

EU PROPOSAL FOR A DFAD RESOLUTION

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) “Operational buoy” means any instrumented buoy, previously activated, switched on and deployed at sea on a drifting FAD, which transmits position and any other available information such as eco-sounder data.
- g) “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.
- 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 buoy owner.
- 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 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.
- g) “reactivation” means the act of re-enabling satellite communications services by the buoy supplier company at the request of the buoy owner.
- h) “abandoned DFAD” means a DFAD which the buoy owner has deliberately left at sea due to force majeure or other reasons and over which the buoy supplier can transmit localisation information for the purpose of retrieving the 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,~~
- k) “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.
- l) “discarded DFAD” means a DFAD that is released at sea without any attempt for further control or recovery by the buoy owner.
- m) “biodegradable materials” means “non-synthetic materials[1] and/or bio-based alternatives that are consistent with international standards[2] for materials that are biodegradable in marine

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[1] For example, plant-based materials such as cotton, jute, manila hemp (abaca), bamboo, or animal-based such as leather, wool, lard.

[2] International standards such as ASTM D6691, D7881, TUV Austria, European or any such standards approved by the WCPFC CCMs.

environments. The components resulting from the degradation of these materials should not be damaging to the marine and coastal ecosystems or include heavy metals or plastics in their composition.”

(k) renewable lignocellulosic materials (i.e., plant dry matter here described as natural material) and/or bio-based biodegradable plastic compounds. 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 or certification labels for full biodegradability plastic compostability in marine environments and compostable 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.

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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 Register and Limits

3. 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 to be presented at the 2024 annual session of the Commission. Provided that the guidelines are adopted and that the technological tool is operational, the DFAD Register shall be effective as of 1 January 2024/2025.

Commented [A3]: Proposed new text on the register to make it more implementable

Commented [A4]: Consider using this instead of FAD logbook, but then increase info requirements

Commented [A5]: Pre-drafted, modalities to be defined later on

4. Once the electronic register is available CPCs shall submit electronically after acquisition and before deployment to the IOTC Executive Secretary the following information for inclusion in the DFAD Register on instrumented buoy:

—unique instrumented buoy reference number that will allow the identification of its buoy owner:

a) —

—unique IOTC Vessel Register number of the purse seiners that is assigned to the instrumented buoy;

b) —

5. The buoy owner shall inform within 72 hours, through the above referred electronic register, the IOTC Secretariat and the flag CPC when an instrumented buoy is activated, switched on and deployed at sea on a DFAD together with the IOTC DFAD unique identifier as referred to in paragraph 41 or if it has been deployed with a log. Once the IOTC secretariat receives this information, the relevant instrumented buoys should appear as operational in the electronic register.

6. The flag CPC shall require that, if an operational buoy attached to a DFAD is deactivated or lost without being retrieved, the buoy owner immediately notify the Secretariat, through the DFAD register, the date, time, last location of the buoy and the reasons for abandoning it.

7. The Secretariat shall maintain the DFAD Register and make the information available to concerned Coastal CPCs and simultaneously to flag CPCs upon justified request and in accordance with Resolution 12/02 On data confidentiality policy and procedures. The reasons for requesting access to this information shall be the following:

a) Encounter of a non-compliant FAD design; or

b) Retrieval of a DFAD and/or an operational buoy in the area under the jurisdiction of a CPC.

