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Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien

IOTC-2021-S25-PropE_Rev1[E]

ON MANAGEMENT OF FISH AGGREGATING DEVICES IN THE IOTC AREA OF COMPETANCE

Submitted by: Kenya, Sri Lanka, Maldives, Mozambique, Pakistan, Somalia, South Africa, Indonesia, Tanzania

Explanatory Memorandum

The proposed amendments are to strengthen Resolution 19/02 to mitigate the ecological impacts associated with drifting FADs, especially its stranding, damage to coral reefs, and inshore habitats and its contribution to marine debris. It is also aimed to reduce juveniles of tropical tuna and to facilitate rebuilding of Indian Ocean yellowfin tuna – Resolution 19/01

From the 2017 Scientific Committee report, it was requested that FAD ownership should form part of the mandatory information to be collected by IOTC as this was considered necessary to model and report the tracking status of all FADs. This aspect is strengthened and revised in this proposal.

Noting that IOTC, along with other tuna RFMOs, recommended and adopted resolutions to promote reduction of the amount of synthetic marine debris using natural or biodegradable materials for drifting FADs, the proposal also strengthen addressing of this this issue.

Cf Resolution 19/02.

RESOLUTION 21/XX
ON A MANAGEMENT OF FISH AGGREGATING DEVICES
(FADS) MANAGEMENT PLAN IN THE IOTC AREA OF
COMPETENCE

Keywords: FAD, FAD Management, FAD monitoring, 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 was adopted in conscience of the need to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimize the risk of long-term or irreversible effects of fishing operations;

RECALLING that Articles 5 and 6 of the UNFSA require States to apply the precautionary approach widely to conservation, management and exploitation of highly migratory fish stocks in order to protect the living marine resources and preserve the marine environment;

RECALLING that, in applying the precautionary approach, Article 6 of the UNFSA requires States to be more cautious when information is uncertain, unreliable or inadequate and prohibits the use of an absence of adequate scientific information as a reason for postponing or failing to take conservation and management measures;

RECALLING that, in applying the precautionary approach, Article 6 of the UNFSA requires States to take into account, *inter alia*, uncertainties relating to the size and productivity of the stocks, levels and distribution of fishing mortality and the impact of fishing activities on non-target and associated or dependent species, as well as existing and predicted oceanic, environmental and socio-economic conditions;

RECALLING that the United Nations Food and Agricultural Organization (FAO) Code of Conduct for Responsible Fisheries provides that States should apply the precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment and that the absence of adequate scientific information should not be used as a reason for postponing or failing to take conservation and management measures;

RECALLING that Article 5 of the UNFSA requires States to assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks and to adopt, where necessary, conservation and management measures for species belonging to the same ecosystem or associated with or dependent upon the target stocks, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened;

BEARING IN MIND that Article 5 of the UNFSA requires 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, as well as information from national and international research programmes;

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 (FADs) and ~~others~~ other devices, 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 Fisheries 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;

RECALLING that Articles 192 and 194 of the United Nations Convention on the Law of the Sea (UNCLOS) require States to protect and preserve the marine environment and to take, individually or jointly as appropriate, all measures consistent with UNCLOS that are necessary to prevent, reduce and control pollution of the marine environment from any source;

RECALLING that the measures taken in accordance with Article 194 UNCLOS shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life;

RECALLING that Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL), which serves the purpose of implementing Article 194 UNCLOS, seeks to eliminate and reduce the amount of garbage, including fishing gear, being discharged into the sea from ships and that it applies to all vessels;

RECALLING that the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) and the Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Protocol) require States to prohibit the intentional dumping of wastes and other matter into the sea;

NOTING that fishing gear that is released into the water, such as FADs, traps and static nets, does not contravene MARPOL Annex V or the London Convention and Protocol as long as such gear is deployed with the intention of later retrieval;

FURTHER NOTING that the deliberate abandonment of FADs in the sea would contravene MARPOL Annex V or the London Convention and Protocol except in situations of *force majeure*;

HAVING REGARD to the Voluntary Guidelines on the Marking of Fishing Gear endorsed by the Committee on Fisheries (COFI) of the FAO at its thirty-third Session, held at FAO headquarters, Rome, Italy, from 9 to 13 July 2018 and the incorporation of FADs in these Guidelines;

CONCERNED of the impact of Abandoned, Lost or Discarded Fishing Gear (ALDFG) and plastic residues in the ocean greatly affecting marine life and the need to facilitate the identification and recovery of such gear;

