



## REVIEW OF CONSERVATION AND MANAGEMENT MEASURES RELATING TO DATA AND STATISTICS

PREPARED BY: IOTC SECRETARIAT<sup>1</sup>, 9<sup>TH</sup> NOVEMBER 2018

### PURPOSE

To encourage participants at the 14<sup>th</sup> Working Party on Data Collection and Statistics (WPDCS14) to review the existing Conservation and Management Measures (CMM) relating to data collection and statistics, noting the CMMs referred to in document IOTC–2018–WPDCS14–04; 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–2018–WPDCS14–04, IOTC fisheries are currently subject to a range of other data/statistical CMMs adopted by the Commission. In an attempt to focus the efforts of the WPDCS participants may wish to annually review several of the key CMMs which are clearly based on scientific advice, or which match current requests from the Commission. The following are a list of the key CMMs for the consideration of the WPDCS. At the next meeting, a range of other CMMs may be presented for discussion.

**Resolution 15/02 *On mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)*.** This resolution updates the requirements set forth by Resolution 10/02 (that it supersedes) in terms of frequency, structure and overall completeness of the mandatory statistical data to be submitted by CPCs to the IOTC Secretariat. In particular, it recommends an increase in the recording frequency for total catches that is expected to be brought up to a quarterly basis when possible. Furthermore, given the urgent need of improving the quality of the assessments on the status of endangered marine species, it highlights the need to provide relevant data in accordance with past resolutions dealing with incidental bycatch reduction and conservation measures. Additionally, it states the need to collect and share - with the due confidentiality policies applied by the Secretariat - all FAD-related data from purse seine fleets in order to increase the quality and completeness of the fishing efforts information. ([Appendix I](#))

**Resolution 16/04 *On the implementation of a pilot project in view of promoting the Regional Observer Scheme of IOTC*.** This resolution proposes the creation of a pilot project aiming to enhance the implementation of the Resolution 11/04 on a Regional Observer Scheme and to raise the level of compliance to the implementation of Resolutions 15/01 and 15/02, respectively on the recording of catch and effort data by fishing vessels in the IOTC area of competence and on mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting parties (CPCs). ([Appendix II](#))

**Resolution 16/06 *On measures applicable in case of non-fulfilment of reporting obligations in the IOTC*.** This resolution considers 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

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<sup>1</sup> [IOTC-secretariat@fao.org](mailto:IOTC-secretariat@fao.org); Mr. Fabio Fiorellato, [fabio.fiorellato@fao.org](mailto:fabio.fiorellato@fao.org)

identify and implement possible alternative methods for data collection, using established FAO data collection methods. ([Appendix III](#))

**Resolution 18/01** *On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence.* This Resolution requires CPCs to reduce their catch of yellowfin tuna. For Purse seine vessels this signifies that (i) CPCs whose purse seine catches of yellowfin reported for 2014 were above 5000 MT to reduce their purse seine catches of yellowfin by 15 % from the 2014 levels, (ii) The number of Fish Aggregating Devices (FADs) will be no more than 350 active instrumented buoys and 700 acquired annually instrumented buoys per purse seine vessel per year (iii) Supply vessels shall be gradually reduced by 31st December 2022 and a single purse seine vessel shall not be supported by more than one single supply vessel of the same flag State at any point in time. For gillnet fisheries, CPCs whose Gillnet catches of yellowfin reported for 2014 were above 2000 MT to reduce their Gillnet catches of yellowfin by 10 % from the 2014 levels while for longline, CPCs whose Longline catches of yellowfin reported for 2014 were above 5000 MT to reduce their Longline catches of yellowfin by 10 % from the 2014 levels. Lastly for all other gears, CPCs whose catches of yellowfin from other gears reported for 2014 were above 5000 MT to reduce their other gear catches of yellowfin by 5 % from the 2014 levels. The Resolution further stipulates monitoring of the catch of yellowfin and requires the Scientific Committee via its Working Party on Tropical Tunas to undertake an evaluation of the effectiveness of the measures detailed in this Resolution, taking into account all sources of fishing mortality and possible alternatives aiming at returning and maintaining biomass levels at the Commission's target level. ([Appendix IV](#))

**Resolution 18/08** *Procedures on a Fish 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.* This Resolution applies to CPCs having purse seine vessels and fishing on Drifting Fish Aggregating Devices (DFADs), equipped with instrumented buoys for the purpose of aggregating tuna target species, in the IOTC area of competence. It further provides guidelines for preparation of drifting fish aggregating device (DFAD) management plans, guidelines for preparation of anchored fish aggregating device (AFAD) management plans and principles for design and deployment of FADs. ([Appendix V](#))

## DISCUSSION

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

## RECOMMENDATION

That the WPDCS **NOTE** paper IOTC–2018–WPDCS14–05 which aimed to encourage the WPDCS to review the existing Conservation and Management Measures (CMMs) relating to data and statistics, 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.

