
**RESOLUTION 24/02
ON MANAGEMENT OF DRIFTING FISH AGGREGATING DEVICES
(FADS) IN THE IOTC AREA OF COMPETENCE**

Keywords: FAD, FAD Management, FAD monitoring, 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) 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 78/71 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 United Nations General Assembly Resolution 78/68 on Sustainable fisheries of 2023 recognized the need to adopt and implement appropriate measures, consistent with the best available scientific information, to minimize by-catch of non-targeted species and juveniles through the effective management of fishing methods, including the use and design of fish aggregating devices, in order to mitigate adverse effects on fish stocks and ecosystems;

RECALLING FURTHER 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;

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 and is not subsequently abandoned except in situations of *force majeure*;

UNDERLINING in particular the specific recommendations adopted by the 5th meeting of the IOTC Working Group on FADs, endorsed by Scientific Committee at its 26th Session in December 2023 urging the Commission to initiate an ambitious step-wise approach for the implementation of biodegradable FADs as soon as possible;

ACKNOWLEDGING the important contribution provided by the BIOFAD experimental project to the understanding and development of biodegradable FADs;

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;

AWARE that the Commission is committed to adopt conservation and management measures to reduce juvenile bigeye tuna and yellowfin tuna mortalities from fishing effort in IOTC fisheries;

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;

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

Use of Terms

1) For the purposes 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 Device (DFAD)” means a FAD not tethered to the bottom of the ocean deployed and tracked for the purpose of aggregating fish.
- c) “Biodegradable” means non-synthetic materials¹ and/or bio-based alternatives that are consistent with international standards² for materials that are biodegradable in marine 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.
- d) “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.
- e) “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 at least its position.
- f) “Buoy owner” means the owner/master/operator of a fishing vessel who is in charge of tracking an instrumented buoy and is authorised to request its activation and/or deactivation.
- g) “Active buoy” means an instrumented buoy from which the satellite communication service has been initiated and switched on, which has been deployed at sea on a DFAD or log and which is transmitting position.

¹ For example, plant-based materials such as cotton, jute, manila hemp (abaca), bamboo, natural rubber, 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 Members of the Commission.

- h) “Deactivation of a buoy” means the act of ending satellite communications service, which is done by the buoy supplier company at the request of the vessel owner or buoy owner.
- i) “Reactivation” means the act of re-enabling satellite communications services by the buoy supplier company at the request of the buoy owner.
- j) “Abandoned DFAD” means a DFAD which 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 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.

Application

- 2) This Resolution shall apply to CPC flag purse seine vessels fishing on DFADs in the IOTC area of competence as well as associated supply³ vessels.

DFAD Register

- 3) The IOTC Secretariat shall develop and maintain an electronic register for all instrumented buoys deployed in the IOTC area of competence (DFAD Register). The proper functioning of the DFAD Register shall be tested with a selection of vessels during the second semester of 2025. The DFAD Register shall be effective as of 1 January 2026.
- 4) Buoy owners shall insert the following information concerning the deployment of instrumented buoys:
 - a) unique instrumented buoy reference number that will allow the identification of its buoy owner;
 - b) name of the buoy owner;
 - c) unique IOTC Vessel Register number of the purse seiner that is assigned to the instrumented buoy;
 - d) flag State of the purse seine vessel to which the instrumented buoy is assigned;
 - e) manufacturer of the instrumented buoy;
 - f) model name of the instrumented buoy;
 - g) IOTC DFAD unique identifier;
 - h) biodegradability category of the DFAD, or log when applicable, with which the buoy was deployed;
 - i) date and time of deployment;
 - j) location of deployment.

³ The term “supply vessel” shall include both supply and support vessels.

