Food and Agriculture Organization of the United Nations

Indian Ocean Tuna Commission
Commission des Thons de l'Ocean Indien
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IOTC-2024-CoC21-08 [E]

SUMMARY OF COMPLIANCE WITH AND COLLECTION OF THE DRIFTING FISH AGGREGATING DEVICES MANAGEMENT PLANS

Prepared by: IOTC Secretariat, 06 April 2024

PURPOSE

This document summarises the information received from IOTC CPCs in accordance with IOTC Resolution 19/02[1] *Procedures on a fish aggregating devices (FADs) management plan*, including a limitation on the number of FADs, more detailed specifications of catch reporting from FAD sets, and the development of improved FAD designs to reduce the incidence of entanglement of non-target species.

The paragraph 2 describes the application of Resolution 19/02:

> Paragraph 2. This Resolution shall apply to CPCs having purse seine vessels and fishing on Drifting Fish Aggregating Devices (DFADs), equipped with instrumented buoys for the purpose of aggregating target tuna species, in the IOTC area of competence. Only purse seiners and associated supply or support vessels are allowed to deploy DFADs in the IOTC Area of Competence.

BACKGROUND

At its 23rd Session, the Commission adopted Resolution 19/02 *Procedures on a fish aggregating devices (FADs) management plan*.

The reporting requirements under Resolution 19/02 are provided in paragraphs 12 and 16 of this Resolution. Paragraph 13 of the Resolution tasks the Compliance Committee to analyse the information submitted under the reporting requirement.

> Paragraph 12. CPCs having vessels flying their flag and fishing on FADs shall submit, to the Commission, on an annual basis, Management Plans for the use of FADs. Due to their specificity in terms of users, type of boat/vessel involved, fishing method and gear used and materials used in their construction, the Management Plans and Reporting Requirements for Drifting FADs (DFAD) […]. The Plans shall at a minimum follow the Guidelines for Preparation for FAD Management Plans by each CPC as provided for DFADs in Annex I […].
>
> Paragraph 13. The Management Plans shall be analysed by the IOTC Compliance Committee.
>
> Paragraph 16. CPCs shall submit to the Commission, 60 days before the Annual Meeting, a report on the progress of the management plans of FADs, including, if necessary, reviews of the initially submitted Management Plans, and including reviews of the application of the principles set out in Annex III.

DISCUSSION

This document:

- incorporates the submissions of the 2024 DFAD management plans received, during the intersessional period 2023/2024, from the European Union (France/Italy & Spain; 14.03.2024), Japan (14.02.2024), the Republic of Korea (11.03.2024), Mauritius (14.03.2024), Seychelles (17/03/2022) and Tanzania (21/03/2024) in Table1. Iran had informed the IOTC Secretariat that its plan submitted in 2021, is also valid for the year 2022 and Iran has also indicated that their vessels are not fishing on DFADs.

[1] Previously Resolution 18/08, Resolution 17/08, Resolution 15/08, Resolution 13/08 and Resolution 12/08.

Annex 2 provide the collection of drifting fish aggregating devices management plans.

- presents an update of the submission of the reports on the progress of the implementation of the 2023 management plans of DFADs (Table 2),
- presents an update of the summary of compliance with the 2024 DFAD management plans (Table 3), and Annex 1 provide the detailed assessments for the 2024 DFAD management plans.

The following CPCs have purse seine vessels registered in the IOTC Record of Authorised Vessels (e-RAV): Australia (9), European Union – France (13), Italy (1) and Spain (15), Indonesia (263), Islamic Rep. of Iran (8), Japan (10), Rep. of Korea (7), Mauritius (3), Oman (2), Seychelles (13) and Tanzania (1).

As of 19 March 2024, 345 purse seiners have been registered in the e-RAV.

- 12 flag States[2] have registered 343 purse seine vessels of length overall (LOA) 24 meters or over to operate in the IOTC area.
- One flag State has registered one purse seine vessel of LOA less than 24 meters to operate in the IOTC area, including in waters outside of its exclusive economic zone (EEZ). The same flag State has one purse seine vessel with unknown LOA.

SUBMISSION HISTORY OF DFAD MANAGEMENT PLANS

The submissions history of DFAD management plans are presented in Table 1.

Table 1: Submission history of DFAD management plans (2013 to 2024).

Year	EU			IDN	IRN	JPN	KEN	KOR	MUS	OMN	SYC	TZA
	FRA	ITA	ESP									
2013	N/S		N/S	N/S	N/S	25/12	N/A	31/12	N/S	N/A	N/S	N/A
2014	N/S		15/01	N/S	26/01	26/12	N/A	N/S	14/03	N/A	N/S	N/A
2015	N/S		N/S	12/01	N/S	N/S	N/A	N/S	N/S	N/A	27/04	N/A
2016	11/03		11/03	N/S	N/S	N/S	N/A	16/03	N/S	N/A	N/S	N/A
2017	13/04		19/04	N/S	N/S	10/04	N/A	21/03	N/S	N/A	N/S	N/A
2018	19/01		14/03	N/S	N/S	05/07	N/A	16/03	14/11	N/A	N/S	N/A
2019	20/05		20/05	N/A	14/04	2018	N/A	09/04	2018	N/A	N/S	N/A
2020	01/04		01/04	N/A	N/S	03/04	31/07	01/04	01/04	N/A	21/08	N/A
2021	08/04		08/04	N/A	13/04/21	07/04	N/S[A]	08/04	08/04	N/A	N/S	N/A
2022	17/03	N/S	17/03	N/A		16/03	N/A	17/03	N/A	N/S	17/03[B]	N/S
2023	09/03		09/03	N/A	N/A	13/02	N/A	09/03	09/03	N/S	N/S[B]	N/S
2024	14/03		14/03	N/A	N/A	14/03	N/A	11/03	14/03	N/S	14/03[B]	21/03

N/S[A]	Submitted in 2020, plan overlapping 2020/2021

N/S[B]	Submitted in 2022 and 2024, plan overlapping 2022/2023/2024

Note:

Submitted

European Union: Has declared in e-MARIS: *"EU-ITA vessel is managed under the EU-FRA management plan"*.

Japan: Has declared in e-MARIS: "*For 2024 no purse seine vessels / supply or support vessels fishing on Drifting Fish Aggregating Devices"*.

Tanzania: Has registered one purse seiner fishing on DFAD with authorisation from 04/03/2023 to 03/03/2024 in the IOTC e-RAV. No DFAD management plan submitted for the years 2022 and 2023.

[2] Corresponding to 10 CPCs, European Union PS fleets flagged to France, Italy and Spain.

Tanzania has submitted a 2024 DFAD management plan in e-MARIS. The plan has not been prepared according to the Annex I Guidelines for preparation of drifting fish aggregating device (DFAD) management plans.

N/A	Not applicable

Kenya: Had 6 purse seine vessels on the IOTC Record of Authorised Vessels in 2021 (deleted on 11.09.2021). No purse seine vessels on the IOTC Record of Authorised Vessels in 2022/2023/2024.

Indonesia: Has declared in e-MARIS "*No DFADs fishery, fishing for tuna and tuna like species under the IOTC mandate*''.

Iran (Islamic Rep. of): Has eight (8) purse seine vessels in the e-RAV. Has declared in e-MARIS "*The Iran Fisheries Organization prepared the FAD management plan in 2014 and sent it to the IOTC Secretariat on June 26, 2014 with the signature of the Iran Commissioner. The plan was updated in 2021 and communicated to the purse seine operators by the Deputy of Fishing and fishing Ports. Iran has not any fishing license for PS Vessels in the high seas and out of EEZ. As reported to the IOTC secretariat, we mentioned that no FADs has been used by PS vessels in 2023*''.

N/S	Not submitted

Oman: Has registered one purse seiner fishing on DFAD with authorisation from 30/06/2023 to 29/06/2024 in IOTC electronic-Record of Authorised Vessels (e-RAV). No DFAD management plan submitted for the years 2022, 2023 and2024.

- Information required: 2024 DFAD management plans

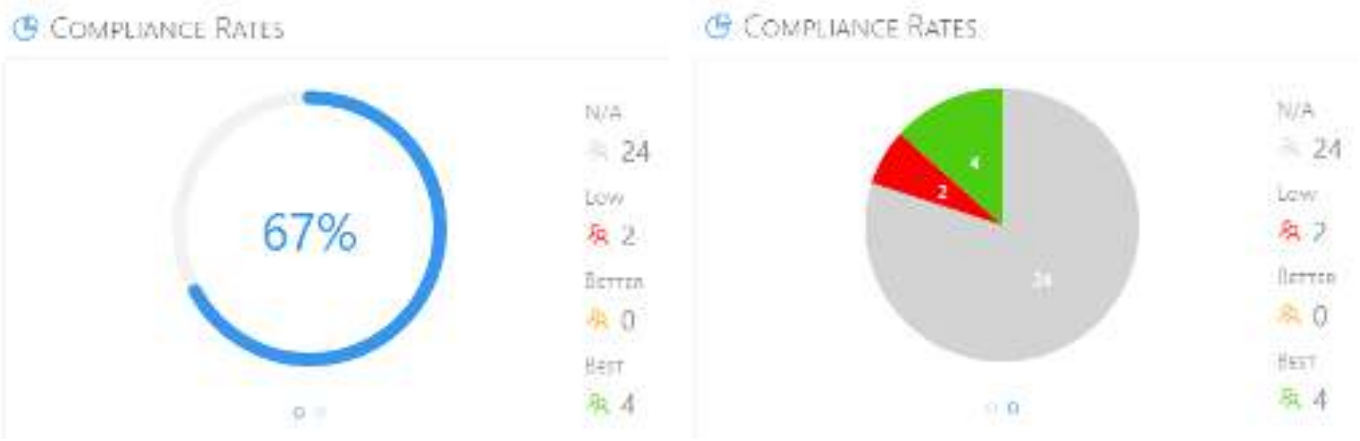


Figure 1. Commission compliance rate (CoC21, 2024) - 2024 DFAD management plans.

Compliant	**4**	EUR, KOR, MUS, SYC, TZA
Not Compliant	**2**	OMN
Not Applicable	**24**	AUS, BDG, CHN, COM, FRAOT, IND, IDN, IRN, JPN, KEN, LBR, MDG, MYS, MDV, MOZ, PAK, PHL, SOM, ZAF, LKA, SDN, THA, GBR, YEM

CPC with repeated compliance issues

Repeated compliance issues	**1**	OMN

- Obligation: DFADs to be marked

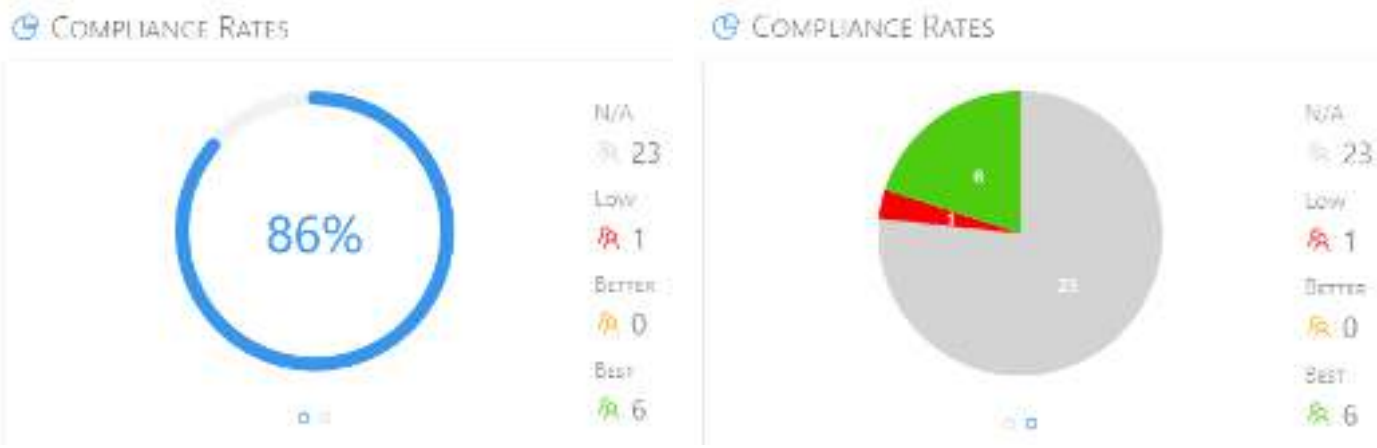


Figure 2. Commission compliance rate (CoC21, 2024) - DFADs to be marked.

Compliant	**6**	EUR, JPN, KOR, MUS, SYC, TZA
Not Compliant 2	**1**	OMN
Not Applicable	**23**	AUS, BDG, CHN, COM, FRAOT, IDN, IRN, KEN, LBR, MDG, MYS, MDV, MOZ, PHL, ZAF, LKA, THA, GBR, ERI, IND, PAK, SOM, SDN, YEM

CPC with repeated compliance issues

Repeated compliance issues	None

From the CPCs that are fishing on DFAD in 2023/2024, 6 are compliant with the requirement on marking of DFADs. Oman has not provided a DFAD management plan for 2022, 2023 and 2024 and no information is available regarding its implementation of the DFAD marking requirement.