## APPENDICES

- Appendix I:** [Resolution 15/02 on mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties \(CPCs\)](#)
- Appendix II:** [Resolution 16/04 On the implementation of a pilot project in view of promoting the Regional Observer Scheme of IOTC](#)
- Appendix III:** [Resolution 16/06 On measures applicable in case of non-fulfilment of reporting obligations in the IOTC](#)
- Appendix IV:** [Resolution 18/01 On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence](#)
- Appendix V:** [Resolution 18/08 Procedures on a Fish Aggregating Devices \(FADS\) Management Plan, Including a Limitation on the Number Of FADs, More Detailed Specifications of Catch](#)

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*Reporting from FAD Sets, and the Development of Improved FAD Designs to Reduce the Incidence of Entanglement of Non-Target Species*

**APPENDIX I****RESOLUTION 15/02*****ON 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 organization;

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 17<sup>th</sup> 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 data<sup>2</sup>:**
  - 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

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<sup>2</sup> 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.

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)*.

**APPENDIX II**  
**RESOLUTION 16/04**

***ON THE IMPLEMENTATION OF A PILOT PROJECT IN VIEW OF PROMOTING THE REGIONAL  
OBSERVER SCHEME OF IOTC***

**Keywords:** Regional Observer Scheme;

**The Indian Ocean Tuna Commission (IOTC),**

TAKING INTO ACCOUNT the need to increase the scientific information, in particular to provide the IOTC Scientific Committee working material in order to improve the management of the tuna and tuna-like species fished in the Indian Ocean;

REITERATING the responsibilities of Flag States to ensure that their vessels conduct their fishing activities in a responsible manner, fully respecting IOTC Conservation and Management Measures;

CONSIDERING the need for action to ensure the effectiveness of the IOTC objectives;

CONSIDERING the obligation of all IOTC Contracting Parties and Cooperating Non-Contracting Parties (hereinafter CPCs) to fully comply with the IOTC Conservation and Management Measures;

AWARE of the necessity for sustained efforts by CPCs to ensure the enforcement of IOTC's Conservation and Management Measures, and the need to encourage Non-CPCs to abide by these measures;

UNDERLINING that the adoption of this measure is intended to promote the implementation of the Resolution 11/04 *on a Regional Observer Scheme*;

CONSIDERING the deliberations of the 18th Session of the IOTC Scientific Committee held in Bali, Indonesia from 23-27 November 2015, notably that CPCs should comply with IOTC data requirements as requested per Resolution 15/01 and 15/02, respectively *on the recording of catch and effort data by fishing vessels in the IOTC area of competence and on mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting parties (CPCs, 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.*

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

1. Create a pilot project aiming to enhance the implementation of the Resolution 11/04 *on a Regional Observer Scheme* and to raise the level of compliance to the implementation of Resolutions 15/01 and 15/02, respectively *on the recording of catch and effort data by fishing vessels in the IOTC area of competence and on mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating non-Contracting parties (CPCs).*
2. This pilot project will be funded through IOTC budget and/or from voluntary contributions. The pilot project will be prepared taking into account the following elements:
  - a) Identification and selection of voluntary participatory Contracting Parties or Cooperating Non-Contracting Parties (CPCs). Participatory CPCs should indicate their vessels that will participate in the project.
  - b) Terms of Reference (ToR) and selection of scientific observers, according to provisions of the Resolutions 11/04, 15/01 and 15/02.
  - c) Definition of an Action Plan for the observers work, including indicatively, a working calendar and an area of activity.



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- d) Mid-term review and a final term review, the latter should include recommendation on how to expand the experiences and results of the pilot project to all IOTC area of competence.
  - e) Cooperation coordination mechanism between CPCs participating in the project.
  - f) Complementarity with the Regional Observer Scheme actions already in place.
3. The IOTC Scientific Committee will draft guidelines regarding the ToR and work of observers, and an indicative budget for approval by the Commission in 2017. This project will focus on developing states, with priority given to promote the implementation of the ROS to small island developing states (SIDS) and least developed countries (LDC).
  4. Contracting Parties will provide their comments and suggestions within one month after the IOTC Executive Secretary transmission of the draft project, following the Scientific Committee.
  5. The revised draft proposal, including a detailed budget, will be submitted to the Compliance Committee and to the Standing Committee on Administration and Finance for review, and submitted for consideration and approval at the annual meeting of the Commission in 2017.
  6. The pilot project will explore the possibilities offered by electronic observation and observation in port.
  7. The Scientific Committee will evaluate whether electronic observation or observation in port can be used to collect data matching IOTC standards. Scientific Committee will also propose minimum standards for the implementation of Electronic observation systems and how they can be used to increase levels of observer coverage for Indian Ocean fisheries.
  8. The pilot project will not preclude any Regional Observer Scheme's actions already implemented by Contracting Parties or Cooperating non-Contracting Parties and respective fleets.