- 5) Except for the information listed in paragraph 4(c), (d) and (j), the IOTC Secretariat shall make the DFAD Register available in a secure section on the IOTC website that is accessible to the main point of contact of CPCs (Commissioner or Alternate). Any CPC may submit a request for access to the information listed in paragraph 4(c), (d) and (j) to the IOTC Executive Secretary. Such requests shall be made by the main point of contact of the requesting CPC (Commissioner or Alternate). The request shall include the exact information required and a description of the intended use. The IOTC Executive Secretary shall grant access to the requested information in accordance with the following rules:
 - a) Access to the information listed in paragraph 4(c) and (d) shall be granted within 30 days. The IOTC Executive Secretary shall notify the flag CPC of the request. The flag State may request that the requesting CPC provides justifiable reasons for the request. If the requesting CPC does not provide a valid reason, the request shall be denied by the IOTC Executive Secretary.
 - b) Access to the information listed in paragraph 4(j) shall be granted subject to the written consent of the flag State. The flag State shall reply to the request within 30 days and, in case it does not consent, shall provide the reasons for denying the request.
- 6) The DFAD Register shall take the simplest possible form and include a “click” button to automatically inform about the activation and deactivation of an instrumented buoy, as described in paragraphs 8, 11 and 13. In developing the electronic tool for the DFAD Register, the IOTC Secretariat shall consider mechanisms to export data transmitted under Annex I to potentially avoid double reporting.
- 7) The IOTC Secretariat shall present the structure and functioning of the DFAD Register at the annual Session of the Commission in 2025. The IOTC Secretariat shall start the implementation of the DFAD Register unless decided otherwise by the Commission.
- 8) CPCs shall ensure that the buoy owner notifies, through the DFAD Register and within 24 hours of activation, the IOTC Secretariat and the CPC when an instrumented buoy is activated, together with the IOTC DFAD unique identifier as referred to in paragraph 40. The instrumented buoy shall then appear as active in the DFAD Register.
- 9) The DFAD Register shall not allow the registration of more active instrumented buoys per purse seine vessel than the limit provided for in paragraphs 16, 18 and 19.
- 10) CPCs shall verify the information provided by the buoy owner and validate them at least once a year.
- 11) CPCs shall register buoys deployed before the entry into force of the DFAD Register and still active on the 1 January 2026 when the DFAD Register enters into force.
- 12) CPCs shall ensure that their flag vessels only activate instrumented buoys when physically present on board the purse seine or supply vessel.
- 13) CPCs shall ensure that the buoy owner notifies, through the DFAD Register and within 72 hours, the IOTC Secretariat when an instrumented buoy is deactivated, including whether the DFAD and instrumented buoy were retrieved. Once the IOTC Secretariat receives this notification, the instrumented buoy shall no longer be considered active. The buoy owner shall record in the DFAD Register when an instrumented buoy has been decommissioned (i.e. the buoy was retrieved and cannot be redeployed or reactivated). If an active buoy attached to a

DFAD is deactivated without being retrieved, the buoy owner shall notify the IOTC Secretariat, together with the above-mentioned deactivation notification and through the DFAD Register, the date, time, last location of the buoy and the reasons for deactivating it.

- 14) Until the DFAD Register is implemented, CPCs shall ensure that their flag vessels record in the appropriate logbook, the instrumented buoy unique reference number and the date, time and geographical coordinates (decimal degrees) of its deployment.

DFAD Limits

- 15) CPCs shall ensure that only purse seiners and associated supply vessels deploy DFADs and instrumented buoys. CPCs shall encourage their flag purse seiners, when fishing on a DFAD, to only fish on DFADs that were deployed together with an instrumented buoy that is on the DFAD Register.
- 16) CPCs shall ensure that each of their purse seine vessels does not follow more than the following number of instrumented buoys at any one time:
- a) from 1 January 2026: 250.
 - b) from 1 January 2028: 225.
- 17) CPCs shall ensure that each of their purse seine vessels does not acquire more than 400 instrumented buoys annually from 1st January 2026.
- 18) Exceptionally, CPCs with one or two purse seine vessels actively operating in the IOTC area of competence in 2023, for as long as they operate less than three purse seine vessels, shall ensure that each of their purse seine vessels:
- a) does not follow more than the following number of instrumented buoys at any one time:
 - i. from 1 January 2026: 280
 - ii. from 1 January 2028: 255
 - b) does not acquire more than the following number of instrumented buoys annually:
 - i. from 1 January 2026: 480
 - ii. from 1 January 2028: 460
- 19) Small Island Developing Coastal CPCs shall ensure that each of their purse seine vessels:
- a) does not follow more than the following number of instrumented buoys at any one time:
 - i. from 1 January 2026: 270
 - ii. from 1 January 2028: 240
 - b) does not acquire more than the following number of instrumented buoys annually:
 - i. from 1 January 2026: 440
 - ii. from 1 January 2028: 420
- 20) CPCs shall ensure that their vessels only deploy DFADs with an instrumented buoy that has been activated.

