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

PREPARED BY: IOTC SECRETARIAT, 03 JUNE 2016

PURPOSE

To encourage participants at the 6th Working Party on Neritic Tunas (WPNT06) to review some of the existing Conservation and Management Measures (CMM) relating to neritic tunas, noting the CMMs contained in document IOTC–2016–WPNT06–04; 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 CMMs outlined in document IOTC–2016–WPNT06–04, neritic tunas in the Indian Ocean are currently subject to several other Conservation and Management Measures adopted by 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: *On the Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting Parties (CPCs)*

In an attempt to focus the efforts of the WPNT, it is our aim to have participants annually review some of the key CMMs based on scientific advice, or which match current requests from the Commission.

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.

The participants of WPNT06 are asked to **NOTE** the following from the provisional report (drafted, but not adopted and still to be agreed by correspondence at the time of writing) of the 20th Session of the Commission:

On the conservation and management of neritic tunas in the IOTC Area of Competence

*Para. 113. The Commission **CONSIDERED** a proposal on the conservation and management of neritic tunas in the IOTC Area of Competence, IOTC–2016–S20–Prop E, agreement could not be reached and the proposal was deferred until the next meeting of the Commission.*

On the conservation and management of IOTC species

*Para. 131. The Commission **CONSIDERED** a proposal on the conservation and management of IOTC species (IOTC–2016–S20–Prop G), which detailed two options with the main objective of decreasing the fishing pressure on Yellowfin Tuna (*Thunnus albacares*), and which will also benefit the status of the following overfished stocks: Striped Marlin (*Tetrapturus audax*), Black Marlin (*Makaira indica*), Blue Marlin (*Makaira nigricans*), Indo-Pacific Sailfish (*Istiophorus platypterus*), Longtail Tuna (*Thunnus tonggol*) and Narrow-based Spanish Mackerel (*Scomberomorus Commerson*) in the IOTC Area of competence. Following discussions with CPCs, the proposal was split into three individual proposals with catch*

reduction measures specific to the following species: Prop-G-A (Yellowfin tuna), Prop-G-B (billfish species), and Prop-G-C (neritic tunas). The proposal to reduce catches of Yellowfin tuna (Prop-A) was eventually withdrawn, in favour of the adoption of (IOTC-2016-S20-PropF); while the proposals for Prop-G-B and Prop-G-C, were deferred until the next meeting of the Commission.

These proposals are attached in Appendix C and D for the consideration of the WPNT06 (including the revisions made by the Commission during its 20th session).

RECOMMENDATION

Noting the information contained in working paper IOTC–2016–WPNT05–06, 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, if any amendments to proposal *IOTC–2016–S20–Prop E* are advised or amendments/additions to other CMMs.

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 *On the Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting Parties (CPCs)*
- Appendix C:** Proposal E *On the conservation and management of neritic tunas in the IOTC area of competence*
- Appendix D:** Proposal G *On the conservation and management of IOTC species*

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.

2.1 OPERATION

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

2.2 CATCH

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

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

		Mantas and devil rays (<i>Mobulidae</i>)	MAN
		Other sharks	SKH
		Other rays	
		Other bony fish	MZZ

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 (<i>Mobulidae</i>)	MAN
		Pelagic stingray (<i>Pteroplatytrygon violacea</i>)	PLS
		Other rays	

For Pole and Line:

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

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			

2.4 REMARKS

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.

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](#)]