## **Annex I**

### **Minimal requirements for observers**

#### **Scientific observers**

1. Without prejudice to whatever specific training and qualifications are recommended by the Scientific Committee, the designated observers shall have the following qualifications to accomplish their tasks:
  - a) a satisfactory knowledge of the IOTC Conservation and Management Measures;
  - b) the ability to observe and record information accurately;
  - c) a satisfactory knowledge of the language of the flag of the vessel observed;
  - d) sufficient experience to identify species and fishing gear;
  - e) proven training in security and survival at sea.
2. Observers shall:
  - a) record and report upon the fishing activities carried out;
  - b) observe and estimate catches and check consistency with entries made in the logbook;
  - c) note the position of the vessel when engaged in catching activity;
  - d) carry out scientific work such as collecting of IOTC mandatory statistical information and fulfilment of logbooks;

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- e) report the results of these duties on the fishing vessel in the observers report to the flag state fishing authority,
  - f) submit the observer report to Flag State authorities within 30 days from the end of the period of observation;
  - g) treat as confidential all information with respect to the fishing and transshipment operations of the fishing vessels and accept this requirement in writing as a condition of appointment as an observer;
  - h) comply with requirements established in the laws and regulations of the flag State which exercises jurisdiction over the vessel to which the observer is assigned;
  - i) respect the hierarchy and general rules of behaviour which apply to all vessel personnel, provided such rules do not interfere with the duties of the observer under this program, and with the obligations of vessel personnel.

### **Obligations of the Master**

3. The Master shall allow observers to:

- a) visit the fishing vessel, if weather conditions permit, and to have access to vessel staff and to the gear and equipment but not interfering with the equipment on-board;
- b) have access to the equipment listed below, if present on the vessels to which they are assigned, in order to facilitate the carrying out of their duties. This shall be done on a request basis. The equipment concerns
  - i) satellite navigation equipment; (consultation only)
  - ii) radar display viewing screens when in use; (consultation only)
  - iii) electronic means of communication;
- c) Observers shall be provided with accommodation, including lodging, food and adequate sanitary facilities, equal to those of officers;
- d) Observers shall be provided with adequate space on the bridge or pilot house for clerical work, as well as space on deck adequate for carrying out observer duties;

### **Obligations of the Flag State**

4. The Flag States shall ensure that masters, crew and vessel owners do not obstruct, intimidate, interfere with, influence, bribe or attempt to bribe an observer in the performance of his/her duties.

5. No later than two months upon completion of a fishing trip, observer reports will be sent to the IOTC secretariat, who shall manage and keep record of the mentioned observer's reports in a manner consistent with IOTC confidentiality requirements, and will submit copies of the observer reports to the Scientific Committee.

6. Data collected in any Coastal State EEZ will also be provided to the Coastal State authorities within the same delays and conditions of the previous paragraph.

### **Mutual recognition of observers**

The observers selected to participate in this pilot project will be recognised by all CPCs participating in the project.

**APPENDIX III****RESOLUTION 16/06****ON MEASURES APPLICABLE IN CASE OF NON-FULFILMENT OF REPORTING OBLIGATIONS  
IN THE IOTC**

**Keywords:** Reporting obligations; data submission; incomplete data; catch

**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, 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 the steps taken to improve their data collection for direct and incidental catches.
2. 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.

### ANNEX 1

#### **Guidelines to facilitate the application of the 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 (starting in 2016 and annually thereafter)</i>	<i>Following the decision on retention prohibition</i>
<ol style="list-style-type: none"> <li>1. CPCs submit Total catch data to the IOTC Secretariat in accordance with the Resolution 15/02 and Scientific Committee template, including zero catches;</li> <li>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;</li> <li>3. 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.</li> <li>4. Compliance Committee also considers if any other actions consistent with this Resolution should be recommended.</li> </ol>	<ol style="list-style-type: none"> <li>1. CPCs with a finding of "missing" or "incomplete" data submissions cannot retain those species;</li> <li>2. Such CPCs should seek to rectify the situation by sending the missing data to the IOTC Executive Secretary as soon as feasible;</li> <li>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.</li> <li>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.</li> </ol>

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**APPENDIX IV**  
**RESOLUTION 18/01**  
**ON AN INTERIM PLAN FOR REBUILDING THE INDIAN OCEAN YELLOWFIN TUNA**  
**STOCK IN THE IOTC AREA OF COMPETENCE**

