be accepted.

As an example, **Table 2** indicates that:

- Form 1-RC *interim* is designed to allow reporting data by **single fleet** and *year*, with *quarter*, *main Indian Ocean area*, *fishery*, and *species* that can accept multiple distinct occurrences of each respective data element
- Form 3-CE *interim* (multiple) is designed to allow reporting data by **single fleet**, *year*, and *month*, with *grid*, *fishery*, and *species* that can accept multiple distinct occurrences of each respective data element
- Form 3-BU is designed to allow reporting data by **single vessel**, *year*, and *month*, with *day of month* and *coordinates* that can accept multiple distinct occurrences of each respective data element
- Form 4-SF *interim* is designed to allow reporting data by **single fleet**, *year*, *fishery*, and *species*, with *month* and *grid* that can accept multiple distinct occurrences of each respective data element
- Form 4-SF *interim* (multiple) is designed to allow reporting data by **single fleet**, and *year*, with *month*, *fishery*, *species*, and *grid* that can accept multiple distinct occurrences of each respective data element

Frequency of data submissions

The IOTC requests through Res. 15/02 that all statistical datasets be submitted by June 30th each year (see Res. 15/02, para. 7b), and include information collected during the previous calendar year.

CPCs with active longline fisheries are granted the possibility of submitting their final data by December 30th each year (see Res. 15/02, para. 7a), although revisions to existing datasets – for all fisheries – can generally be provided at any time within the limits indicated by Res. 15/02 para. 7c.

Monthly buoy position data should instead be submitted with a time delay of at least 60 days but no longer than 90 days (see Res. 19/02, para. 24).

The newly introduced Form 3-DA for the reporting of interactions and catches on drifting floating objects has a fine grade spatial and temporal stratification akin to that of form 3-BU, but in principle its data should be reported by the deadline of June 30th each year.

Data submission semantics

The new data reporting forms are designed to accommodate for the reporting of *complete* annual datasets of a given type, stratified by the relevant criteria.

This means that at each annual submission from a CPC, the Secretariat expects to receive:

- **One** Form 1-RC *interim* for the reporting of total annual retained catches (all fisheries, data sources, species, and areas)
- **One** Form 1-DI *interim* for the reporting of total annual discards (all fisheries, data sources, species, and areas)
- **One** Form 1-DR for the reporting of zero catches by fishery type (all fisheries and species)
- **One** Form 2-FC *interim* for the voluntary reporting of fishing craft statistics (all fisheries, data sources and boat types)
- **One** Form 3-CE *interim* (multiple) for the reporting of annual geo-referenced catch-and-effort data (all fisheries, months, data sources, species, and grids)
- **One** Form 4-SF *interim* (multiple) for the reporting of individual body lengths or weights data (all fisheries, months, data sources, species, measurement types, and grids)
- **One or more** Form 3-BU (multiple) for the reporting of instrumented buoys' position, i.e., one for each month (all vessels)
- **One or more** form 3-DA (multiple) for the reporting of interactions between vessels and dFOBs, i.e., one for each month (all vessels)

The semantics of the data submission process are defined as follows:

- a) CPCs should submit by the deadline one form for each data set, and each of these forms shall contain information for **all fisheries and species** for a given reference year, except for Form 3-BU, 3-DA, and 3-AA (if endorsed) which might require multiple submissions due to their different spatio-temporal resolution

- b) Any subsequent resubmission of forms 1-RC *interim*, 1-DI *interim*, 1-DR, 2-FC *interim*, 3-CE *interim* (multiple), 4-SF *interim* (multiple) is considered as a *full replacement* of the annual information for that given dataset as originally provided in a)
- c) The use of the *single* versions of form 3-CE *interim*, 3-BU, and 4-SF *interim* is endorsed only for the provision of updates of already submitted annual data in a) or b) for a single fishery (3-CE), species (4-SF), or vessel (3-BU).

Conclusions

The latest updates to the IOTC data reporting forms build on top of the proposals presented at the WPDCS in 2022 and are a step forward towards a more rational and streamlined process for the provision of information to the IOTC.

Furthermore, the new role granted to the Scientific Committee as the IOTC body responsible (under advice from the WPDCS) for discussing and endorsing standards and format for statistical data submissions guarantees that, from now on, there will be increased flexibility in adapting the data reporting process to emerging requirements and CPC needs.

Therefore, the authors **strongly recommend** that:

- 1) That CPCs and the WPDCS familiarize with the proposed revisions of the data reporting forms and how these replace some of the existing (recommended) and draft versions of the new forms presented at the last WPDCS
- 2) That CPCs **ACKNOWLEDGE** the semantics of the data reporting process described herein, and ensure that these are correctly taken into account by the national officers responsible for data collection and submission to the IOTC
- 3) That the WPDCS **RECOMMEND** the newly proposed data reporting forms are adopted as **mandatory forms** for the submission of statistical fisheries data to the Secretariat starting with the 2024 data reporting cycle
- 4) That the IOTC Secretariat **SUPPORT** the correct implementation of the new data reporting procedures and the adoption of the new forms by delivering specific workshops to CPCs from Q1 2024 onwards

Resources

- [IOTC reference data catalogue \(HTML pages\)](#)
- New IOTC forms (*MS Excel files*)
 - a) [Form 1-RC interim](#)
 - b) [Form 1-DI interim](#)
 - c) [Form 1-IN](#)
 - d) [Form 1-DR](#)
 - e) [Form 2-FC interim](#)
 - f) Form 3-CE *interim*
 - [Default](#)
 - [Multiple](#)
 - g) Form 3-BU
 - [Default](#)
 - [Multiple](#)
 - h) Form 3-DA
 - [Default](#)
 - [Multiple](#)
 - i) Form 3-AA
 - [Default](#)
 - [Multiple](#)
 - j) Form 4-SF *interim*
 - [Default](#)
 - [Multiple](#)