PROGRESS REPORT ON THE IMPLEMENTATION OF 2023 DFAD MANAGEMENT PLANS

IOTC Resolution 19/02, paragraph 16, request CPCs to provide a report on the progress of the management plan:

In 2024, five CPCs have provided a report on the progress of implementation of their 2023 DFAD management plan. These are summarised in the Table 2.

Table 2: Submission history of progress report of implementation of the DFAD management plans (2017 to 2023).

Reception of progress report on DFAD MGT PLANS	EU		IDN	IRN	JPN	KEN	KOR	MUS	SYC	TZA
	(FRA, ITA)	(ESP)								
2017	22/03	22/03	17 /03	N/S	15/03	N/A	21/03	17 /03	N/S	N/A
2018	15/03	15/03	16/03	15/03	16/03	N/A	16/03	16/03	12/04	N/A
2019	N/S	N/S	N/A	14/04	01/04	N/A	09//04	10/04	09/04	N/A
2020	N/S	01/04	N/A	N/S	01/04	N/A	01/04	21 August	N/S	N/A
2021	30 /04	08 /04	N/A	28 /04	07/04	28/04	08/04	09 /04	01/04	N/A
2022	17/03	17/03	N/A	N/S	16/03	N/S	17/03	17/03	N/S	N/A
2023	09/03	04/04	N/A	N/S	09/03	N/A	09/03	09/03	09/03	N/S
2024	14/03	02/04	N/A	N/A	14/03	N/A	11/03	14/03	14/03	N/S

Note:

Submitted

European Union (FRA), Korea (Rep. of), Mauritius andSeychelles: Had submitted 2023 DFAD plans and progress reports submitted on the 2023 DFAD plan.

Seychelles: Had submitted a DFAD plan on 17 March 2022, the plan is applicable for 2022/2023. Progress report submitted on the 2023 DFAD plan.

N/A	Not applicable

Indonesia: has declared that it operated only anchored FADs and no DFADs management plan submitted for 2023.

Kenya: had submitted a DFAD plan on 31 July 2020, the plan was applicable from August 2020 to August 2021. Kenya has requested deletion from the record of authorised vessels the purse seiners under its flag in September 2021.

Japan: has declared ''*No purse seine vessel / supply vessel fishing on Drifting Fish Aggregating Devices*''.

Iran (Islamic Rep. of): Has submitted a 2021 DFAD plan, has reported on 29 June, 2022, DFADs are not been used by purse seine vessels.

N/S	Not submitted

Tanzania: No 2023 DFAD management plan submitted. No progress report submitted.

- Information required: Progress report on the implementation of the 2022 DFAD management plans.

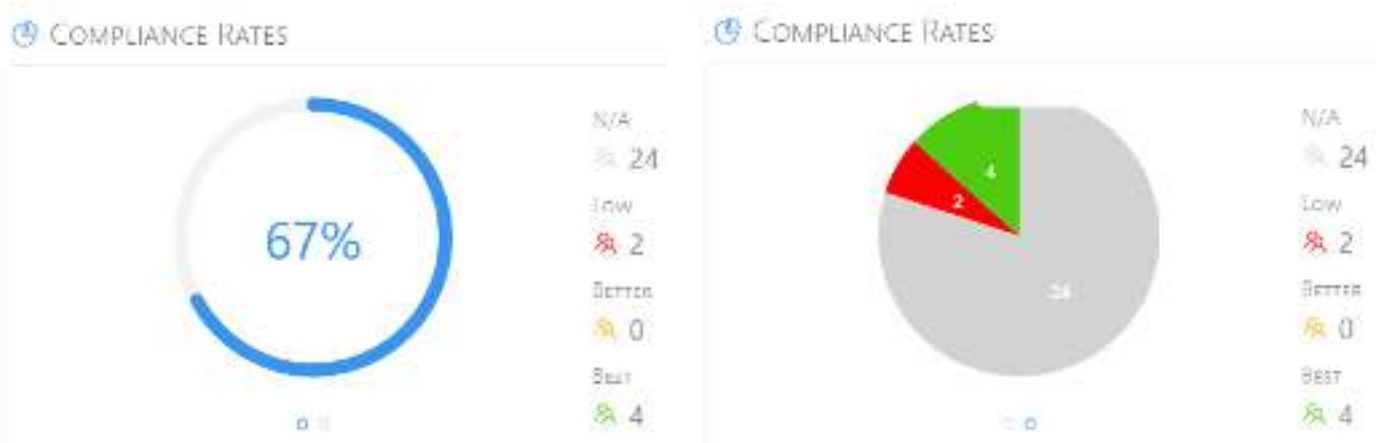


Figure 3. Commission compliance rate (CoC21, 2024) - Progress report on the implementation of 2023 DFAD management plans.

Compliant	**4**	EU, KOR, MUS, SYC
Partially Compliant	**0**	
Not Compliant	**2**	OMN, TZA.
Not Applicable	**24**	AUS, BDG, CHN, COM, FRAOT, IND, IDN, JPN, KEN, LBR, MDG, MYS, MDV, MOZ, PAK, PHL, SOM, ZAF, LKA, SDN, THA, TZA, GBR, YEM.

COMPLIANCE DFAD MANAGEMENT PLANS

The number of purse seine vessels for CPCs that currently have purse seiners in the record of authorised vessels and that are fishing on DFADs are presented in Table 3.

At its 12th Session, the Compliance Committee recommended that the IOTC Secretariat provide a summary of compliance with the DFAD management plans in a tabular format to the next CoC [*Para 123, IOTC–2015–CoC12–R*].

The guideline for producing a DFAD management plan consists of 24 sections/elements, and these are assessed by applying the following methodology: Yes (Y) indicates the topic is covered in the DFAD management plan; No (N) indicates the topics is not covered in the DFAD management plan.

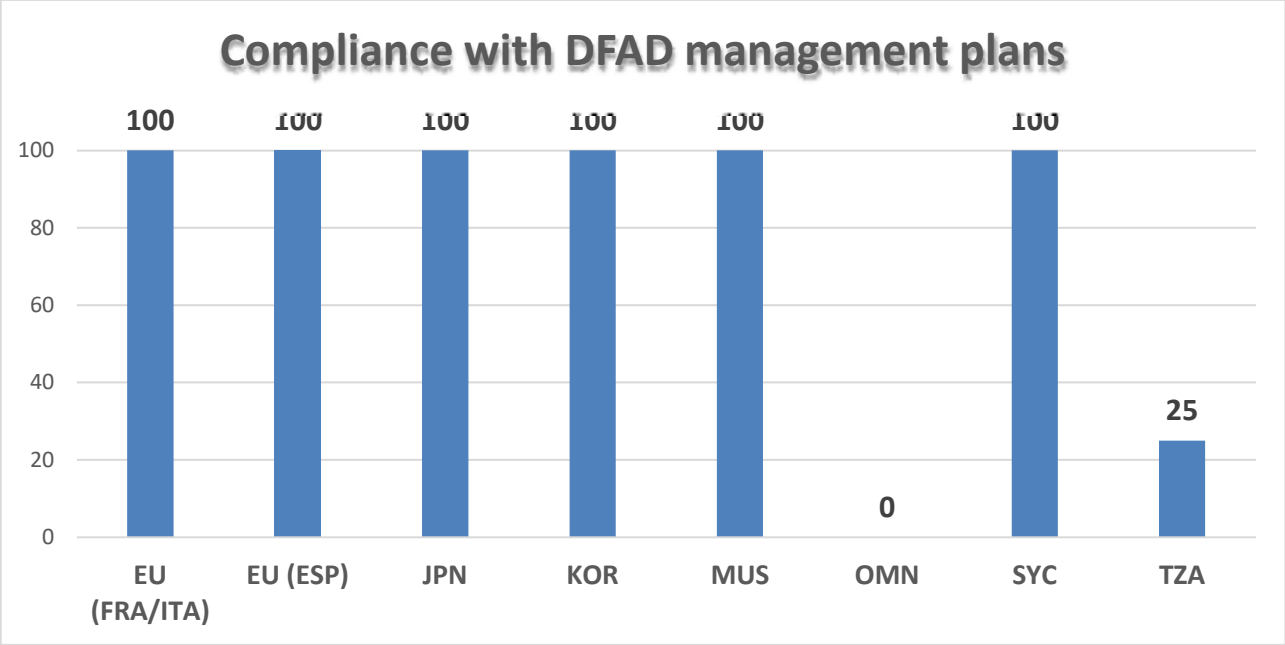
Table 3: Summary of the assessments for each DFAD management plan submitted.

DFAD MANAGEMENT PLANS (2023)	EU FRA	EU ITA	EU ESP	JPN	KOR	MUS	OMN[x]	SYC	TZA
Year of submission	2024	2024	2024	2024	2024	2024		2024	2024
PS vessels > 24 m [xx]	**13**	**1**	**15**	**10**	**7**	**3**	**1**	**13**	**1**
PS vessels < 24 m [xx]	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Topics covered (Y)	24	24	24	24	24	24	0	24	0
Topics not covered (N)	0	0	0	0	0	0	24	0	24
% of topics covered	100%	100%	100%	100%	100%	100%	0%	100%	25%

[x]: 2024 DFAD plan not submitted for OMN.

[xx]: Number of purse seine vessels subject to DFAD Management Plans (as of 19 March 2024).

Figure 1: Levels of compliance of DFAD management plans with the guideline, expressed in percentage of topics covered (Annex I – Resolution 19/02).



CONCLUSION

The available 2024 DFAD management plans fall into the following three distinct categories:

1. DFADs management plans not submitted; 0 % topics covered: Oman,
2. DFADs management plans submitted; 100 % topics covered: European Union (FRA, ITA &ESP), Japan, Republic of Korea, Mauritius and Seychelles).
3. DFADs management plans submitted; Some topics not covered: Tanzania.

At the time of preparing this document, no 2024 DFAD managements plan has been received for Oman.

Annex 1: Details of compliance assessments of the 2024 DFAD management plans.

Note: Yes (Y): Indicates the topic is covered in the DFAD management plan; No (N): Indicates the topic is not covered in the DFAD management plan.
*: Vessels registered on the IOTC Record of Authorised Vessels.
2024 DFAD plan not submitted for OMN.

DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLANS (2022)	**EU (FRA)**	**EU (ITA)**	**EU (ESP)**	**OMN**	**JPN**	**KOR**	**MUS**	**SYC**	**TZA**
Date of submission	14.03.24		14.03.24	None	14.03.24	11.03.24	14.03.24	14.03.24	21.03.24
Purse seine vessels above 24 m*	**13**	**1**	**15**	**1**	**10**	**7**	**3**	**13**	**1**
1. An objective	Y	Y	Y	N	Y	Y	Y	Y	Y
2. Scope									
– 2.1. Vessel-types and support and tender vessels	Y	Y	Y	N	Y (No support / tender vessel)	Y	Y	Y	N
– 2.2. DFAD numbers and/or DFADs beacon numbers to be deployed	Y (300/vessel)	Y	Y (300/vessel)	N	Y (150 /vessel)	Y (Approximately 1,000 DFADs for the entire PS fleet will be deployed and 500 DFADs will be retrieved from the ocean and then deployed again.)	Y (No more than 300 active buoys & 700 acquired/year/PS)	Y (300/vessel)	Y
– 2.3 reporting procedures for DFAD deployment	Y	Y	Y	N	Y	Y	Y	Y	N
– 2.4 incidental bycatch reduction and utilization policy	Y	Y	Y	N	Y	Y	Y	Y	N

DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLANS (2022)	EU (FRA)	EU (ITA)	EU (ESP)	OMN	JPN	KOR	MUS	SYC	TZA
– 2.5 consideration of interaction with other gear types	Y	Y	Y	N	Y	Y	Y	Y	N
– 2.6 plans for monitoring and retrieval of lost DFADs	Y	Y	Y	N	Y	Y	Y	Y	Y
– 2.7 statement or policy on “DFAD ownership”	Y	Y	Y	N	Y	Y	Y	Y	N
3. Institutional arrangements									
– 3.1 Institutional responsibilities	Y	Y	Y	N	Y	Y	Y	Y	N
– 3.2 application processes for DFAD and /or DFAD beacons deployment approval	Y	Y	Y	Y	Y	Y	Y	Y	N
– 3.3 Obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use	Y	Y	Y	N	Y	Y	Y	Y	N
– 3.4 DFAD and/or DFADs beacons replacement policy	Y	Y	Y	N	Y	Y	Y	Y	N
– 3.5 reporting obligations	Y	Y	Y	N	Y	Y	Y	Y	Y
4. DFAD Construction specifications and requirements									

DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLANS (2022)	EU (FRA)	EU (ITA)	EU (ESP)	OMN	JPN	KOR	MUS	SYC	TZA
– 4.1 DFAD design characteristics (a description)	Y	Y	Y (No technical specification cited)	N	Y	Y	Y	Y	Y
– 4.2 DFAD markings and identifiers, including DFADs beacons	Y	Y	Y	N	Y	Y	Y	Y	N
– 4.3 Lighting requirements	Y	Y	Y (no lighting)	N	Y	Y	Y	Y	N
– 4.4 radar reflectors	Y (No radar)	Y	Y (no radar)	N	Y	Y	Y	Y	N
– 4.5 visible distance	Y (No rules)	Y	Y (2 Miles)	N	Y	Y	Y (1 NM)	Y	N
– 4.6 radio buoys (requirement for serial numbers)	Y	Y	Y	N	Y	Y	Y	Y	N
– 4.7 satellite transceivers (requirement for serial numbers)	Y	Y	Y	N	Y	Y	Y	Y	N
5. Applicable areas – 5.1 Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc	Y (No closed area)	Y	Y	N	Y	Y	Y	Y	N
6. **Applicable period for the DFAD–MP**	Y (2021)	Y	Y (In force until further	N	Y (for the entire	Y (the time when	Y (One year)	Y (Valid 2022/2023)	Y (2024)