*Keywords:* Yellowfin tuna, Kobe Process, MSY, Precautionary Approach

**The Indian Ocean Tuna Commission (IOTC),**

CONSIDERING the objectives 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;

BEING MINDFUL of Article XVI of the IOTC Agreement regarding the rights of Coastal States and of Article 87 and 116 of the UN Convention of the Law of the Sea regarding the right to fish on the high seas;

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 that Article 5, of UNFSA entitles the conservation and management of highly migratory fish stocks are based on best scientific evidence available and with special reference to Resolution 15/10 for a stock where the assessed status places it within the red quadrant, and with an aim to end overfishing with a high probability and to rebuild the biomass of the stock in as short time as possible;

FURTHER RECALLING that Article 6, of UNFSA, requires the States to be cautious during the application of precautionary approach when information is uncertain, unreliable or inadequate and this should not be a reason for postponing or failing to take conservation and management measures;

CONSIDERING the recommendations adopted by the KOBE II, held in San Sebastian, Spain, June 23 – July 3 2009; implementing where appropriate a freeze on fishing capacity on a fishery by fishery basis and such a freeze should not constrain the access to, development of, and benefit from sustainable tuna fisheries by developing coastal States;

FURTHER CONSIDERING the recommendations adopted by the KOBE III, held in La Jolla, California, 12-14 July 2011; considering the status of the stocks, each RFMO should consider a scheme for reduction of overcapacity in a way that does not constrain the access to, development of, and benefit from sustainable tuna fisheries, including on the high seas, by developing coastal States, in particular Small Island Developing States, territories, and States with small and vulnerable economies; and Transfer of capacity from developed fishing members to developing coastal fishing members within its area of competence where appropriate;

FURTHER CONSIDERING the report by International Council for the Exploration of Sea and FAO Working Group on Fishing Technology and Fish Behaviour (2006), Gillnets are considered to be one of the least catch controllable and least environmentally sustainable gears;

FURTHER CONSIDERING the recommendations of the 18th Scientific Committee held in Bali, Indonesia, 23 – 27 November 2015 that the catches of yellowfin tuna have to be reduced by 20% of the 2014 levels to recover the stocks to levels above the interim target reference points with 50% probability by 2024;

NOTING THAT the new yellowfin tuna stock assessment produced at the 19th Scientific Committee held in Seychelles mentions: “The stock status determination did not change in 2016, but does give a somewhat more optimistic estimate of stock status than the 2015 assessment, as a direct result of the use of more reliable information on catch rates of longline fisheries and updated catch up to 2015” and that “**Maximum Sustainable Yield (MSY)**: estimate for the whole Indian Ocean is estimated at 422,000 t with a range

between 406,000-444,000 t” and “the 2011-2015 average catches (390,185 t) were below the estimated MSY level;”

FURTHER NOTING that the estimated probability of the Indian Ocean yellowfin tuna stock to be in the red zone of the Kobe plot has decreased from 94% based on 2015 stock assessment to 67.6% based on the 2016 stock assessment and considering other applicable measures within Resolution 16/01 [superseded by Resolution 17/01, then by Resolution 18/01], particularly the 23% reduction in the limit on the number of FADs deployed by tuna purse seiners from 550 to 425 per vessel per year, effective from 1st January 2017, and the supply vessel limitation could help this progressive improvement of the yellowfin tuna stock status;

NOTING THAT supply vessels contribute to the increase in effort and capacity of purse seiners and that the number of supply vessels has increased significantly over the years;

FURTHER CONSIDERING the discussions of the Working Party on Tropical Tuna held in Montpellier, France, 23 – 28 October 2015 on the limitations and the uncertainties in the stock assessment models due to the unavailability of standardized yellowfin tuna CPUE data;

FURTHER CONSIDERING the call by the United Nations General Assembly Resolution 70/75 upon the States to increase the reliance on scientific advice in developing, adopting and implementing conservation and management measures and to take into account the special requirements of developing States, including Small Island Developing States (SIDS) as highlighted in the SIDS Accelerated Modalities of Action (SAMOA) Pathway;

NOTING THAT Article V (2)(b) of the Agreement for the Establishment of the Indian Ocean Tuna Commission give full recognition to the special interests and needs of Members in the region that are developing countries, in relation to the conservation and management and optimum utilization of stocks covered by this Agreement and encouraging development of fisheries based on such stocks;

FURTHER NOTING THAT Article V(2)(d) requires the Commission 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 States. This includes ensuring that conservation and management measures adopted by it do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto developing States, especially Small Island Developing States;

RECOGNIZING FURTHER the interactions that occur between the fisheries for yellowfin, skipjack and bigeye tuna;

CONSIDERING paragraph 12 of Resolution 16/01 [superseded by Resolution 17/01, then by Resolution 18/01] that allows the Commission to review this Interim Plan before 2019;

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

- 1.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.