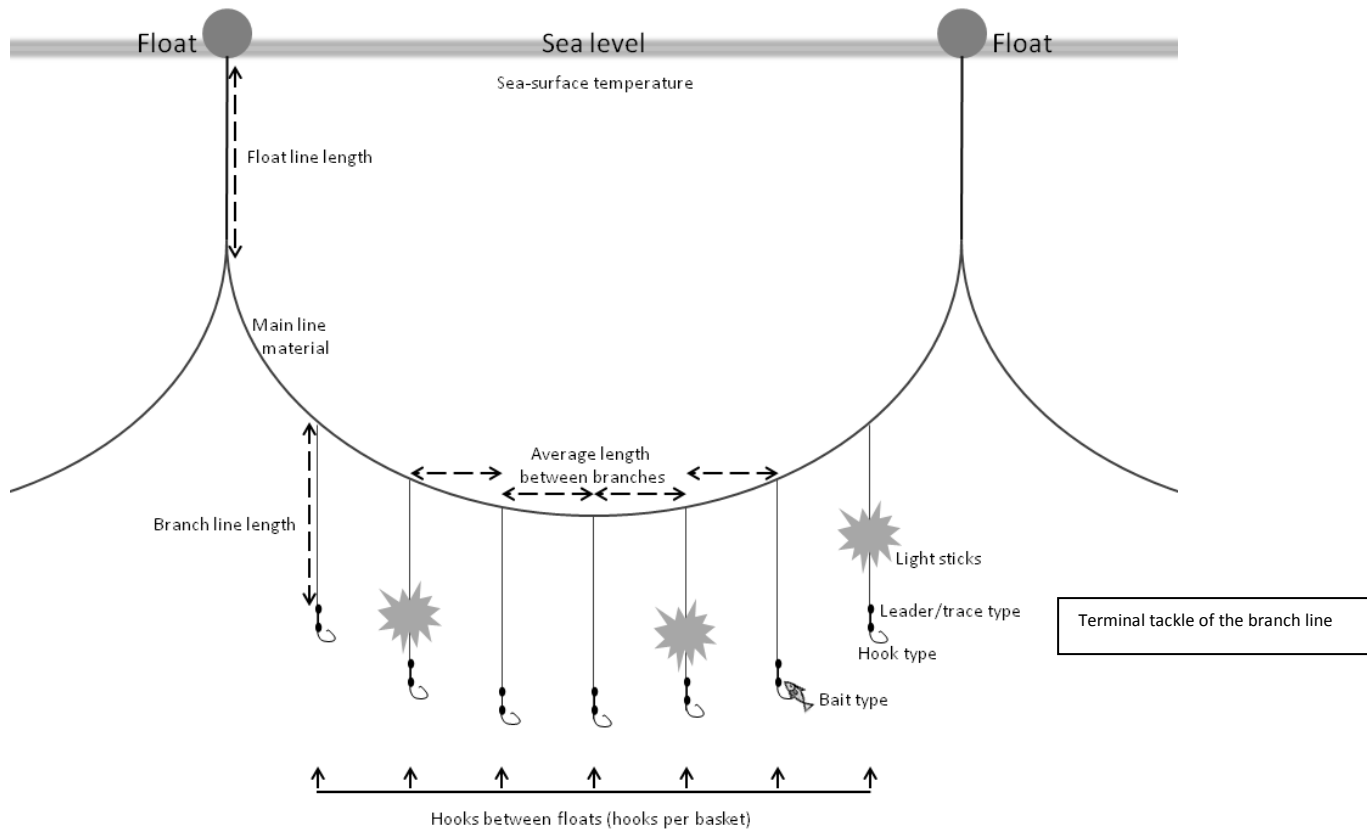


Figure 1. Longline (Gear Configuration): Average branch line length (meters): straight length in meters between snap and hook.

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

1.1 REPORT INFORMATION

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

1.2 VESSEL 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 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

2.2 CATCH

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

2.3 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
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)	

2.4 REMARKS

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

1.1 REPORT INFORMATION

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

1.2 VESSEL 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	

2.4 REMARKS

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).

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.

- 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 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)*.



**PROPOSALS RELEVANT TO THE WPNT06 NOT ADOPTED BY THE 20TH SESSION OF THE
COMMISSION**



APPENDIX C

ON THE CONSERVATION AND MANAGEMENT OF NERITIC TUNAS IN THE IOTC AREA OF COMPETENCE

**SUBMITTED BY: UNITED REPUBLIC OF
TANZANIA, 23 APRIL 2016**

Explanatory Memorandum

There remains a high level of scientific uncertainty in stock assessments for neritic tuna species, due to uncertainty in historical catch estimates, effort and size data from many fleets. At the recent 18th Scientific Committee meeting held in Bali, Indonesia, 23–27 November 2015, it was recommended that the catches of longtail tuna should be reduced by 30% of the 2013 levels in order to recover the status of the stock to levels above those that would produce maximum sustainable yield with high probability by 2023. Similarly, the Scientific Committee also recommended that the catches of narrow-barred Spanish mackerel should be reduced by 20-30% of the 2013 levels in order to recover the status of the stock to levels above those that would produce maximum sustainable yield with high probability by 2023.

