



ON MANAGEMENT OF DRIFTING FISH AGGREGATING DEVICES(DFADS)

IN THE IOTC AREA OF COMPETENCE

SUBMITTED BY: KOREA, REP. of

Explanatory Memorandum

Given that Resolution 23/02 on Management of Drifting Fish Aggregating Devices (DFADs) in the IOTC area of competence was adopted without a proper amount of discussion at the 6th Special Session of the Commission, the Republic of Korea would like to put this proposal to enable the Commission to fully consider every aspect of the DFAD measure.

As we are all aware, scientific evidence and analyses are important factors when adopting or amending conservation and management measures. So far a number of new measures, including a DFAD closure, a DFAD register and a monitoring system, have been put forward to strengthen the DFAD Resolution. Unfortunately, however, some of them lack sufficient scientific advice and/or recommendations to establish; while others seem to be not implementable. This means all of them require analyses from the Scientific Committee and/or relevant working groups before introduced as new measures. This is part of reason for another proposal of ours to amend Resolution 15/09 On a Fish Aggregating Devices (FADs) Working Group.

Regarding the number of DFADs, paragraph 5 of Resolution 23/02 regulates the maximum number of instrumented buoys that may be registered on the DFAD Register. This would result in a more reduction of the actual number of FADs that could be deployed at sea than originally intended. So Korea proposes to use the language from paragraph 4 of Resolution 19/02 which regulates the maximum number of operational buoys followed by any purse seine vessel. In addition, as Korea already expressed at the discussion during the 6th Special Session, the size of fishing fleets should be taken into account when we decide the level of reduction on the number of DFADs, together with conservation efforts made by some CPCs with small fleets at a great expense of the impacts on their fishermen to help recover the yellowfin tuna stock in the Indian Ocean.

The Republic of Korea hopes this proposal becomes the starting point for discussion at the 27th Commission meeting to reach agreement and adopt a more reasonable Resolution on DFADs by compromise and consensus.

RESOLUTION 23/XX02**ON MANAGEMENT OF DRIFTING FISH AGGREGATING DEVICES (DFADS) IN THE IOTC AREA OF COMPETENCE**

Keywords: DFAD, FAD management, ~~FAD registry, FAD limits, FAD closure period, FAD monitoring system reporting system.~~

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) was adopted in conscience of the need to avoid adverse impacts on the marine environment, preserve biodiversity, maintain the integrity of marine ecosystems and minimise 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, and that this is reiterated in the United Nations Food and Agricultural Organization (FAO) Code of Conduct for Responsible Fisheries;

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 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, and that the FAO Code of Conduct for Responsible 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;

MINDFUL of the call upon States, either individually, collectively or through regional fisheries management organisations and arrangements in United Nations General Assembly Resolution 76/71 on Sustainable fisheries of 2021 to collect the necessary data in order to evaluate and closely monitor the use of large-scale fish aggregating devices (FADs) and 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;

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, and that these measures 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;

RECOGNISING that, in accordance with the UNFSA, FADs under the competence of IOTC 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 minimise the risk of long-term or irreversible effects of fishing operations;

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;

NOTING that releasing fishing devices into the water, such as FADs, does not contravene to the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V or 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 (London Protocol) as long as such device is deployed with the intention of later retrieval;

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;

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;

GIVEN that the activities of supply and support vessels and the use of Drifting Fish Aggregating Devices (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;

CONSIDERING the concerns of the 2nd IOTC Ad-hoc Working Group on FADs, on the need for clarity around data submitted to IOTC on FADs;

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 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 DFAD 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, by Resolution 18/08 and then by Resolution 19/02] established procedures on a FAD management plan, including more detailed specifications of catch reporting from DFAD sets, and the development of improved DFAD designs to reduce the incidence of entanglement of non-target species;

NOTING that the IOTC Scientific Committee advised the Commission that only non-entangling DFADs 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 DFAD closure period as well as other measures restricting the use of DFADs in the context of Indian Ocean fisheries and stocks;

NOTING that the 2nd Ad-hoc Working Group on FADs highlighted the gaps, inconsistencies in data collection, reporting and analysis of the DFAD data and also noted the importance of robust measures so that no potential for them to be misinterpreted;

RECALLING that Recommendation 12/15 was adopted considering sound and adequate scientific information is centre piece for the conservation and management;