DFADs limits

8. Only purse seiners and associated supply or support vessels are allowed to deploy DFADs instrumented buoys in the IOTC Area of Competence.
9. CPCs shall require, in respect of its flag vessels operating in the IOTC area of competence that:
 - a) the maximum number of operational buoys followed at any one time by any purse seine vessel:
 - i. from the 1st January 2024, to be 280; and
 - ii. from the 1st January 2026, to be 260; and
 - iii. From the 1st January 2027 to be 250; and
 - iv. From the 1st January 2028 to be 240.
 - b) the maximum number of instrumented buoys that may be acquired annually for each purse seine vessel shall not be more than 450.
10. No additional instrumented buoy shall be attributed to supply or support vessels.
11. A CPC may adopt lower limits than the one provided in paragraph 10 for its flag vessels and may adopt lower limits for DFADs deployed in its exclusive economic zone (EEZ).
12. In order to reduce the amount of DFAD used, data of operational buoy can be shared among multiple purse seine vessels only provided that:
 - i. shared buoys are reported for each single purse seine vessel receiving the information, and not only for the buoy owner, when reporting information as defined in paragraph 10;
 - ii. shared buoys are accounted for as a fraction of the number of purse seiners sharing the same buoy, remaining within the limit set in paragraph 10 and
 - iii. no instrumented buoy shall be attributed to supply or support vessels.

DFAD Management

- ~~3.13.~~ CPCs shall ensure that only purse seine vessels and associated supply or support vessels use DFADs in the IOTC area of competence.
14. CPCs shall ensure their flag vessels only deploy DFADs with an operational buoy
- ~~4.15.~~ CPCs shall ensure that their flag vessels exclusively ~~use~~ 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.
- ~~5.16.~~
- ~~6.~~ ~~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.~~
- ~~7.17.~~ 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 or its associated supply or support vessel.
18. CPCs shall ensure that their flag vessels record the ~~activation~~ deployment of each DFAD and their associated instrumented buoy in the appropriate logbook, specifying the unique instrumented buoy

Commented [A6]: As requested by UK to avoid loophole

Commented [A7]: This is customary and help reducing the number of FADs

~~unique~~ reference number and the date, time and geographical coordinates (in degrees, minutes and seconds) of its deployment.

19. CPCs shall require that the buoy owner records any deactivation of an operational buoy at sea in the logbook, including the unique instrumented buoy reference number, date, time, last geographical coordinates and the reasons for deactivation; and

~~20.~~ 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.

~~9. CPCs shall ensure that their flag vessels fishing on DFADs annually submit the number of instrumented 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.~~

~~21.~~ CPCs shall ensure that their flag vessels record ~~fishing and fishing related~~ any activities with the DFAD or instrumented buoy in association with DFADs using the specific data elements found in Annex II (DFAD) in the section of the “FAD-logbook”.

DFAD Management Plans

~~22.~~ CPCs with flag vessels fishing on DFADs shall submit to the Secretariat, each year in their annual Implementation Report, a DFADs Management Plan for the use of DFADs and associated technologies (instrumented buoys and supply or support vessels). ~~CPCs having flag vessels fishing on DFADs shall submit, to the IOTC Executive Secretary, on an annual basis, Fish Aggregating Device (FAD) Management Plans in accordance with the Guidelines for Preparation of FAD Management Plans as provided for DFADs in Annex I.~~

~~23.~~ The Management Plans shall include initiatives or surveys to investigate and shall, to the extent possible, minimise the capture of juvenile 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.

~~24.~~ The IOTC Compliance Committee and the IOTC Scientific Committee shall analyse the Management Plans and report the results of this analysis to the Commission.

~~14. CPCs shall submit to the Commission, 60 days before the Annual Meeting, a report on the progress of their Management Plans, including, if necessary, reviews of the initially submitted Management Plans, and including reviews of the application of the principles provided in Annex I.~~

Scientific advice on a DFAD Closure Period

~~15. Commencing in 2024, With and with the objective of reducing the fishing mortality of juvenile bigeye and yellowfin tunas, CPCs shall ensure that their flag purse seine vessels fishing for bigeye, yellowfin and skipjack tunas, as well as associated supply or support vessels, do not fish on DFADs or deploy or maintain DFADs in the IOTC area of competence between 0000hrs of 1 July and 0000hrs 30th 11 September (72 days) each year (DFAD Closure Period).~~

~~25. 23bis.~~ The Scientific Committee shall provide advice and recommendations no later than 31 December 2023 on appropriate DFAD management options, including the efficacy of dFAD closures and

Commented [A8]: It is already in the register...