DRIFTING FISH AGGREGATING DEVICE (DFAD) MANAGEMENT PLANS (2022)	**EU (FRA)**	**EU (ITA)**	**EU (ESP)**	**OMN**	**JPN**	**KOR**	**MUS**	**SYC**	**TZA**
			modifications are adopted or new international provisions are set.)		period while Japanese purse seiners operate in the IOTC)	Korean-flagged purse seiners are in operation in the IOTC area of Competence)			
7. **Means for monitoring and reviewing implementation of the DFAD–MP**	Y	Y	Y	N	Y	Y	Y	Y	N
8. DFAD logbook template	Y	Y	Y	N	Y	Y	Y	Y (SP & PS logbook)	N
Number of topics covered vs not covered	24 Y	24Y	24 Y	24 N	24 Y	24 Y	24 Y	24 Y	18 N
General comments by Secretariat	All elements exist in the FADs management plan	All elements exist in the FADs management plan	All elements exist in the FADs management plan	No 2024 DFAD plan provided	All elements exist in the FADs management plan	All elements exist in the FADs management plan	All elements exist in the FADs management plan	All elements exist in the FADs management plan	No 2022 and 2023 DFAD plans provided

Food and Agriculture Organization of the United Nations

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Annex 2

Collection of 2024 DFADs management plans

CPC	Date received
European Union (FRA)	14.03.2024
European Union (ITA)	14.03.2024
European Union (ESP)	14.03.2024
Japan	14.03.2024
Korea	11.03.2024
Mauritius	14.03.2024
Oman	Not submitted
Seychelles	14.03.2024
Tanzania	21.03.2024

European Union (France) 2024 DFADs Management Plan

DFAD NATIONAL MANAGEMENT PLAN IN THE INDIAN OCEAN FOR 2024 - France (EU)

Section I - Management measures

Article 1 - References

- **IOTC Resolution 21/01** on an interim plan for rebuilding the Indian Ocean yellowfin tuna stock in the IOTC area of competence
- **IOTC Resolution 19/02** procedures on a Fish Aggregating Devices (FADs) management plan
- **IOTC Resolution 19/05** on a ban on discards of bigeye tuna, skipjack tuna, yellowfin tuna, and non- targeted species caught by purse seine vessels in the IOTC area of competence
- **IOTC Resolution 17/05** on the conservation of sharks caught in association with fisheries managed by IOTC
- **IOTC Resolution 16/08** On the use of aircrafts and unmanned aerial vehicles as fishing aids.
- **CECOFAD Recommendations** on floating object data collection
- **ISSF Recommendations** on categories of FAD designs that pose some degree of entanglement risk

Article 2 – Scope

2.1 Vessels covered by the French DFAD Management Plan in the Indian Ocean

This DFAD Management Plan (DFAD-MP) applies to all tuna purse seiners registered in a French port, operating in the Indian Ocean waters in 2024.

This Management Plan also applies to French-flagged support vessels used as part of the tropical tuna purse seine fisheries.

The list of these vessels is included in Table 1.

Tableau 1: Vessels covered by the French DFAD-MP in the Indian Ocean for 2024

Vessel name	Vessel type	PS vessel assisted by the support vessel
AVEL VAD	Purse seiner	
CAP SAINTE MARIE	Purse seiner	
BERNICA	Purse seiner	
CAP SAINT VINCENT	Purse seiner	
DOLOMIEU	Purse seiner	
DRENNEC	Purse seiner	
FRANCHE-TERRE	Purse seiner	
GEVRED	Purse seiner	
GLENAN	Purse seiner	
JANVIER-LOUIS RAPHAËL	Support vessel	DOLOMIEU, FRANCHE-TERRE, BERNICA
KERSAINT	Support vessel	AVEL VAD, CAP SAINTE MARIE, CAP SAINT VINCENT, DRENNEC, GLENAN, GEVRED, PENDRUC, TREVIGNON
PENDRUC	Purse seiner	
TREVIGNON	Purse seiner	

2.2 Devices covered by the French DFAD Management Plan in the Indian Ocean

This Management Plan applies to drifting FADs and their instrumented buoys that are deployed and used by French tuna purse seiners and their support vessels. It also includes recommendations on DFADs and drifting logs encountered at sea by French tuna purse seiners and their support vessels.

Article 3 – Definitions

Fishing activity: means any operation related to searching for fish, setting, deploying, towing or hauling a fishing gear, taking catch on board, transhipping, retaining on-board, processing on-board, transferring and landing fish and fisheries products.

Instrumented beacon/buoy: means an electronic device designed for FAD or log tracking and monitoring. The buoy should be clearly marked with a unique reference number allowing identification of its owner and equipped with a satellite tracking system to monitor its position.

Active buoy: means a buoy whose satellite communication service has been initialized by the buoy supplier company at the request of the vessel owner or operator. At this stage, the buoy is not transmitting positions or additional data, such as echo-sounder estimates of the biomass underneath.

Buoy in stock: means an instrumented buoy acquired by the owner which has not been made operational. For the purposes of this Management Plan, any buoy present on-board the vessel to which it belongs is considered to be “in stock”.

Operational buoy: a buoy is considered to be operational when it has been registered in the satellite system (active beacon), switched on (when active and switched on, the beacon is "transmitting") and deployed at sea, and transmits position and any other available information such as echo-sounder estimates.

Shared buoy: means a buoy whose data (position and echo-sounder signal) are transmitted to, at least, two purse seiners sharing the buoy. The contribution of a shared buoy to the number of operational buoys from a specific purse seiner equals to 1/number of purse seiners sharing the buoy.

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 operator, the purse seiner or its associated support vessel. A deactivated buoy can be reactivated only when physically present on board the purse-seine vessel to which it belongs or its support vessel and/or after being brought ashore.

Fish Aggregating Device (FAD): as determined by Resolution 19/02, a 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.

In this Management Plan, in order to separately monitor the effects of adding a FAD to an object already present at sea (impacts on the ecosystem) and the effects of using instrumented buoys to facilitate fish detection (fishing effort), a FAD is defined as a man-made object designed and deployed by fishers for the purpose of aggregating fish. This Management Plan assumes that adding a buoy to another floating object does not convert this latter into a FAD. Article 5 of this Management Plan complements and elaborates on this definition.

Drifting Fish Aggregating Devices (DFADs): means a FAD not anchored to the bottom of the ocean. Its design should avoid the use of mesh net in an effort to prevent shark and sea turtle entanglements. Article 20 defines the potential structures of a FAD.

Drifting debris: in this Management Plan, any drifting floating object that is not a DFAD (natural object of animal or plant origin, or debris from anthropic activities resulting, or not, from fishing).

Buoy providers: means any company providing buoys intended for the tracking of DFADs or drifting debris.

Fishing Vessel: means any vessel equipped for the commercial harvesting of aquatic living resources.

Support vessel: means a vessel that assists another fishing vessel in its fishing activities. Support vessels do not have gear on-board. In respect of tropical purse seiners, support vessels are used to deploy DFADs and buoys, transfer other vessels' buoys onto DFADs and drifting debris encountered at sea or inform their associated purse seiner about the presence of fish.

Number of operational buoys per purse seiner at any one time: is the sum of the number of operational buoys exclusively used by the purse seiner (apart from its support vessel) plus the number of buoys shared with other purse seiners.

Buoy owner: As determined by Resolution 19/02, any legal or natural person, entity or branch, who is paying for the communication service for the buoy associated with a FAD, and/or who is authorized to receive information from the satellite buoy (position, echo-sounder data), as well as to request its activation and/or deactivation.
The term "**buoy user**" shall be preferred for the purposes of this Management Plan.

Buoy user: means any purse seiner receiving information on the buoy position and, in the case of buoys equipped with an echo-sounder, estimates of the biomass aggregated beneath their associated drifting log.

Floating object: in this Management Plan, all DFADs and drifting debris serve as floating objects.

Reactivation of a buoy: the act of re-enabling satellite communications services by the buoy supplier company at the request of the buoy owner or operator. Just like buoy activations, a buoy can be reactivated only when physically present on board the purse-seine vessel or its support vessel. Moreover, buoy reactivation shall only be possible once it has been brought back to port, either by one of the purse seiners using the buoy or another vessel authorized to do so (for example, support vessel or vessel in charge of the retrieval).

Article 4 – Objectives of the French DFAD-MP

The French DFAD-MP has three objectives:

4.1 Improving our understanding of the impacts of DFADs

Increased knowledge on the use of DFADs and their instrumented buoys will result in a better assessment of their potential impacts and the development of the most appropriate management measures.

The methods to monitor the use of DFADs and their instrumented buoys are described in Section II.

4.2 Limitations on the use of DFADs and their instrumented buoys

One of the management measures to reduce the negative impacts of DFADs is limiting their use.

The conditions in which their use may be limited and the methods used to monitor the number of operational buoys are described in Section III.

4.3 Reducing the impacts of DFAD on the ecosystem

Apart from reducing the potential impacts resulting from the limitation on the number of DFADs, additional measures are required to reduce the impacts of DFADs on the ecosystem including: (1) bycatches and incidental catches of endangered species; (2) ghost fishing of endangered species such as turtles and sharks; and (3) pollution and beaching events due to lost FADs.

The solutions implemented to mitigate these impacts and the methods used to monitor compliance are described in Section IV.

In 2024, the main actions to mitigate these impacts are as follows:

1) Finalization of an updated Excel logbook version focusing on increased data collection on DFAD structure and materials (Article 20, Annex III) and DFAD fate at the end of service life (Article 5).

2) Continuation of DFAD and instrumented buoys recovery program at the end of their service life in order to mitigate the risk of pollution at sea and coastal beaching events (Article 22).

3) Continued testing on biodegradable DFADs (Article 21).

Section II – Measures to improve our understanding of the use and impacts of DFADs

Article 5 – Monitoring of activities on floating objects and instrumented buoys

5.1 Types of activities on floating objects and instrumented buoys

Monitoring of activities on DFADs and drifting logs and their instrumented buoys follows a dual objective:

(i) assessing the contribution of these devices to the tuna seine fishing effort to assess the impact of this fishing practice on tropical tuna stocks.

(ii) assessing the contribution of DFADs to changes in and/or disruptions to the ecosystems in which they are used.

Some definitions consistent with these scientific objectives have been developed in the framework of the European project CECOFAD and are included in Table 2.

These definitions distinguish between *FADs in the strict meaning of the term* (objects/structures/devices specifically deployed at sea by purse seiners or support vessels for the purpose of aggregating tropical tunas) and *debris* (other types of objects/structures of natural origin such as a wood log or of anthropogenic origin such as plastic debris that may aggregate fish).

Table 2. Types of FOBs (CECOFAD classification)

Type	Material	Name	Example(s)
FAD	Natural and/or man-made	Drifting FAD	Drifting bamboo raft
	Natural and/or man-made	Anchored FAD	Anchored floating platform
LOG	Man-made	Artificial debris resulting from fishing activities	Net piece, longline piece
	Natural and/or man-made	Artificial debris resulting from other human activities	Wooden board, plastic debris
	Natural	Natural debris of animal origin	Debris from marine animals (shark, cetacean, turtle…)
	Natural	Natural debris of plant origin	Tree trunk, algae

These definitions also explicitly distinguish between activities on floating objects and activities on their instrumented beacons in order to facilitate reporting by vessels and data management. In 2024, definitions from the CECOFAD project have been completed and clarified to monitor more thoroughly FADs, drifting debris and buoys, from deployment to end of use. They are in line with IOTC Form-3DA and are included in Table 3. Several consecutive activities may be carried out on the same floating object and each one should be listed in the logbook.

Table 3: Types of activities on floating objects and buoys. Activities *in italics* complement the CECOFAD classification for an increased monitoring of FADs at the end of service life. Activities in red are prohibited. Activities in green are encouraged in order to mitigate the risk of pollution and beaching events. Slight changes may be made to this list of activities following logbook review.