DFAD Management Plan

- 21) CPCs with flag vessels fishing on DFADs shall submit to the IOTC Executive Secretary, once in 2025 for the currently operating fleet and once in the first year of operation for future fleets 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 II. If there is a change in the information provided in Annex II, CPCs shall submit an amendment of their DFAD Management Plan in their annual Implementation Report.
- 22) The IOTC Compliance Committee and the IOTC Scientific Committee shall analyse the DFAD Management Plans and report the results of this analysis to the Commission.

DFAD Monitoring System

- 23) 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 in compiled form to the IOTC Executive Secretary with a time delay of at least 30 days, but no longer than 60 days. This information shall contain:
 - a) the geographical location (degrees, minutes and seconds);
 - b) the date;
 - c) the time;
 - d) unique instrumented buoy reference number;
 - e) the name and IOTC registration number of the vessels assigned to the instrumented buoy.
- 24) The IOTC VMSWG, in support of the IOTC Compliance Committee, shall work on identifying administrative arrangements and developing rules of procedure to develop a real-time DFAD Monitoring System (DFAD-MS).

Abandoned, Lost or Otherwise Discarded DFADs

- 25) CPCs shall prohibit their flag vessels from deliberately discarding DFADs or associated instrumented buoys except in cases of *force majeure*.
- 26) CPCs shall instruct their flag vessels to take all reasonable precautions to prevent accidental loss of DFADs and instrumented buoys.
- 27) CPCs shall ensure that their vessels, when they retrieve an instrumented buoy attached to a DFAD from the sea, do not leave the DFAD without an active instrumented buoy.
- 28) If an active buoy is deactivated while its last known location is in the EEZ of a coastal State, an automatic notification shall immediately be sent to the authorities of the flag and coastal State. The automatic notification shall include:
 - a) date;

- b) time;
- c) geographical position (degrees, minutes and seconds) of the last known location.

29) CPCs shall ensure that their flag vessels, before reporting the loss of a DFAD in accordance with paragraph 13 and 28, attempt to locate and retrieve such a DFAD as soon as possible.

Non-entangling and Biodegradable DFADs

30) To reduce the impact on marine biodiversity and the entanglement of sharks, marine turtles or any other species, CPCs shall ensure that their vessels only use DFADs whose design and construction comply with the following specifications as outlined as an example in Annex IV:

- 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.

31) To reduce the amount of synthetic marine debris, CPCs shall ensure that their flag vessels:

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

32) CPCs are encouraged to share their experiences and scientific knowledge on the use of biodegradable materials in DFADs with the WGFAD and IOTC Scientific Committee.

33) 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.

34) CPCs shall submit information concerning the status of implementation of paragraph 31 in their annual Implementation Report, and the IOTC Secretariat shall make this information available for analysis to the IOTC Scientific Committee or any relevant subsidiary body.

35) CPCs are encouraged to continue trialing biodegradable DFAD designs in a continued effort of design improvement and to share the results with the IOTC Scientific Committee or any relevant subsidiary body.

36) CPCs shall ensure that their vessels do not deploy instrumented buoys on DFADs which do not comply with the requirements of this Resolution concerning DFAD biodegradability. CPCs shall ensure that their purse seine vessels encountering DFADs that are not compliant with the requirements of this Resolution or any other IOTC Resolutions immediately retrieve, to the extent possible, such DFADs from the water, as far as practicable.

37) CPCs shall report to the IOTC Executive Secretary any case of non-compliance with this Resolution concerning DFAD biodegradability. In such instances, the IOTC Executive Secretary shall contact the flag CPC with any relevant information.

DFAD Marking

38) 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)*,⁴ CPCs shall implement the measures provided for in paragraphs 39 and 40.

