
REVIEW OF CURRENT CONSERVATION AND MANAGEMENT MEASURES RELATING TO NERITIC TUNA SPECIES

PREPARED BY: IOTC SECRETARIAT, 26 JUNE 2017

PURPOSE

To encourage participants at the 8th Working Party on Neritic Tunas (WPNT08) to review some of the existing Conservation and Management Measures (CMM) relating to neritic tunas, noting the CMMs contained in document IOTC–2018–WPNT08–04; and as necessary to 1) provide recommendations to the Scientific Committee on whether modifications may be required; and 2) recommend whether other CMMs may be required.

BACKGROUND

In addition to the new CMMs outlined in document IOTC–2018–WPNT08–04, neritic tunas in the Indian Ocean are currently subject to several other Conservation and Management Measures adopted by the Commission. In an attempt to focus the efforts of the WPNT, it is our aim for participants to annually review some of the key CMMs, based on scientific advice and any focussed on any specific requests from the Commission.

Resolution 15/01: *On the recording of catch and effort data by fishing vessels in the IOTC area of competence.*

Resolution 15/02: *Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting Parties (CPCs).*

Resolution 18/07: *On measures applicable in case of non fulfilment of reporting obligations in the IOTC*

Resolution 18/09: *On a scoping study of socio-economic data and indicators of IOTC fisheries*

These CMMs adopted in 2018 shall be considered binding on Members from 4 October 2018 (IOTC Circular 2018–026).

DISCUSSION

As part of best practice, the WPNT is obliged to review existing CMMs and consider whether their science-based components need to be modified or updated. If this is the case, then the WPNT should provide clear, science-based recommendations for the SC's consideration.

RECOMMENDATION

Noting the information contained in working paper IOTC–2017–WPNT07–04, the WPNT should aim to provide recommendations to the SC that clearly outline whether further changes to Resolutions 15/01 and 15/02 are required, and/or to recommend whether other CMMs may be required.

APPENDICES

Appendix A: Resolution 15/01 *On the recording of catch and effort data by fishing vessels in the IOTC area of competence*

Appendix B: Resolution 15/02 *Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting Parties (CPCs)*

Appendix C: Resolution 18/07 *On measures applicable in case of non fulfilment of reporting obligations in the IOTC*

Appendix D: Resolution 18/09 *On a scoping study of socio-economic data and indicators of IOTC fisheries*

APPENDIX A**RESOLUTION 15/01****ON THE RECORDING OF CATCH AND EFFORT DATA BY FISHING VESSELS IN THE IOTC AREA OF COMPETENCE**

Keywords: Data recording; logbook; purse seine; longline; gillnet; pole and line; handline; trolling; fishing vessels.

The Indian Ocean Tuna Commission (IOTC),

RECALLING the commitment made by Contracting Parties under Article V of the IOTC Agreement to keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and to fisheries based on the stocks covered by the Agreement;

CONSIDERING the provisions set forth in Resolution 15/02 Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs) (or any subsequent superseding Resolution), and in particular paragraph 4, which sets out the catch and effort reporting requirements for surface fisheries, longline and coastal fisheries;

ACKNOWLEDGING that the IOTC Scientific Committee has repeatedly stressed the importance of the timeliness and accuracy of data submissions for Members;

ALSO RECALLING the outcomes of the 9th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 6 to 10 November 2006 where it was agreed that a standardised logbook would be advantageous and agreed on the minimum requirements for all purse seine and bait boat fleets operating in the IOTC area of competence in order to harmonise data gathering and provide a common basis for scientific analysis for all IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs);

FURTHER RECALLING the recommendations adopted by the KOBE II Workshop on Bycatch, held in Brisbane, Australia, 23–25 June 2010; in particular that RFMOs should consider adopting standards for bycatch data collection which, at a minimum, allows the data to contribute to the assessment of bycatch species population status and evaluation of the effectiveness of bycatch measures, and that the data should allow the RFMOs to assess the level of interaction of the fisheries with bycatch species;

FURTHER CONSIDERING the work of the small task force created by the IOTC Scientific Committee during its 10th Session held in Seychelles in November 2007, to harmonise the various forms currently used by the fleets and the IOTC Scientific Committee agreement on the minimum standard requirements for all purse seine, longline and gillnet fleets as well as the produced logbook template;

FURTHER CONSIDERING the deliberations of the 13th Session of the IOTC Scientific Committee held in Victoria, Seychelles from 6 to 10 December 2010, that recommended three options, one of which is mandatory reporting of a revised list of shark species in logbooks to improve the data collection and statistics on sharks in the IOTC area of competence;

FURTHER CONSIDERING the deliberations of the 14th Session of the IOTC Scientific Committee held in Mahé, Seychelles from 12 to 17 December 2011, that proposed a list of shark species for all gears and recommended minimum recording requirements for handline and trolling gears in the IOTC area of competence;

FURTHER CONSIDERING the recommendations of the 17th Session of the IOTC Scientific Committee referring to bycatch;

FURTHER CONSIDERING the call upon States, either individually, collectively or through regional fisheries management organisations and arrangements included in the United Nations General Assembly Resolution 67/79 on sustainable fisheries to collect the necessary data in order to evaluate and closely monitor the use of large-scale fish aggregating devices and others, as appropriate, and their effects on tuna resources and tuna behaviour and associated and dependent species, to improve management procedures to monitor the number, type and use of such devices and to mitigate possible negative effects on the ecosystem, including on juveniles and the incidental bycatch of non-target species, particularly sharks and turtles;

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the IOTC Agreement, the following:

1. Each flag CPC shall ensure that all purse seine, longline, gillnet, pole and line, handline and trolling fishing vessels

flying its flag and authorised to fish species managed by IOTC be subject to a data recording system.