Commented [A9]: We have been implementing that but it has absolutely no purpose.

expected reductions of catches and fishing mortality according to periods of the year, location and duration particularly, but not limited, with regards to juvenile yellowfin tuna and bigeye tuna. The assessment will consider potential implications of the increase in catches on free school sets on the three tropical tuna stocks, and include a comparative analysis of the contribution of all fishing gears to the juvenile and overall fishing mortality of targeted tunas.

26. To the extent possible, the Scientific Committee shall provide estimates of the reduction in such fishing mortality likely to result from each management option. The advice and recommendations of the Scientific Committee shall include, inter alia:

- a) Whether the Scientific Committee currently possesses access to sufficient data to make a clear recommendation to the Commission on whether a closure for DFADs would be an effective measure to assist in rebuilding tuna stocks in the IOTC area of competence.
- b) If the answer to a) is affirmative, to provide advice to the Commission on modifications, if any, to the most effective DFAD Closure Period, to assist in rebuilding tuna stocks in the IOTC area of competence.
- c) If the answer to a) is negative, to provide advice on what data would be necessary to provide science-based advice on whether a closure for DFADs would be an effective measure to assist in rebuilding tuna stocks in the IOTC area of competence.
- d) The advice shall also include advice on the form a DFAD closure should take, and an estimate of how long it would take to gather the required supporting data and analysis.

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

- a) available IOTC fisheries data;
- b) experiences of implementing similar management measures, towards similar objectives, from other RFMOs, 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;
- ⇒d) potential socio-economic implications for fisheries and CPCs.

23quater. The Commission, at its 28th Session in 2024, shall consider the advice from the Scientific Committee described in paragraph 22bis, and modify the DFAD Closure Period as necessary.

28. The Commission, at its 28th Session in 2024, shall consider the advice from the Scientific Committee described in paragraph 24, 25 and 26, and unless differently advised by the Scientific Committee adopt a DFAD Closure Period as necessary.

16. 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.

17. 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.

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

- ~~19. 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.~~
- ~~20. The Commission shall review the DFAD Closure Period and associated measures 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.~~

DFAD Monitoring System

- ~~21. To support the monitoring of compliance with the DFAD Limits, and to ensure the effective management of DFADs, the IOTC Executive Secretary shall establish and administer, with the support of external service providers as appropriate, a DFAD Monitoring System (DFAD-MS) to be activated by 1 January 2025.~~
- ~~22. The IOTC Compliance Committee shall develop rules and procedures for the operation of the DFAD-MS, to be adopted by the Commission. These rules and procedures shall include, *inter alia*:~~
- ~~a) minimum data standards and formats;~~
 - ~~b) rules on polling of instrumented buoys;~~
 - ~~c) cost recovery;~~
 - ~~d) cost sharing;~~
 - ~~e) measures to prevent tampering, and~~
 - ~~f) obligations and roles of fishing vessels, CPCs, the IOTC Executive Secretary and any external service providers.~~
- ~~23. Once the DFAD-MS is operational, CPCs shall ensure that their flag vessels report the following real-time information about each instrumented buoy on the DFAD Register to the DFAD-MS when DFADs on the DFAD Register are first activated and until they are deactivated:~~
- ~~a) the geographical location (in degrees, minutes and seconds);~~
 - ~~b) the date;~~
 - ~~c) the time;~~
 - ~~d) the instrumented buoy unique reference number of each instrumented buoy; and~~
 - ~~e) the name and IOTC registration number of the vessels assigned to the instrumented buoy.~~
- ~~29. Until the DFAD-MS is operational, CPCs shall require, while protecting business confidential data, its flag vessels or the instrumented buoy supplier company to report, daily information on all active DFADs, including the date, instrumented buoy ID, and assigned vessel and daily position (latitude, longitude). CPCs shall compile this information at monthly intervals and submit with a time delay of at least 60 days, but no longer than 90 days to the Secretariat.~~
- ~~24. ensure that their flag vessels report daily information containing the information mentioned in paragraph 31 on all active DFADs on the DFAD Register to the IOTC Executive Secretary. Such information shall be compiled at monthly intervals, to be submitted with a time delay of at least 60 days, but no longer than 90 days.~~
- ~~25. CPCs shall ensure that their flag vessels report real-time information on the geographical location (in degrees, minutes and seconds) of each instrumented buoy in 6-hourly intervals to the DFAD-MS.~~