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;

RECOGNISING that ~~Fish Aggregating Devices~~, in accordance with the UNFSA, FADs under the competence of IOTC ~~should~~must be managed to ensure the sustainability of fishing operations; and to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimize the risk of long-term or irreversible effects of fishing operations;

RECOGNISING that, in accordance with MARPOL Annex V and the London Convention and Protocol, FADs under the competence of the IOTC must be managed to ensure that they are exclusively deployed with the intention of later retrieval and that they are not abandoned at sea except in situations of *force majeure*;

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

CONSIDERING the concern of the 20th Session of the Working Party on Tropical Tuna held in Seychelles, 29

October – 3 November 2018, on the change in strategy of increased usage of DFADs by purse seine vessels to maintain catch level targets, which has led to a substantial increase of juvenile yellowfin tuna and bigeye tuna being caught;

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);~~DFADs;

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 ~~FADDFAD~~ 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, by Resolution 17/08, then by Resolution 18/08 and then by Resolution 19/02] established procedures on a ~~fish aggregating device (FAD)~~ management plan, including more detailed specifications of catch reporting from ~~FADDFAD~~ sets, and the development of improved ~~FADDFAD~~ 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 seasonal closures for the use of DFADs by purse seine vessels and associated supply and support vessels have been adopted by the Western and Central Pacific Fisheries Commission (WCPFC Conservation and Management Measure 2018/01, Conservation and Management Measure for bigeye, yellowfin and skipjack tuna in the Western and Central Pacific Ocean), the International Commission for the Conservation of Atlantic Tunas (ICCAT Recommendation 19/02, To Replace Recommendation 16/01 On a Multi annual Conservation and Management Programme for Tropical Tunas) and the Inter American Tropical Tuna Commission (IATTC Resolution 17/02, Conservation Measures for Tropical Tunas in the Eastern Pacific Ocean During 2018 202 and Amendment to Resolution 17/02);~~

NOTING that the IOTC Scientific Committee advised the Commission to conduct an investigation of the feasibility and impacts of ~~a temporary FADDFAD closure as well as other~~ measures restricting the use of DFADs 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:

Definitions

1. For the purpose of this Resolution:

- a) Fish Aggregating Device (FAD) means a permanent, semi-permanent or temporary object, structure or device of any material, man-made or natural, which is deployed and/or tracked, for the purpose of aggregating target tuna species for consequent capture.
- b) Drifting Fish Aggregating Devices (DFADs) means a FAD not tethered to the bottom of the ocean. A DFAD typically has a floating structure (such as a bamboo or metal raft with buoyancy provided by buoys, corks, etc.) and a submerged structure (made of old netting, canvass, ropes, etc.).
- c) Anchored Fish Aggregating Devices (AFADs) means a FAD tethered to the bottom of the ocean.

It usually consists of a very large buoy and anchored to the bottom of the ocean with a chain.

- d) Instrumented buoy means a buoy with a clearly marked with a unique reference number allowing identification of its owner and equipped with a satellite tracking system to monitor its position.
- e) Operational buoy means any instrumented buoy, previously activated, switched on and deployed at sea on a drifting FAD or log, which transmit position and any other available information such as eco-sounder estimates.
- f) Activation of a buoy means the act of initializing satellite communication service, which is done by the buoy supplier company at the request of the vessel owner or manager.
- g) Deactivation of a buoy means the act of cancelling satellite communications service, which is done by the buoy supplier company at the request of the vessel owner or manager.
- h) Buoy owner means any legal or natural person, entity or branch, who is paying for the communication service for the buoy associated with a FAD, and/or who is authorized to receive information from the satellite buoy, as well as to request its activation and/or deactivation.
- i) Reactivation: the act of re-enabling satellite communications services by the buoy supplier company at the request of the buoy owner or manager.
- j) Buoy in stock means an instrumented buoy acquired by the owner which has not been made operational.
- k) “Abandoned DFAD” means a DFAD over which the owner/operator has control and that could be retrieved by the owner/operator, but that is deliberately left at sea due to *force majeure* or other reasons.
- l) “Lost DFAD” means a DFAD over which the owner/operator has no control and that cannot be located and/or retrieved by the owner/operator.
- m) “Discarded DFAD” means a DFAD that is released at sea without any attempt for further control or recovery by the owner/operator.
- n) “For the purposes of the this Resolution “For the purpose of the DFAD closure, the definition of a DFAD shall be interpreted as including “any object or group of objects, of any size, that has or has not been deployed that is living or non living, including but not limited to buoys, floats, netting, webbing, plastics, bamboo and logs floating on or near the surface of the water that fish may associate with”. For the purposes of this Resolution, bBBbiodegradable materials” means any materials capable of being naturally decomposed within a short amount of time by bacteria or other living organisms that naturally occur in the marine environment and thereby avoiding pollution.

