ON MANAGEMENT OF FISH AGGREGATING DEVICES (FADS) IN THE IOTC AREA OF COMPETENCE

SUBMITTED BY: EUROPEAN UNION

Explanatory Memorandum

This proposal redefines the IOTC management framework for Fish Aggregating Devices (FADs) by updating and reformulating Resolution 19/02 thus bringing coherence to a text that was amended multiple times. While keeping the main features of the current resolution, the paragraphs have been rewritten and reordered to be more coherent, taking into account the suggested changes made by the legal scrubbing, deleting obsolete and superfluous items and adding new elements to address the emerging challenges of FADs management.

The first change in the proposal is the scope. Resolution 19/02 included provisions for the management of AFADs that de facto did not apply because the previous article 2 limited the scope to purse seine DFAD fisheries only. The objective of this new text is to have a comprehensive measure for the management of all FADs; hence, that includes AFADs. Throughout the text, two separate sections are devoted to DFAD and AFAD requirements thus taking account of their elements of communality and difference.

In order to minimize the impact of fishing on FADs, this proposal sets new limits for the number of buoys (deployed at sea and acquired). The overall management approach remains the same as resolution 19/02 by managing the number of DFADs through the number of buoys.

One of the main goals of this proposal is to reduce the impact of FADs on the environment. This objective is achieved by two sets of provisions. The first one introduces the mandatory implementation of increasing degrees of biodegradability in DFADs with the aim to move on to fully biodegradable FADs as soon as concretely possible. The second set of provisions increases the accountability of vessels in respect to the possibility of deliberately leaving a DFAD at sea. A general principle of mandatory retrieval of all DFADs will be thus accompanied by new specific requirements, such as a reporting obligation on the fate of all DFADs put at sea (making the distinction between lost, abandoned and discarded DFADs), and a mandatory marking of the DFAD shall be introduced to increase traceability.

Lastly, the proposal opens the door to further improve the management of all FADs following a science- based approach and acting from the recommendations of the Scientific Committee.

RESOLUTION 22/XX

ON MANAGEMENT OF FISH AGGREGATING DEVICES (FADS) IN THE IOTC AREA OF COMPETENCE

Keywords: FAD, FAD Management, FAD monitoring, operational instrumented buoy.

The Indian Ocean Tuna Commission (IOTC),

RECALLING that Article 5 of the Agreement for the Implementation of the Provisions of the United Nations Convention of the Law of the Sea of December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNFSA) 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 UNFSA requires coastal States and fishing States on the high seas to collect and share, in a timely manner, complete and accurate data concerning fishing activities on, inter alia, vessel position, catch of target and non-target species and fishing effort, as well as information from national and international research programmes;

MINDFUL of the call upon States, either individually, collectively or through regional fisheries management organisations and arrangements in the United Nations General Assembly Resolution 67/79 on Sustainable fisheries to collect the necessary data in order to evaluate and closely monitor the large-scale use of fish aggregating devices (FADs) and others, as appropriate, and their effects on tuna resources and tuna behaviour and associated and dependent species, to improve management procedures to monitor the number, type and use of such devices and to mitigate possible negative effects on the ecosystem, including on juveniles and the incidental bycatch of non-target species, particularly sharks and marine turtles;

NOTING that the United Nations Food and Agricultural Organization (FAO) Code of Conduct for Responsible Fisheries provides that States should compile fishery-related and other supporting scientific data relating to fish stocks covered by sub-regional or regional fisheries management organisations and provide them in a timely manner to the organisation;

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

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

RECOGNISING that FADs under the competence of IOTC should be managed to ensure the sustainability of fishing operations;

GIVEN that the activities of supply vessels and the use of FADs are an integral part of the fishing effort exerted by the purse seine fleet;

AWARE that the Commission is committed to adopt Conservation and Management Measures to reduce juvenile bigeye tuna and yellowfin tuna mortalities;

RECALLING that Resolution 12/04 *On the conservation of marine turtles* established that the Commission at its annual session in 2013 should consider the recommendations of the IOTC Scientific Committee as regards the development of improved FAD designs to reduce the incidence of entanglement of marine turtles and to use of biodegradable materials to reduce the contribution of FADs to marine litter, 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;