The Maximum Sustainable Yield (MSY) estimate of 122,000 tons for longtail tuna is likely being exceeded in recent years and so catch levels should be stabilized or reduced in future to prevent the stocks becoming overfished. The catch for 2014 was 147,587 tons while the average catch from 2010–2014 was 158,393 tones. With regard to narrow-barred Spanish mackerel the MSY of 127,700 tones is likely being exceeded in recent years and so catch levels should be stabilized or reduced in future to prevent the stocks becoming overfished. The catch for 2014 was 153,425 tons while the average catch from 2010–2014 was 149,774 tones. The continued increase of annual catches for longtail tuna and narrow-barred Spanish mackerel in recent years has further increased the pressure on the Indian Ocean stock as a whole. The apparent fidelity of longtail tuna and narrow-barred Spanish mackerel to particular areas/regions is a matter for concern as overfishing in these areas can lead to localized depletion.

Thus, there is an immediate need to implement measures to reduce catches of these two neritic tuna species, which are recognized as being important to the food security of Indian Ocean coastal States, and that fishing for these species contributes greatly to the livelihoods of coastal communities throughout the region.



RESOLUTION 16/XX

ON THE CONSERVATION AND MANAGEMENT OF NERITIC TUNAS IN THE IOTC AREA OF COMPETENCE

Keywords: Neritic tuna; data reporting; catch limitation; overfishing; overfished.

The Indian Ocean Tuna Commission(IOTC),

RECOGNISING the importance of neritic tuna species to the food security of Indian Ocean coastal States and the crucial role that fishing for these species contributes to the livelihoods of coastal communities throughout the region;

RECALLING Article III of the IOTC Agreement that specifies that neritic tuna species are under the Commission's mandate and must be effectively managed throughout the IOTC area of competence, including in adjacent seas;

FURTHER RECALLING Articles 24–26 inclusive of the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Seas that recognise the special requirements of developing States, particularly Article 25 that describes the types of cooperation required with developing States;

NOTING that States individually and collectively through Regional Fisheries Management Organisations (RFMOs) have a duty to cooperate regarding the management of highly migratory fisheries resources throughout their range and that coastal States in the IOTC area of competence have a duty to implement compatible measures for waters under their national jurisdiction;

RECOLLECTING that the Commission decided in 2012 to implement the precautionary approach through Resolution 12/01 *On the implementation of the precautionary approach*;

ACKNOWLEDGING that in 2011 the Commission held its first Working Party on Neritic Tunas, in Chennai, India, with the objective of providing scientific advice for the conservation and management of the six (6) neritic tuna species under the IOTC mandate;

CONCERNED at the high levels of scientific uncertainty in stock assessments for neritic tuna species, due to uncertainty in historical catch estimates, effort and size data from many fleets;

CONSIDERING the recommendations of the 18th Scientific Committee held in Bali, Indonesia, 23 – 27 November 2015 that the catches of longtail tuna should be reduced by 30% of the 2013 levels in order to recover the status of the stock to levels above those that would produce maximum sustainable yield with high probability by 2023;

FURTHER CONSIDERING the recommendations of the 18th Scientific Committee that the catches of narrow-barred Spanish mackerel should be reduced by 20-30% of the 2013 levels in order to recover the status of the stock to levels above those that would produce maximum sustainable yield with high probability by 2023;

HIGHLIGHTING the advice of the Scientific Committee in 2015 that there remains considerable uncertainty about stock structure and about the total catches, and that due to a lack of fishery data for several gears, only data poor assessment approaches have been used for neritic tuna species, with the exception of longtail tuna;