2. The measure shall apply to all purse seine, longline, gillnet, pole and line, handline and trolling fishing vessels over 24 metres length overall and those under 24 metres if they fish outside the EEZs of their flag States within the IOTC area of competence. The data recording systems for developing CPCs vessels less than 24 metres operating within the EEZ of coastal States are subject to Paragraphs 11 and 12. The vessels of less than 24 metres operating within the EEZ of developed CPCs shall apply this measure.
3. All vessels shall keep a bound paper or electronic logbook to record data that includes, as a minimum requirement, the information and data in the logbook set forth in **Annex I, II and III**.
4. Each flag CPC shall submit to the IOTC Executive Secretary by 15 February 2016 a template of its official logbooks to record data in accordance with **Annex I, II and III**, for publishing on the IOTC website to facilitate MCS activities. For CPCs that use electronic logbook systems, a copy of the applicable regulations implementing the electronic logbook system in that CPC, a set of screen captures and the name of the certified software may be provided. If changes are made to the template after 15 February 2016, an updated template shall be submitted.
5. Where the logbook is not in one of the two languages of the IOTC, CPCs shall provide a complete field description of the logbook in one of the two languages of the IOTC together with the submission of the sample of the logbook. The IOTC Executive Secretary shall publish the sample of the logbook and the field description on the IOTC website.
6. **Annex I** includes information on vessel, trip and gear configuration for purse seine, longline, gillnet and pole and line, and shall only be completed once for each trip, unless the gear configuration changes during the trip.
7. **Annex II** contains information for purse seine, longline, gillnet and pole and line operations and catch, which shall be completed for each set/shot/operation of the fishing gear.
8. **Annex III** contains specifications for handline and trolling gears.
9. The logbook shall be completed by the Master of the fishing vessel and submitted to the flag State administration, as well as to the coastal State administration where the vessel has fished in that coastal State's EEZ. Only the part of the logbook corresponding to the activity deployed in the coastal State EEZ shall be provided to the coastal State administration where the vessel has fished in that coastal State's EEZ.
10. The Flag State shall provide all the data for any given year to the IOTC Secretariat by June 30th of the following year on an aggregated basis. The confidentiality rules set out in Resolution 12/02 Data Confidentiality Policy and Procedures (or any subsequent superseding Resolution) for fine-scale data shall apply.
11. Noting the difficulty in implementing a data recording system on fishing vessels from developing CPCs, the data recording systems for vessels less than 24 metres of developing CPCs operating inside the EEZ shall be implemented progressively from 1 July 2016.
12. The Commission shall consider development of a special program to facilitate the implementation of this Resolution by developing CPCs. Furthermore, developed and developing CPCs are encouraged to work together to identify opportunities for capacity building to assist the long-term implementation of this Resolution.
13. This Resolution supersedes Resolution 13/03 *On the recording of catch and effort by fishing vessels in the IOTC area of competence*.

ANNEX I

Record once per trip (unless gear configuration changes)**1.1 REPORT INFORMATION**

1. Date of the submission of logbook
2. Name of reporting person

1.2 VESSEL INFORMATION

1. Vessel name and/or registration number
2. IMO number, where available
3. IOTC number
4. Call sign: if call sign is not available, other unique identifying code such as fishing licence number should be used
5. Vessel size: gross tonnage and overall length (meters)

1.3 CRUISE INFORMATION

For multiday fishing operations record the:

1. Departure date (at your location) and port
2. Arrival date (at your location) and port

1.4 OTHER REQUIRED INFORMATION**Longline (Gear Configuration):**

1. Average branch line length (meters): straight length in meters between snap and hook (**Figure 1**)
2. Average float line length (meters): straight length in meters from the float to the snap
3. Average length between branch (meters): straight length of main line in meters between successive branch lines
4. Main line material classified into four categories:
 - a) Thick rope (Cremona rope)
 - b) Thin rope (Polyethylene or other materials)
 - c) Nylon braided
 - d) Nylon monofilament
5. Material of the terminal tackle of the branch line (leader/trace) classified into two categories:
 - a) Nylon monofilament
 - b) Other (such as wire)

Purse Seine:**(Gear configuration):**

1. Length of the purse seine net
2. Height of the purse seine net
3. Total number of FADs deployed per trip: refer to the Resolution 15/08 Procedures on a fish aggregating devices (FADs) management plan, including a limitation on the number of FADs, more detailed specification of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species (or any subsequent superseding Resolution)

(Search information):

1.Days searched

2.Spotter plane used (Yes/No)

3.Supply vessel used (Yes/No), if yes what is the name and registration number of the supply vessel

Gillnet (Gear Configuration):

1.Overall length of net (metres): record the total overall length of the net onboard

2.Mesh size of net (millimetres): record the mesh size (measured between opposite knots when fully stretched) used during the trip

3.Depth of assembled net (meters): height of assembled net in meters

4.Netting material: e.g. nylon braid, nylon monofilament, etc.

Pole and line (Gear Configuration):

1.Number of fishermen

ANNEX II

Record once per set/shot/operation

Note: for all gears in this annex use the follow format for date and time

For date: when recording date of the set/shot/operation: record the YYYY/MM/DD

For time: record 24hr time as either the local time, GMT or national time and clearly specify which time has been used.

2.1OPERATION**For longline:**

- 1.Date of set
- 2.Position in latitude and longitude: either position at noon or position of start of gear or area code of operation (e.g. Seychelles EEZ, High seas, etc.) may be optionally used
- 3.Time of starting setting and, when possible, retrieving the gear
- 4.Number of hooks between floats: if there are different hooks counts between floats in a single set then record the most representative (average) number
- 5.Total number of hooks used in the set
- 6.Number of light–sticks used in the set
- 7.Type of bait used in the set: e.g. fish, squid, etc.
- 8.Optionally, sea surface temperature at noon with one decimal point (XX.X°C)

For purse seine:

- 1.Date of set
- 2.Type of event: fishing set or deployment of a new FAD
- 3.Position in latitude and longitude and time of event, or if no event during the day, at noon
- 4.If fishing set: specify if the set was successful, nil, well; type of school (free swimming school or FAD associated. If FAD associated, specify the type (e.g. log or other natural object, drifting FAD, anchored FAD, etc.). Refer to the Resolution 15/08 Procedures on a fish aggregating devices (FADs) management plan, including a limitation on the number of FADs, more detailed specification of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species (or any subsequent superseding Resolution)
- 5.Optionally, sea surface temperature at noon with one decimal point (XX.X°C)

For gillnet:

- 1.Date of set: record the date for each set or day at sea (for days without sets)
- 2.Total length of net (meters): floatline length used for each set in meters
- 3.Start fishing time: record the time when starting each set and, when possible, gear retrieving
- 4.Start and end position in latitude and longitude: record start and end latitude and longitude that represent the area that your gear is set between or, if no set, record the latitude and longitude at noon for days without sets
- 5.Depth at which net is set (meters): approximate depth at which the gillnet is set

For Pole and Line:

Fishing effort information in logbooks shall be recorded by day. Catch information in logbooks shall be recorded by trip or, when possible, by fishing day.

- 1.Date of operation: record the day or date

2.Position in latitude and longitude at noon

3.Number of fishing poles used during that day

4.Start fishing time (record the time immediately after bait fishing is complete and the vessel heads to the ocean for fishing. For multiple days, the time at which search starts should be recorded) and end fishing time (record the time immediately after fishing is complete from the last school; on multiple days this is the time fishing stopped from the last school). For multiple days number of fishing days should be recorded.