NOTING that Resolution 19/02 has already implemented the IOTC Scientific Committee advice to the Commission that only non-entangling FADs, both drifting and anchored, should be designed and deployed to prevent the entanglement of sharks, marine turtles and other species;

CONCERNED of the impact of abandoned, lost or discarded FADs in the ocean greatly affecting marine life and the need to facilitate their identification and recovery;

NOTING that the absence of data on anchored FADs (AFADs) is a limit to their sustainable management and to the assessment of their impact on tuna species and marine environment;

FURTHER NOTING that the high loss rate of AFADs without attempt of retrieval is also a factor of marine pollution;

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;

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;

CONSIDERING the information presented to the 3rd IOTC Ad Hoc Working Group on FADs, held online from 3 to 5 October 2022, and the discussions that followed;

NOTING the work and conclusions of the BioFAD experimental project (IOTC-2017-SC20-INF07) presented to the 20th meeting of the IOTC Scientific Committee as well as the conclusions of similar projects developed in other oceans such as the IATTC TUNACONS-AGAC BIOFAD and the Atlantic Ocean ongoing Jelly FAD trials;

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

the following:

PART 1 - Definitions

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, for the purpose of aggregating target tuna species for consequent capture.

   b) "Drifting Fish Aggregating Device (DFAD)" means a FAD not tethered to the bottom of the ocean.

   c) "Anchored Fish Aggregating Device" (AFAD) means a man-made FAD tethered to the bottom of the ocean.

   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) "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) "Responsible buoy operator" 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.

   h) "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 responsible buoy operator.

   i) "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 responsible buoy operator.

   j) "Reactivation" means the act of re-enabling satellite communications services by the buoy supplier company at the request of the responsible buoy operator.

   k) "Abandoned DFAD" means a DFAD which the responsible buoy operator 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.

   l) "Lost DFAD" means a DFAD previously tracked with an instrumented buoy by the responsible buoy operator and over which control has been lost due to several reasons (appropriation, beaching, sinking, etc.) and that cannot be located by neither responsible buoy operator nor the buoy supplier.

   m) "Discarded DFAD" means a DFAD that is released at sea without any attempt for further control or recovery by the responsible buoy operator.

   n) "Biodegradable material" means a renewable lignocellulosic material (i.e., plant dry matter - here described as natural material) and/or bio-based biodegradable plastic compound. Those materials shall degrade in normal conditions of use of DFADs and be biodegradable

in marine environments. 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. Those materials shall be used provided they comply with international standards once advised by the IOTC Scientific Committee following the preparatory work by the *ad hoc* working group on FADs.

2) This Resolution shall apply to Contracting Parties and Cooperating Non-Contracting Parties (CPCs) having vessels fishing on FADs aggregating tuna species in the IOTC area of competence.

PART 2- DFADs Management measures

DFADs limits

3) Only purse seiners and associated supply[1] vessels are allowed to deploy DFADs instrumented buoys in the IOTC Area of Competence.

4) 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 1 January 2024, to be 280; and

      ii. from the 1 January 2026, to be 260.

   b) the maximum number of instrumented buoys that may be acquired annually for each purse seine vessel shall not be more than 450.

5) No additional instrumented buoy shall be attributed to supply vessels.

6) A CPC may adopt lower limits than the one provided in paragraph 4 for its flag vessels and may adopt lower limits for DFADs deployed in its exclusive economic zone (EEZ).

7) In order to reduce the amount of DFAD used, data of operational buoy can be shared among multiple purse seine vessels only provided that:

   a) shared buoys are reported for each single purse seine vessel receiving the information, and not only for the responsible buoy operator, when reporting information as defined in paragraph 4a;

   b) 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 4; and

   c) no instrumented buoy shall be attributed to supply vessels.

Reporting Obligations

8) CPCs shall:

   a) ensure that purse seine and supply vessels using DFADs record any fishing activity in association with a floating object by providing the data and information listed Annex I and

[1] Supply vessel includes both the notion of supply and support vessel

following a template provided by the Secretariat;

b) submit these data and information to the Commission, following the IOTC standards for the provision of catch and effort data; these shall be made 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.