- 2.The CPCs will reduce their catch of yellowfin as follows:

- 3.Purse seine:

- a)CPCs whose purse seine catches of yellowfin reported for 2014 were above 5000 MT to reduce their purse seine catches of yellowfin by 15 % from the 2014 levels.
- b)The number of Fish Aggregating Devices (FADs) as defined in Resolution 15/08 [superseded by Resolution 17/08, then by Resolution 18/08], paragraph 7 will be no more than 350

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active instrumented buoys and 700 acquired annually instrumented buoys per purse seine vessel per year.

c)Supply vessels<sup>3</sup>: Supply vessels shall be gradually reduced by 31<sup>st</sup> December 2022 as specified below in (i), (ii), (iii) and (iv). Flag States shall submit plans for reducing the use of supply vessel to the Scientific Committee no later than 31<sup>st</sup> December 2017.

i.From 1<sup>st</sup> of January 2018 to 31<sup>st</sup> December 2019: 1 supply vessel in support of not less than 2 purse seiners, all of the same flag State.<sup>4</sup>

ii.From 1<sup>st</sup> of January 2020 to 31<sup>st</sup> December 2022: 2 supply vessels in support of not less than 5 purse seiners, all of the same flag State.<sup>2</sup>

iii.No CPC is allowed to register any new or additional supply vessel on the IOTC Record of Authorized Vessels after 31<sup>st</sup> December 2017.

iv.Any further reduction as from 2022 shall be determined by the Commission in light of the advice of the Scientific Committee.

d)A single purse seine vessel shall not be supported by more than one single supply vessel of the same flag State at any point in time.

e)Complementary to Resolution 15/08 [superseded by Resolution 17/08, then by Resolution 18/08] on *“Procedures on 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”* and to [Resolution 15/02](#) *“Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)”*, CPC/flag States shall report annually before the 1<sup>st</sup> of January for the coming year of operations which Purse seiners are served by each supply vessel. This information will be published on IOTC website so as to be accessible to all CPCs and is mandatory. In the light of assessments made available by the Working Group (WG) on dFADs and the Scientific Committee, the Commission shall update, if necessary the above limits in point b) and c).

4.Gillnet: CPCs whose Gillnet catches of yellowfin reported for 2014 were above 2000 MT to reduce their Gillnet catches of yellowfin by 10 % from the 2014 levels.

5.Longline: CPCs whose Longline catches of yellowfin reported for 2014 were above 5000 MT to reduce their Longline catches of yellowfin by 10 % from the 2014 levels.

6.CPCs’ other gears: CPCs whose catches of yellowfin from other gears reported for 2014 were above 5000 MT to reduce their other gear catches of yellowfin by 5 % from the 2014 levels.

7.Flag States will determine appropriate methods for achieving these catch reductions, which could include capacity reductions, effort limits, *etc.*, and will report to the IOTC Secretariat in their Implementation Report, the measures they have taken.

8.CPCs shall monitor the yellowfin tuna catches from their vessels in conformity with Resolution 15/01 *“On the recording of catch and effort data by fishing vessels in the IOTC area of competence”* and Resolution 15/02 *“Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non Contracting Parties (CPCs)”* and will provide a summary of most-recent yellowfin catches for the consideration of the IOTC Compliance Committee.

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<sup>3</sup> For the purpose of this Resolution, the term “supply vessel” includes “support vessel”.

<sup>4</sup> The subparagraphs (i) and (ii) shall not apply to flag States which use only one supply vessel.

9. Each year, the Compliance Committee shall evaluate the level of compliance with the catch limits deriving from this Resolution and shall make recommendations to the Commission accordingly. The Scientific Committee via its Working Party on Tropical Tunas, shall in 2018, conduct a new assessment of the status of the Yellowfin stock using all available data.

10. The Scientific Committee via its Working Party on Tropical Tunas shall in 2018 undertake an evaluation of the effectiveness of the measures detailed in this Resolution, taking into account all sources of fishing mortality and possible alternatives aiming at returning and maintaining biomass levels at the Commission's target level. After consideration of the results of this evaluation, the Commission shall take corrective measures accordingly.

11. The Commission shall, based on the improved artisanal fishery data and the assessment of the state and impact of the artisanal fishery on the yellowfin stocks, take appropriate measures on the management of the artisanal yellowfin tuna fishery, at its Commission meeting in 2018.

12. The measures contained within this Resolution shall be considered as interim measure and will be reviewed by the Commission no later than at its annual Session in 2019.

13. The provisions of paragraphs 3, 4, 5 and 6 shall be applicable to Small Island Developing States, Least Developed Countries and Small Vulnerable Economies on catches of yellowfin reported for 2014 or 2015.