ADOPTS, in accordance with 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 and may aggregate fish.
- b) “Drifting Fish Aggregating Devices (DFADs)” means a FAD not tethered to the bottom of the ocean.
- c) “Log” means a floating object of natural source or accidentally lost from anthropic activities and that was not built and deployed for the purpose of aggregating and/or locating target tuna species for subsequent capture.
- d) “instrumented buoy” means a buoy clearly marked with a unique reference number allowing identification of its owner and equipped with a satellite tracking system to monitor its position.
- e) “activation of a buoy” means the act of initialising satellite communication service, which is done by the buoy supplier company at the request of the buoy owner. The buoy can be transmitting or not, depending if it has been manually switched on.
- f) “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 buoy owner.
- g) “buoy owner” means any legal or natural person, entity or branch, who is paying for the communication service for the buoy associated with a DFAD that is registered on the DFAD Register, and/or who is authorised to receive information from the satellite buoy, as well as to request its activation and/or deactivation.
- h) “reactivation” means the act of re-enabling satellite communications services by the buoy supplier company at the request of the buoy owner.
- i) “abandoned DFAD” means a DFAD that was initially deployed with the intention of later retrieval but that is deliberately left at sea due to force majeure or other reasons.
- j) “lost DFAD” means a DFAD over which the buoy owner has lost control and that cannot be located and/or retrieved by the buoy owner.
- k) “discarded DFAD” means a DFAD that is released at sea without any attempt for further control or recovery by the buoy owner.
- l) “biodegradable materials” means renewable lignocellulosic materials (i.e., plant dry matter - here described as natural material). Those materials shall degrade in normal conditions of the use of DFADs and both be biodegradable in marine environments in accordance with international relevant standards for full biodegradability in marine environments and on land under natural environmental conditions. In addition, the substances resulting from the degradation of these materials shall not be toxic for the marine and coastal ecosystems or include heavy metals in their composition.

Application

2. This Resolution shall apply to Contracting Party and Cooperating Non-Contracting Party (CPC) flag purse seine vessels fishing on DFADs aggregating target tuna species in the IOTC area of competence as well as associated supply or support vessels.

DFAD Limits and Register ~~Register and Limits~~

3. The maximum number of operational buoys followed by any purse seine vessel at 280 as of January 2024 and 260 as of 1 January 2026 at any one time. The number of instrumented buoys that may be acquired annually for each purse seine vessel is set at no more than 500.
4. Notwithstanding paragraph 3, flag CPCs with less than three purse seine vessels actively operating in the IOTC area of competence each year shall ensure its flag purse seine vessel the maximum number of operational buoys at any one time shall not exceed 300.
- 3.5. The IOTC ad hoc Working Group on FADs (WGFAD) and Scientific Committee shall work on establishing register system for all DFADs deployed in the IOTC area of competence (DFAD Register) to be adopted by the IOTC Commission in 2024. The WGFAD and Scientific Committee shall provide science-based detailed guidelines and a dedicated technological tool and may consider following information be contained in the DFAD Register:

~~The IOTC Executive Secretary shall maintain a register for all DFADs deployed in the IOTC area of competence (DFAD Register). The IOTC Executive Secretary shall provide detailed guidelines and a dedicated technological tool. The DFAD Register shall be effective as of 1 January 2024.~~

~~CPCs shall submit electronically to the IOTC Executive Secretary, for each of their flag purse seine vessels that is authorised to operate in the IOTC area of competence, after acquisition and before deployment, the following information for inclusion in the DFAD Register:~~

- a) ~~unique DFAD reference number;~~
- b) ~~unique instrumented buoy reference number that will allow the identification of its owner attached to the DFAD;~~
- c) ~~name of the purse seine vessel to which the DFAD is assigned;~~
- d) ~~name of the buoy owner;~~
- e) ~~unique IOTC Vessel Register number of the purse seine vessel that is assigned to the instrumented buoy;~~
- f) ~~flag State of the purse seine vessel that is assigned to the instrumented buoy;~~
- g) ~~manufacturer of the instrumented buoy;~~
- h) ~~model name of the instrumented buoy.~~

~~The maximum number of instrumented buoys that may be registered on the DFAD Register to any purse seine vessel, at any one time, shall not exceed 250 as of 1 January 2024 and 200 as of 1 January 2026 (DFAD Limits). The maximum number of instrumented buoys that may be acquired annually for each purse seine vessel shall not exceed 300. Notwithstanding the completion of any study undertaken at the request of the Commission, the Commission may review the DFAD Limits. This paragraph is without prejudice to the right of CPCs to adopt more stringent DFAD Limits for their flag vessels or within their EEZ.~~

- 4.6. Reactivated instrumented buoys shall not count as new instrumented buoys under the DFAD Limits but shall be

counted as part of the original limit of instrumented buoys that is allowed for each purse seine vessel.