9) In order to support the monitoring of compliance with the limitations established in this Resolution, CPCs shall:

a) ensure 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 their flags vessels only deploy DFADs with an operational buoy ;

c) ensure that their flag vessels only make their instrumented buoys active when physically present on board the purse seine vessel to which it belongs or its associated supply vessel, and that the event shall be recorded in the appropriate logbook, specifying the instrumented buoy unique identification number, the DFAD biodegradability category and the date, time and geographical coordinates of its deployment;

d) ensure that reactivation of an instrumented buoy is only possible after it has been brought back to port by the flag vessel tracking the buoy, by an associated supply vessel or by another flag vessel, and has been authorised by the CPC;

e) require that the responsible buoy operator reports any deactivation of an operational buoy at sea in the logbook, including the unique reference number, date, time, last geographical coordinates and the reasons for deactivation; and

f) 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.

DFADs designs and mitigation of DFAD loss and abandonment

10) 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 as outlined as an example in Annex II:

a) the use of mesh materials shall be prohibited for any part of a DFAD; and

b) only non-entangling material and designs shall be used.

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

a) no longer deploy any DFADs of category IV, as defined in Annex III;

b) use only DFADs of biodegradability categories I, II or III, as defined in Annex III;

c) as of 1st of January 2026, use only category I or II DFADs, as defined in Annex III; and

d) as of the 1st of January 2029, at the latest, use only category I DFADs, as defined in Annex III.

12) 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 10 and 11. Vessels encountering DFADs that are not compliant with the requirement of this resolution, shall automatically retrieve such DFADs from the water.

13) Between the 1st of January 2024 and the 31st of December 2028, vessels deploying exclusively Category I DFADs shall be allowed to deploy a number of operational buoys equivalent to 10% more than the limit established in paragraph 4.

14) CPCs shall ensure that the instrumented buoy attached to the DFAD is permanently marked with a physical tag in a non-degradable material on which the unique reference number marking (ID provided by the manufacturer of the instrumented buoy) and the IOTC unique vessel identifier number permanently and clearly visible.

15) 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 13, 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 11 on DFAD biodegradability to avoid the erasing or loss of the marking.

16) CPCs shall require the responsible buoy operator to declare the end of use (retrieved, lost or abandoned) of the DFADs marked with an IOTC DFAD unique identifier which they deployed with their operational buoy.

17) CPCs shall ensure that no DFAD are discarded by the responsible buoy operator. CPCs shall ensure that when an operational buoy is retrieved from the sea, no DFAD is left without an operational buoy, so that the DFAD is also retrieved if no other operational buoy is attached.

18) CPCs shall require that, if a DFAD is abandoned, immediately after the deactivation of the instrumented buoy attached to it, the responsible buoy operator notify the flag State the date, time, last location of the buoy and the reasons for abandoning the DFAD. The flag State shall share this information with the Secretariat.

DFADs Management Plans

19) 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 vessels).

20) The objectives of the DFAD Management Plan shall be, to the extent possible, to monitor and keep at sustainable levels the impact on small bigeye tuna and yellowfin tuna and non-target species associated with fishing on DFADs and to prevent the loss or abandonment of DFADs.

21) The DFAD Management Plan shall at a minimum follow the Guidelines for Preparation for DFAD Management Plan provided in Annex IV and include the assessment of the implementation of this Resolution and measures taken to achieve the objectives presented in paragraph 18.

22) The DFAD Management Plans shall be analysed by the IOTC Compliance Committee and by

the IOTC Scientific Committee each in their respective role.

PART 3 - AFADs Management measures

Reporting Obligations

23) CPCs shall ensure that all vessels fishing on AFADs shall record fishing activities in association with floating objects using the specific data elements found in Annex V in the relevant section of the fishing logbook.

24) CPCs shall submit these data and information to the IOTC Secretariat, following the IOTC standards for the provision of catch and effort data; these shall be made 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.