Application

- 2. This Resolution shall apply to CPCs having flag purse seine vessels ~~and~~ fishing on Drifting Fish Aggregating Devices (DFADs),² equipped with instrumented buoys for the purpose of aggregating target tuna species, in the IOTC area of competence. ~~Only purse seiners and associated supply or support vessels are allowed to deploy DFADs in the IOTC Area of Competence.~~
- 3. This Resolution requires the use of instrumented buoy, as per the above definition, buoys on all DFADs and prohibits the use of any other buoys, such as radio buoys, ~~not meeting this definition.~~

This Resolution sets FAD limits and management

- 4. CPCs shall ensure that only purse seine vessels and associated supply or support vessels use DFADs in the IOTC area of competence.
- 5. CPCs shall ensure that their flag vessels comply with the following DFAD limits:
 - a) The maximum number of operational buoys followed by any purse seine vessel ~~at 300~~ shall be 150 at any one time.

b) The maximum number of instrumented buoys that may be acquired annually for each purse seine vessel ~~is set at no more than 500. No purse seine vessel shall have more than 500~~ shall be 300.

c) The maximum number of instrumented buoys (buoy in stock and operational buoy) for each purse seine vessel shall be 300 at any time. ~~An~~

4.6. ~~CPCs shall ensure that their flag vessels make~~ instrumented ~~buoy shall be made~~ buoys operational only when physically present on board the purse -seine vessel to which ~~it belongs~~ they belong or its associated supply or support vessel, ~~and~~. ~~CPCs shall further ensure that their flag vessels record~~ the event ~~shall be recorded~~ in the appropriate logbook, specifying the instrumented buoy unique identification number and the date, time and geographical coordinates of its deployment.

A-CPC

5.7. ~~CPCs~~ may adopt a lower ~~limit~~ limits than ~~the one set out~~ those provided in paragraph 4.5 for ~~their flag~~ vessels flying its flag. Further, ~~any CPC~~ CPCs may adopt a lower ~~limit~~ limits for DFADs deployed in ~~its EEZ~~ their EEZs than ~~that stated~~ those provided in paragraph 4. ~~The CPC~~ 5. CPCs shall review ~~the~~ their adopted ~~limit~~ limits to ensure that such ~~limit is~~ limits do not ~~more than~~ exceed the ~~limit~~ limits fixed by the Commission.

6.8. CPCs shall ensure that, as from the effective date of this Resolution, ~~each of its~~ their flag purse seiners ~~seine vessels~~ already in operation ~~does~~ do not exceed the maximum ~~number~~ numbers of operational and instrumented buoys at any one time as ~~set out~~ provided in paragraph 4.5.

~~All purse seine vessel, supply or support vessel shall~~

7.9. ~~CPCs shall ensure that their flag vessels~~ declare to ~~its~~ their respective CPC, the number of instrumented buoys onboard, including each unique identifier of the instrumented buoy before and after each fishing trip.

Reactivation of an

8.10. ~~CPCs shall ensure that their flag vessels reactivate~~ instrumented ~~buoy shall~~ buoys only ~~be possible~~ once it ~~has~~ this has been authorized by the flag CPC and once the instrumented buoys have been brought back to port, either by the vessel tracking the buoy ~~/or~~ associated supply or support vessel or by another vessel ~~and has been~~ authorized by the CPC.

9.11. 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~~ provided in paragraph 4.5.

10.12. CPCs shall require ~~vessels flying~~ their flag ~~and~~ vessels fishing on DFADs to annually submit the number of operational buoys followed by ~~the~~ vessel, lost, ~~abandoned, discarded~~ and transferred (total number of DFADs tagged at sea, by deploying an instrumented buoy on a log or another vessel DFAD already in the water) by 1° by 1° grid area and month strata and DFAD type under the confidentiality rules ~~set by~~ provided in Resolution 12/02 (or any subsequent superseding Resolution).