~~Flag CPCs shall submit the information under paragraph 4 to the IOTC Executive Secretary at least 24 hours before an instrumented buoy is activated, switched on and deployed at sea on a DFAD or any floating object.~~

~~CPCs shall promptly notify, after the establishment of their initial DFAD Register record, the IOTC Executive Secretary of any addition to, any deletion from and/or any modification of the information mentioned in paragraph 4 as included in the DFAD Register at any time such changes occur.~~

~~The IOTC Executive Secretary shall make the DFAD Register available in a secure section the IOTC website that is accessible to CPCs. The IOTC Executive Secretary shall make the data contained in the DFAD Registry available exclusively for purposes of scientific research and monitoring of compliance. For other users, data shall be made available upon written request to the IOTC Executive Secretary following written agreement from the CPC concerned.~~

DFAD Management

5.7. CPCs shall ensure that only purse seine vessels and associated supply or support vessels use and fish on DFADs in the IOTC area of competence.

6.8. CPCs shall ensure that their flag vessels exclusively deploy instrumented buoys registered to them in the DFAD Register on all DFADs and shall prohibit the use of any other buoys, such as radio buoys.

7.9. CPCs shall ensure that their flag vessels exclusively deploy DFADs with an instrumented buoy that has been activated.

8.10. CPCs shall ensure that their flag vessels do not deploy instrumented buoys on DFADs which were deployed before the entry into force of this Resolution and which do not comply with the requirements of this Resolution.

9.11. CPCs shall ensure that their flag purse seine vessels and associated supply and support vessels encountering DFADs that do not comply with the requirements of this Resolution retrieve such DFADs.

~~CPCs shall ensure that their flag purse seine vessels and associated supply and support vessels do not attach their own instrumented buoys to DFADs that are already equipped with the instrumented buoy of another vessel.~~

10.12. CPCs shall ensure that their flag vessels activate instrumented buoys only when physically present on board the purse seine vessel to which they are registered after establishing DFAD Register.

11.13. CPCs shall ensure that their flag vessels record the deployment of each DFAD and their associated instrumented buoy in the appropriate logbook, specifying the instrumented buoy unique reference number and the date, time and geographical coordinates (decimalised degrees) of its deployment.

12.14. Flag CPCs shall ensure that the buoy owner records any deactivation of a previously activated buoy at sea in the logbook, including the unique instrumented buoy reference number, date, time, last geographical coordinates and the reasons for deactivation.

13.15. CPCs shall ensure that their flag vessels reactivate instrumented buoys only once this has been authorised by the flag CPC and once the instrumented buoys have been brought back to port.

14.16. CPCs shall ensure that their flag vessels fishing on DFADs annually submit the number of instrumented

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buoys assigned to them. This shall include instrumented buoys which have been lost, abandoned and/or discarded by 1° by 1° grid area and month strata and DFAD type.

~~15.17.~~ CPCs shall ensure that their flag vessels record fishing and fishing-related activities in association with DFADs using the specific data elements found in Annex II (DFAD) in the section of the “FAD-logbook”.

~~16.18.~~ CPCs shall report any factual information showing reasonable grounds for suspicion of violations against paragraphs ~~7-17~~~~40-24~~ to the IOTC Executive Secretary.

DFAD Management Plans

~~17.19.~~ CPCs with flag vessel fishing on DFADs shall submit to the IOTC Executive Secretary, each year in their Annual Implementation Report, a DFAD Management Plan for the use of DFADs and associated technologies in accordance with the Guidelines for Preparation of FAD Management Plans as provided for DFADs in Annex I.

~~18.20.~~ The Management Plans shall include initiatives or surveys to investigate and shall, to the extent possible, minimise the capture of juvenile tropical tuna, in particular bigeye tuna and yellowfin tuna, and non-target species associated with fishing on DFADs. Management Plans shall also include guidelines to prevent the abandonment, discarding and loss of DFADs.

~~19.21.~~ The IOTC Compliance Committee and the IOTC Scientific Committee shall analyse the Management Plans and report the results of this analysis to the Commission.