25) CPCs with vessels fishing on AFADs or with AFADs located in their EEZ should encourage the collection and reporting of additional relevant scientific data to help understand the impact of the AFAD fisheries.

AFADs designs and mitigation of AFAD loss

26) To reduce the entanglement of sharks, marine turtles or any other species, CPCs deploying AFADs or with vessels deploying AFADs shall ensure that the following guidelines are respected in the design and construction of any AFADs to be deployed in the IOTC Area:

   a) the use of mesh materials shall be prohibited for any part of a FAD; and

   b) only non-entangling material and designs shall be used.

27) To reduce the environmental impact of AFAD loss, CPCs deploying AFADs or with vessels deploying AFADs shall ensure that the following guidelines are respected:

   a) CPCs deploying new AFADs or replacing existing ones, shall take into account the nature and profile of the sea bottom when choosing a site and, where possible, avoid sites with steep slopes to minimise the risk of AFAD loss;

   b) CPCs should aim to undertake AFAD deployments during calm weather and low current conditions.

   c) CPCs shall ensure that the upper floatation of AFADs is suitable for offshore, high current deployments by using designs which are streamlined to reduce drag and resistance to currents and waves;

   d) CPCs shall consider using a buoy with appropriate radar reflector and/or strobe light on AFADs to assist in locating its low-profile upper floatation system and to reduce its navigational hazard;

   e) CPCs shall consider using a combination of nylon (sinking) and polypropylene (floating) ropes to create a catenary curve in the mooring system, acting as a shock-absorber to counter elements of the sea (storms, waves, currents);

f) CPCs should ensure that AFADS are provided with supplementary buoyancy when deployed at depths less than 1,500 m to lift the mooring line off the ocean floor;

g) CPCs shall consider using AFAD designs where the weight of the anchor is at least three times the buoyancy of the floatation system to counter the constant upward pull on the main line and anchor system; and

h) CPCs should construct AFAD from materials that will ensure increased longevity so that they continue to retain their integrity for the longest lifespan possible.

i) To reduce the amount of synthetic marine debris, CPCs should ensure that, where sub-surface aggregators are attached to the mooring line, these are constructed from biodegradable materials such as biodegradable aggregator rope or coconut fronds;

28) When endorsed by the Commission, CPCs shall respect the scheme to operationalise the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) in the deployment of AFADs.

29) CPCs with flag vessels fishing on AFADs or with AFADs located in their EEZ shall conduct inspections at sea to ensure that the buoys of AFADs are clearly and permanently marked with a specific IOTC AFAD unique identifier to be attributed by the IOTC Secretariat. The standards for the individual marking of AFADs 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.

30) CPCs with flag vessels fishing on AFADs or with AFADs located in their EEZ shall communicate the number and outcome of inspections conducted on a yearly basis in their implementation report.

AFADs Management Plans

31) CPCs shall maintain a register of deployed, lost, abandoned, and discarded AFADs and report this data each year in their annual Implementation Report.

32) CPCs with flag vessels fishing on AFADs or with AFADs located in their EEZ shall submit to the Secretariat, each year in their annual Implementation Report, a AFADs Management Plan for the use of AFADs and associated technologies (such as eco-sounder buoy etc…).

33) The objectives of the AFAD Management Plan shall be, to the extent possible, to monitor and keep at sustainable levels the impact on small bigeye tuna and yellowfin tuna and non-target species associated with fishing on AFADs, include initiatives or surveys to investigate the impact of fishing on AFAD and shall also include the recommendations made by the IOTC Scientific Committee, when available, to prevent the loss or abandonment of AFADs.

34) The Management Plan shall at a minimum follow the Guidelines for Preparation for AFAD Management Plan provided in Annex VI and includes the assessment of the implementation of this Resolution and measures taken to achieve the objectives presented in paragraph 30.

35) The AFAD Management Plans shall be analysed by the IOTC Compliance Committee and by the IOTC Scientific Committee each in their respective role.

PART 4 - Scientific work and final provisions

36) The information provided in paragraph 9.f. 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.