5.Type of school: FAD associated and/or free school

2.2CATCH

1.Catch weight (kg) or number by species per set/shot/fishing event for each of the species and form of processing in section 2.3:

a)For longline by number and weight

b)For purse seine by weight

c)For gillnet by weight

d)For pole and line by weight or number

2.3 SPECIES**For Longline:**

Primary Species	FAO code	Other Species	FAO code
Southern bluefin tuna (<i>Thunnus maccoyii</i>)	SBF	Shortbill spearfish (<i>Tetrapturus angustirostris</i>)	SSP
Albacore (<i>Thunnus alalunga</i>)	ALB	Blue shark (<i>Prionace glauca</i>)	BSH
Bigeye tuna (<i>Thunnus obesus</i>)	BET	Mako sharks (<i>Isurus</i> spp.)	MAK
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT	Porbeagle shark (<i>Lamna nasus</i>)	POR
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ	Hammerhead sharks (<i>Sphyrna</i> spp.)	SPN
Swordfish (<i>Xiphius gladius</i>)	SWO	Silky shark (<i>Carcharhinus falciformis</i>)	FAL
Striped marlin (<i>Tetrapturus audax</i>)	MLS	Other bony fishes	MZZ
Blue marlin (<i>Makaira nigricans</i>)	BUM	Other sharks	SKH
Black marlin (<i>Makaira indica</i>)	BLM	Seabirds (in number) ¹	
Indo-Pacific sailfish (<i>Istiophorus platypterus</i>)	SFA	Marine Mammals (in number)	MAM
		Marine turtles (in number)	TTX
		Thresher sharks (<i>Alopias</i> spp.)	THR
		Oceanic whitetip shark (<i>Carcharhinus longimanus</i>)	OCS
		Optional species to be recorded	
		Tiger shark (<i>Galeocerdo cuvier</i>)	TIG
		Crocodile shark (<i>Pseudocarcharias kamoharai</i>)	PSK
		Great white shark (<i>Carcharodon carcharias</i>)	WSH
		Mantas and devil rays (<i>Mobulidae</i>)	MAN
		Pelagic stingray (<i>Pteroplatytrygon violacea</i>)	PLS
		Other rays	

For Purse Seine:

Primary Species	FAO code	Other species	FAO code
Albacore (<i>Thunnus alalunga</i>)	ALB	Marine turtles (in number)	TTX
Bigeye tuna (<i>Thunnus obesus</i>)	BET	Marine mammals (in number)	MAM
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT	Whale sharks (<i>Rhincodon typus</i>) (in number)	RHN
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ	Thresher sharks (<i>Alopias</i> spp.)	THR
Other IOTC species		Oceanic whitetip shark (<i>Carcharhinus longimanus</i>)	OCS
		Silky sharks (<i>Carcharhinus falciformis</i>)	FAL
		Optional species to be recorded	FAO code
		Mantas and devil rays (<i>Mobulidae</i>)	MAN
		Other sharks	SKH
		Other rays	

¹ When a CPC is fully implementing the observer program the provision of seabird data is optional

		Other bony fish	MZZ
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For Gillnet:

Primary Species	FAO code	Other Species	FAO code
Albacore (<i>Thunnus alalunga</i>)	ALB	Shortbill spearfish (<i>Tetrapturus angustirostris</i>)	SSP
Bigeye tuna (<i>Thunnus obesus</i>)	BET	Blue shark (<i>Prionace glauca</i>)	BSH
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT	Mako sharks (<i>Isurus</i> spp.)	MAK
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ	Porbeagle shark (<i>Lamna nasus</i>)	POR
Longtail tuna (<i>Thunnus tonggol</i>)	LOT	Hammerhead sharks (<i>Sphyrna</i> spp.)	SPN
Frigate tuna (<i>Auxis thazard</i>)	FRI	Other sharks	SKH
Bullet tuna (<i>Auxis rochei</i>)	BLT	Other bony fish	MZZ
Kawakawa (<i>Euthynnus affinis</i>)	KAW	Marine turtles (in number)	TTX
Narrow barred Spanish mackerel (<i>Scomberomorus commerson</i>)	COM	Marine mammals (in number)	MAM
Indo–Pacific king mackerel (<i>Scomberomorus guttatus</i>)	GUT	Whale sharks (<i>Rhincodon typus</i>) (in number)	RHN
Swordfish (<i>Xiphias gladius</i>)	SWO	Seabirds (in number) ²	
Indo–Pacific sailfish (<i>Istiophorus platypterus</i>)	SFA	Thresher sharks (<i>Alopias</i> spp.)	THR
Marlins (<i>Tetrapturus</i> spp, <i>Makaira</i> spp.)	BIL	Oceanic whitetip shark (<i>Carcharhinus longimanus</i>)	OCS
Southern bluefin tuna (<i>Thunnus maccoyii</i>)	SBF	Optional species to be recorded	
		Tiger shark (<i>Galeocerdo cuvier</i>)	TIG
		Crocodile shark (<i>Pseudocarcharias kamoharai</i>)	PSK
		Mantas and devil rays (Mobulidae)	MAN
		Pelagic stingray (<i>Pteroplatytrygon violacea</i>)	PLS
		Other rays	

For Pole and Line:

Primary Species	FAO code	Other Species	FAO code
Albacore (<i>Thunnus alalunga</i>)	ALB	Other bony fish	MZZ
Bigeye tuna (<i>Thunnus obesus</i>)	BET	Sharks	SKH
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT	Rays	
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ	Marine turtles (in number)	TTX
Frigate and bullet tuna (<i>Auxis</i> spp.)	FRZ		
Kawakawa (<i>Euthynnus affinis</i>)	KAW		
Longtail tuna (<i>Thunnus tonggol</i>)	LOT		
Narrow barred Spanish mackerel (<i>Scomberomorus commerson</i>)	COM		
Other IOTC species			

² When a CPC is fully implementing the observer program the provision of seabird data is optional

2.4REMARKS

1. Discard of tuna, tuna-like fish and sharks to be recorded by species in weight (kg) or number for all gears should be recorded in the remarks³
2. Any interactions with whale sharks (*Rhincodon typus*), marine mammals, and seabirds should be recorded in the remarks
3. Other information is also written in the remarks

Note: The species included in the logbooks are regarded as minimum requirement. Optionally other frequently caught shark and/or fish species should be added as required across different areas and fisheries.