14. Nothing in this resolution shall pre-empt or prejudice future allocation.

This Resolution supersedes IOTC Resolution 17/01 *On an interim plan for rebuilding the Indian Ocean yellowfin tuna stock*.



## APPENDIX V

**RESOLUTION 18/08**  
**PROCEDURES ON A FISH 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**

**Keywords:** FAD, active instrumented buoy.

**The Indian Ocean Tuna Commission (IOTC),**

BEARING IN MIND 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;

MINDFUL of the call upon States, either individually, collectively or through regional fisheries management organisations and arrangements 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 marine turtles;

NOTING that the United Nations Food and Agricultural Organization (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 sub-regional or regional fisheries management organisations and provide them in a timely manner to the organisation;

RECOGNISING that all gears deployed to target resources under the competence of IOTC should be managed to ensure the sustainability of fishing operations;

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

AWARE that the Commission is committed to adopt Conservation and Management Measures to reduce juvenile Bigeye tuna and Yellowfin tuna mortalities from fishing effort on Fish Aggregating Devices (FADs);

RECALLING that Resolution 12/04 established that the Commission at its annual session in 2013 should consider the recommendations of the IOTC Scientific Committee as regards the development of improved FAD designs to reduce the incidence of entanglement of marine turtles, including the use of biodegradable materials, together with socio-economic considerations, with a view to adopting further measures to mitigate interactions with marine turtles in fisheries covered by the IOTC Agreement;

RECALLING that Resolution 13/08 [superseded by Resolution 15/08, then by Resolution 17/08, then by Resolution 18/08] established procedures on a fish aggregating device (FAD) management plan, including 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;

NOTING that the IOTC Scientific Committee advised the Commission that only non-entangling FADs, both drifting and anchored, should be designed and deployed to prevent the entanglement of sharks, marine turtles and other species;

NOTING that the IOTC Scientific Committee advised the Commission to conduct an investigation of the feasibility and impacts of a temporary FAD closure as well as other measures in the context of Indian Ocean fisheries and stocks;

RECALLING that the objective of the IOTC Agreement is to ensure, through appropriate management, the conservation and optimum utilisation of stocks covered by the mentioned Agreement and encouraging sustainable development of fisheries based on such stocks and minimising the level of bycatch;

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

1. This Resolution shall apply to CPCs having purse seine vessels and fishing on Drifting Fish Aggregating Devices (DFADs), equipped with instrumented buoys for the purpose of aggregating tuna target species, in the IOTC area of competence.
2. This Resolution defines an instrumented buoy as a buoy with a clearly marked reference number allowing its identification and equipped with a satellite tracking system to monitor its position. Other buoys, such as radio buoys used on DFADs, not meeting this definition, shall be gradually phased out by the 1<sup>st</sup> January 2017.
3. This Resolution sets the maximum number of instrumented buoys active and followed by any purse seine vessels at 350 instrumented buoys at any one time, the active number being calculated as the number of active buoys operated by a purse seine vessel. The number of instrumented buoys that shall be acquired annually for each purse seine vessel is set at no more than 700. An instrumented buoy is considered active when it has been switched on and then deployed. Activation of an instrumented buoy results in an entry in the logbook or the FAD logbook, which specifies the buoy number and the geographical coordinates of its activation. An instrumented buoy may be activated only when physically present on board the purse-seine vessel to which it belongs or its supply or support vessel.
4. A CPC may adopt a lower limit than the one set out in paragraph 3 for vessels flying its flag. Further, any CPC may adopt a lower limit for DFADs deployed in its EEZ than that stated in paragraph 3. The CPC shall review the adopted limit to ensure that such limit is not more than the limit fixed by the Commission.
5. CPCs shall ensure that as from the effective date of this Resolution, each of its purse seiners already in operation does not exceed the maximum number of instrumented buoys set in paragraph 3.
6. Notwithstanding the completion of any study undertaken at the request of the Commission including the study to be undertaken by the Working Group adopted at Resolution 15/09 in relation to FADs, the Commission may review the maximum number of instrumented buoys set out in paragraph 3.
7. The flag State shall ensure that no more than:
  - a) 350 instrumented buoys are active at sea at any one time in relation to each of its vessels through such measures as for example the verification of telecommunication bills; and
  - b) 700 instrumented buoys may be acquired annually by each of its fishing vessel.
8. CPCs shall require vessels flying their flag and fishing on DFADs to submit by 1 January 2016, the provisional purchase order for 2016 of instrumented buoys for their purse seine vessels under the confidentiality rules set by Resolution 12/02 (or any subsequent superseding Resolution).
9. CPCs shall require vessels flying their flag and fishing on DFADs to submit, by the end of 2016 the number of instrumented buoys activated, deactivated and active on each quarter during 2016 its purse seine vessel under the confidentiality rules set by Resolution 12/02 (or any subsequent superseding Resolution).