DFAD Closure Period

~~The IOTC Scientific Committee shall provide advice and recommendations no later than 31 December 2023 on appropriate DFAD management options, in particular a DFAD closure, including the area, period and other details, with the objective of achieving a high probability of reducing fishing mortality of juvenile tropical tuna, in particular bigeye and yellowfin tuna. If the IOTC Scientific Committee concludes that it does not currently possess access to sufficient scientific data to provide recommendations to the Commission, it shall provide advice on the data necessary for science-based recommendations.~~

~~In producing its advice and recommendations, the IOTC Scientific Committee shall take into account, *inter alia*:~~

- ~~a) available IOTC fisheries data;~~
- ~~b) experiences of implementing similar management measures with similar objectives, including DFAD closures, from other RFMOs; and~~
- ~~e) a) fishing behaviours/patterns in the Indian Ocean, both historically and those anticipated as a consequence of the implementation of any new management measures, including a DFAD closure.~~

~~The Commission, at its 28th Session in 2024, shall consider the advice and recommendations, if any, from the IOTC Scientific Committee, and take a decision on the adoption of a DFAD closure in accordance with the received advice and recommendations.~~

~~If the IOTC Scientific Committee concludes that it does not have access to sufficient data to provide the recommendations referred to in paragraph 27 to the Commission, or the Commission, at its 28th Session in 2024, does not adopt a DFAD closure as provided by paragraph 28, CPCs shall, as a precautionary measure, as of 2024, ensure that their flag purse seine vessels fishing for bigeye, yellowfin and skipjack tunas do not fish on, deploy or maintain DFADs in the IOTC area of competence between 00:00hrs (UTC+4) of 1 July and 00:00hrs (UTC+4) 11 September (72 days) each year (DFAD Closure Period). To prevent a disproportionate burden on~~

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~~Small Island Developing States (SIDS) whose economy depends on purse seine fisheries on DFADs, for SIDS, the DFAD Closure Period shall apply exclusively to the high seas of the IOTC area of competence.~~

~~The IOTC Scientific Committee shall review DFAD closures under paragraphs 27 to 29 at its session in 2027.~~

~~CPCs shall ensure that, if their flag purse seine vessels and associated supply and support vessels retrieve the electronic equipment on their DFADs during the DFAD Closure Period, they retrieve the entire DFAD and keep it on board the vessel until landed in port or until the end 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.~~

~~CPCs shall ensure that during the DFAD Closure Period, their flag 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 during the DFAD Closure Period 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.~~

DFAD Monitoring System

~~20.22.~~ In order to support the monitoring of compliance with this Resolution and to improve scientific data collection, while protecting business confidential data, flag CPCs shall ensure that the instrumented buoy supplier company or their vessels report daily information on all active DFADs compiled per purse seine vessel and in monthly interval ~~in compiled form~~ to the IOTC Executive Secretary ~~with a time delay of at least 30 days, but no longer than 60 days~~. Such information shall contain:

- a) the geographical location (decimalised degrees);
- b) the date;
- c) the time;
- d) IOTC FAD Registry number;
- e) the name and IOTC registration number of the vessels assigned to the instrumented buoy.

The monthly information shall be submitted by the 15th of the second subsequent month¹.

~~21.23.~~ The IOTC Standing Committee on Administration and Finance ~~Compliance Committee~~, in support of the IOTC Secretariat, shall work on identifying administrative arrangements and developing terms of reference and/or regulation rules of procedure, with the aim of establishing a real-time DFAD Monitoring System (DFAD-MS) to be activated by 1 January 2026. The terms of reference and/or the regulation rules of procedure of the DFAD-MS may include, inter alia:

- a) minimum data standards and formats;
- b) rules on polling of instrumented buoys;
- c) cost recovery;
- d) cost sharing;

¹ Information for the January shall be submitted by 15 March; those for the February shall be submitted by 15 April, and so on.

- e) measures to prevent tampering; and
- f) geofencing capabilities.

22.24. The WGFAD, in conjunction with IOTC Scientific Committee, shall work on identifying and providing technical and scientific advice on developing DFAD-MS.