FURTHER HIGHLIGHTING the advice of the Scientific Committee in 2015 that the continued increase of annual catches for longtail tuna in recent years has further increased the pressure on the Indian Ocean stock as a whole, and that the apparent



fidelity of longtail tuna to particular areas/regions is a matter for concern as overfishing in these areas can lead to localised depletion. Thus, research emphasis on improving indicators and exploration of stock structure and stock assessment approaches for data poor fisheries are warranted;

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DESIRING to ensure the long-term sustainability of neritic tuna species for both food security and economic development opportunities in the region;

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

Objective

1. The Commission, via the IOTC Scientific Committee, implements a multi-year program of work for neritic tuna species listed in Annex 1 of the IOTC Agreement (**Table 1**). The program of work will have as its main objective:

“To support the ongoing scientific understanding of the stock status of neritic tuna species to enable the development of rigorous stock assessments and enhancement of coastal States’ ability to implement the measures, thereby facilitating the management of fisheries targeting neritic tuna species in the Indian Ocean”

Table 1. Neritic tuna species under the IOTC mandate

IOTC code	English name	Scientific name
BLT	Bullet tuna	<i>Auxis rochei</i>
COM	Narrow-barred Spanish mackerel	<i>Scomberomorus</i>
FRI	Frigate tuna	<i>commerson Auxis thazard</i>
GUT	Indo-Pacific king mackerel	<i>Scomberomorus guttatus</i>
KAW	Kawakawa	<i>Euthynnus affinis</i>
LOT	Longtail tuna	<i>Thunnus tonggol</i>

Data collection and reporting

2. In accordance with Resolution 15/01 *On the recording of catch and effort by fishing vessels in the IOTC area of competence* and 15/02 *On mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)* (including any subsequent revisions), CPCs shall undertake a review of all historical catch, effort and size data on neritic tuna species, effort and size data, and submit to the IOTC Secretariat no later than 30 June 2017.
3. Developing coastal State CPCs shall request assistance to meet the obligations set out in paragraph 2 directly through the IOTC Secretariat as required. The CPCs, including through the IOTC Secretariat, shall facilitate the capacity building program for these states including seeking external funds from all relevant international organisations and non-government organisations to facilitate the capacity building.
4. CPCs are encouraged to take measures to implement supplementary fishery data collection programs, including, *inter alia*, tagging programs, biological sampling programs, to support regional efforts to further understand the biology and ecology of neritic tuna species throughout their range.
5. Scientific Committee (SC) shall explore ~~an alternative stock assessment model structures method for of the~~ longtail tuna and narrow-barred Spanish mackerel to evaluate the likely effects of alternative population structures for these species using sub-areas data pool and provide information on the status of stocks based on the agreed stock assessment method. The Commission shall consider management plans based on the SC advice and suggestions of the SC in 2018 ~~as in para 5.~~
6. CPCs should provide information on their current management arrangements to the IOTC secretariat to make it available to the Working Party on Neritic Tunas and SC to enable evaluation, to the extent possible, of potential



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~~impacts of existing management arrangements relative to management indications such as MSY. The Commission shall consider management plans based on the SC advice and suggestions of the SC in 2017 as in para 5.~~

7. The IOTC Secretariat shall take measures to facilitate the integration of national scientific programs across all CPCs throughout the spatial distribution of the species such that the results enhance meeting the objective of this measure.

Interim management measures: Longtail tuna and narrow-barred Spanish mackerel

8. CPCs targeting longtail tuna or narrow-barred Spanish mackerel are encouraged to take the appropriate measures such as sustainable fishing methods, close season, fishing gear specification by using their National Legislation to ~~manage reduce~~keep their catch of both longtail tuna and narrow-barred Spanish mackerel to the levels taken in 2013 and report the actions taken for the management of these species in their 2017 National Report of Implementation.

~~When reduction to 2013 levels is not achieved, CPCs targeting longtail tuna or narrow-barred Spanish mackerel shall not exceed their catch levels of each of those species in 2014. However, this paragraph shall not apply to CPCs which, in 2014, took less than 0.2% of the global IOTC catches of these two stocks.~~

The Executive Secretary shall communicate ~~to each CPCs the 2013 and 2014~~ catch ~~levels of longtail tuna and narrow-barred Spanish mackerel for 2013 by CPC,~~ to the Commission no later than 01 September 2016.