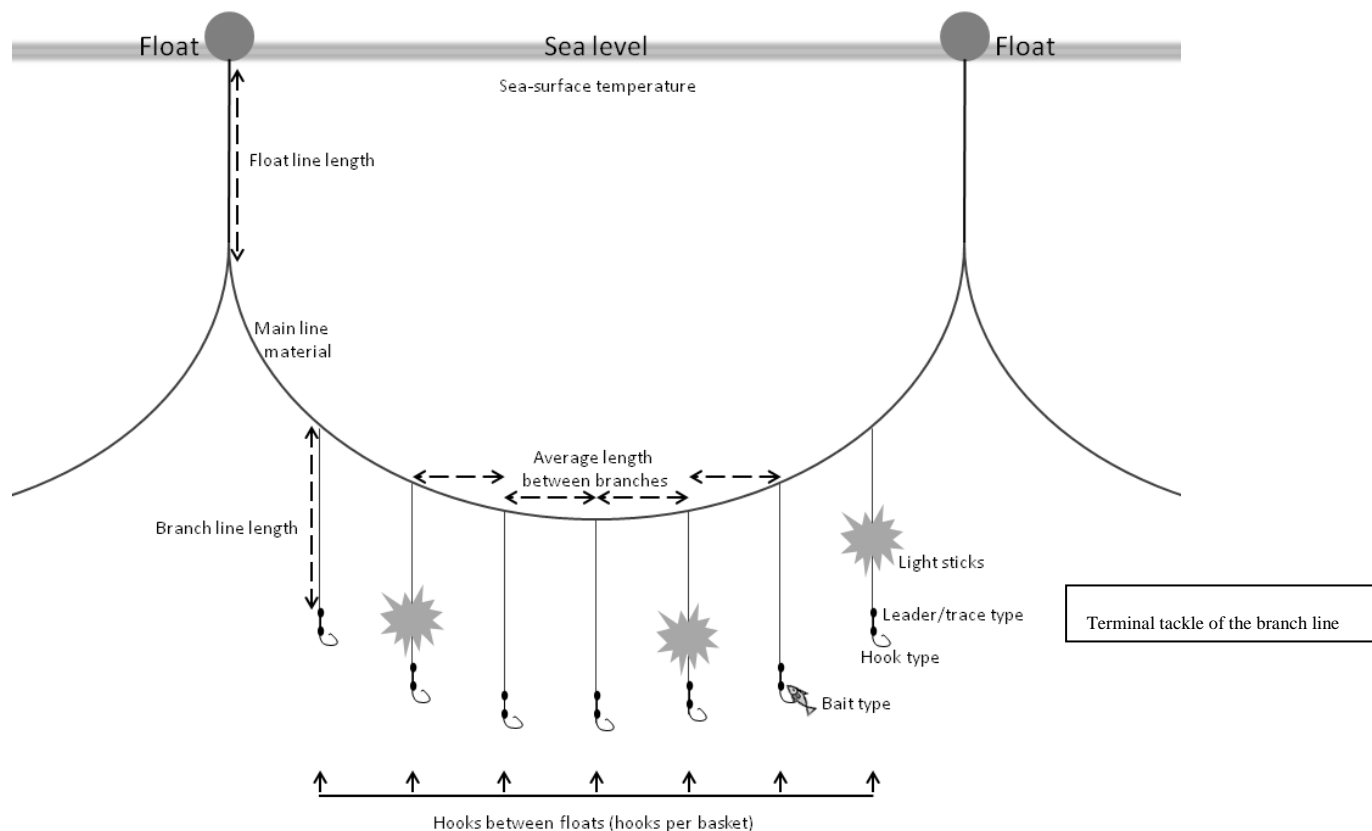


Figure 1. Longline (Gear Configuration): Average branch line length (meters): straight length in meters between snap and hook.

³ Recall the Recommendation 10/13 *On the implementation of a ban on discards of skipjack tuna, yellowfin tuna, bigeye tuna and non-target species caught by purse seiners* [superseded by [Resolution 13/11](#); then by [Resolution 15/06](#)]

ANNEX III

Specifications for handline and trolling

Note: for all gears in this annex use the follow format for date and time

For date: when recording date of the set/shot/operation: record the YYYY/MM/DD

For time: record 24hr time as either the local time, GMT or national time and clearly specify which time has been used.

I - HANDLINE

All logbook information shall be recorded by day; where more than one fishing event is recorded for the same day, it is advisable to record each fishing event separately

Record once in one cruise, or month where daily operation

1.1REPORT INFORMATION

1. Fishing day (or Date of submission of the logbook, where multiple fishing days)
2. Name of reporting person

1.2VESSEL INFORMATION

1. Vessel name and registration number and IMO number, where available
2. IOTC number, where available
3. Fishing License number
4. Vessel size: Gross tonnage and/or length overall (in metres)

1.3CRUISE INFORMATION

1. Departure date and port
2. Arrival date and port

2.1OPERATION

1. Date of fishing

Record the date of fishing. Each fishing day should be recorded separately

2. Number of fishermen

Record the number of fishermen on the boat by fishing day

3. Number of Fishing Gear

Record the number of fishing lines used during the fishing day. If the exact number is not available a range may be used i) 5 or less lines, ii) 6–10 lines; iii) 11 or more lines

4. Number and type of school (Anchored or drifting FAD, marine mammal, free, other) fished

Record the number and type of school fished (i.e. anchored FAD, drifting FAD, marine mammal associated or free) fished during the day

5. Position of the catch

Position in latitude and longitude: either position at noon or position of start of gear or area code of operation (e.g. Seychelles EEZ, High seas, etc.) may be optionally used. Record the latitude and longitude at noon for non-fishing days, where not in port

Where information is recorded by day, record the 1° x 1° area(s) where fishing took place

6. Bait

Record the type of bait used (e.g. fish, squid), where applicable

2.2CATCH

Catch in number and/or weight (kg) by species

1.Catch number and/or Weight

For each species shown in section 2.3 caught and retained, record the number and estimated live weight (kg), per fishing day

2.Discard number and/or Weight

For each species shown in section 2.3 caught and not retained record the number and estimated live weight (kg) discarded, per fishing day

2.3SPECIES

Primary Species	FAO code
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT
Bigeye tuna (<i>Thunnus obesus</i>)	BET
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ
Indo-Pacific sailfish (<i>Istiophorus platypterus</i>)	SFA
Black marlin (<i>Makaira indica</i>)	BLM
Other billfish	
Longtail tuna (<i>Thunnus tonggol</i>)	LOT
Kawakawa (<i>Euthynnus affinis</i>)	KAW
Frigate tuna/Bullet tuna (<i>Auxis</i> spp.)	FRZ
Narrow barred Spanish mackerel (<i>Scomberomorus commerson</i>)	COM
Indo-Pacific king mackerel (<i>Scomberomorus guttatus</i>)	GUT
Sharks	
Other fishes	
Rays	
Marine turtles (by number)	

2.4REMARKS

1.Other relevant information is also written in the remarks

Note: These species included in the logbook are regarded as minimum requirement. Optionally other species should be added as species may differ depending on the area fished and type of fishery