Recovery and Reporting of Lost, Discarded and Abandoned DFADs

~~26.~~ In accordance with paragraph 6, CPCs shall ensure that their flag vessels report, within ~~24-72~~ hours, any loss of a DFAD, or parts of a DFAD, owned by them to the flag CPC and the IOTC ~~Executive Secretary/Secretariat~~. 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 ~~24-72~~ hours of that loss. ~~The report shall contain the following information:~~

- ~~27.~~ unique reference number of the instrumented buoy;
- ~~28.~~ unique IOTC Vessel registration number and name of the vessel;
- ~~29.~~ construction materials and dimension of the DFAD components, including the raft and subsurface structure;
- ~~30.~~ time when the DFAD or part thereof was lost;
- ~~31.~~ geographical position (degrees, minutes and seconds) where the DFAD or part thereof was lost;
- ~~32.~~ measures taken to retrieve the DFAD or part thereof;
- ~~33.~~ any perceived threats of the imminent beaching of the DFAD;
- ~~34.~~ geographical position (degrees, minutes and seconds) of potential location of beaching; and
- ~~35.~~ plans to recover beached DFADs and how the recovery costs will be collected and shared;
- ~~35.~~ ~~The IOTC DFAD unique identifier~~

Commented [A10]: All covered in the provisions of para 6 on the register

~~36.~~ CPCs shall ensure that their flag vessels, before reporting the ~~loss/abandonment~~ of a DFAD, or part of a DFAD, in accordance with paragraph ~~34~~, attempt to locate and retrieve such a DFAD as soon as possible and carry equipment on board for these purposes.

Commented [A11]: Lost FAD can no longer be located

~~37.~~ 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 ~~34-4~~ to the relevant coastal CPC within ~~24-72~~ hours after the DFAD has entered its EEZ.

~~38.~~ 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

~~39.~~ 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;~~

Commented [A12]: This could possible impact the drifting and stability of the FAD

~~40.~~ 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 202~~6~~⁵, use only DFADs of categories I and II, as defined in Annex III; and
- d) as of 1 January ~~2026~~²⁰²⁸, use only DFADs of category I, as defined in Annex III.

~~35.~~ Instrumented buoys shall not be deployed on DFADs which were deployed before the entering into force of this resolution and which do not comply with the requirements of paragraphs 35 and 36. Vessels encountering DFADs that are not compliant with the requirement of this resolution, shall automatically retrieve such DFADs from the water.

~~44.~~ CPCs are encouraged to share their experiences and scientific knowledge on the use of biodegradable materials in DFADs.

~~42.37.~~ 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

~~43.38.~~ Until a scheme to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) is ~~developed~~ 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.

~~39.~~ 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~~ marked permanently and clearly visible with the vessel's unique IOTC registration number ~~is clearly visible on the instrumented buoy.~~

~~40.~~ 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 referred to in paragraph XX, 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 *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 34 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.

~~44.~~

~~45.~~ ~~CPCs shall ensure that their flag purse seine vessels and associated supply and support 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.~~

~~41.~~ CPCs are encouraged to 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 Secretariat to the relevant 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 conditions relating to the marking of fishing gear.

~~46.42.~~ CPCs shall report any factual information showing reasonable grounds for suspicion of violations of the present Resolution against paragraphs 10-17 to the IOTC ~~Executive Secretariat~~.