Type	Activity	Description
FOB	Deployment	New DFAD deployed at sea. By definition, logs are not deployed.
	Strengthening	Consolidation of a FOB to strengthen buoyancy through the addition of a new DFAD (visit or fishing set followed by deployment).
	Visit	Visit (without fishing set) of a FOB, to assess inter alia the quantity of aggregated biomass underneath.
	Fishing	Fishing set on a FOB.
	Retrieval	Recovery of a FOB, for instance when it poses a risk of entanglement or pollution or is too damaged for its usage.
	End of use	Discontinuing, through remote deactivation of the buoy, the use of FOBs drifting outside fishing areas.
	Beaching	*Discontinuing, through remote deactivation of the buoy, the use of FOBs following a beaching event.*
	Abandonment	*Discontinuing the use of a floating object visited by the vessel. Abandonment of a DFAD, even damaged, without a buoy attached is prohibited.*
	Sinking	*FOB that has been sunk by the vessel. Sinking a floating object with plastic or metallic components is prohibited.*
	Loss	Discontinuing FOB tracking not related to appropriation by a vessel other than the one(s) to which it belongs or to a malfunction of the buoy to track its position.
BUOY	Deployment	Deployment of a buoy onto a FOB.
	Transfer	Replacing a buoy attached to a FOB belonging to another vessel (recovery followed by deployment).
	Visit	Mere visit of a FOB with a buoy attached onto it.
	Retrieval	Retrieving a buoy on a FOB drifting at sea. Abandonment of DFADs at sea without a buoy attached is prohibited, and recovery of log that poses a pollution risk shall be encouraged.
	End of use	Intentionally discontinuing buoy transmission, through remote deactivation, at the request of the vessel or fleet.
	Abandonment	*Abandonment at sea of a buoy belonging to another vessel or having a technical failure.*
	Sinking	*Buoy that has been sunk by the vessel.*
	Loss	Unintentionally discontinuing buoy transmission following floating object appropriation by another vessel or a technical failure of the buoy.

5.2 Reporting activities on FOBs and instrumented buoys

Fishing vessel or supply vessel masters shall record the activities on DFADs, drifting logs and instrumented buoys on the logbook as per the categories described in Tables 2 and 3.

For each activity, the required data are as follows:

- Vessel (name and registration number)
- Date (DD/MM/YYYY)
- Position (latitude, longitude in degrees and minutes)
- Type of FOB as defined in Table 2
- Type of DFAD, if any. Article 18 describes DFAD dimensions and materials authorised for the French fleet as well as any information to be collected on their dimensions.
- Size/presence of meshed material for the components of deployed DFADs, and to the extent possible, for visited DFADs and drifting logs
- The presence of plastics and/or metal in the components of deployed DFADs, and to the extent possible, for visited DFADs and drifting logs
- Type of activity or sequence of activities on FOB as defined in Table 3
- Type of buoy (brand and model), ID and/or information on buoy ownership (known or unknown position to locate the floating object)
- For buoy transfer, type of buoy and ID or, if unavailable, ownership of retrieved and deployed buoys
- Type of activity or sequence of activities on FOB as defined in Table 3

This information will be reported to the Secretariat according to the prescribed template in the 3-FA Form.

Apart from the above information, fishing vessel masters shall also record the following data on the logbook for each FOB or free-school set:

- Catch per species in tonnes (targeted tuna, bycatch species or incidental catch)
- Potential discard quantities in accordance with applicable discard requirements provided for in IOTC Resolutions 17/04 and 17/05
- Potential reasons for discards (species, size, fish unfit for human consumption).

Annex II details the logbook structure used by the French purse seiners and support vessels as of 1st January 2024. A complete logbook restructuring, launched in 2023, will be finalised in the first quarter of 2024 to facilitate data collection and ensure high quality data.

All data will continue to be submitted to the Institut de Recherche pour le Développement (IRD). These data will be available for research purposes and to meet the IOTC Scientific Committee needs.

Article 6 – Data reporting from instrumented buoys for scientific purposes

All position and echo-sounder data from instrumented buoys used by French purse seiners and support vessels will continue to be reported to the *Institut de Recherche pour le Développement* (IRD). These data will be available for research purposes and to meet the IOTC Scientific Committee needs.

SECTION III – MEASURES TO APPLY LIMITS ON THE NUMBER OF DFADS AND INSTRUMENTED BUOYS

Article 7 - DFAD identification and marking

Any DFAD deployed at sea by French tuna purse seiners or support vessels is identified by its associated buoy serial number. It should be clearly visible without having to remove the buoy from the DFAD, be designed to withstand long stay at sea and remain legible throughout the buoy service life.

The logbook restructuring will enable/aims to improve buoy monitoring and reflect on an enhanced logbook or "FAD and buoy Logbook".

Article 8 - DFAD without buoys attached

Deployment or abandonment of DFAD at sea without a buoy attached shall be prohibited.

Article 9 – Ban on HF buoys

HF buoys shall be prohibited.

Article 10 – DFAD ownership

The vessel owner or operator whose buoy is attached to the FOB is the owner thereof even if the vessel itself did not deploy the FOB at sea.

Article 11 – Use of lights on DFADs

Use of (underwater or aerial) artificial lights on DFADs or their instrumented buoys shall be prohibited.

Article 12 – Visible distance and radar reflectors

To avoid DFAD losses due to another vessel taking ownership of it, which would result in French purse seiners and support vessels deploying more DFADs, French purse seiners and support vessels are not required to make their DFADs more visible. Therefore, they are not required, inter alia, to equip them with radar reflectors.

Article 13 – Limitation on the number of operational buoys and buoys in stock

Pursuant to IOC Resolution 19/02:

The French Management Plan sets the maximum number of operational buoys per purse seine vessel at 300 and the maximum number of available buoys per purse seine vessel at 500 (operational and/or in stock) at any one time. The number of instrumented buoys that may be acquired annually for each purse seine vessel is set at no more than 500.

French purse seiners and support vessels shall ensure not to exceed these limits when deploying FADs and instrumented buoys. To avoid exceeding the limits, an alert threshold at 280 operational buoys will be put in place. Once this threshold is reached, the relevant vessels and fleet will limit operational buoy deployment and exercise enhanced vigilance so as to never exceed the 300 operational buoy limit.

Article 14 – Monitoring of the number of operational buoys

Buoy supplier companies shall send a monthly detailed reporting, no later than one week after the end of each month, on the operational buoys used per vessel and day according to the reporting template in Table 4. They will report the same information daily to the vessels and fleets so as to avoid exceeding the 300 operational buoy limit.

Table 4: Template for monthly reporting on operational buoys.

Date	Operational buoys	Activations	Deactivations
2019/01/01			
2019/01/02			
2019/01/03			
…			
2019/01/30			
2019/01/31			

This reporting shall be derived from each buoy supplier company operational system which shall certify that the reported data are consistent with the activation/deactivation reports provided by the central server system.

Operational buoys are those transmitting (one position over the last 24 hours at least) and drifting (speed above 0 knot and below 6 knots).

Shared buoys among several purse seiners are divided by the number of purse seiner receiving data (position, echo-sounder estimates) from the buoy.

As the IOTC Res. 19/02 provides for the monitoring of operational buoys for purse seiners, no buoy shall be assigned to a supply vessel as part of this monitoring. Any buoy activated and deployed at sea by supply vessels shall be accounted for in the monthly reporting on operational buoys by one purse seiner at least.

The same methodology shall be used to report operational buoys through 3-BU Form. These forms will be provided to the IOTC Secretariat no later than 3 months following the relevant month.

Article 15- Monitoring of total number of buoys

Purse seiners and support vessels shall report the number of buoys in stock at beginning and end of each fishing trip. They shall also report each date of buoy deployment, as required under Article 5.1, in order to provide a daily monitoring of the number of buoys in stock.

Tableau 5: Template for reporting buoys in stock

Vessel	Date of departure	Date of return	Buoy ID	Date of delivery	Date of deployment	Date of retrieval in port
X	01/01/2020	15/02/2020	MI00001	30/12/2019	03/01/2019	NA
X	01/01/2020	15/02/2020	MI00002	30/12/2019	04/01/2019	NA
X	01/01/2020	15/02/2020	Thalos001	NA	07/01/2019	NA
X	01/01/2020	15/02/2020	Thalos002	NA	10/01/2019	NA
X	01/01/2020	15/02/2020	SatLink001	NA	15/01/2019	NA
X	01/01/2020	15/02/2020	SatLink002	NA	NA	28/12/2019

Total number of buoys from a specific vessel shall be counted daily, as follows:

$$N = Operational + \ in\ stock_{\ \text{PS vessel}} + \ in\ stock_{\ \text{tender}}$$

Buoys in stock from supply vessels intended to be shared among several purse seiners following activation, switching on and deployment shall be counted as 1/*number of purse seiners sharing the buoy*.

Article 16 – Ban on remote activation of a buoy

In order to avoid buoys being temporarily deactivated or reactivated and hence not counted as operational buoys, the remote activation or deactivation by vessel owners or operators shall be prohibited. A buoy shall be activated or reactivated only when physically present on board the vessel or support vessel via the buoy supplier company software.

Figure 1 shows the unique operating sequence authorized in this process.

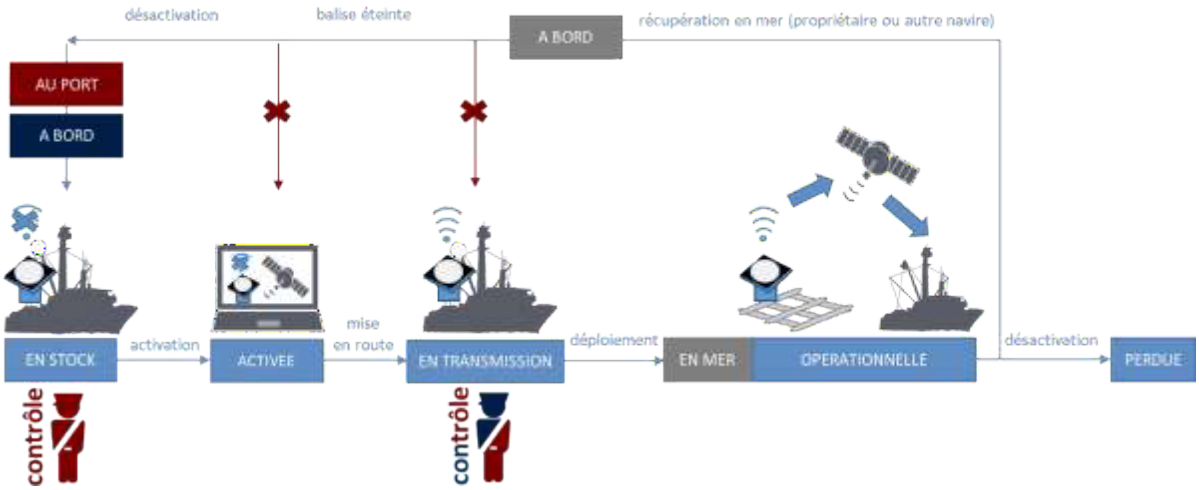


Figure 1: Buoy operating sequence authorized in the framework of the French FAD-MP

At short term, the distance between the vessel and the buoy when first transmitting following an activation or reactivation shall be verified based on the information provided by buoy suppliers as defined in Table 6.

Table 6. Template for reporting on buoy activation.

Information	Purpose/Description	Format
Buoy ID	Same as logbook	
Buoy serial number	ID provided by the supplier	
Vessel having ownership	Vessel which activated the buoy	
Vessel to which a buoy has been assigned	Vessel (s) monitoring the buoy	
Tender vessel	Buoys activated by a support vessel	
Activation date	First use of a buoy	UTC
Vessel position at activation	Latitude and longitude	Decimal deg.
First transmission date		UTC
Buoy position at first transmission	Latitude and longitude	Decimal deg.
Vessel position at first transmission	Latitude and longitude	Decimal deg.
Deactivation date	End-of-use	UTC
Buoy position at last transmission		UTC
Vessel position at last transmission		Decimal deg.

Vessel positions reported by the buoy supplier company shall be obtained through the supplier software antenna. The accuracy of reporting shall be cross-referenced with VMS data.

Article 17 – Ban on buoy reactivation outside ports

Pursuant to Resolution 19/02, reactivation of a buoy shall only be possible once it has been brought back to port, either by the vessel to which it belongs or another vessel.

Therefore, a single buoy activation between two dates of presence in port may be possible (see examples in Figure 2). This shall be crosschecked based on data provided by vessel master (Table 5) and buoy supplier (Table 6).

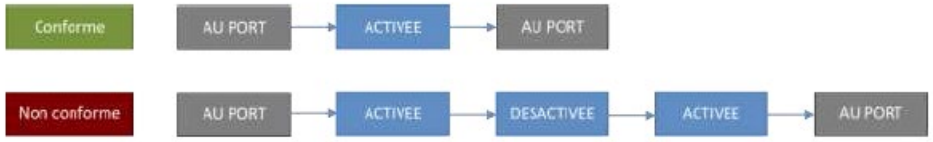


Figure 2: Examples of buoy reactivation and compliance with Resolution 19/02

Article 18 – Requirements for support vessels and other devices in support of FAD number management

Support vessels shall be allowed to manage DFADs provided that:

- they are registered on the relevant IOTC records
- they do not use (underwater or aerial) lights for the purpose of aggregating fish
- one support vessel provides support to two designated purse seiners at least which are not associated with another support vessel.

Fishing vessels and support vessels shall be prohibited from using aircrafts, helicopters and/or unmanned aerial vehicles.

Finally, this Management Plan does not provide for closed periods or areas specific to the deployment of, or fishing on floating objects. The provisions set forth under IOTC Resolution 19/02, within the framework of Fisheries Agreements or Marine Protected Areas apply both to FOB sets and free-schools sets.

Section IV – Measures to reduce the impacts of DFADs on the ecosystem

Article 19 – Non-entangling FADs

Pursuant to Resolution 19/02, no French FAD constructed and/or deployed by French purse seiners or support vessels shall have meshed-material, whether wounded or open meshing. The use of netting panels, sheets or bundles, even if covered with non-meshed material, shall be prohibited for DFAD construction.