11.13. ~~All~~ CPCs shall ensure that ~~all fishing~~ their flag vessels ~~as referred to in paragraph 2 shall~~ record fishing ~~and~~ fishing-related activities in association with FADs using the specific data elements found in Annex III (DFAD) and Annex IV (AFAD) in the section of the ~~"FAD-logbook"~~.

12.14. CPCs having ~~flag~~ vessels ~~flying their flag and~~ fishing on ~~FADs~~ DFADs shall submit, to the Commission, on an annual basis, Fish Aggregating Device (FAD) Management Plans ~~for the use of FADs. Due to their specificity in terms of users, 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 follow)~~ in accordance with the Guidelines for Preparation ~~for of~~ FAD Management Plans ~~by each CPC~~ as provided for DFADs in Annex I and AFADs in Annex II.

13.15. The Management Plans shall be analysed by the IOTC Compliance Committee.

~~14.16.~~ The Management Plans shall include initiatives or surveys to investigate, and shall, 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, discarding and loss of FADs.

~~15.17.~~ ~~In addition to the Management Plans, all~~ CPCs shall also ensure that ~~all fishing vessels flying their flag and fishing on FADs, including supply vessels, shall~~ record fishing activities in association with FADs using the specific data elements found in Annex III (DFAD) and Annex IV (AFAD).

~~16.18.~~ CPCs shall submit to the Commission, 60 days before the Annual Meeting, a report on the progress of ~~the management plans of FADs~~ their Management Plans, including, if necessary, reviews of the initially submitted Management Plans, and including reviews of the application of the principles ~~set out~~ provided in Annex III.

DFAD area closure

~~With the objective of reducing the fishing mortality of juvenile yellowfin tuna, CPCs shall ensure that their flag-purse seine vessels fishing for bigeye, yellowfin and skipjack tunas in association with DFADs as well as associated supply or support vessels in the IOTC area of competence do not fish on DFADs or deploy or maintain DFADs during a three-month closure period between 0000hrs of 1 July and 0000hrs 30th September each year.~~

~~CPCs shall ensure that in the event that their flag-purse seine vessels and associated supply and support vessels retrieve the electronic equipment on their DFADs during the DFAD closure period provided in paragraph 19, they retrieve the entire DFAD and keep them on board the vessel until landed in port or until end of the of the DFAD closure period.~~

~~CPCs shall ensure that their flag vessels do not deploy or maintain DFADs during a period of 15 days prior to the beginning of the DFAD closure period provided in paragraph 19.~~

~~CPCs shall ensure that during the DFAD closure period provided in paragraph 19, their flag-purse seine vessels or associated supply or support vessels do not conduct any part of a set within five nautical miles of a DFAD, meaning that at no time may the vessel or its fishing gear or tenders be located within five nautical miles of a DFAD while a set is being conducted.~~

~~CPCs shall ensure that their flag-purse seine vessels or associated supply or support vessels are not used to aggregate fish, or move aggregated fish, including through the use of underwater lights and chumming.~~

~~The Commission shall review the measures provided in paragraphs 18 and 19 and, if necessary, revise them based on advice by the IOTC Scientific Committee taking into account monthly trends in free school and DFAD-associated catches.~~

Non-entangling and biodegradable ~~FADs~~DFADs

~~17.19.~~ To reduce the entanglement of sharks, marine turtles or any other non-target species, CPCs shall require their ~~flagged~~ flag vessels to use non-entangling designs and non-mesh materials in the construction of FADs as outlined ~~provided~~ in Annex V.

~~20.~~ To reduce the amount of synthetic marine debris, ~~the use of natural or biodegradable materials in FAD-construction should be promoted.~~ CPCs shall ~~encourage~~ ensure that their flag vessels ~~to~~ use only biodegradable ~~FADs~~ DFADs in accordance with the guidelines ~~at~~ provided in Annex V ~~with a view to transitioning to.~~

~~18.21.~~ To further reduce the ecosystem impacts of DFADs, CPCs shall ensure that the ~~use~~ sub-surface structure of biodegradable FADs, with the exception of materials ~~DFADs~~ used for the instrumented buoys, by their flag vessel from 1 January 2022. CPCs shall, from 1 January 2022, encourage their flag vessels to remove from the water, ~~retain onboard and only dispose of in port, all traditional FADs encountered (e.g. those made of entangling materials~~

or designs). The reference year prescribed above shall be reviewed in light of the Scientific Committee's recommendation pursuant to Resolution 18/04 On BioFAD experimental project vessels is limited to a length of 50 meters.