Interim management measures: Bullet tuna, Frigate tuna, Kawakawa, Indo-Pacific King mackerel

9. As a precautionary measure, ~~in 2017 and subsequent years, main~~ CPCs ~~shall not exceed catch levels of targeting~~ bullet tuna, frigate tuna, kawakawa, and Indo-Pacific king mackerel ~~shall not exceed their catch for 2017 and subsequent years,~~ beyond the average levels taken for the years 2010–2014, while the Scientific Committee, via the Working Party on Neritic Tunas, undertakes further stock status indicator work.

Final Clause

10. CPCs should follow the recommendations on the stocks identified in this Resolution which may arise from the 19th Scientific Committee meeting, scheduled for December 2016.
- ~~11.~~ The Commission shall review this measure at its annual session in 2019, or before, if there is reason and/or evidence to suggest that the neritic tuna stocks are at high risk of dropping below sustainable levels, either the biomass level required to maintain MSY, or an agreed alternative.
- ~~12.~~ This Resolution shall expire on 1 January 2020, unless the Commission revises it in accordance with paragraph 11



APPENDIX D

ON THE CONSERVATION AND MANAGEMENT OF IOTC ~~SPECIES~~ LONGTAIL TUNA AND SPANISH MACKEREL

SUBMITTED BY: EUROPEAN UNION, 13 APRIL 2016

Explanatory Memorandum

~~According to the Scientific Committee the Yellowfin tuna stock, as well as other IOTC species as Striped Marlin, Black Marlin, Indo Pacific Sailfish, Longtail Tuna and Spanish Mackerel, have been overexploited in recent years.~~

~~In this context, the Scientific Committee recommended that the Yellowfin catches should be reduced by 20% of current 2014 levels (427,440 tons at the time of the assessment/projections)²² but subsequently 2014 catches were corrected to 414,000 tonnes which will require a reduction of 17% of the 2014 catch levels.~~

~~Furthermore the Scientific Committee also recommended implementing management measures or significantly reducing the catches of:~~

~~9. — Striped Marlin: to recover the stock to a level above MSY based reference points with 50% probability by 2024, the Scientific Committee recommends that catches should not exceed 4,000 tonnes.~~

~~10. — Black Marlin: a precautionary approach to the management of black marlin should be considered by the Commission, to reduce catches below MSY estimates (~10,000 t) from current catch levels of around 18000 tons, thereby ensuring the stock does not fall below B_{MSY} .~~

~~11. — Blue Marlin: a precautionary approach to the management of blue marlin should be considered by the Commission, to reduce catches below MSY estimates (~11,000 t) from current catch level of around 14,500 tons, thereby ensuring the stock does not recover above B_{MSY} .~~

~~12. — and Indo Pacific Sailfish: a precautionary approach to the management of I.P. sailfish should be considered by the Commission, to reduce catches below MSY estimates (~25,000 t) from current catch level of around 25,000 tons, thereby ensuring the stock does not fall below B_{MSY} , and become overfished.~~

~~13. — Longtail Tuna: if the Commission wishes to recover the stock to levels above the MSY reference points, the Scientific Committee recommends catches should be reduced by 30% of 2013 levels (around 25 % from 2014 levels) which corresponds to catches slightly below to MSY in order to recover the status of the stock in conformity with the decision framework described in Resolution 15/10.)~~

~~14. — Narrow based Spanish Mackerel: If the Commission wishes to recover the stock to levels above the MSY reference points, the Scientific Committee recommends that catches should be reduced by 20-30% of 2014 levels which corresponds to catches below to MSY in order to recover the status of the stock.~~

~~It is therefore proposed to implement alternative conservation measures: i) a temporary closure on IOTC fisheries or ii) a bidding reduction of the 2014 level of fisheries for the indicated over exploited species.~~

~~In addition in order to reduce global fishing effort it is also proposed to reduce the number of FADs and to forbid transshipments at sea.~~



RESOLUTION 16/XX

ON THE CONSERVATION AND MANAGEMENT OF IOTC BILLFISHSPECIES

The Indian Ocean Tuna Commission (IOTC),

RECOGNISING that based on past experience in the fishery, the potential production from the resource can be negatively impacted by excessive fishing effort;