II - TROLLING VESSELS

All logbook information shall be recorded by day; where more than one fishing event is recorded for the same day, it is advisable to record each fishing event separately

Record once in one cruise

1.1REPORT INFORMATION

1.Fishing day (or Date of submission of the logbook, where multiple fishing days)

2.Name of reporting person

1.2VESSEL INFORMATION

1.Vessel name and registration number and IMO number, where available

2.IOTC number, where available

3.Fishing License number

4.Vessel size: Gross tonnage and/or length overall (in metres)

1.3 CRUISE INFORMATION

1. Departure date and port

2. Arrival date and port

2.1 OPERATION

1. Date of fishing

Record the date of fishing. Each fishing day should be recorded separately

2. Number of fishermen

Record the number of fishermen on the vessel by fishing day

3. Number of Fishing Gear

Record the number of lines used during the fishing day. If the exact number is not available a range may be used i) 3 or less lines, ii) more than 3 lines

4. Number and type of school (Anchored or drifting FAD, marine mammal, free, other) fished

Record the number and type of school fished (i.e. anchored FAD, drifting FAD, marine mammal associated or free) fished during the day

5. Position of the catch

Position in latitude and longitude: either position at noon or position of start of gear or area code of operation (e.g. Seychelles EEZ, High seas, etc.) may be optionally used. Record the latitude and longitude at noon for non-fishing days, where not in port

Where information is recorded by day, record the 1° x 1° area(s) where fishing took place

6. Bait

Record the type of bait or indicate if lures are used

2.2 CATCH

Catch in number and/or weight (kg) by species

1. Number and/or Weight of fish retained

For each species shown in section 2–3 caught and retained, record the number or estimated live weight (kg), per fishing day

2. Discard number and/or Weight

For each species shown in section 2–3 caught and not retained record the number and estimated live weight (kg) discarded, per fishing day

2.3 SPECIES

Primary Species	FAO code
Yellowfin tuna (<i>Thunnus albacares</i>)	YFT
Bigeye tuna (<i>Thunnus obesus</i>)	BET
Skipjack tuna (<i>Katsuwonus pelamis</i>)	SKJ
Albacore (<i>Thunnus alalunga</i>)	ALB
Swordfish (<i>Xiphias gladius</i>)	SWO
Blue marlin (<i>Makaira nigricans</i>)	BUM
Black marlin (<i>Makaira indica</i>)	BLM
Striped marlin (<i>Tetrapturus audax</i>)	MLS
Indo-Pacific sailfish (<i>Istiophorus platypterus</i>)	SFA
Other billfish	
Longtail tuna (<i>Thunnus tonggol</i>)	LOT
Kawakawa (<i>Euthynnus affinis</i>)	KAW

Frigate tuna/Bullet tuna (<i>Auxis</i> spp.)	FRZ
Narrow barred Spanish mackerel (<i>Scomberomorus commerson</i>)	COM
Indo-Pacific king mackerel (<i>Scomberomorus guttatus</i>)	GUT
Sharks	
Other fishes	
Rays	
Marine turtles	

2.4REMARKS

1. Other relevant information is also written in the remarks

Note: These species included in the logbook are regarded as minimum requirement. Optionally other species should be added as species may differ depending on the area

APPENDIX B**RESOLUTION 15/02****MANDATORY STATISTICAL REPORTING REQUIREMENTS FOR IOTC CONTRACTING PARTIES
AND COOPERATING NON-CONTRACTING PARTIES (CPCs)**

Keywords: Data reporting; total catch; catch and effort; size data; fish aggregating devices (FAD); surface fisheries; longline fisheries; coastal fisheries

The Indian Ocean Tuna Commission (IOTC)

GIVEN that the Agreement for the implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA) encourages coastal States and fishing States on the high seas to collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort;

NOTING that the United Nations Food and Agricultural Organisation (FAO) Code of Conduct for Responsible Fishing provides that States should compile fishery-related and other supporting scientific data relating to fish stocks covered by subregional or regional fisheries management organisations and provide them in a timely manner to the organisation;

RECALLING the commitment made by Contracting Parties under Article V of the IOTC Agreement to keep under review the conditions and trends of the stocks and to gather, analyse and disseminate scientific information, catch and effort statistics and other data relevant to the conservation and management of the stocks and to fisheries based on the stocks covered by the Agreement;

COGNISANT that the above commitment can only be achieved when Contracting Parties meet the requirements of Article XI of the IOTC Agreement i.e. to provide statistical and other data and information to minimum specifications and in a timely manner;

ACKNOWLEDGING that the IOTC Scientific Committee has repeatedly stressed the importance of the timeliness of data submissions;

GIVEN that the activities of support vessels and the use of Fish Aggregating Devices (FAD) are an integral part of the fishing effort exerted by the purse seine fleet;

CONSIDERING the provisions set forth in Resolution 15/02 on *mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)*, adopted by the Commission in 2015;

NOTING the Scientific Committee's concern that the lack of data from CPC fisheries under the mandate of the IOTC on the mortality of marine turtles and marine mammals undermines the ability to estimate levels of marine turtle and marine mammals bycatch and consequently the IOTC's capacity to respond and prevent adverse effects of fishing on these marine species;

FURTHER NOTING the Scientific Committee's concern about the impossibility to undertake assessments on the status of seabirds in the Indian Ocean, while acknowledging that some species are currently critically endangered, and that the lack of reporting of seabird interactions by CPCs seriously undermines the ability of IOTC to respond and prevent adverse effects of fishing on seabirds;

CONSIDERING the recommendations of the 17th Session of the IOTC Scientific Committee;

FURTHER CONSIDERING the call upon States, either individually, collectively or through regional fisheries management organisations and arrangements included in the United Nations General Assembly Resolution 67/79 on sustainable fisheries to collect the necessary data in order to evaluate and closely monitor the use of fish aggregating devices and their effects on tuna resources and tuna behaviour and associated and dependent species, to improve management procedures to monitor the number, type and use of such devices and to mitigate possible negative effects on the ecosystem, including on juveniles and the incidental bycatch of non-target species, particularly sharks and turtles;

ADOPTS, in accordance with the provisions of Article IX, paragraph 1 of the IOTC Agreement, the following:

1. Contracting Parties and Cooperating Non-Contracting Parties (CPCs) shall provide the following information to the IOTC Secretariat according to the timelines specified in paragraph 7:

2. **Total catch data:**

Estimates of the total catch by species and gear, if possible quarterly, that shall be submitted annually as referred in paragraph 7 (separated, whenever possible, by retained catches in live weight and by discards in live weight or numbers) for all species under the IOTC mandate as well as the most commonly caught elasmobranch species-according to records of catches and incidents as established in Resolution 15/01 on the recording of catch and effort data by fishing vessels in the IOTC area of competence (or any subsequent superseding Resolution).