39) CPCs shall ensure that their vessels do not deploy DFADs unless the instrumented buoy attached to the DFAD is permanently marked with the unique reference number marking (ID provided by the manufacturer of the instrumented buoy) and the IOTC unique vessel identifier number is permanently and clearly visible.

40) As of 1 January 2026, and with the specific objective to collect information on how to mitigate DFAD loss and abandonment, in addition to the marking of the instrumented buoy referred to in paragraph 39, CPCs shall ensure that their vessels do only deploy DFADs that are permanently marked with a specific IOTC DFAD unique identifier. The IOTC Secretariat shall attribute the DFAD unique identifier to the CPC, which shall communicate the identifier 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 and in close collaboration with the IOTC Secretariat, at the latest at its 2025 session.

41) CPCs shall ensure that the buoy owner declares the end of use (retrieved, lost or abandoned) of the DFADs marked with an IOTC DFAD unique identifier which they deployed with their instrumented buoy in accordance with paragraph 13.

42) CPCs shall endeavour to conduct inspections, both at sea and at port, to ensure marking of DFADs and other requirements are complied with. CPCs shall report DFADs found at sea without required markings to the relevant flag CPC, if possible, and the IOTC Executive Secretary. CPCs shall conduct port State inspections of fishing gears, DFADs or materials delivered onboard to build DFADs in accordance with the procedures set out in Annex II of Resolution 16/11 *On Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing*, including with respect to conditions relating to the marking of fishing gear and DFADs.

43) CPCs shall report to the IOTC Executive Secretary any factual information showing reasonable grounds for suspicion of violations of any provision of this Resolution.

⁴ IOTC–2020–CoC17– 14.

Supply Vessels

- 44) CPCs shall gradually reduce supply vessels in purse seine operations targeting tropical tuna as follows:
- a) By 1 January 2026: 3 supply vessels in support of not less than 12 purse seine vessels, all of the same flag State.
 - b) By 1 January 2029: 3 supply vessels in support of not less than 15 purse seine vessels, all of the same flag State.
 - c) Subparagraphs a) and b) do not apply to CPCs with one supply vessel actively operating in the IOTC area of competence.
 - d) CPCs shall ensure that a single purse seine vessel shall not be supported by more than one supply vessel of the same flag State at any time.
 - e) CPCs shall not register any new or additional supply vessels on the IOTC Record of Authorised Vessels.

Reporting Obligations

- 45) CPCs shall:
- a) ensure that their purse seine and supply vessels using DFADs record any activity in association with a floating object (FAD or log) and/or an instrumented buoy, from the deployment to the end of use, by providing the data and information listed Annex I and following a template provided by the IOTC Secretariat;
 - b) submit the data and information referred to in subparagraph a) to the IOTC Executive Secretary annually by 30 June, in accordance with the IOTC standards for the provision of catch and effort data. The IOTC Secretariat shall make this data and information available for analysis to the IOTC Scientific Committee at the aggregated level set by IOTC Resolution 15/02, and under the confidentiality rules set by IOTC Resolution 12/02.
- 46) In order to support the monitoring of compliance with the limitations established in this Resolution, CPCs shall:
- a) ensure that their flag vessels use instrumented buoys on all DFADs and prohibit the use of any other buoys, such as radio buoys, that do not meet the definition in paragraph 1;
 - b) ensure that their flag vessels only deploy DFADs with an active buoy and systematically require their registration upon deployment in the DFAD Register;
 - c) ensure that their vessels reactivate instrumented buoys only after they have been brought back to port and have been authorised by the CPC; and
 - d) ensure that their flag vessels fishing on DFADs annually submit the number of instrumented buoys assigned to them by the end of each calendar year, including instrumented buoys which have been lost, or abandoned and/or discarded by 1° by 1° grid area and month strata and DFAD type;
- 47) The information provided in paragraph 46(d) shall be stratified by fleet, year, month and 1x1 degrees grid, and expressed as the average daily number of active instrumented buoys in each

stratum and made available by the IOTC Secretariat and IOTC Scientific Committee for purposes of scientific analysis in line with the confidentiality rules set by Resolution 12/02 *On data confidentiality policy and procedures*.