TAKING INTO ACCOUNT the available scientific information and advice, in particular the IOTC Scientific Committee conclusions whereby ~~the Yellowfin tuna stock, as well as other IOTC species as notably Striped Marlin, Black Marlin, Indo-Pacific Sailfish,~~ Longtail Tuna and Spanish Mackerel, have been overexploited in recent years;

~~RECOGNISING that during the 18th IOTC Scientific Committee meeting held in Bali, Indonesia, from 23 to 27 November 2015, the Scientific Committee recommended that “if the Commission wishes to recover the stock to levels above the interim target reference points with 50% probability by 2024, the Yellowfin catches be reduced by 20% of current 2014 levels (427,440 tons at the time of the assessment/projections)”;~~

~~NOTING, that subsequent corrections of preliminary 2014 catches (427,440 tons at the time of the assessment) are now estimated to be 414,000 tonnes which will request a reduction of 17% of the 2014 catch levels”;~~

FURTHER RECOGNISING that the 18th IOTC Scientific Committee meeting also recommended implementing management measures or significantly reducing the catches of:

- ~~• Striped Marlin: to recover the stock to a level above MSY based reference points with 50% probability by 2024, the Scientific Committee recommends that catches should not exceed 4,000 tonnes.~~
- ~~• Black Marlin: a precautionary approach to the management of black marlin should be considered by the Commission, to reduce catches below MSY estimates (~10,000 t) from current catch levels of around 18000 tons, thereby ensuring the stock does not fall below B_{MSY} .~~
- ~~• Blue Marlin: a precautionary approach to the management of blue marlin should be considered by the Commission, to reduce catches below MSY estimates (~11,000 t) from current catch level of around 14,500 tons, thereby ensuring the stock does not recovers above B_{MSY} .~~
- ~~• and Indo-Pacific Sailfish: a precautionary approach to the management of I.P sailfish should be considered by the Commission, to reduce catches below MSY estimates (~25,000 t) from current catch level of around 25,000 tons, thereby ensuring the stock does not fall below B_{MSY} , and become overfished.~~
- Longtail Tuna: if the Commission wishes to recover the stock to levels above the MSY reference points, the Scientific Committee recommends catches should be reduced by 30% of 2013 levels (around 25 % from 2014 levels) which corresponds to catches slightly below to MSY in order to recover the status of the stock in conformity with the decision framework described in Resolution 15/10).
- Narrow-based Spanish Mackerel: If the Commission wishes to recover the stock to levels above the MSY reference points, the Scientific Committee recommends that catches should be reduced by 20-30% of 2014 levels which corresponds to catches below to MSY in order to recover the status of the stock.

NOTING the importance of applying the precautionary approach for the management of all above mentioned stocks;

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

1. This Resolution is applicable until 31 December 2020.



2. With the main objective of decreasing the fishing pressure on ~~Yellowfin Tuna (*Thunnus albacares*), which will also benefit the status of the following overfished stocks: Striped Marlin (*Tetrapturus audax*), Black Marlin (*Makaira indica*), Blue Marlin (*Makaira nigricans*), Indo-Pacific Sailfish (*Istiophorus platypterus*), Longtail Tuna (*Thunnus tonggol*) and Narrow-based Spanish Mackerel (*Scomberomorus Commerson*) in the IOTC area of competence, Contracting Parties and cooperating non-Contracting Parties (CPCs) shall apply ~~one of~~ the following ~~alternative~~ conservation measures:~~

- a. The conservation measures set out in this resolution shall apply to all fishing vessels targeting tuna and tuna like species in the Indian Ocean of 24 meters overall length and over, and those under 24 meters if they fish outside the EEZ of their flag State, within the IOTC area of competence [Ref to Resolution on Register of author vessels]

~~Option I~~

~~Fishing closure to all inboard motored vessels with more than 9 metres overall fishing in the IOTC area of competence with the following gears/type: Purse seine (including supply vessels), longlines, pole and line, gillnets, handline and trolling vessels:~~