10. All CPCs shall ensure that all fishing vessels as referred to in paragraph 1 shall record fishing activities in association with FADs using the specific data elements found in **Annex I** (DFAD) and **Annex II** (AFAD) in the section of the “FAD-logbook”.
11. CPCs having vessels fishing on FADs shall submit, to the Commission, on an annual basis, Management Plans for the use of FADs by each of their purse seine vessels covered at paragraph 1. Due to their specificity in terms of users, number deployed, type of boat/vessel involved, fishing method and gear used and materials used in their construction, the Management Plans and Reporting Requirements for Drifting FADs (DFAD) and Anchored FADs (AFAD) shall be addressed separately for the purposes of this Resolution. The Plans shall at a minimum meet the Suggested Guidelines for Preparation for FAD Management Plans by each CPC as provided for DFADs in **Annex I** and AFADs in **Annex II**. For the purpose of this Resolution, the term Fish Aggregating Device means drifting (DFAD) or anchored floating or submerged objects (AFAD) deployed for the purpose of aggregating target tuna species.
12. The Management Plans shall be analysed by the IOTC Compliance Committee.
13. The Management Plans shall include initiatives or surveys to investigate, and to the extent possible minimise the capture of small Bigeye tuna and Yellowfin tuna and non-target species associated with fishing on FADs. Management Plans shall also include guidelines to prevent, to the extent possible, the loss or abandonment of FADs. To reduce the entanglement of sharks, marine turtles or any other species, the design and deployment of FADs shall be based on the principles set out in **Annex III**, which will be applied gradually from 2014. From 2015 on, CPCs shall submit to the Commission, 60 days before the Annual Meeting, a report on the progress of the management plans of FADs, including reviews of the initially submitted Management Plans, and including reviews of the application of the principles set out in **Annex III**.
14. Starting in 2016, CPCs shall submit the data elements prescribed in **Annex I** and **Annex II** to the Commission, consistent with the IOTC standards for the provision of catch and effort data, and these data shall be made available for analysis to the IOTC Scientific Committee on the aggregation level set by Resolution 15/02 (or any subsequent superseding Resolution), and under the confidentiality rules set by Resolution 12/02 (or any subsequent superseding Resolution). The IOTC Scientific Committee will analyse the information, when available, and provide scientific advice on additional FAD management options for consideration by the Commission in 2016, including recommendations on the number of FADs to be operated, the use of biodegradable materials in new and improved FADs and the phasing out of FAD designs that do not prevent the entanglement of sharks, marine turtles and other species. When assessing the impact of FADs on the dynamic and distribution of targeted fish stocks and associated species and on the ecosystem, the IOTC Scientific Committee will, where relevant, use all available data on abandoned FADs (i.e. FADs without a beacon or which have drifted outside the fishing zone).
15. From January 2016, CPCs shall require all artificial FADs deployed or modified by their flagged fishing vessels in the IOTC area of competence to be marked in accordance with a detailed marking scheme, e.g. including FAD marking or beacon ID. The marking scheme shall be developed and considered for adoption by the Commission at its regular annual session in 2016, based on recommendations from the IOTC Scientific Committee as requested by the Commission. The marking scheme should take into account, as a minimum, the following:
  1. All artificial FADs shall be marked with a unique identification number, based on a specific numbering system and format to be adopted by the Commission;
  2. The marking should be easy to read before the vessel operator engages in any artificial FAD related activity (e.g. setting on the artificial FAD, retrieving the artificial FAD, servicing the artificial FAD, fishing on the artificial FAD), but if not visible for any reason, (time of day, weather, etc.), the vessel operator shall ensure to obtain the unique artificial FAD identifier

as soon as feasible;

3.The marking should be easy to apply to the artificial FAD, but should be applied in such a manner that it will not become unreadable or disassociated with the artificial FAD.

16.Resolution 17/08 *Procedures on a fish aggregating devices (FADs) management plan, including 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* is superseded by this Resolution.