Recovery and Reporting of Lost, Discarded and Abandoned DFADs

23.25. CPCs shall ensure that their flag vessels report, within 72 hours, any loss of a DFAD, or parts of a DFAD, owned by them to the flag CPC and the IOTC Executive Secretary. If the loss of a DFAD occurs in the EEZ of a coastal CPC, the flag CPC shall additionally report this information to the relevant coastal CPC within 72 hours of that loss. The report shall contain the following information:

- a) unique reference number of the instrumented buoy;
- b) unique IOTC Vessel registration number and name of the vessel;
- c) construction materials and dimension of the DFAD components, including the raft and subsurface structure;
- d) time when the DFAD or part thereof was lost;
- e) geographical position (degrees, minutes and seconds) where the DFAD or part thereof was lost;
- f) measures taken to retrieve the DFAD or part thereof;
- g) any perceived threats of the imminent beaching of the DFAD;
- h) geographical position (degrees, minutes and seconds) of potential location of beaching; and
- i) plans to recover beached DFADs and how the recovery costs will be collected and shared.

24.26. CPCs shall ensure that their flag vessels, before reporting the loss of a DFAD, or part of a DFAD, in accordance with paragraph 37, attempt to locate and retrieve such a DFAD as soon as possible and carry equipment on board for these purposes.

25.27. CPCs shall ensure that if their flag vessels cannot retrieve an active DFAD before it enters the EEZs of a coastal CPC that they report the information provided in paragraph 37 to the relevant coastal CPC within 72 hours after the DFAD has entered its EEZ.

26.28. CPCs shall ensure that their flag vessels record additional information for all lost, discarded and abandoned DFADs in accordance with Annex II.

Non-entangling and Biodegradable DFADs

27.29. To reduce the entanglement of sharks, marine turtles or any other species, CPCs shall ensure that the design and construction of any DFADs to be deployed in the IOTC area of competence shall comply with the following specifications in accordance with Annex III:

- a) the use of mesh materials shall be prohibited for any part of a DFAD;
- b) only non-entangling material and designs shall be used; ~~and~~
- c) ~~the sub-surface structure shall be limited to a length of 50 meters.~~

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~~28.30.~~ To reduce the amount of synthetic marine debris, CPCs shall ensure that their flag vessels:

- a) use only DFADs of biodegradability categories I, II and III, as defined in Annex III;
- b) no longer deploy any DFADs of category IV, as defined in Annex III;
- c) as of 1 January 2026, use only DFADs of categories I and II, as defined in Annex III; and
- d) as of 1 January ~~2029~~~~2027~~, use only DFADs of category I, as defined in Annex III.

~~29.31.~~ CPCs are encouraged to share their experiences and scientific knowledge on the use of biodegradable materials in DFADs [to the WGFAD and the Scientific Committee](#).

~~30.32.~~ CPCs shall ensure that any observers deployed on their flag purse seine vessels collect detailed information on the DFAD design used and its conformity with the requirements set out in Annex III prior to the deployment of each DFAD.

DFAD Marking

~~31.33.~~ Until a scheme to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) is endorsed by the Commission 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.

~~32.34.~~ 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 marked permanently and clearly visible the vessel's unique IOTC registration number.

~~33.35.~~ As of 1st of January 2025, and with the specific objective to collect information on how to mitigate FAD loss and abandonment, in addition to the marking of the instrumented buoy, CPCs shall ensure that each DFAD is permanently marked with a specific IOTC DFAD unique identifier. This IOTC DFAD unique identifier shall be attributed by the Secretariat to the CPC who will communicate them to the master of the vessel. The marking shall be separate from the instrumented buoy. The standards for the individual marking of DFADs shall be developed by the IOTC Scientific Committee, following preparatory work by the ~~WGFAD ad hoc working group on FADs~~ and in close collaboration with the Secretariat, at the latest at its 2024 session. These standards shall take into account the requirements of paragraph 42 on DFAD biodegradability to avoid the erasing or loss of the marking and the work to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG); IOTC–2020–CoC17–14.

~~34.36.~~ CPCs shall ensure that their flag vessels only use DFADs whose raft and the sub-surface structure underneath the raft have a permanent mark showing the unique vessel IOTC registration number attached to it. Each mark must be:

- a) at least 75mm x 65mm in size;
- b) made of durable material; and
- c) securely fixed to the sub-surface structure and not removable.

~~35.37.~~ CPCs shall conduct inspections, both at sea and at port, to ensure that their flag vessels comply with gear marking and other requirements. CPCs shall report deployed DFADs found without required markings to the relevant flag CPC and the IOTC Executive Secretary. 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 conditions relating to the marking of fishing gear.