- ~~1. CPCs are encouraged to conduct trials using biodegradable materials to facilitate the transition to the use of only biodegradable material for DFADS construction by their flagged vessels. The results of such trials shall be presented to the Scientific Committee who shall continue to review research results on the use of~~

~~biodegradable material on FADs and shall provide specific recommendations to the Commission as appropriate.~~
FAD

DFAD Marking

- ~~2. A new marking scheme shall be developed by the ad hoc FAD working group and shall be considered by the Commission at its regular annual session in 2020.~~

Until the marking scheme referred to in paragraph 20 is adopted, CPCs shall ensure that

- ~~— Until a scheme to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) is developed in accordance with the Proposal of Terms of Reference for developing a scheme to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG); IOTC 2020 CoC17-14, CPCs shall implement the measures provided for in the following paragraphs:~~

- ~~19. CPCs shall ensure that the instrumented buoy attached to the DFAD contains a physical, unique reference number marking (ID provided by the manufacturer of the instrumented buoy) and that the vessel's unique IOTC registration number is clearly visible on the instrumented buoy.~~

- ~~— CPCs shall ensure that the raft and the sub-surface structure underneath the raft of the DFAD have a permanent mark showing the unique vessel IOTC registration number attached to it. Each mark must be:~~

~~(i) at least 75mm x 65mm in size and~~

~~(ii) made of durable material and~~

~~(iii) securely fixed to the sub-surface structure and not removable.~~

- ~~— CPCs shall ensure that their flag purse seine vessels and associated supply and support vessels do not attach their own satellite buoys to DFADs with satellite buoys belonging to other vessels.~~

- ~~— Given that DFADs pose a significant threat to the marine environment and/or navigation,[†] CPCs shall ensure that their flag vessels report any loss of a DFAD owned by them, or the materials used in the construction of such a DFAD, to the flag CPC and, if the loss occurred in the EEZ of a coastal CPC, also to that coastal CPC.~~

- ~~— CPCs shall ensure that their flag vessels, before reporting the loss of a DFAD, or part of a DFAD, in accordance with paragraph 32, attempt to retrieve it as soon as possible and carry equipment on board for these purposes:~~

- ~~— CPCs shall ensure that, if their flag vessels cannot retrieve their lost DFADs in accordance with paragraph 33, the vessel owning the DFAD informs its flag CPC, within 24 hours, of the following:~~

- ~~— unique reference number of the instrumented buoy;~~
- ~~— unique IOTC Vessel registration number and name of the vessel;~~
- ~~— time when the DFAD or part thereof was lost;~~
- ~~— position where the DFAD or part thereof was lost;~~
- ~~— measures taken to retrieve the DFAD or part thereof;~~
- ~~— any perceived threats of the imminent beaching of the DFAD;~~
- ~~— geographical position (degrees, minutes and seconds) of potential location of beaching;~~
- ~~— plans to recover beached DFADs and how the recovery costs will be collected and shared.~~

- ~~— CPCs shall ensure that, if their flag vessels cannot retrieve their lost DFADs, and if this loss occurred in the EEZ of a coastal CPC, the vessel owning the DFAD informs that coastal CPC, within 24 hours, of the information provided in paragraph 34.~~

[†] MARPOL Annex V.

- ~~CPCs shall report all incidences of DFAD loss stipulated in paragraphs 34 and 35 to the Executive Secretary within one month of the loss occurring.~~
- ~~CPCs shall ensure that their flag vessels record any additional information for all Lost, Discarded and Abandoned DFADs as specified in Annex III.~~
- ~~CPCs shall conduct inspections, both at sea and at port, to ensure that CPC flag vessels comply with gear marking and other requirements. CPCs shall report deployed DFADs found without required markings to the flag CPC. CPCs shall conduct port state inspections of fishing gear in accordance with the procedures set out in Annex B, paragraph e) of the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA), including with respect to includes conditions relating to marking of the fishing gear.~~

Data reporting and analysis

~~20.22.~~ CPCs shall submit the data elements ~~prescribed~~provided in Annex III and Annex IV 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).