**ANNEX I**

**GUIDELINES FOR PREPARATION OF DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLANS**

To support obligations in respect of the DFAD Management Plan (DFAD–MP) to be submitted to the IOTC Secretariat by CPCs with fleets fishing in the IOTC area of competence, associated to DFADs, DFAD–MP should include:

i. An objective

ii. Scope:

Description of its application with respect to:

- i. vessel-types and support and tender vessels
- ii. DFAD numbers and DFADs beacon numbers to be deployed
- iii. reporting procedures for DFAD deployment
- iv. incidental bycatch reduction and utilisation policy
- v. consideration of interaction with other gear types
- vi. plans for monitoring and retrieval of lost DFADs
- vii. statement or policy on “DFAD ownership”

iii. Institutional arrangements for management of the DFAD Management Plans:

- i. Institutional responsibilities
- ii. application processes for DFAD and /or DFAD beacons deployment approval
- iii. Obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use
- iv. DFAD and/or DFADs beacons replacement policy
- v. reporting obligations

iv. DFAD construction specifications and requirements

- i. DFAD design characteristics (a description)
- ii. DFAD markings and identifiers, including DFADs beacons
- iii. Lighting requirements
- iv. radar reflectors
- v. visible distance
- vi. radio buoys (requirement for serial numbers)
- vii. satellite transceivers (requirement for serial numbers)

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v. Applicable areas

- i. Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc.

vi. Applicable period for the DFAD–MP

vii. Means for monitoring and reviewing implementation of the DFAD–MP

viii. DFAD logbook

- i. catch reporting from DFAD sets (consistent with the Standards for the provision of Catch and Effort Data) set out in [Resolution 15/02](#)), including:

- a) Any visit on a DFAD\*
- b) For each visit on a DFAD, whether followed or not by a set
- i. position,
  - ii. date,
  - iii. DFAD identifier (i.e., DFAD Marking or beacon ID or any information allowing to identify the owner),
  - iv. DFAD type (drifting natural FAD, drifting artificial FAD),
  - v. DFAD design characteristics (dimension and material of the floating part and of the underwater hanging structure),
  - vi. type of the visit (deployment, hauling, retrieving, loss, intervention on electronic equipment).
- c) If the visit is followed by a set, the results of the set in terms of catch and bycatch.

\* Other FADs encountered at–sea should be monitored in accordance with each CPCs’ domestic regulations.

**ANNEX II**  
**GUIDELINES FOR PREPARATION OF ANCHORED FISH AGGREGATING DEVICE (AFAD) MANAGEMENT PLANS**

To support obligations in respect of the AFAD Management Plan (AFAD–MP) to be submitted to the IOTC Secretariat by CPCs with fleets fishing in the IOTC area of competence, associated to AFADs, AFAD–MP should include:

An objective

Scope:

Description of its application with respect to:

- a) Vessel types
- b) AFAD numbers and/or AFADs beacons numbers to be deployed (per AFAD type)
- c) reporting procedures for AFAD deployment
- d) distances between AFADs
- e) incidental bycatch reduction and utilisation policy
- f) consideration of interaction with other gear types
- g) the establishment of inventories of the AFADs deployed, detailing AFAD identifiers, characteristics and equipment of each AFAD as laid down in point 4 of the present Annex, coordinates of the AFAD's mooring sites, date of set, lost and reset
- h) plans for monitoring and retrieval of lost AFADs
- i) statement or policy on “AFAD ownership”

Institutional arrangements for management of the AFAD Management Plans:

- a) Institutional responsibilities
- b) Regulations applicable to the setting and use of AFADs
- c) AFAD repairs, maintenance rules and replacement policy
- d) Data collection system
- e) reporting obligations

AFAD construction specifications and requirements:

- a) AFAD design characteristics (a description of both the floating structure and the underwater structure, with special emphasis on any netting materials used)
- b) Anchorage used for mooring
- c) AFAD markings and identifiers, including AFAD beacons if any
- d) Lighting requirements if any
- e) radar reflectors
- f) visible distance
- g) radio buoys if any (requirement for serial numbers)

- h) satellite transceivers (requirement for serial numbers)
- i) echo sounder

Applicable areas

- a) Coordinates of mooring sites, if applicable
- b) Details of any closed areas e.g., shipping lanes, Marine Protected Areas, reserves etc.

Means for monitoring and reviewing implementation of the AFAD–MP  
AFAD logbook

–Catch reporting from AFAD sets (consistent with the Standards for the provision of Catch and Effort Data) set out in [Resolution 15/02](#)), including:

- a) Any visit in a AFAD.
- b) For each visit on a AFAD, whether followed or not by a set or other fishing activities, the,
  - i. position;
  - ii. date;
  - iii. AFAD identifier (i.e., FAD Marking or beacon ID or any information allowing to identify the owner).
- c) If the visit is followed by a set or other fishing activities, the results of the set in terms of catch and bycatch.



**ANNEX III**  
**PRINCIPLES FOR DESIGN AND DEPLOYMENT OF FADS**

1. The surface structure of the FAD should not be covered, or only covered with non-meshed material.
2. If a sub-surface component is used, it should not be made from netting but from non-meshed materials such as ropes or canvas sheets.
3. To reduce the amount of synthetic marine debris, the use of natural or biodegradable materials (such as hessian canvas, hemp ropes, etc.) for drifting FADs should be promoted.