The verification of the absence of meshed materials on all FAD components shall be systematically recorded on the logbook at the time of FAD deployment.

For any activity on a FOB, FAD or debris, the presence and size of mesh on the floating structure and, if possible, on the sub-surface structure components shall be assessed in the logbook. The replacement of components that pose a high risk of entanglement (mesh> 7 cm) by non-entangling components (no netting) shall be encouraged.

French purse seiners and support vessels shall be encouraged, to the extent possible, to retrieve floating objects posing a risk of entanglement. Moreover, they shall be encouraged not to deploy any buoy or FAD on floating objects encountered at sea whenever meshed materials are detected. Finally, it shall be prohibited to build FADs with meshed debris encountered at sea.

Article 20 – Materials and dimensions of deployed DFADs

A DFAD may be made up of an aggregate, raft, one of more queues and a cage (Figure 3).

The materials of the different parts of the DFAD must be systematically described in the logbook at the time of deployment. In compliance with the IOTC 3-DA Form, revised in 2023, purse seiners and support vessels shall report the presence/absence of plastics, the presence/absence of metals and the height/width/length of each deployed FAD component.

Dimensions (height, length, width; Figure 4) and their position on the surface or subsurface (depth below the surface) should also be systematically described in the logbook at DFAD deployment.

The description of DFADs encountered at sea is encouraged to the extent possible.

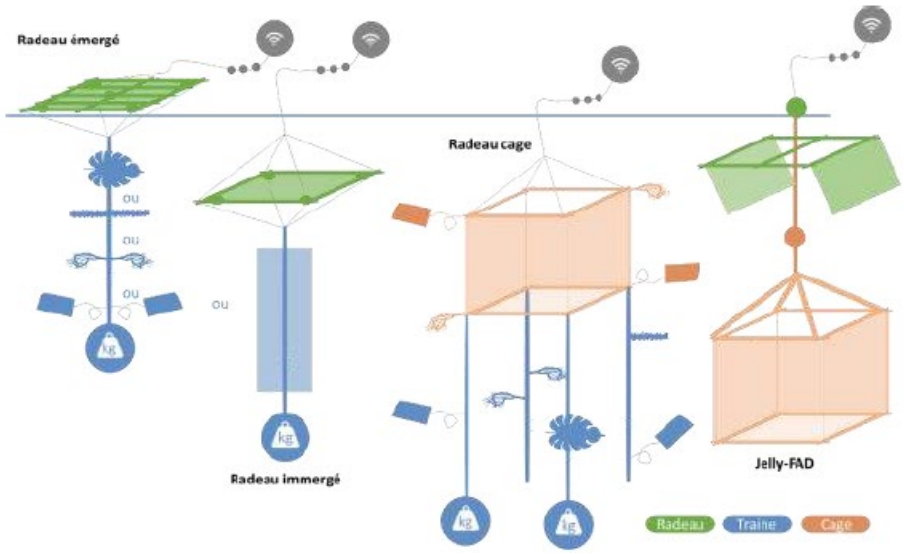


Figure 3. Examples of French DFADs. A DFAD is defined as a combination of raft, one of more queues and a cage.

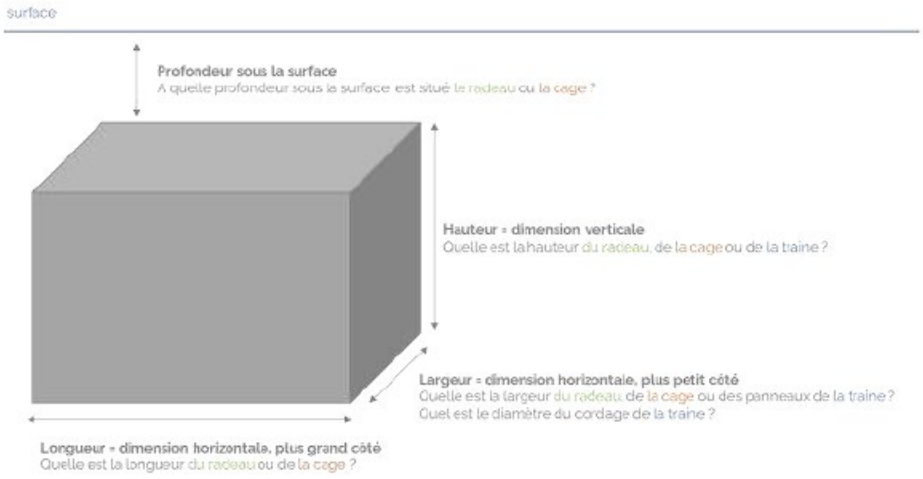


Figure 4: Dimensions of French DFADs.

Article 21 – Biodegradable FADs

Pursuant to Resolution 19/02, all non-biodegradable materials used in the construction of FADs shall be replaced by biodegradable materials whenever possible.

Biodegradable materials are defined as:

- degrading under FAD normal operating conditions (temperature, salinity etc)
- without risk of toxicity for marine environment (no microparticle or hazardous substance produced from its degradation)
- providing a FAD service life up to 8-10 months.

In 2024, research on biodegradable materials meeting these requirements will continue. It will focus as a matter of priority on plastic floats on which research and development is still needed. Therefore, work undertaken by Kairos and Ifremer under the *Contrat d'avenir Thonier (CAT) DCP bio* will continue. French purse seiners will describe the use of biodegradable materials in their logbook to monitor the transition to biodegradable FADs.

In parallel, the reflection already conducted on the use of DFAD designs that may increase the lifetime of biodegradable materials, found to be less resistant than synthetic materials, will continue in 2024. This will include, inter alia, testing designs **for biodegradable DFAD functioning up to 8-10 months at sea.**

Article 22 – FAD retrieval

French purse seiners and support vessels will take part in the "FAD Watch" program in the framework of the Fisheries Improvement Project (FIP) SIOTI. This program aims at reducing FAD beaching events in the Seychelles EEZ.

This program will be complemented by:

(i) works conducted with the Seychelles authorities in the framework of the Fisheries Improvement Project (FIP) SIOTI, with plans to recover beached DFADs in the Seychelles.

(ii) a feasibility study, with the support of the Institut de Recherche et de Développement (IRD), on multiple strategies for DFAD recovery prior to stranding to complement the “FAD Watch” program.

Positions of all instrumented buoys used by French purse seiners and support vessels reported to the IRD will facilitate research on FAD beaching risks depending on the deployment area and contribute to FAD recovery campaigns.

Article 23 - Incidental bycatch reduction and utilisation policy

The provisions for a limitation on number of FADs (articles in Section III) will help to mitigate bycatches.

In accordance with IOTC Resolution 19/05, major bycatch species are retained on board and traded as far as possible.

Annexe I: Compliance of French FAD Management Plan with IOTC Resolution 19/02, Annex II

Required information	**Relevant article in the MP**
Objective	4
Vessel-types and support and tender vessels	2.1
DFAD numbers and DFADs beacon numbers to be deployed	13
Reporting procedures for DFAD deployment	5
Incidental bycatch reduction and utilisation policy	23
Consideration of interaction with other gear types	2
Plans for monitoring and retrieval of lost DFADs	5, 7, 8, 22
statement or policy on “DFAD ownership”	8
Institutional responsibilities	Implementation Report
Application processes for DFAD and /or DFAD beacons deployment approval	13
Obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use	5
DFAD and/or DFADs beacons replacement policy	5
Reporting obligations	5.1, 17, 19, 20
DFAD design characteristics (a description)	20
DFAD markings and identifiers, including DFADs beacons	7, 8
- lighting requirements	11
radar reflectors	12
visible distance	12
radio buoys (requirement for serial numbers)	9
satellite transceivers (requirement for serial numbers)	5
Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc	18
Applicable period for the DFAD–MP	2.1
Means for monitoring and reviewing implementation of the DFAD–MP	5.1, 14, 15, 16, 17, 18, 19, 20, 21
DFAD Logbook template	5, Annex III

Annex II: Logbook structure used by French purse seiners and support vessels for fishing trips starting on 1st January 2024

TYPE DE DECLARATION port, zone, calée ou objet	DATE	HEURE	LATITUDE chaque activité ou à midi	LONGITUDE chaque activité ou à midi	PORT	ZEE	T°C mer	VENT VIENTO WIND		TYPE DE BANC en cas de calée	ESPECE code FAO	CATEGORIE DE POIDS en kg	QUANTITE CONSERVEE en tonnes	QUANTITE CONSERVEE en nombre	QUANTITE REJETEE en tonnes	QUANTITE REJETEE en nombre
TYPO DE ACTIVIDAD lance, puerto, zona o objeto	FECHA	HORA	LATITUD cada actividad o mediada	LONGITUD cada actividad o mediada	PUERTO	ZEE	T°C mar	Direction / Direccion /Direction Degrés / Grados / Degrees	Vitesse / Velocidad / Speed Nœuds / Nudos / Knots	LANCE TYPO en caso de lance	ESPECIES en tonneladas	CATEGORIA DE PESO en kg	CAPTURA RETENIDA en tonneladas	CAPTURA RETENIDA en nombre	DESCARTES en tonneladas	DESCARTES en nombre
ACTIVITY TYPE fishing, zone, port or floating object	DATE	TIME	LATITUDE each activity or at midday	LONGITUDE each activity or at midday	PORT	EEZ	T°C sea			FISHING SET TYPE in case of a fishing set	SPECIES FAO code	WEIGHT CATEGORY in kg	RETAINED CATCHES in tons	RETAINED CATCHES in numbers	DISCARDS in tons	DISCARDS in numbers

OBJET FLOTTANT OBJETO FLOATING OBJECT												BOUEE INSTRUMENTEE BOYA INSTRUMENTADA INSTRUMENTED BUOY					COMMENTAIRES
ACTIVITE SUR L'OBJET	TYPE D'OBJET FLOTTANT	TYPE DE DCP DERIVANT DCP déployés	TYPE DE COMPOSANT DCP visités	NOMBRE	HAUTEUR	LONGUEUR	LARGEUR	PROFONDEUR sous la surface	MAILLES	PLASTIQUE	METAL	BIO	ACTIVITE SUR LA BOUEE	POSITION CONNUE ? en cas de visite	PROPRIETAIRE en cas de visite	MODELE	ID	
ACTIVIDAD SOBRE EL OBJETO	TIPO DE OBJETO	TIPO DE DCP DCP plantados	COMPONENTS DCP visitados	NOMBRE	ALTURA	LONGITUD	ANCHURA	PROFUNDIDAD bajo la superficie	MALLAS	PLASTICO	METAL	BIO	ACTIVIDAD SOBRE LA BOYA	POSICION CONOCIDA boyas visitados	PROPRIETARIO boyas visitados	MODELO	ID	COMMENTARIOS
FOB ACTIVITY	FOB TYPE	DFAD TYPE deployed DFADs	COMPONENTS visited DFADs	NUMBER	HEIGHT	LENGTH	WIDTH	DEPTH under the surface	MESH	PLASTIC	METAL	BIO	BUOY ACTIVITY	POSITION KNOWN ? in case of a visit	OWNER VESSEL in case of a visit	MODEL	ID	COMMENTS

European Union (Italy) 2024 DFADs Management Plan

DFADs plan of France

European Union (Spain) 2024 DFADs Management Plan

(COURTESY TRANSLATION)

MANAGEMENT PLAN FOR FISH AGGREGATING DEVICES (FAD) - 2024

1. Basis and background of this plan

The current legislation in force covers the following provisions that justify the elaboration of this management Plan for fishing aggregating devices utilized by the Spanish purse seiner fleet targeting tropical tunas:

- The 1995 United Nations Stock Agreement has as the main goal the assuring of long term conservation and sustainable exploitation of the stocks of highly migratory species.
- FAO code of good practices, with regard to fishing investigation, sets the obligation of the reliable data collection which enables the due stock assessment just like the implementation of studios on fishing gear selectivity and its environmental impact and to promote the results of the investigation as the basis to establish the management objectives.
  FAO code of conduct points out that “fishing gear should be marked according to national legislation to identify the owner of the gear. The requirements of this marking should have into account uniform marking systems and internationally acknowledged.”
  Lastly, and following the FAO Code, “the States should cooperate in the perfection and implementing of operative fishing technologies, materials and methods to minimize the loss of fishing gear and its effect as ghost fishing”.
- EU Regulation 1380/2013, 20th Dec 2002, on the Common Fisheries Policy, points out as the main target is the sustainable exploitation of living aquatic and aquaculture resources in the context of sustainable development, having into account environmental, economic and social aspects in a balanced fashion. This regulation modifies EC Regulations 1954/2003 and 1224/2009, and repeals Regulations 2371/2002 and 639/2004, as well as Council Decision 2004/585.
- Law 3/2001, of Maritime Fisheries, sets amongst its goals, in article 3 the safeguard of the responsible fisheries resources exploitation, encouraging its development and adopting all necessary measures to protect, preserve and regenerate the said resources and their ecosystems and promote the fisheries and oceanographic research.

The experience from the first FAD plan in Spain of 2010, as well as the new international provisions, has led to the current revision of the Plan.

2. Scope of application of the present plan

The present plan is aimed at Spanish-flagged freezer tuna purse seiners operating in the Indian, Atlantic and Pacific Ocean, targeting tropical tuna as well as Spanish

Flagged supply vessels supporting the mentioned purse seiner vessels.