~~47.~~

Commented [A13]: Happy to have shall after a HSBI is adopted

Commented [A14]: With no ID impossible to identify the flag state

Data Reporting and Analysis

~~43.~~ 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).

~~44.~~ The information provided in paragraph 29 shall be stratified by fleet, year, month and 1x1 degrees grid, and expressed as the average daily number of operational buoys in each stratum and made available by the Secretariat to support scientific analysis in line with the confidentiality rules set by Resolution 12/02 On data confidentiality policy and procedures. Upon justified request by the IOTC Scientific Committee for specific analysis, and following the agreement by the Commission, data on DFAD trajectories shall be made available.

~~48.~~

~~45.~~ The IOTC Scientific Committee 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 the number of DFADs to be operated and new and improved DFADs design. 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.

Commented [A15]: Already Available

Purse Seine Vessels, Supply and Support Vessels

~~49.~~ CPCs shall only authorize purse seine vessels already authorized to fish in the IOTC area of competence under their flag in the previous year unless to replace a vessel already authorized in the IOTC area of competence with the same or less fishing capacity.

~~46.~~ As of the 1st of January 2024, flag CPCs shall prohibit each supply vessel to deploy DFADs for 30 consecutive days every year. Each CPC should inform in its implementation report the chosen period for each supply vessel. During this period each supply vessels will only be allowed to retrieve DFADs.

~~50.~~ Flag CPCs shall gradually reduce the number of supply and support vessels to one supply or support vessel per flag CPC by 31 December July 20232024. Flag CPCs shall submit information on the status of reducing the use of supply and support vessels in their annual Implementation Report.

~~51.~~ Flag CPCs shall ensure that, after 31 December July 20232024, no supply or support vessels support purse seine vessels deploy, retrieve, maintain or use DFADs in the IOTC area of competence.

Addition scientific work

~~47.~~ The IOTC Scientific Committee shall provide scientific advice to the Commission by:

- ~~a)~~ assessing the impact that fishing gears or fishing using FADs have on juvenile mortality and provide adequate advice to the Commission. This assessment shall include, but not be limited to:
- ~~i.~~ a comparative analysis of the contribution of all fishing gears to the juvenile mortality of targeted tunas; and
 - ~~ii.~~ an estimate of reference points for fishing mortality of juveniles of yellowfin and bigeye tunas with the view of recovering or maintaining stock size above levels which can produce the MSY and keep the risk of violating/exceeding limit reference points to a low probability;

b) by providing an analysis of the efficiency of current operational buoy limits, and examining the potential efficiency of alternative/complementary options to limit the number of FADs at sea. This will include, among other options, an advice on the definition and expected effectiveness of a measure to control the number of sets under DFAD".

c) continuing reviewing research results on the use of biodegradable material on FADs and fishing gears, including on relevant international standards, with a view to provide specific recommendations to the Commission as appropriate; and

d) researching and developing mitigating measures to avoid the loss and other impacts of AFADs. These recommendations may include guidelines on the design of AFADs or on the use of biodegradable material.

Entry Into Force

~~52.48.~~ This Resolution shall be reviewed by the Commission, ~~at the latest, at~~ not before its Session in 2029.

~~53.49.~~ This Resolution shall enter into force on 1 January 2024 with the exception of paragraphs 25, 26, 27 and 42 which should be immediately implemented.

~~54.~~ 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.

~~55.50.~~ 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.

~~56.51.~~ 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 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 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).