3. Concerning cetaceans, seabirds and marine turtles data should be provided as stated in Resolutions 13/04 on Conservation of Cetaceans, Resolution 12/06 on reduction the incidental bycatch of seabirds in longline fisheries and Resolution 12/04 on the conservation of marine turtles (or any subsequent superseding resolutions).

4. **Catch and effort data⁴:**

a) **For surface fisheries:** catch weight by species and fishing effort shall be provided by 1° grid area and month strata. Purse seine and pole and line fisheries data shall be stratified by fishing mode (e.g. free swimming schools or schools in association with floating objects). The data shall be extrapolated to the total national monthly catches for each gear. Documents describing the extrapolation procedures (including raising factors corresponding to the logbook coverage) shall also be submitted routinely. Effort units reported should be consistent with those effort requirements of Resolution 15/01 (or any subsequent superseding revision).

b) **Longline fisheries:** catch by species, in numbers or weight, and effort as the number of hooks deployed shall be provided by 5° grid area and month strata. Documents describing the extrapolation procedures (including raising factors corresponding to the logbook coverage) shall also be submitted routinely. For the work of relevant working parties under the IOTC Scientific Committee, longline data should be of a resolution of 1° grid area and month or finer. These data would be for the exclusive use of IOTC Scientific Committee and its Working Parties, subject to the approval of the data owners and IOTC Resolution 12/02 Data confidentiality policy and procedures, and should be provided for scientific use only in a timely fashion. Effort units reported should be consistent with those effort requirements of Resolution 15/01 or any subsequent revision of such resolution.

c) **For coastal fisheries:** catches by species that shall be submitted annually as referred in paragraph 7, fishing gear and fishing effort shall be submitted frequently and may be provided using an alternative geographical area if it better represents the fishery concerned. Effort units reported should be consistent with those effort requirements of Resolution 15/01 (or any subsequent superseding revision).

Provisions on catch and effort data, applicable to tuna and tuna-like species, shall also be applicable to the most commonly caught elasmobranch species according to records of catches and incidents as established in Resolution 15/01 on the recording of catch and effort by fishing vessels in the IOTC area of competence (or any subsequent superseding Resolution).

5. **Size data:**

Size data shall be provided for all gears and for all species according to paragraph 4 and following the guidelines set out by the procedures described in the *Guidelines for the reporting of fisheries statistics to the IOTC*. Size sampling shall be run under strict and well described random sampling schemes which are necessary to provide unbiased figures of the sizes taken. Sampling coverage shall be set to at least one fish measured by ton caught, by species and type of fishery, with samples being representative of all the periods and areas fished. Alternatively, size data for longline fleets may be provided as part of the Regional Observer Scheme where such fleets have at least 5% observer coverage of all fishing operations. Length data by

⁴ Longline fisheries: Fisheries undertaken by vessels in the IOTC Record of Authorized Vessels that use longline gear.

Surface fisheries: All fisheries undertaken by vessels in the IOTC Record of Authorized Vessels other than longline fisheries; in particular purse seine, pole-and-line, gillnet fisheries, handline and trolling vessels.

Coastal fisheries: Fisheries other than longline or surface, as defined above, also called artisanal fisheries.

species, including the total number of fish measured, shall be submitted by a 5° grid area by month, by gear and fishing mode (e.g. free swimming schools or schools in association with floating objects for the purse seiners). Documents covering sampling and raising procedures shall also be provided, by species and type of fishery.

6. Given that the activities of purse seine supply vessels and the use of **Fish Aggregating Devices** (FAD) are an integral part of the fishing effort exerted by the purse seine fleet, the following data shall be provided by CPCs:
- a) The number and characteristics of purse seine supply vessels: (i) operating under their flag, (ii) assisting purse seine vessels operating under their flag, or (iii) licensed to operate in their exclusive economic zones, and that have been present in the IOTC area of competence;
 - b) Number of days at sea by purse seine and purse seine supply vessels by 1° grid area and month to be reported by the flag state of the supply vessel;
 - c) The total number set by the purse seine and purse seine supply vessels per quarter, as well as:
 - i. The positions, dates at the time of setting, FAD identifier and FAD type (i.e. drifting log or debris, drifting raft or fad with a net, drifting raft or FAD without a net, anchored FADs and other FADs e.g. Payao, dead animal etc.);
 - ii. The FAD design characteristics of each FAD (consistent with Annex 1 to Resolution 15/08 Procedures on a fishing aggregating devices (FADs) management Plan, including a limitation on the number of FADS, more detailed specifications of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species).

These data would be for the exclusive use of IOTC Scientific Committee and its Working Parties, subject to the approval of the data owners and in accordance with Resolution 12/02 Data confidentiality policy and procedures, and should be provided in a timely fashion.

7. **Timeliness of data submission to the IOTC Secretariat:**
- a) Longline fleets operating in the high seas shall provide provisional data for the previous year no later than 30 June. Final data shall be submitted no later than 30 December;
 - b) All other fleets (including supply vessels) shall submit their final data for the previous year no later than 30 June;
 - c) In case where the final statistics cannot be submitted by that date, at least preliminary statistics should be provided. Beyond a delay of two years, all revisions of historical data should be formally reported and duly justified. These reports should be made on forms provided by the IOTC Secretariat and reviewed by the IOTC Scientific Committee. The IOTC Scientific Committee will advise the IOTC Secretariat if revisions are then accepted for scientific use.
8. This Resolution supersedes Resolution 10/02 on *mandatory statistical requirements for IOTC Members and Cooperating Non-Contracting Parties (CPCs)*.

APPENDIX C

RESOLUTION 18/07

ON MEASURES APPLICABLE IN CASE OF NON FULFILMENT OF REPORTING OBLIGATIONS IN THE IOTC

Keywords: zero catches, species group, data collection, reporting obligations and gear group

The Indian Ocean Tuna Commission (IOTC),

GIVEN that following Article XI of the Agreement for the establishment of the IOTC, Contracting Parties agree to provide statistical and other data and information that the Commission may need for the purposes of this Agreement and that nominal catch data, Catch and effort data, size data and fish aggregating devices data should be submitted annually to the IOTC Secretariat by 30 June the year following the fishing activities;

RECALLING Resolutions by IOTC on the Deadlines, Procedures for Data Submission and Statistical Reporting Obligations, notably Resolutions 15/02, 15/01, 14/05, 12/04, 10/11 [superseded by Resolution 16/11], 11/04, 10/08 and 01/06;

RECOGNISING that funding is available from the Commission for developing CPCs to improve their data collection and submission capabilities;