The Secretary General for Fisheries is the authority that ensures the implementation of this plan.

3. Objectives

The objectives of this plan are the followings:

- Improving information collection for scientific advice purposes.
- Contributing to enhanced knowledge of catch composition in FAD sets.
- Increasing knowledge of these devices with regard to their technical features and their possible impact on ecosystems.
- Establishing information-sharing mechanisms among operators, scientists and administrations, in order to achieve better knowledge of progress made in this field and the implications thereof.

4. Definitions

IATTC: *"For the purposes of this Resolution, the term "Fish-Aggregating Device" (FAD) means anchored, drifting, floating or submerged objects deployed and/or tracked by vessels, including through the use of radio and/or satellite buoys, for the purpose of aggregating target tuna species for purse-seine fishing operations." (19-01)*

WPCFC:
At the 16º Annual Commission in 2019, the CPC could not agree a definition of FAD.

IOTC:
"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." (19/02)

ICCAT:

i. *"Floating object (FOB): Any natural or artificial floating (i.e. surface or subsurface) object with no capability of moving on its own. FADs are those FOBs that are man-made and intentionally deployed and/or tracked. Logs are those FOBs that are accidently lost from anthropic and natural sources."*

ii. *"Fish-Aggregating device (FAD): Permanent, semi-permanent or temporary object, structure or device of any material, man-made or natural, which is deployed and/or tracked, and used to aggregate fish for subsequent capture. FADs can either be anchored (aFADs) or drifting (dFADs)."*

5. Obligations under the RFMOS regarding FAD.

Tuna RFMO have adopted the following provisions:

WCPFC:

- Conservation and Management Measure for bigeye, skipjack and yellowfin tuna (CMM 2023-01). It includes provisions on FADs.
- Conservation and Management Measure on the application of high seas (CMM 2009-02) which sets out the specifications regarding FAD closure.
- Conservation and Management Measure on data buoys (CMM 2009-05)
- Conservation and Management Measure on cetaceans (CMM 2011-03)

IOTC:

- Resolution 19/02, on FAD management Plan.
- Resolution 21/01, on a yellowfin stock recovery plan in the Indian Ocean.
- Resolution 18/04, on BIOFAD experimental project.
- Resolution 15/02, on the recording of statistical data. Sets the obligation of reporting number of FADs by quarter, including position, type and other information.
- Resolution 15/09 that sets a Working Group on FADs
- Resolution 23/06, on the conservation of cetaceans.
- Resolution 13/05, on the conservation of whale sharks.

IATTC:

- Resolution C-23-05, amendment to resolution C-19-01 on the collection and analyses of data on FAD
- Resolution C-21-04, regarding Tuna conservation in the EPO 2022-2024.

ICCAT:

- Recommendation 23/01 replacing Recommendation 22-01 on a multi-annual conservation and management programme for tropical tunas Recommendation 19-02, regarding a Working Group on FAD.

6. Identification of FADs

Each buoy shall have a sequence of characters serving as an identifier for each device to be used. This sequence shall not vary during the device's lifespan.

Operators may choose the identification system, with the only prerequisite that it be individual and unique for each FAD.

Depending on the results obtained through the implementation of the present plan, in the future—if it is considered appropriate—a single.

Any FAD deployed at sea by Spanish tuna seiners has an ID code which includes the model of the buoy and a serial number. So all Spanish FADs are clearly identified. The buoy serial number is clearly visible without the removal of the buoy. This marking is resistant to long stays at sea and it remains legible throughout its useful life. The buoy serial number is provided by the buoy supplier and it is unique.

7. Register and information-sharing regarding FADs: Inventory and Specific Activity Register (FAD logbook). Records in fishing logbooks.

Operators will send to the General Secretariat of Fisheries information on the operational FADs and buoys associated with their corresponding identification through a template called (Annex I).

The information contained in the said template for each FAD is grouped by fishing vessel, respecting the format and instructions for completing them.

On the other hand, the operation on FADS is recorded in the corresponding section of the vessel's electronic fishing logbook.

8. Monitoring of FADs

As far as possible, vessels must record monitoring information for each FAD, which has a satellite beacon, based on its assigned number. Moreover, efforts should be made to record information obtained from other beacons (e.g. visual, radio).

There shall be no obligation to communicate the recorded information. However, such information may be requested in order for the designated scientific personnel to conduct specific studies or in order to carry out monitoring activities. This information may be requested, prior approval by the operators for its use.

9. Measures to prevent loss of FADs

Vessel operators shall prevent, as far as possible, loss of FADs at sea.

In the event of a loss or of the impossibility of hauling in a FAD (areas or seasons closed to fishing), operators must record, in the Specific Activity Register, its last known date and position.

10. Measures to mitigate the catch of juvenile tuna and non-target species

From June, 30, 2015 on all activity on entangling FADs is forbidden.

The use of methods that reduce juvenile catches and associated species is encouraged in order to get cleaner catches.

The parties involved in this plan may propose pilot actions in order to advance in some of the aspects described.

11.- FAD fishing regulation.

FADs will be activated exclusively on board of the vessels.

11. <u>Specific closures on fishing with FADs</u>

- **WCPFC:**

  - Temporary closure:

    Since last February 6, 2018, fishing on FAD between July 1 and September 30 is prohibited for all purse seiners fishing in the EEZ or high seas. In addition, for the high seas three additional months of closure are fixed (between April and May or, November and December for all the purse seiners fishing).

    The prohibition referred to includes:

    - Hauls cannot be made in 1 nautical mile around the FAD.
    - It is forbidden to catch concentrated fish under a boat or move this fish, including the use of lights and mist to attract it.
    - FADs and beacons can only be withdrawn, with prior authorization, provided they are kept on board until the landing or the end of the closure and no haul is made within 7 days or within 50 nautical miles around the point of departure.
    - In addition, in relation to the previous section, two vessels cannot cooperate to avoid this measure by prohibiting hauls of any ship in a nautical mile around the FAD withdrawal point in the following 24 hours.

    In order to comply with the Recommendation, each vessels must submit the available information on satellite tracking of all FADs and beacons on a weekly basis during the closure period.

  - Limitation of the number of buoys:

    No more than 350 FADs can be deployed with active instrumented buoys, (clearly identified and equipped with a tracking system).

    For the follow-up of this measure, each vessel operating in the WCPFC area shall send a certificate from the buoy supplier company that collects the number of active buoys per vessel.

- **CIAT:**

Whale shark sets are prohibited.

- Temporary closure:

  72 days closure is established, and it applies since 00:00 hours on July 29 to 24:00 hours on October 8, or, since from 00:00 hours on November 9 until 24:00 hours on January 19 of the following year.
  For 2024, Spain will ensure that purse-seine vessels flying its flag that fished during any of the years 2017, 2018 and 2019 and have caught on average more than 1,200 metric tons of bigeye tuna in floating-object or unassociated sets during that period, shall, in addition, observe an extended closure.
  Vessel owners will declare the selected period before March 1st 2023, communicating those vessels which have to observe additional days.

  During that period the VMS system has to be switched on. If the vessel has to move from the indicated port it will have to request for a permission indicating the purpose, route, destiny port and dates.

- Spatial closure:

  In addition, purse seiners are not allowed to fish from 00:00 hours on October 9 to 24:00 hours on November 8 within the area of 96º and 110º W and between 4ºN and 3ºS, "corralito".

  During this period, only innocent passage will be authorized with the appropriate request.

- Limitation of the number of buoys:

  No more than 340 FADs per vessel can be deployed from the 1st of January 2023. For the follow-up of this measure, each vessel operating in the IATTC area shall send a certificate from the buoy supplier company that collects the number of active buoys per vessel. The information must be sent quarterly to the CIAT Secretariat.

- **ICCAT:**

FAD closure

In order to reduce the fishing mortality of juvenile bigeye and yellowfin tunas, purse seine and baitboat vessels fishing for, or vessels supporting activities to fish for, bigeye, yellowfin and skipjack tunas in association with FADs in the high seas or EEZs shall be prohibited during a period of 72 days in 2023, since January, 1st until March, 13th throughout the Convention area. This should be reviewed and, if necessary, revised based on advice by the SCRS taking into

account monthly trends in free school and FAD-associated catches and the monthly variability in the proportion of juvenile tuna in catches.

In addition, each CPC shall ensure its vessels do not deploy drifting FADs during a period of 15 days prior to the start of the closure period.

FAD limitations

2023 300 FADs per vessel

CPCs shall ensure that, for vessels flying their flag, the following limits shall apply on the number of FADs with operational buoys at any one time according to definitions given in paragraph 26. The number of FADs with operational buoys will be verified through the verification of telecommunication bills. Such verifications shall be conducted by the competent authorities of the CPCs.
In addition, each CPC with purse seine fishing vessels is encouraged not to increase its total fishing effort on FADs from its 2018 level.

CPCs may authorize their purse seine vessels to set on floating objects provided that the fishing vessel has either an observer or a functioning electronic monitoring system on board which is capable of verifying set type, species composition, and providing information on fishing activities to the SCRS.

- **IOTC:**

  - Limitation of the number of buoys:

    Non instrumental bouys are prohibited. Only instrumental bouys have to be used for drifting FADS.

    300 active instrumental buoys cannot be exceed per vessel at any time. In addition, the number of instrumental buoys acquired by each vessel is fixed at a maximum of 500.
    From 1 January 2022, Spain encourages its flag vessels to use FADs made of natural or biodegradable materials, in accordance with the guidelines at Annex V of the Resolution 19/02, as to remove from the water, retain onboard and only dispose of in port, all traditional FADs encountered (e.g. those made of entangling materials or designs).

    In order to comply with the FAD limit, each vessels must submit a certificate issued by the company that supplies the beacons or by a scientific institute that certifies the following data:

    - Number of instrumental buoys per vessel at any time by quarter.
    - Number of instrumental buoys contracted by year.

Regarding the obligations required in the RES 19/02 Annex I, the Spanish fleet operating in the Indian Ocean hasn't interacted with other fleets as it is a long distance fleet and only longliners and purse seiners with their supply vessels are involved.

In reference to the buoy design, the DFADs can be seen from, from a distance of up to 2 or more NM, depending on weather conditions and whether tools other than eyesight are used for detection (e.g. binoculars), the buoys are all identified with a unique ID, assigned by the manufacturer. Buoy ID are used to identify each individual FAD, recorded in FAD logbooks and all electronic records available. There is no lighting neither radar or radio devices installed in the beacons, the identification of the buoys is done through their ID.

12. Control of the regulatory measures of the RFMOs.

12.1. Control of the limitation of the number of buoys:

The industry control the number of FADs since 2014 and, thanks to AZTI that carries out the control tasks.

In 2019, the General Secretariat for Fisheries established the obligation of the control of FADs in the annexes of the Temporary Fishing License. The guarantee of compliance are the certificates of a Scientific Institute which include the information of the number of instrumental buoys active and acquired by vessels.

Each FAD is associated with a buoy, so the control is done through the number of active instrumented buoys per day and per vessel.

The main information is provided aggregate by the suppliers of instrumented buoys to the Scientific Institute who receives this information per month in .csv files containing the daily information.

The main tasks includes control mechanisms as analysis of buoys deactivated in port, data crossing of the first moment of activation of a buoy and VMS location of the vessel, as well as with FAD notebooks and observer information.

In Annex II. AZTI Methodology, the methodology carried out to control the FAD number is explained in detail.

12.2. Control of FAD's spatial and temporal closures:

The General Secretary of Fisheries carries out the control of the FAD closures in the Fisheries Monitoring Center thanks to VMS systems.

13. Measures to monitor and follow up the present plan

The relevant authorities may perform documentary monitoring of the provisions envisaged in the present plan, and they may require, if necessary, the data described in section 6.

The Spanish Institute of Oceanography (IEO), as the Spanish scientific authority in this regard, shall be responsible for processing and monitoring the information provided by the operators, and shall be authorized to draft the follow-up reports for this plan and to propose the measures it deems appropriate in order to improve the functioning thereof.

Moreover, the General Secretariat for Fisheries may determine, in coordination with the IEO, the participation of other scientific bodies in order to fulfill the objectives set forth in the present plan.

14. Confidentiality measures for the information provided by operators

The information provided by the operators shall be treated as confidential at all times, and its use shall be restricted solely to scientific or monitoring purposes, if necessary. The General Secretariat for the Sea undertakes not to disclose this sensitive information, other than for the aforementioned purposes, without the express consent of the ship-owners.

15. Amendments to the present plan

This plan shall be amended in line with future measures adopted within the different RFMOs and with the conclusions of the reports envisaged in section 12.

16. Implementation

All provisions in this Plan will be in force until further modifications are adopted or new international provisions are set.

Japan DFADs 2024 Management Plan

DFAD Management Plan for Japanese tuna purse seine fishing vessels

Fisheries Agency of Japan (FAJ)

1. Objective

This document describes Drifting Fish Aggregating Devices (DFAD) Management Plan to be applied to Japanese tuna purse seine fishing vessels, in accordance with paragraph 12 of IOTC Resolution 19/02. The objective of the plan is to ensure that the use of DFAD by Japanese tuna purse seine fishing vessels is managed in a manner consistent with the conservation and management measures and data collection requirements of the IOTC.