**ANNEX II
DATA COLLECTION FOR DFADS**

~~a) For each activity on a DFAD, whether followed by a set or not, each fishing, support and supply vessel shall 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~~
- ~~vii. Dimension and material of the floating part and of the underwater hanging structure~~
- ~~viii. 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 Executive Secretary.~~

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

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

4) Classification of activities with floating object and buoys

<u>Code</u>	<u>Name</u>	<u>Description</u>
	<u>Deployment</u>	Deployment of a FAD at sea
	<u>Encounter</u>	Random encounter (without fishing) of a floating object belonging to another vessel or not equipped with a buoy
	<u>Visit</u>	Visit (without fishing) of a floating object (known position, owned by the vessel)
<u>floating object</u>	<u>Consolidation</u>	Deployment of a FAD on a floating object (e.g. to enhance floatability)
	<u>Fishing</u>	Fishing set on the floating object
	<u>Retrieval</u>	Retrieval of the floating object
	<u>Loss</u>	Unvoluntary end of use of the floating object (end of transmission of the buoy)
	<u>Abandonment</u>	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)
	<u>Deployment</u>	Deployment (tagging) of a buoy on a floating object already drifting at sea without buoy or deployment of a FAD equipped with a buoy
<u>BUOY</u>	<u>Transfer</u>	Replacement of the buoy owned by another vessel by a buoy of the vessel
	<u>Retrieval</u>	Retrieval of the buoy on a floating object drifting at sea
	<u>Loss</u>	Involuntary end of use of the buoy (end of transmission of the buoy)
	<u>Abandonment</u>	Voluntary end of use of the buoy (buoy still able to transmit)

5) Classification of outcome of DFADs deployed

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

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

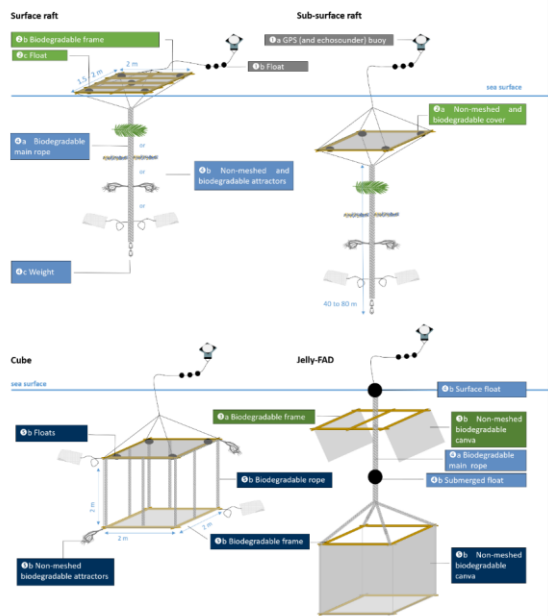
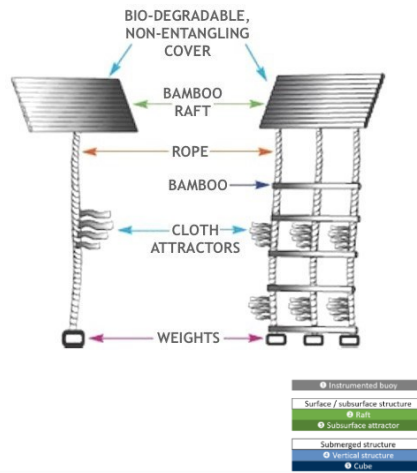


Figure: Example of a non-entangling, biodegradable FAD

~~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.~~

1. The surface structure of the FAD shall not be covered, or only covered with non-meshed material.

2. 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.

2.3. For the purposes of this Resolution, categories of DFAD biodegradability are:

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

Category II: All elements (i.e., raft and tail) of the FAD are fully biodegradable materials except for the floating components and the instrumented buoy.

Category III:

a) The subsurface part of the FAD is made of 100% biodegradable materials, whereas the surface part and any flotation components contain non-biodegradable materials.

b) The subsurface part of the FAD contains non-biodegradable materials, whereas the surface part is made of 100% biodegradable materials, except for, possibly, flotation components.

Category IV: All parts of the FAD (i.e. raft and tail) are built partly or fully with non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).

Those categories do not apply to instrumented buoys attached to DFADs to track them.

~~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.~~