TAKING INTO ACCOUNT that the Scientific Committee (IOTC–2015–SC18–R) noted with concern the lack of information submitted by CPCs on total catches, catch and effort and size data for various IOTC species, despite their mandatory reporting status, and requested that CPCs comply with IOTC data requirements, given the gaps in available information in the IOTC database and the importance of basic fishery data in order to assess the status of stocks and for the provision of sound management advice;

CONSIDERING that the Scientific Committee recommended that the Commission develop penalty mechanisms through the IOTC Compliance Committee to improve compliance by CPCs that do not currently comply with the submission of basic fishery data requirements as stated in Resolutions 15/01 and 15/02;

NOTING that incomplete reporting or no data reporting and that, despite the adoption of numerous measures intended to address the matter, lack of compliance with reporting obligations is still a problem for the Scientific Committee and for the Commission;

NOTING that several stocks remain not assessed and some others are assessed with substantial uncertainty, which lead to important risks of depletion of some IOTC species and negative impact in the ecosystem;

FURTHER NOTING that, in order that all IOTC fisheries should be managed in line with the principles of the precautionary approach, it is necessary to take measures aimed at eliminating or reducing non-reporting and misreporting;

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

1. CPCs shall include information in their Annual Reports (*Report of Implementation*) on actions taken to implement their reporting obligations for all IOTC fisheries; including shark species caught in association with IOTC fisheries, in particular steps taken to improve their data collection for direct and incidental catches.
2. The IOTC Compliance Committee shall review Actions taken by CPCs, as described in paragraph 1, shall be reviewed annually by IOTC Compliance Committee.
3. Following the review carried out by the Compliance Committee, the Commission at its annual session, according to the guidelines attached (**Annex I**), and after having given due consideration to the relevant information provided by the concerned CPCs in these cases, may consider to prohibit CPCs that did not report nominal catch data (exclusively), including zero catches, for one or more species for a given year, in accordance with the Resolution 15/02, paragraph 2 (or any subsequent revision), from retaining such species as of the year following the lack or incomplete reporting until such data have been received by the IOTC Secretariat. Priority shall be given to situations of repeated non-compliance. Any CPC unable to meet these reporting obligations owing to engagement in civil conflict shall be exempt from this measure. The CPC concerned will work with the IOTC Secretariat to identify and implement possible alternative methods for data collection, using established FAO data collection methods.
4. To facilitate the reporting of zero catches as required under paragraph 1 of Annex I of this Resolution, the following procedure shall apply:
 - a) as part of the IOTC 1RC electronic form used to report nominal catches, the Secretariat shall include a matrix by IOTC species as well as the most commonly caught elasmobranch species according to records of catches and incidents as established in Resolution 15/01 *on the recording of catch and effort data by fishing vessels in the IOTC area of competence (or any subsequent superseding Resolution)* and main IOTC gear groups on the basis of the format set out in Annex II of this Resolution;
 - b) CPCs, as part of their total catch data reporting, shall complete the cells in the matrix with either a value of 'one' (1) to indicate where that CPC had catches (positive catch) for a particular species/gear combination or a value of 'zero' (0) to indicate where that CPC had no catches (zero landings + zero discards) for a particular species/gear combination;
 - c) The "Catch columns" section of the electronic Form 1RC shall only include reports of positive catches.
5. The Commission may consider expanding the matrix to include additional species under the competence of IOTC as well as stock/gear combinations as appropriate.
6. This Resolution supersedes Resolution 16/06 *On Measures Applicable in case of non-fulfilment of reporting Obligations in the IOTC*.

ANNEX 1
GUIDELINES TO FACILITATE THE APPLICATION OF PARAGRAPH 3

1. The Commission will follow the schedule and steps set forth below to guide application of paragraph 3 of this Resolution:

<i>Data review year</i> <i>(starting in 2016 and annually thereafter)</i>	<i>Following the decision on retention prohibition</i>
<p>1. CPCs submit Total catch data to the IOTC Secretariat in accordance with the Resolution 15/02 and Scientific Committee template, including zero catches;</p> <p>2. The IOTC Secretariat, in consultation with the Scientific Committee will include in the compliance report information detailing data submission status by species or stock (e.g. complete, incomplete, or missing) for each CPC;</p> <p>3. The Compliance Committee reviews the report on the basis of any other relevant information provided by the IOTC Executive Secretary, the Scientific Committee and CPCs. Based on this review, the Compliance Committee identifies in its report those CPCs that did not submit required data (i.e. data are missing or incomplete) and notifies them that they may be prohibited by the Commission from retaining the concerned species/stock from the relevant fishery as of the following year unless and until the data are provided to the Secretariat.</p> <p>4. Compliance Committee also considers if any other actions consistent with this Resolution should be recommended.</p>	<p>1. CPCs with a finding of "missing" or "incomplete" data submissions cannot retain those species;</p> <p>2. Such CPCs should seek to rectify the situation by sending the missing data to the IOTC Executive Secretary as soon as feasible;</p> <p>3. In consultation, as necessary and appropriate, with the Chairpersons of the Compliance Committee and the Commission, the IOTC Executive Secretary will review the new data submission in a timely manner to determine if it is complete. If the data appear to be complete, the Secretariat will promptly inform the CPC in question that it can resume retention of the concerned species/stock in the relevant fishery.</p> <p>4. At the Annual Meeting following the intersessional provision of data and the decision to permit resumption of retention, the Compliance Committee reviews this decision and, if it considers that data are still incomplete, the Compliance Committee will again take the actions specified in the previous column, paragraphs 3 and 4.</p>