Data Reporting and Scientific Work Analysis

~~36.~~^{38.} CPCs shall submit the data elements provided in 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).

~~37.~~^{39.} The IOTC Scientific Committee, in conjunction with WGFAD, will analyse the information and data gathered under this Resolution, when available, and provide scientific advice on additional DFAD management options for consideration by the Commission, including recommendations on a DFAD closure, the number of DFADs to be operated and new and improved DFAD designs. When assessing the impact of DFADs on the dynamics 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, lost and discarded DFADs.

40. In producing its advice and recommendations, the IOTC Scientific Committee shall take into account, inter alia:

- a) available IOTC fisheries data;
- b) experiences of implementing similar management measures with similar objectives, including DFAD closures, DFAD registry, DFAD-MS from other RFMOs, if any; and
- c) fishing behaviours/patterns in the Indian Ocean, both historically and those anticipated as a consequence of the implementation of any new management measures, including a DFAD closure.

Purse Seine Vessels, Supply and Support Vessels

41. Flag CPCs shall gradually reduce the number of supply and support vessels to one supply or support vessel per flag CPC by 1 July 2024. Flag CPCs shall submit information on the status of reducing the use of supply and support vessels in their annual Implementation Report.

42. Notwithstanding paragraph 41, Flag CPCs with more than ~~threetwo~~ purse seine vessels actively operating in the IOTC area of competence each year, shall ensure that, after as of 1 July 2024, shall choose between: no supply or support vessels deploy, maintain or use DFADs in the IOTC area of competence.

a) measure in paragraph 41

b) prohibition of supply or support vessel to deploy DFADs for 30 consecutive days every year. During this period, the supply or support vessel will only be allowed to retrieve DFADs.

The CPC shall notify its decision of the measure which will be applied in the following year, including the prohibition period, if applicable, annually before 31 December to the IOTC Executive Secretary. The IOTC Executive Secretary shall circulate such information to all CPCs, without delay.

Entry Into Force

43. Without prejudice to paragraph 30, this Resolution shall be reviewed by the Commission, at the latest, at its Session in ~~2026~~²⁰²⁸ based on recommendations from the IOTC Scientific Committee.

44. The IOTC Scientific Committee shall review the definitions and undertake evaluation of the effectiveness of the measures detailed in this Resolution. If the IOTC Scientific Committee lacks sufficient scientific evidence which may prevent it from formulating management advice on DFADs, it shall provide advice to the Commission.

45. With the exception of paragraphs 27 to 30, which shall enter into force immediately after the adoption of this Resolution, this Resolution shall enter into force on 1 January 2024.
46. Without prejudice to paragraphs 52 and 53, CPCs not yet involved in purse seine fisheries using DFADs are exempt from the application of this Resolution for a period of 6 months from when their vessels deploy DFADs for the first time.
47. The IOTC Executive Secretary shall submit a report, on an annual basis, to the IOTC Compliance Committee on the level of compliance of each CPC with all the obligations under this Resolution.
48. Resolution 23/02 On Management of Drifting Fish Aggregating Devices (DFADS) in the IOTC Area of Competence is superseded by this Resolution. ~~Resolution 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 I²

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 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 II).

² All Annexes in this Resolution would be further reviewed and discussed during this 27th Commission meeting.

ANNEX II

DATA COLLECTION FOR DFADS

1. For each activity on a DFAD, floating object and/or instrumented buoy, whether followed by a set or not, each fishing, supply vessel shall report the following information:
 - A. Vessel (name and registration number of the fishing, supply vessel)
 - B. Position of the floating object or the buoy at the time of the operation (as the geographic location of the event (Latitude and Longitude) in degrees and minutes)
 - C. Date (as DD/MM/YYYY, day/month/year)
 - D. Type of floating object (as defined in Table 1)
 - E. Type of activity with the floating object
 - F. In the case of floating objects that are DFADs, information on the design characteristics, including the presence of meshing elements, the biodegradability category, the materials and the dimensions. These information are mandatory at the time of DFAD deployment. They should be provided to the extent possible during DFAD visits (i.e. without having to lift the DFAD out of the water)
 - G. the instrumented buoy unique identifier
 - H. the type of buoy activity and, in the case of buoy deactivation, the cause (DFAD is either retrieved from the sea, abandoned or lost)
2. 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 shall report these data aggregated per vessel at 1*1 degree (where applicable) and monthly to the Secretariat.