~~21.23.~~ The IOTC Scientific Committee will analyse the information, when available, and provide scientific advice on additional FAD management options for consideration by the Commission, including recommendations on the number of FADs to be operated, the use of biodegradable materials in new and improved FADs design. 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).~~ Lost and Discarded DFADs.

FAD Tracking

Supply and Support Vessels

- ~~24.~~ Consistent with Resolution 19/01, flag CPCs shall gradually reduce supply and support vessels by 31 December 2022. Flag CPCs shall submit information on the status of reducing the use of supply and support vessels in their annual Implementation Report.
- ~~25.~~ Flag CPCs shall ensure that, after 31 December 2022, no supply or support vessels support purse seine vessels in the IOTC area of competence.

DFAD Tracking and Recovery Procedures

~~26.~~ In order to support the monitoring of compliance with the ~~limitation established~~limits provided in paragraph ~~4.5,~~ while protecting business confidential data, CPCs shall ensure that real-time information is reported on the geographical location (in degrees, minutes and seconds), the date, the instrumented buoy supplier company or the CPCs shall, starting 1 January 2020, report, or require their ID and the name and registration number of the assigned vessels to report, daily information on all active FADs to the Executive Secretary, or an authorized independent third party appointed by the Commission, of each operational buoy when it is activated or deactivated. CPCs shall ensure that real-time information on the geographical location (in degrees, minutes and seconds) is reported in a format and method specified by the Secretariat. Such information shall contain, date, instrumented buoy ID, assigned vessel and daily position, which shall be compiled at monthly, or an authorized independent third party appointed by the Commission, of each operational buoy in 6-hourly intervals, to be submitted with a time delay of at least 60 days, but no longer than 90 days.

~~22.27.~~ Recognising the business confidentiality of current data, historical data (1 year plus) on FAD trajectories through another CPCs EEZ may be provided to a CPC for scientific purposes on request from the Secretariat, following the procedures outlined under Resolution 12/02, with the consent of the data providers.

~~3. The Commission shall establish a DFAD tracking and recovery policy at its annual session in 2021, on the basis of recommendations from the ad hoc FAD working group. The policy shall define DFAD tracking, reporting of lost DFADs, arrangements to alert coastal States of derelict/lost DFADs at risk of beaching in near real time, how and who recovers the DFADs, how the recovery costs are collected and shared.~~

The IOTC

~~23.28. The Secretariat shall submit a report, on an annual basis, to the IOTC Compliance Committee on the level of compliance of each CPC with operational buoy limits, annual limits of instrumented buoys purchased the limits provided in paragraph 5 and on the details of Abandoned, Discarded and Lost DFADs, including the DFAD owner and the date and position of abandonment, discarding or loss.~~

~~24.29. This Resolution shall be reviewed by the Commission, at the latest, at its Session in 2022, based on recommendations from the IOTC Scientific Committee.~~

~~25.30. This Resolution shall enter into force on 1 ~~January 2020~~ September 2021.~~

Resolution ~~18/08~~ 19/02, *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~~ Executive Secretary by CPCs with fleets fishing in the IOTC area of competence, associated to DFADs, DFAD--MP should include:

1. An objective
2. Scope
 - Description of its application with respect to:
 - vessel-types and support and tender vessels
 - DFAD numbers and DFADs beacon numbers to be deployed
 - reporting procedures for DFAD deployment
 - incidental bycatch reduction and utilisation policy
 - consideration of interaction with other gear types
 - plans for monitoring and retrieval of lost DFADs
 - statement or policy on "DFAD ownership"
3. Institutional arrangements for management of the DFAD Management Plans:
 - institutional responsibilities
 - application processes for DFAD and /or DFAD beacons deployment approval
 - obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use
 - DFAD and/or DFADs beacons replacement policy
 - reporting obligations
4. DFAD construction specifications and requirements:
 - DFAD design characteristics (a description)
 - DFAD markings and identifiers, including DFADs beacons
 - lighting requirements
 - radar reflectors
 - visible distance
 - radio buoys (requirement for serial numbers)
 - satellite transceivers (requirement for serial numbers)
5. Applicable areas:
 - Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc.
6. Applicable period for the DFAD--MP.
7. Means for monitoring and reviewing implementation of the DFAD--MP.
8. DFAD logbook template (data to be collected specified in Annex III).