2. Scope

(1) Vessel-types and support and tender vessels:

This Management Plan applies to DFAD used by Japanese tuna purse seine fishing vessels during their fishing operation in the Indian Ocean.

(2) DFAD numbers and/or DFAD's beacon numbers to be deployed:

Each vessel may deploy at maximum 150 sets of DFAD at any one time.

(3) Reporting procedures for DFAD deployment:

A vessel operator shall record information about deployment of DFADs in the FAD logbook (See attached) and submit it to the Japan Far Seas Purse Seine Fishing Association after each cruise. The Japan Far Seas Purse Seine Fishing Association shall submit it to FAJ after reviewing it.

(4) Incidental bycatch reduction and utilization policy:

The primary objective of this DFAD Management Plan is to reduce captures of non-target species associated with fishing on DFADs.

FAJ and Fisheries Research and Education Agency (FRA) have been carrying out a series of research activities in order to develop effective and practical methods for reduction of both juvenile bigeye and yellowfin tuna and non-target species catch in DFAD operation.

The more specific purposes of the research activities have been:

- To investigate effectiveness of larger mesh size nets;

- To develop simulation models visualizing under-water shapes of purse seine nets; and
- To evaluate new DFAD designs (sheet type) that potentially can avoid entanglements of non-target species such as sharks and sea turtles.

FAJ periodically holds consultation with scientists, industries and other experts to review the development of effective mitigation measures for juvenile bigeye and yellowfin tuna catch for further improvements of the measures.

(5) Consideration of interaction with other gear types

When a fishing operator finds other gear type vessels, the operator does not deploy DFADs near the vessels.

(6) Plans for monitoring and retrieval of lost DFADs:

The location of DFAD which is marked with the identified number is monitored by GPS. If the signal is lost, every effort is made to retrieve it. If it cannot be collected, the incident is recorded on FAD logbooks.

(7) Statement or policy on "DFADs ownership":

Vessel operators monitor the location of DFAD through GPS. Each DFAD is marked with relevant information in order to identify the owner.

3. Institutional arrangement of the DFAD Management Plans:

(1) Institutional responsibilities:

Vessel operators are responsible for implementation of this DFAD Management Plans including the FAD logbook control. The Japan Far Seas Purse Seine Association will guide and assist the implementation of this plan. The FAJ provides guidance for proper application of this plan, if necessary, through the Japan Far Seas Purse Seine Fishing Association.

(2) Application processes for DFAD and /or DFAD beacons deployment approval:

Vessel owners shall notify FAJ of the number of DFAD and beacons planned to deploy in advance. All actual deployment is recorded on the FADs logbook.

(3) Obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use:

Vessel operators and owners shall comply with requirements stipulated in this

Management Plan and IOTC management measures regarding DFAD operation

(4) DFAD and/or DFADs beacons replacement policy:
All replacement will be recorded on the FADs logbook. Old DFAD should be retrieved as practically as possible.

(5) Reporting obligation
Fishing operators and/or owners will report use of DFAD through the FADs logbook after each cruise to the Japan Far Seas Purse Seine Fishing Association. The Japan Far Seas Purse Seine Fishing Association will submit the logbook to the FAJ.

4. DFADs construction specifications and requirements

(1) DFAD design characteristics
DFAD design characteristics are sheet type and net type.

(2) DFAD marking and identifiers, including DFADs beacons
Vessel operators monitor the location of DFAD through GPS. Each DFAD is marked with relevant information in order to identify the owner.

(3) Lighting requirements
The GPS buoy has a function to light up when the vessel approaches.

(4) Radar reflectors
Radar reflectors are not installed in a DFAD.

(5) Visible distance
It depends on the ocean condition.

(6) Radio buoys (requirement for serial numbers)
No radio buoy is used on DFAD.

(7) Satellite transceivers (requirement for serial numbers)
A GPS buoy is installed in each DFAD.

5. Applicable areas

This Management Plan will be applied to fishing operation in the IOTC convention area.

All Japanese fishing vessels follow area/time closures adopted as the IOTC conservation and management measures.

6. Applicable periods for the DFAD-MP

This Management Plan will be applied for the entire period while Japanese purse seiners operate in the IOTC convention area. This plan may be modified if the IOTC conservation and management measures are amended.

7. Means for monitoring and reviewing implementation of the DFAD-MP

The Japan Far Seas Purse Seine Fishing Association will review the submitted logbook and will submit it to the FAJ. The FAJ provides guidance to the Japan Far Seas Purse Seine Fishing Association based on the information on the logbook, if necessary.

8. DFAD logbook

The format of FADs logbook is attached.

Korea 2024 DFADs Management Plan

DFAD Management Plan

1. Objective

This DFADs Management Plan is devised to minimize and reduce fishing mortalities of juvenile bigeye and yellowfin tunas and non-target species associated with fishing on FADs, and to collect data concerning the fishing activities. This Management Plan covers the use of drifting fish aggregating devices (DFADs) by Korean-flagged purse seiners for the year of 2024 in accordance with paragraph 2 of the IOTC Resolution 19/02. The Ministry of Oceans and Fisheries (MOF) is responsible for the implementation of this Management Plan.

2. Scope:

Description of its application with respect to:

- vessel-types and support and tender vessels

  This Management Plan applies to Korean purse seiners and supply vessel.

- Number of instrumented buoys

  The number of instrumented buoys that may be acquired annually for each purse seine vessel is set at no more than 500. No purse seine vessel shall have more than 500 instrumented buoys (buoy in stock and operational buoy) at any time. No more than 300 operational buoys will be followed by any purse seine vessel at any one time.

- reporting procedures for DFAD deployment

  All DFAD-related activities such as deployment, retrieval and loss, etc. are recorded in the DFAD logbook which will be submitted to National Institute of Fisheries Science for compilation and analysis.

- incidental bycatch reduction and utilization policy

  In accordance with paragraph 2 of Resolution 19/05, Korea requires all purse seine vessels to retain on board and then land, to the extent practicable, the following non-targeted species or species group; other tunas, rainbow runner, dolphin fish, triggerfish, billfish, wahoo, and barracuda, except fish considered unfit for human consumption, and/or species which are prohibited from retention, consumption, or trade through domestic legislations and international obligations.

- consideration of interaction with other gear types

  N/A

- plans for monitoring and retrieval of lost DFADs

  All DFAD-related activities such as deployment, retrieval and loss, etc. are recorded in the DFAD logbook which will be submitted to National Institute of Fisheries Science for compilation and analysis.

- statement or policy on “DFAD ownership”

Korea requires its purse seine vessel operators to ensure that instrumented buoy attached to the DFAD contain a physical, unique reference number marking (ID provided by the manufacturer of the instrumented buoy) and the vessel unique IOTC registration number clearly visible. This way, we can identify which vessel or company owns a particular DFAD.

3. Institutional arrangements for management of the DFAD Management Plans:

- Institutional responsibilities

  The Ministry of Oceans and Fisheries (MOF) is responsible for the management and implementation of this Management Plan.

- application processes for DFAD and /or DFAD beacons deployment approval

  Every activity on DFAD is recorded by the master of fishing vessels on drifiting FAD logbook which is reported to NIFS, and the relevant information is collected by scientific observer programs as well. There's no requirement in place regarding DFAD deployment approval, other than DFAD logbook.

- Obligations of vessel owners and masters in respect of DFAD and /or DFAD beacons deployment and use

  Vessel owners and masters must comply with the requirements in Resolution 19/02 and this Management Plan including the number of maximum instrumented buoy, maintenance of DFAD logbook and marking, etc.

- DFAD and/or DFADs beacons replacement policy

  If deployed DFAD is worn out or need to be replaced, the master of the fishing vessel will replace it and record the case on the DFAD logbook. In general, the mater of each fishing vessel shall record information concerning DFADs activities on the DFAD logbook and report them to NIFS.

- reporting obligations

  Every activity on DFAD is recorded by the master of fishing vessels on DFAD logbook which is reported to NIFS.

4. DFAD construction specifications and requirements

- DFAD design characteristics (a description)

  Fully non-entangling FAD

- DFAD markings and identifiers, including DFADs beacons

  Vessel name, call sign and unique ID are marked on DFAD and instrument buoy attached to the DFAD contains ID provided by the manufacturer of the instrumented buoy and the vessel unique IOTC registration number.

- Lighting requirements

  The use of lights is not allowed.

- radar reflectors

  DFADs of Korean fleet do not and will not have radar reflectors

- visible distance

  Approximately 3 nautical miles from a vessel with telescope

- radio buoys (requirement for serial numbers)

  The use of radio buoys is not allowed.

- satellite transceivers (requirement for serial numbers)

  All the buoys must have their own unique identification number.

5. Applicable areas

   - Details of any closed areas or periods e.g. territorial waters, shipping lanes, proximity to artisanal fisheries, etc

     This Management Plan applies to Korean purse seine and supply vessels across the whole IOTC area of Competence.

6. Applicable period for the DFAD–MP

   This Management Plan applies to Korean purse seine and supply vessels in 2024.

7. Means for monitoring and reviewing implementation of the DFAD–MP

   Every activity on DFAD is recorded by the master of fishing vessels on DFAD logbook which is reported to NIFS, and the relevant information is collected by scientific observer programs as well.

8. DFAD logbook template (data to be collected specified in Annex III).

FAD logbook

Vessel Name :		Registration Number :								Completed by :		Year :	
Date		Position		FAD Activities		FAD Shape			FAD Size			Buoy Information	
Month	date	Longitude	Latitude	Activity	Fished?	Type	Structure	Material	width (m)	length (m)	height (m)	Identifier	Type

Mauritius 2024 DFADs Management Plan

Drifting Fish Aggregating Device (DFAD) Management Plan

Submitted by: **Mauritius**

Operator: Alba Fishing (Indian Ocean Ship Management Services)

Purse Seiners: Albacan, Galerna Lau and Cape Coral

Supply vessel: Haizea Hiru

1. **Objective:** Appropriate deployment and management of DFADs to maintain tuna stocks at sustainable levels.
2. **Scope:**
    a. **Vessel type** : purse seiner and supply vessel.
    b. **DFAD numbers or number of beacons to be deployed**: A maximum of 300 instrumented buoys are active at sea at any one time in relation to each of its vessels through such measures as for example the monthly review sent by the provider and a maximum of 500 instrumented buoys which may be acquired annually by each of its fishing vessel.
    c. **Reporting procedures**: Through fishing and DFAD logbooks (Appendix 1) and daily information on active FADs as per Res 19/02.
    d. **Incidental by catch reduction and utilization policy**: The deployment of Non-entangling FADs to reduce incidental by-catch forms part of the policy of the vessel owners and operators since 2012 (Appendix 3). Details on the non-entangling FADs are given at Appendix 2. Biofads are also being deployed and the use of biodegradable FADS is under trial. The vessel owners and operators are committed to the use of best practices for FAD Management through a FAD Management policy which is based on the International Seafood Sustainability Foundation (ISSF) Conservation measure 3.7 (Appendix 3).
    e. **Consideration of interaction with other gears type**: For the time being, no interaction between the DFADs used by purse seiners and the vessels involved in other fishery. The DFAD MP shall be reviewed in case of any adverse impacts reported as a result of DFADs or part of DFADs having interfered with other fishery such as the longline operation.
    f. **Monitoring and retrieval of lost DFADs**: All DFADs are marked and are equipped with satellite buoys that allow movement monitoring. Vessel masters are encouraged to prevent, as far as possible, loss of FADs set at sea. In the event of a loss or of the impossibility of hauling in a FAD, operators must record its last known date and position in the logbook (Appendix 1).
    g. **Statement or policy on DFAD ownership:** Presently, DFADs beacons are clearly marked with a serial number until a new marking scheme is adopted by the IOTC.

3. **Institutional arrangement for management of the DFAD Management Plan:**

- **Institutional responsibilities**: The Ministry of Blue Economy, Marine Resources, Fisheries and Shipping monitors the activities of the DFADs deployed by its flagged vessels through DFADs logbooks. The purchase order of the vessel owners and operators is also verified to ensure that their annual purchase of beacons is within the limit of 500 instrumental buoys that can be acquired annually by each vessel.

- **Application processes for DFAD and/or DFAD beacons deployment approval**: Presently, no application process and approval is required for the deployment of DFAD and DFAD beacons. However, the Ministry ensures that the deployment of DFAD is being properly done by the vessel's owners and operators according to the DFAD-MP. Moreover, all information pertaining to the deployment of DFAD and or DFAD beacons is recorded in logbooks that are verified for compliance by the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping.

  DFAD and/or DFADs beacons replacement policy:

- **Obligations of vessel owners and masters in respect of DFAD and/or DFAD beacons deployment and use**:

(i) The maximum number of instrumental buoys active at any one time at sea should not exceed 300 for each purse seiner.

(ii) Only non-entangling DFAD or bio fads should be deployed by the purse seiners or the supply vessel. Only non-entangling bio fads would be used in the future.

(iii) Recording of each activity with respect to DFAD and DFAD beacon deployment and use in the both the fishing and DFAD logbooks.

(iv) All DFADs deployed must be marked with a detailed marking scheme defined by the beacon ID.

(v) Reporting of daily information on all active DFADs per assigned vessel including date, instrumented buoy ID and daily positions.