- a) ~~Fisheries will be closed for all above mentioned fleet/gear for one month per year, in the IOTC area north of parallel 15° South.~~
- b) ~~In order to avoid disruption in the processing industry and markets, ship owners may be allowed by Flag CPCs authorities to choose the closure period of 30 consecutive days of their choice between 00.00 hours of 1 December to 24.00 hours of 31 January.~~
- c) ~~All vessels as indicated in Paragraph 1 within the IOTC area of competence from 1 December 2016 to 31 January 2019, regardless of the flag under which they operate or whether they change flag during the year, shall therefore close the fishery for 30 days as indicated in I b) in 2016/17, 2017/18 and 2018/19.~~
- d) ~~CPCs flag states applying this Option I shall monitor the compliance of their vessels with this Resolution, notably through VMS (Resolution 15/03), and will provide a summary of VMS records related to their fleet operation in the previous year for the consideration of the Compliance Committee. Alternatively CPCs flag States can also provide proof that vessels remained in port during the closure period.~~
- e) ~~Fishing vessels that do not comply with IOTC Resolution 15/03 on the vessel monitoring system (VMS) programme shall monitor the closure proving that vessels remained in port during the closure period.~~
- f) ~~Landings, transhipments and commercial transactions of all species, and their products, that have been positively identified as originating from fishing activities that contravene this resolution, are prohibited.~~
- g) ~~Each CPC shall no later than 60 days before the date of entry into force of a closure:~~
 - i) ~~take the necessary legal and administrative measures to implement the closure;~~
 - ii) ~~inform all interested parties and their national tuna and tuna like species industries of the closure;~~



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~~iii) inform the IOTC Executive Secretary that these steps have been taken and notify on the closure period chosen by its ship owners providing a table with identifying vessels and closure period selected.~~

~~Option II-~~

~~b. A CPC applies management measures that must lead to a reduction by 20% of its 2014 level of Yellowfin, all billfishes (excluding *Swordfish [Xiphias gladius]*), Longtail Tuna and narrow based Spanish Mackerel catches in 2017, 2018 and 2019. Each CPC shall adapt future catch levels of the stocks identified in paragraph 2 of fishing fleets flying its flag to 75% of the 2014 catch levels.~~

~~a.c.~~ The Scientific Committee will review in its annual sessions of 2018, 2019 and 2020 the level of catches of the species mentioned above for previous years.

~~b.d.~~ If the quantity of fish caught by a CPC in a given year exceeds the 80 % of the 2014 catch level for that CPC, in the following year the catch of the species concerned shall be reduced by the excess catch in the subsequent year.

~~e.e.~~ If for the second consecutive year the quantity of fish caught by one CPC exceeds the 80 % of the 2014 catch level, the CPC shall stop all its fisheries for the species covered in this Resolution for three months in the following year.

~~d.f.~~ If for the third consecutive year the quantity of fish caught by one CPC exceeds the 80 % of the 2014 catch level, the CPC shall stop all its fisheries for the species covered in the Resolution for six months in the following year.

~~e.g.~~ If the quantity of fish caught by a CPC exceeds the 80 % of the 2014 catch level in 2019, the CPC shall reduce its catch of the species concerned by the excess catch in 2020.-

~~3. All CPCs shall annually and before the 31 October inform the Executive Secretary of the Option the CPC has decided to apply for the following period/year. A CPC may change their choice in following years provided the relevant provisions of the resolution have been observed and the catch limits under Option 2 have not been exceeded if relevant.~~

~~4. In addition to Options I and II, all CPCs shall apply the following conservation measures:~~

~~1. The number of Fish Aggregating Devices (FADs) as defined in Resolution 15/08, paragraph 7, will be no more than 470 active instrumental buoys and 940 acquired annually instrumental buoys.-~~

~~2. All transshipments at sea will be forbidden.~~

~~5.~~ The Scientific Committee ~~will provide new stock assessments in 2017 and it~~ should carry out an evaluation of the efficacy of the measures described in this Resolution in 2018, specifying in its advice if a modification is necessary, its basic scientific rationale with an assessment of the impact of such measures on the species identified in Paragraph 2. The efficacy of the measure will be subject to a comprehensive review by the Scientific Committee in 2020.