37) The IOTC Scientific Committee shall analyse further information, when available, and provide scientific advice on existing, additional or alternative FAD management options for sustainable fisheries to be submitted for consideration by the Commission.

38) The IOTC Scientific Committee shall, by its annual session of 2025, provide a set of relevant indicators that would allow monitoring the effects of FAD fisheries and assessing the efficiency of existing/additional/alternative DFAD and AFAD management options.

39) 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) 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 FAD 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.

40) The 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.

41) This Resolution shall enter into force on 1 January 2024 and shall be reviewed by the Commission no later than at its annual Session in 2028.

42) Resolution 19/02 *Procedures on a fish aggregating devices (FADs) management plan* is 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:
   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)

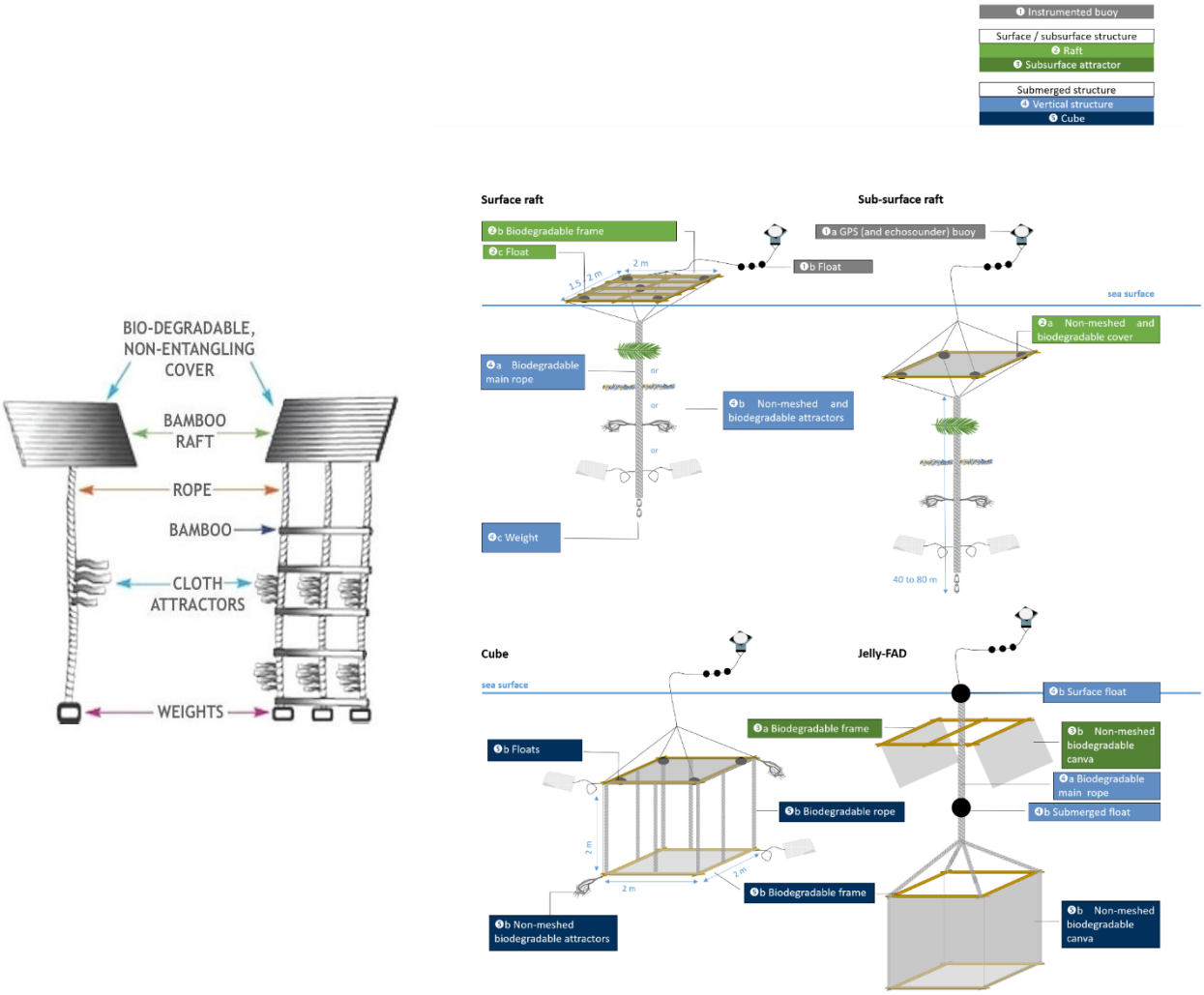
	Abandonment	Deliberate end of use of the floating object due to a case of force majeure or the floating object is unreachable (buoy still present and able to transmit)
BUOY	Deployment	Deployment (tagging) of a buoy on a floating object already drifting at sea without buoy or deployment of a FAD equipped 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	
	DFAD can be retrieved		DFAD cannot be retrieved		DFAD cannot be located, so not retrievable	
Reason to deactivate buoy	DFAD and buoy are taken from the sea	Responsible buoy operator 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 II