3. Classification of Floating Objects

Code	Description	Example	Type of impact
DFAD	Drifting FAD	Bamboo or metal raft	Fishing effort, habitat modification, pollution
AFAD	Anchored FAD	Anchored floating platform	Fishing effort, habitat modification, pollution
FALOG	Artificial log resulting from fishing activities	Nets, wreck, ropes	Fishing effort, pollution
HALOG	Artificial log resulting from other human activities	Wooden board, oil tank	Fishing effort, pollution
ANLOG	Natural log of animal origin	Dead whale	Fishing effort
VNLOG	Natural log of plant origin	Branches, palm leaf	Fishing effort

4. Classification of activities with floating object and buoys

Code	Name	Description
floating object	Deployment	Deployment of a FAD at sea
	Encounter	Random encounter (without fishing) of a floating object belonging to another vessel or not equipped with a buoy
	Visit	Visit (without fishing) of a floating object (known position, owned by the vessel)
	Consolidation	Deployment of a FAD on a floating object (e.g. to enhance floatability)
	Fishing	Fishing set on the floating object
	Retrieval	Retrieval of the floating object
	Loss	Unvoluntary end of use of the floating object (end of transmission of the buoy)
	Abandonment	Deliberate end of use of the floating object due to a case of force majeure or the floating object is unreachable (buoy still present and able to transmit)

2.

BUOY	Deployment	Deployment (tagging) of a buoy on a floating object already drifting at sea without buoy or deployment of a FAD equipped with a buoy
	Transfer	Replacement of the buoy owned by another vessel by a buoy of the vessel
	Retrieval	Retrieval of the buoy on a floating object drifting at sea
	Loss	Involuntary end of use of the buoy (end of transmission of the buoy)
	Abandonment	Voluntary end of use of the buoy (buoy still able to transmit)

5. Classification of outcome of DFADs deployed

DFAD is deployed + buoy activated						
↓						
Buoy is operational						
Signal is active and buoy can be located				Signal is lost and buoy cannot be located		
Reason to deactivate buoy	DFAD can be retrieved		DFAD cannot be retrieved		DFAD cannot be located, so not retrievable	
	DFAD and buoy are taken from the sea	Buoy owner decides not to recover the DFAD	Not reachable (i.e. in the EEZ of another country)	Buoy is robbed but signal is active	DFAD is robbed	Buoy is broken/technical issue
Final status of the DFAD	Retrieved FAD	Discarded DFAD	Abandoned DFAD	Lost DFAD		

ANNEX III
PRINCIPLES FOR NON-ENTANLING AND BIODEGRADABLE
DESIGNS OF DFADS

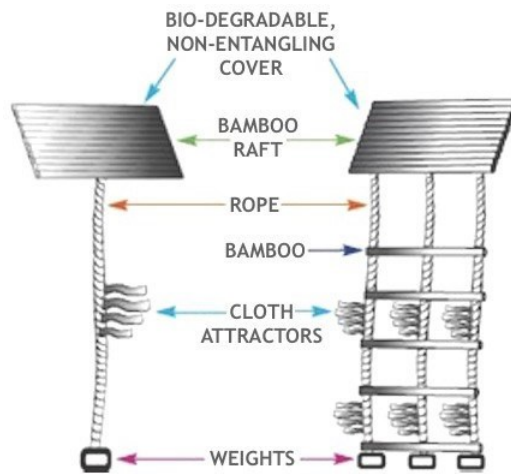


Figure: Example of a non-entangling, biodegradable FAD

1. The surface structure of the DFAD shall not be covered, or only covered with non-meshed material such as ropes or canvas sheets. No shade cloth or other entangling materials such as netting shall be used in the construction of the raft. ~~The sub-surface structure of DFADs shall not exceed a length of 50 meters.~~
2. For the purposes of this Resolution, categories of DFAD biodegradability are:

Category I: All parts (i.e., raft and tail and floating components) of the DFAD, with the exception of materials used for the instrumented buoys, are built with biodegradable materials.

Category II: All elements (i.e., raft and tail) of the DFAD, with the exception of materials used for the instrumented buoys and floating components, are built with fully biodegradable materials.

Category III: The tail and other underwater hanging parts of the DFAD are fully biodegradable materials, whilst the raft and materials used for the instrumented buoys are made of non-biodegradable materials.

Category IV: All parts of the DFAD (i.e., raft, tail and instrumented buoy) are built partly or fully with non-biodegradable materials.