Scientific Advice

- 48) The IOTC Scientific Committee shall analyse further information, when available, and provide scientific advice on existing, additional or alternative DFAD management options for sustainable fisheries to be submitted for consideration by the Commission.
- 49) The IOTC Scientific Committee shall provide scientific advice to the Commission by:
 - a) assessing the impact that fishing gears or fishing using DFADs have on juvenile mortality and provide adequate advice to the Commission. This assessment shall include, but not be limited to a comparative analysis of the contribution of all fishing gears to the juvenile mortality of targeted tunas, related impacts on the MSY levels and any other advice to recover or maintain stock size above levels which can produce the MSY and keep the risk of violating/exceeding limit reference points to a low probability; and
 - b) providing an analysis of the efficiency of current active buoy limits and examining the potential efficiency of alternative/complementary options to limit the number of DFADs at sea. This will include, among other options, advice on the definition and expected effectiveness of a measure to control the number of sets under DFAD.
- 50) 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 Register, and DFAD-MS from other RFMOs, if any; and
 - c) fishing behaviors/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.

Final Provisions

- 51) The IOTC Secretariat shall submit a report, on an annual basis, to the IOTC Compliance Committee on the level of compliance by each CPC with this Resolution.
- 52) Without prejudice to the right of the Commission to adopt further measures on the management of DFADs, the provisions included in this Resolution, except the technical elements of the DFAD Register and the DFAD-MS, should not be reviewed before the annual Session of the Commission in 2028.
- 53) This Resolution shall enter into force on 1 January 2025.
- 54) Resolution 19/02 *Procedures on a fish aggregating devices (FADs) management plan*, Resolution 18/04 *On BIOFAD experimental project* and Resolution 23/02 *On Management of*

Drifting Fish Aggregating Devices (DFADs) in the IOTC area of competence are superseded by this Resolution.

ANNEX I
DATA COLLECTION FOR DFADs AND THEIR INSTRUMENTED BUOYS

- 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:

Category	Element	Element data type	Mandatory	Notes
Vessel	Vessel IOTC ID	Vessel identifier	Y	
	Type	Dictionary entry	Y	Can be inferred
Date	Year	Integer	Y	
	Month	Integer	Y	
	Day	Integer	Y	
Location of the floating object and/or instrumented buoy at the time of the operation	Longitude	Decimal	Y	
	Latitude	Decimal	Y	
Location of the vessel if different from the floating object or buoy	Longitude	Decimal	Y	
	Latitude	Decimal	Y	
Floating object	Identifier	Identifier	Y (when present)	In case of DFAD visit this should be provided to the extent possible, i.e. without having to lift the DFAD out of the water
	Type	Dictionary entry	Y	As defined in paragraph 3 of this annex
	Biodegradability category (if the floating object is a DFAD)	Dictionary entry	Y	As defined in this Resolution.
	Activity type	Dictionary entry	Y	As defined in paragraph 4 of this annex

Emerged part	Is plastic present?	Boolean	Y (if clearly visible)	
	Is metal present?	Boolean		
	Length	Decimal		In cm
	Width	Decimal		In cm
	Height	Decimal		In cm
	Is mesh present?	Boolean		
	Mesh size	Decimal		In mm
Submerged part	Is plastic present?	Boolean	Y (if clearly visible)	
	Is metal present?	Boolean		
	Length	Decimal		In cm
	Width	Decimal		In cm
	Height	Decimal		In cm
	Is mesh present?	Boolean		
	Mesh size	Decimal		In mm
Buoy	Identifier	Identifier	Y (if buoy present)	
	Position known	Boolean		
	Activity type	Dictionary entry		As defined in paragraph 5 of this annex In the case of buoy deactivation, the cause for deactivation (DFAD is either retrieved from the sea, abandoned or lost) and position of the vessel.

- 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 shall be recorded according to the table below. CPCs shall report these data aggregated per vessel at 1*1 degree (where applicable) to the IOTC Secretariat.