NON PRESCRIPTIVE EXAMPLES FOR THE DESIGN AND DEPLOYMENT OF FADS



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.

ANNEX III

CATEGORIES OF BIODEGRADABILITY

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.

ANNEX IV
GUIDELINES FOR PREPARATION OF DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLAN

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

1) An objective
2) Scope

Description of its application with respect to:

a) vessel-types and supply and tender vessels
b) DFAD numbers and DFADs beacon numbers to be deployed
c) reporting procedures for DFAD and floating object buoy use
d) incidental bycatch reduction and utilisation policy
e) consideration of interaction with other gear types
f) plans for monitoring and retrieval of DFADs at their end of use
g) statement or policy on "DFAD ownership"

3) Institutional arrangements for management of the DFAD Management Plans:
   a) institutional responsibilities
   b) application processes for DFAD and/or floating object instrumented buoy deployment approval
   c) obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use
   d) DFAD and/or floating object instrumented buoy replacement policy
   e) reporting obligations
4) DFAD construction specifications and requirements:
   a) DFAD design characteristics (including information on the biodegradable category and presence of meshing elements)
   b) DFAD markings and identifiers, including floating object instrumented buoys (requirement for serial numbers in the case of the buoy)
   c) lighting requirements
   d) radar reflectors
   e) visible distance
5) Applicable areas:
   a) 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) Floating object logbook template (data to be collected specified in Annex I).

ANNEX V
DATA COLLECTION FOR AFADS

1) Any activity around an AFAD.
2) For each activity on an AFAD (repair, intervention consolidation, etc.), whether followed or not by a set or other fishing activities, the:
    a) Position (as the geographic location of the event (Latitude and Longitude) in degrees and minutes);
    b) Date (as DD/MM/YYYY, day/month/year); and
    c) AFAD identifier (i.e. AFAD Marking or beacon ID or any information allowing to identify the owner).
3) If the visit is followed by a set or other fishing activities, the results of the set in terms of catch and bycatch, whether retained or discarded dead or alive.

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

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

1) An objective
2) Scope

Description of its application with respect to:

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

3) Institutional arrangements for management of the AFAD Management Plans:
   a) institutional responsibilities
   b) regulations applicable to the setting and use of AFADs
   c) AFAD repairs, maintenance rules and replacement policy
   d) data collection system
   e) reporting obligations
4) AFAD construction specifications and requirements:
   a) AFAD design characteristics (a description of both the floating structure and the underwater structure, with special emphasis on any netting materials used)
   b) anchorage used for mooring
   c) AFAD markings and identifiers, including AFAD beacons if any
   d) lighting requirements if any
   e) radar reflectors
   f) visible distance
   g) radio buoys if any (requirement for serial numbers)
   h) satellite transceivers (requirement for serial numbers)
   i) echo sounder
5) Applicable areas:
   a) coordinates of mooring sites, if applicable
   b) details of any closed areas e.g., shipping lanes, Marine Protected Areas, reserves etc.
6) Means for monitoring and reviewing implementation of the AFAD–MP.
7) AFAD logbook template (data to be collected specified in Annex V).