Annex II

EXAMPLE OF ZERO CATCH MATRIX – TO BE FURTHER ADJUSTED BY IOTC SECRETARIAT

T1 "Zero Catch Matrix"										
Species Group	Species Code	Species Name	Stock	Gear Group						
				HL	BB	LL	PS	TR	GN	Other
Temperate Tunas	ALB	<i>Thunnus alalunga</i>	IO							
	SBT	<i>Thunnus maccoyii</i>	IO							
Tropical Tunas	BET	<i>Thunnus obesus</i>	IO							
	SKJ	<i>Katsuwonus pelamis</i>	IO							
	YFT	<i>Thunnus albacares</i>	IO							
Neritics Tunas	LOT	<i>Thunnus tonggol</i>	IO							
	KAW	<i>Euthynnus affinis</i>	IO							
	FRI	<i>Auxis thazard</i>	IO							
	BLT	<i>Auxis rochei</i>	IO							
	COM	<i>Scomberomorus commerson</i>	IO							
	GUT	<i>Scomberomorus guttatus</i>	IO							
Billfishes	BUM	<i>Makaira nigricans</i>	IO							
	BLM	<i>Makaira indica</i>	IO							
	MLS	<i>Tetrapturus audax</i>	IO							
	SFA	<i>Istiophorus platypterus</i>	IO							
	SWO	<i>Xiphias gladius</i>	IO							
Other "Species" as requested by Resolution 15/01 for specific gears (in grey not required)	SSP	Shortbill spearfish (<i>Tetrapturus angustirostris</i>)	IO							
	BSH	Blue shark (<i>Prionace glauca</i>)	IO							
	MAK	Mako sharks (<i>Isurus spp.</i>)	IO							
	POR	Porbeagle shark (<i>Lamna nasus</i>)	IO							
	SPN	Hammerhead sharks (<i>Sphyrna spp.</i>)	IO							
	FAL	Silky shark (<i>Carcharhinus falciformis</i>)	IO							
	MZZ	Other bony fishes	IO							
	SKH	Other sharks	IO							
	THR	Thresher sharks (<i>Alopias spp.</i>)	IO							
	OCS	Oceanic whitetip shark (<i>Carcharhinus longimanus</i>)	IO							
	TIG	Tiger shark (<i>Galeocerdo cuvier</i>)	IO							
	PSK	Crocodile shark (<i>Pseudocarcharias kamoharai</i>)	IO							
	WSH	Great white shark (<i>Carcharodon carcharias</i>)	IO							
MAN	Mantas and devil rays (<i>Mobulidae</i>)	IO								
PLS	Pelagic stingray (<i>Pteroplatytrygon violacea</i>)	IO								
	Other rays	IO								

GREY AREAS SHOULD NOT BE FILLED IN ACCORDANCE WITH LOGBOOKS SPECIFIED IN RESOLUTION 15/01

APPENDIX D

RESOLUTION 18/09

ON A SCOPING STUDY OF SOCIO-ECONOMIC DATA AND INDICATORS OF IOTC FISHERIES

Keywords: Socio-Economics, scoping study.

The Indian Ocean Tuna Commission (IOTC),

CONSIDERING the objective of the Commission provided for in Article V to promote cooperation among its Members with a view to ensuring, through appropriate management, the conservation and optimum utilization of stocks covered by this Agreement and encouraging sustainable development of fisheries based on such stocks;

FURTHER CONSIDERING the responsibility of the Commission provided for in Article V(2)(d) to keep under review the economic and social aspects of the fisheries based on the stocks covered by the Agreement bearing in mind, in particular, the interest of developing coastal states;

FURTHER CONSIDERING the objective of the Commission to maintain stocks in perpetuity and with high probability, at levels not less than those capable of producing their maximum sustainable yield as qualified by relevant environmental and economic factors including the special requirements of developing States in the IOTC area of competence;

RECOGNISING the special requirements of the developing states, particularly Small Island Developing States in Article 24, of the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA);

RECALLING paragraph 75 of the 20th Session of the IOTC Scientific Committee report (IOTC-2017-SC20-R) that states:

“75. The SC AGREED that the development of the ecosystem report card is a first step in developing the approach. Initiating the process with the development and monitoring of simple indicators and then linking these to management objectives and actions is an iterative process where the data collection and research activities are based on higher level guidance from the Commission. The SC noted that the consideration of socioeconomic dimensions are specifically mentioned in the IOTC Agreement and so the scientific subsidiary bodies are therefore mandated to work on these issues as well.”

RECALLING Article IV, paragraph 2(d) of the IOTC Agreement which states:

“2. In order to achieve these objectives, the Commission shall have the following functions and responsibilities, in accordance with the principles expressed in the relevant provisions of the United Nations Convention on the Law of the Sea: (d) to keep under review the economic and social aspects of the fisheries based on the stocks covered by this Agreement bearing in mind, in particular, the interests of developing coastal state”

ADOPTS in accordance with paragraph 1 of Article IX of the IOTC Agreement, that:

1. The terms of reference for a scoping study of socio-economic aspects of IOTC fisheries, are those specified in Annex I.
2. Pursuant to Article XII.5 of the Agreement, the Commission shall review the results of the scoping study and determine if a permanent Working Party on the Socio-Economic Aspects of the Fisheries the IOTC Area of the Competence is needed, at its 23rd Session in 2019.
3. The IOTC Secretariat shall facilitate the process of recruitment of the consultant or consulting company for delivery of the scoping study as specified in Annex I. The Commission requested the Secretariat to seek sources of extra-budgetary funds to support the proposed work.
4. The CPCs shall cooperate with the consultant for the purpose of this study, using their best endeavors and in line with their respective national legislation.

ANNEX I
TERMS OF REFERENCE FOR A SCOPING STUDY ON THE SOCIO-ECONOMIC DATA AND INDICATORS OF IOTC FISHERIES

Objectives

- 1.To describe the economic and social aspects of the fisheries, bearing in mind, in particular, the interests of developing coastal States, and identify the availability of data and socio-economic indicators that would describe the respective CPCs economic and social aspects of fisheries, including but not limited to: socio-economic contribution to the fisheries, economic dependence on fishery resources; income from exports; employment conditions and interactions between fleet segments; impact of fishery resource rents, including fisheries agreements with third parties to the local economies in terms of income, investments and jobs.
- 2.To evaluate and document what socio-economic data have been, and are currently collected by CPCs or other organisations that are in the public domain, on IOTC fisheries;
- 3.To evaluate and document what socio-economic data have been, and are currently collected by CPCs or other organisations but are not in the public domain on IOTC fisheries, where feasible under domestic law;
- 4.To evaluate if a) the data can be feasibly and uniformly collected, and b) would be adequate to calculate the indicators proposed. This should include, where feasible, a discussion on the data themselves, data quality, time periods and coverage rates;
- 5.To make recommendations on indicators taking into consideration the available data. To make recommendations on data requirements and harmonisation; and
- 6.To make recommendations on data management, reporting and associated costs to IOTC.
- 7.The consultant shall consider existing initiatives focusing on the socio-economic importance of fisheries, including, where applicable, the Overseas Fisheries Cooperation Foundation of Japan (OFCF) pilot project on socio-economic aspect of fisheries, to avoid any duplication

Outputs

- 8.A draft of the Consultant's report will be provided 120 days in advance of the 23rd Session of the IOTC (S23) in 2019.
- 9.The CPCs shall be tasked to review the report and provide feedback to the Consultant 60 days before the 23rd Session of the IOTC (S23), via the IOTC Secretariat.
- 10.The final Consultant's report shall be submitted to the IOTC Secretariat no later than 30 days prior to the commencement of the 23rd Session in 2019, in accordance with the IOTC Rules of Procedure (2014).
- 11.The final Consultant's report should be presented to the Commission for consideration at its meeting in 2019 and a presentation by the Consultant during the Session to answer any questions from CPCs.