Category	Element	Element data type	Mandator	Notes
Vessel	Vessel IOTC ID	Vessel identifier	Y	
	Type	Dictionary entry	Y	Can be inferred
Date	Year	Integer	Y	
	Month	Integer	Y	
Location	1x1 grid	CWP grid identifier	Y	
Floating object	Type	Dictionary entry	Y	As defined in paragraph 3 of this annex
	Activity type	Dictionary entry	Y	As defined in paragraph 4 of this annex
Effort	Number of activities	Integer	Y	
	Number of sets	Integer		Can be 0
	Data raised?	Boolean		
Catches #1	Species code	ASFIS Identifier	Y (activity followed by set)	Single species
	Fate	Dictionary entry		Retained / Disc.
	Catches / discards	Decimal		Amount
	Unit	Dictionary entry		weight or number
...
Catches #N	Species code	ASFIS Identifier	Y (activity followed by set)	Single species
	Fate	Dictionary entry		Retained / Disc.
	Catches / discards	Decimal		Amount
	Unit	Dictionary entry		weight number

- 3) Classification of Floating Objects:

Code	English description
ANLOG	Natural log or floating debris of animal origin
DFAD	Drifting FAD
AFAD	Anchored FAD
FALOG	Artificial log or floating debris resulting from human activity (and related to fishing activities)
HALOG	Artificial log or floating debris resulting from human activity (not related to fishing activities)

VNLOG	Natural log of plant origin
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4) Classification of activities with floating object:

Code	Activity	Description
DE	Deployment	Deployment of a DFAD at sea
CO	Consolidation	Deployment of a DFAD on a floating object (e.g. to enhance floatability)
VF	Visit with fishing	Visit of a floating object resulting in a set
VI	Visit without fishing	Visit without fishing of a floating object
LO	Loss	Unvoluntary end of use of the floating object (end of transmission of the buoy)
AB	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)
ST	Stranding	Abandonment is due to the floating object being stranded on shallow marine habitats and not drifting anymore
RE	Retrieval	Retrieval of the floating object

5) Classification of activities with instrumented buoys

Code	Activity	Description
DE	Deployment	Deployment (tagging) of a buoy on a floating object already drifting at sea without buoy or deployment of a DFAD equipped with a buoy
LO	Loss	Involuntary end of use of the buoy (lost or involuntary end of transmission of the buoy)
AB	Abandonment	Voluntary end of use of the buoy (buoy still able to transmit)
RE	Retrieval	Retrieval of the buoy on a floating object drifting at sea
TR	Transfer	Replacement of the buoy owned by another vessel by a buoy of the vessel

6) Classification of outcome of DFADs deployed:

DFAD is deployed + buoy activated						
↓						
Buoy is active						
Buoy is transmitting and can be located				Buoy is not transmitting and cannot be located		
DFAD can be retrieved		DFAD cannot be retrieved		DFAD cannot be located, so not retrievable		
Reason to deactivate buoy	DFAD and buoy are taken	Buoy owner decides not to	Not reachable (e.g. in the EEZ of	Buoy is robbed but is	DFAD is robbed	Buoy is broken/technical issue/sunken buoy

	from the sea	recover the DFAD	another country)	transm itting		
Final status of the DFAD	Retrie ved FAD	Discarded DFAD	Abandoned DFAD	Lost DFAD		

ANNEX II:
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)
 - sonars (make and technical specifications)
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 I).

ANNEX III

CATEGORISATION OF DFAD ACCORDING TO THEIR LEVEL OF BIODEGRADABILITY

For the purposes of this Resolution, the following are DFAD categories are identified, on the basis of their degree of biodegradability (from non- biodegradable to 100% biodegradable), with the understanding that the respective definitions do not apply the electronic buoys that are attached to DFADs in order to track them:

Category I. The DFAD is made of fully biodegradable materials.

Category II. The DFAD is made of fully biodegradable materials except for flotation components (e.g. buoys, foam, purse-seine corks).

Category III. The subsurface part of the DFAD is made of fully biodegradable materials, whereas the surface part and any flotation components contain non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).

Category IV. The subsurface part of the DFAD contains non-biodegradable materials, whereas the surface part is made of fully biodegradable materials, except for, possibly, flotation components.

Category V. The surface and subsurface parts of the DFAD contain non-biodegradable materials.

ANNEX IV

EXAMPLES FOR THE DESIGN AND DEPLOYMENT OF DFAD

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