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~~Executive Secretary by CPCs with fleets fishing in the IOTC area of competence, associated to AFADs, AFAD-MP should include:

1. An objective
2. 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"
3. 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
4. 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
5. Applicable areas:
 - a) coordinates of mooring sites, if applicable
 - b) details of any closed areas e.g., shipping lanes, Marine Protected Areas, reserves etc.
6. Means for monitoring and reviewing implementation of the AFAD-MP.
7. AFAD logbook template (data to be collected specified in Annex IV).

ANNEX III
DATA COLLECTION FOR DFADS

- a) For each activity on a DFAD, whether followed by a set or not, each fishing, support and supply vessel to report the following information:
- i. Vessel (name and registration number of the fishing, support or supply vessel)
 - ii. Position (as the geographic location of the event (Latitude and Longitude) in degrees and minutes)
 - iii. Date (as DD/MM/YYYY, day/month/year)
 - iv. DFAD identifier (DFAD or beacon ID)
 - v. DFAD type (drifting natural FAD, drifting artificial FAD),
 - vi. DFAD design characteristics
 - Dimension and material of the floating part and of the underwater hanging structure
 - vii. Type of the activity, (visit deployment, hauling, retrieving, loss, intervention to service electronic equipment).
- b) If the visit is followed by a set, the results of the set in terms of catch and bycatch, whether retained or discarded dead or alive. CPCs to report this data aggregated per vessel at 1*1 degree (where applicable) and monthly to the Secretariat/Executive Secretary.
- c) CPCs shall ensure that their flag vessels record the following information for all lost, abandoned and lost DFADs:
- i. Vessel (name and registration number of the fishing, support or supply vessel)
 - ii. Position (as the geographic location of the event (Latitude and Longitude) in degrees and minutes)
 - iii. Date (as DD/MM/YYYY, day/month/year)
 - iv. DFAD identifier (DFAD or beacon ID)
 - v. DFAD type (drifting natural FAD, drifting artificial FAD),
 - vi. DFAD design characteristics
 - Dimension and material of the floating part and of the underwater hanging structure
 - vii. time when the DFAD or part thereof was lost
 - viii. measures taken to retrieve the DFAD or part thereof

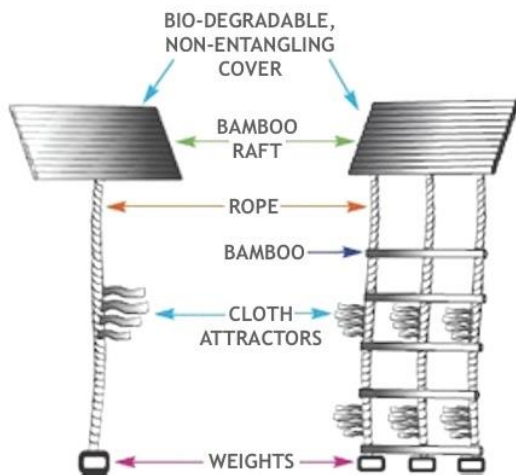
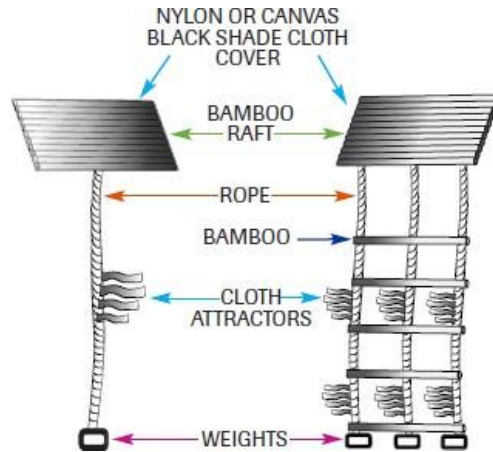
ANNEX IV
DATA COLLECTION FOR AFADS

- a) Any activity around an AFAD.
- b) For each activity on an AFAD (repair, intervention consolidation, etc.), whether followed or not by a set or other fishing activities, the,
 - i. Position (as the geographic location of the event (Latitude and Longitude) in degrees and minutes)
 - ii. Date (as DD/MM/YYYY, day/month/year)
 - iii. AFAD identifier (i.e. AFAD 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, whether retained or discarded dead or alive.

ANNEX V

PRINCIPLES FOR DESIGN AND DEPLOYMENT OF FADS

EXAMPLE OF NON-ENTANGLING FAD



The surface structure of the FAD shall not be covered, or only covered with non-meshed material
If a sub-surface component is used, it shall not be made from netting but from non-meshed materials such as ropes or canvas sheets.