- **Reporting obligations** – All information pertaining to DFAD/DFAD beacons deployment must be recorded in fishing and DFAD logbooks (refer to Appendix 1). This include:
  (i) The date of deployment
  (ii) The position (latitude and longitude) of DFAD/DFAD beacon deployment.
  (iii) Identification number of the beacon
  (iv) The total number of DFAD/DFAD beacons deployed per trip.
  (v) DFAD type (drifting natural, drifting artificial)
  (vi) Type of visit (deployment, hauling, retrieving, loss, intervention on electronic equipment)

4. **DFAD construction specifications and requirements**
    a. DFAD design characteristics (a description): As per annexed plan (refer to Appendix 2)
    b. DFAD markings and identifiers, including DFAD beacons: DFAD identified by serial number
    c. Lighting requirements: flash command
    d. Radar reflectors: visible without radar reflectors
    e. Visible distance: 1 NM
    f. Satellite buoys (requirement for serial numbers): Satlink and Zunibal
    g. Satellite transceivers (requirement for serial numbers): All DFADs are equipped with satellite transceivers to allow the monitoring of FAD trajectory.

5. **Applicable areas**: on high seas and EEZ of the Indian Ocean Coastal State through licenses, shipping lanes, away from fishing grounds of the artisanal fishery.

6. **Applicable period for the DFAD-MP**: The current Management Plan is valid for a period of one year.

7. **Means for monitoring and reviewing implementation of the DFAD-MP**: The implementation of the DFAD-MP will be monitored and reviewed by the Ministry of Blue Economy, Marine Resources, Fisheries, and Shipping at regular intervals. The monitoring will be done jointly with the ship owners and operators and the tuna export industry. The DFAD-MP will be reviewed on a yearly basis to accommodate new management measures adopted at the Commission meeting with regard to FADs. Since the coming into force of Resolution 19/02 on 1 January 2020, operators are required to report daily information on active DFADs per vessel. These information are sent regularly to the IOTC within a delay of at least 60 days. Submission of a DFAD logbook with complete information on DFAD related activities has been made compulsory. All the information with regard to DFAD will be recorded as usual in the Ministry's database that will allow easy access for verification and monitoring. For instance, the number of DFADs deployed at sea is recorded based on the logbooks and verified if they are within the set limits of the Resolution 19/02. This information is processed and submitted to the IOTC on a yearly basis. A progress report on the implementation of the DFAD-MP will be prepared and submitted to the IOTC annually.

8. **DFAD Logbook**:

    For purse seiners: all activities are reported in the appropriate logbook designed to accommodate all information concerning activities related to DFAD.

    For supply vessel: a specific DFAD logbook is used to report all information concerning activities related to DFAD.

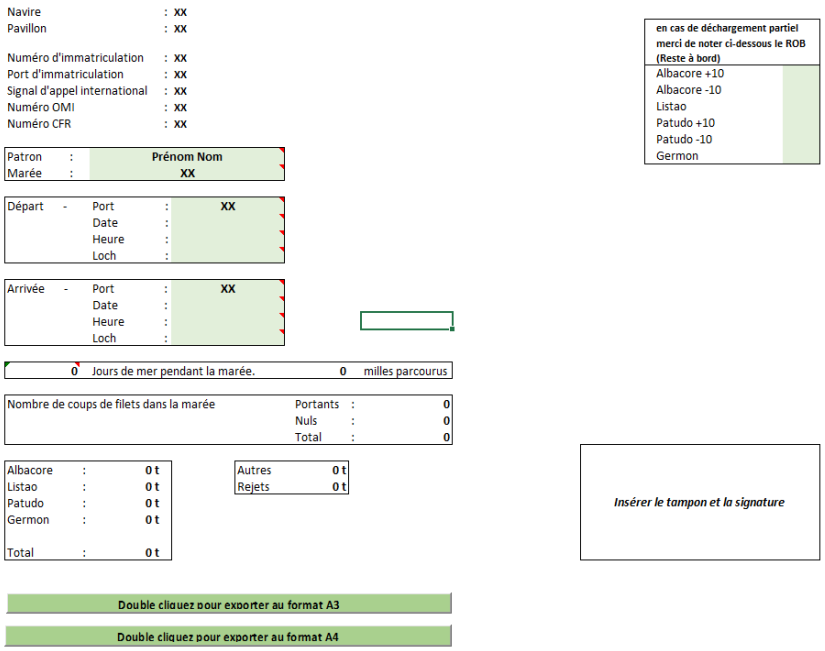
Activities include:

- Deployment/launch of FADs
- Removal of FADs
- Visiting of FADs with or without handling (maintenance/exchange)

For each of the above activities, the following information is also recorded in the logbook:

- Date and time;
- Position (latitude & longitude);
- Type of FAD (natural, artificial, "classic" or "non-entangling" draft) along with a short description (tree trunk, pile of straw, container, rope, …)
- Number of associated beacon in case of a TFAD;
- Number of removed beacon in case of a TFAD if the beacon belonged to the vessel, if not write "beacon of a third vessel";
- Any observation with regard to entangled sharks or turtles if ever the FAD has net counterparts;
- Tons caught per species;
- Any discard quantities

APPENDIX 1



FAD Register of supply vessel

DATE	HEURE	LATITUDE chaque calée ou à midi	LONGITUDE chaque calée ou à midi	ZEE	T°C mer	VENT		ASSOCIATION							OBJET FLOTTANT					BOUEE INSTRUMENTEE					COMMENTAIRES
						VIENTO		ASSOCIACION							OBJETO					BOYA					COMMENTARIOS
						WIND		ASSOCIATION							FLOATING OBJECT					INSTRUMENTED BUOY					COMMENTS
FECHA	HORA	LATITUDE cada lance o mediada	LONGITUD cada lance o mediada	ZEE	T°C mar	Direction / Dirreccion / Direction Degrés / Grados / Degrees	Vitesse / Velocidad / Speed Noeuds / Nudos / Knots	Banc Libre / Banco Libre / Free School	Objet flottant / Objeto / FOB	Balise / Balisa / Beacon	Baliseur / Barco de appoyo Support vessel	Requin baleine / Tiburon ballena Whale shark	Baleine / Ballena / Whale	Oiseaux / Aves / Birds	ACTIVITE SUR L'OBJET	TYPE D'OBJET	TYPE DE DCP DERIVANT	RISQUE DE MAILLAGE		ACTIVITE SUR LA BOUEE	BOUEE DÉJÀ PRESENTE		BOUEE DEPLOYEE		Problèmes divers Détails sur les prises accessoires Taille du banc Autres associations Autres remarques
																		RIESGO DE ENMALLAMIENTO			BOYA ANTIGUA		BOYA NUEVA		
DATE	TIME	LATITUDE each set or at midday	LONGITUDE each set or at midday	EEZ	T°C sea										ACTIVIDAD SOBRE EL OBJETO	TIPO DE OBJETO	TIPO DE DCP	ENTANGLING RISK		ACTIVIDAD SOBRE LA BOYA	BUOY ALREADY ON THE FOB		DEPLOYED BUOY		
																		En surface Parte surperficial Surface	Sous la surface Parte sumergida Underwater		TYPE	NUMERO	TYPE	NUMERO	
															FOB ACTIVITY	FOB TYPE	DFAD TYPE			BUOY ACTIVITY	TIPO	NUMERO	TIPO	NUMERO	
																					TYPE	ID	TYPE	ID	
				Filtre																					

PORT / PUERTO / PORT	XX	PORT / PUERTO / PORT	XX			Immatriculation number	XX	*Insérez ici le tampon et la signature*
DATE / FECHA / DATE	00/01/1900	DATE / FECHA / DATE	00/01/1900			Immatriculation port	XX	
HEURE / HORA / HOUR	0:00	HEURE / HORA / HOUR	0:00	MAREE	XX	International call sign	XX	
LOCH / CORREDA / LOCH	0	LOCH / CORREDA / LOCH	0			OMI number	XX	
						CFR number	XX	

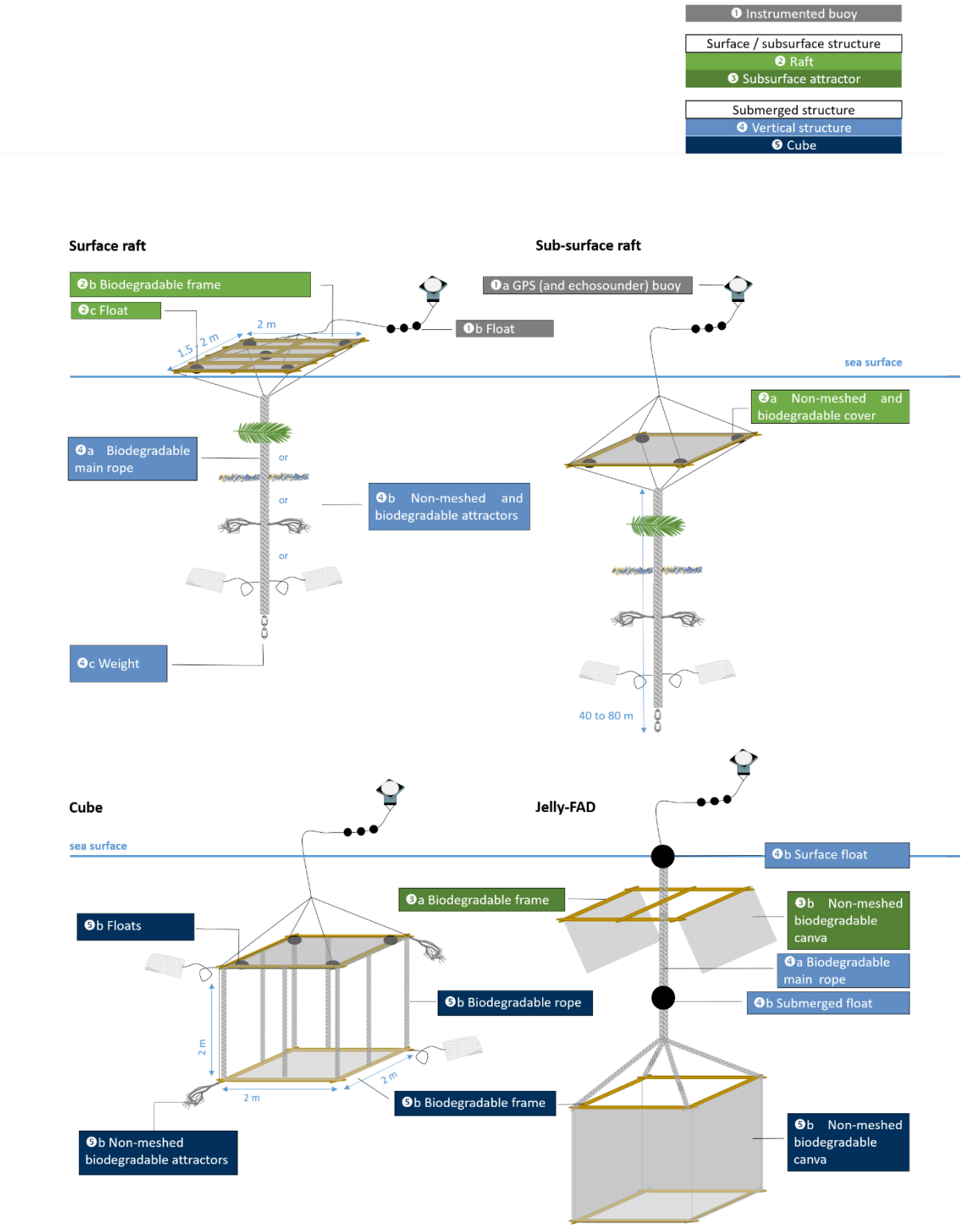
Une calée, un objet flottant ou une bouée par ligne

DATE	HEURE	LATITUDE chaque calée ou à midi	LONGITUDE chaque calée ou à midi	ZEE	T°C mer	VENT		CALEE			CAPTURE ESTIMEE (en tonnes)																	
						VIENTO		LANCE			ESTIMATION DE LA CAPTURA (en toneladas)																	
						WIND		FISHING SET			ESTIMATED CATCH (metric tons)																	
FECHA	HORA	LATITUD cada lance o mediada	LONGITUD cada lance o mediada	ZEE	T°C mar	Direction / Dirreccion / Direction Degrés / Grados / Degrees	Vitesse / Velocidad / Speed Noeuds / Nudos / Knots	Portante / Positivo / Successful	Nulle / Nulo / Nil	Type de calée / Lance typo / Fishing set type	1				2		3				4		5			6		
											ALBACORE				LISTAO		PATUDO				GERMON		AUTRES ESPECES			REJETS		
											RABIL				LISTADO		PATUDO				ALBACORA		OTRAS ESPECIES			DESCARTES		
DATE	TIME	LATITUDE each set or at midday	LONGITUDE each set or at midday	EEZ	T°C sea						YELLOWFIN				SKIPJACK		BIGEYE				ALBACORE		OTHER SPECIES			DISCARDS		
											YFT +10		YFT-10		SKJ		BET +10		BET - 10		ALB		OTH			DSC		
											Taille	Capture	Taille	Capture	Taille	Capture	Taille	Capture	Taille	Capture	Taille	Capture	Espèce	Taille	Capture	Espèce	Taille	Capture
											Talla	Captura	Talla	Captura	Talla	Captura	Talla	Captura	Talla	Captura	Talla	Captura	Especie	Talla	Captura	Especie	Talla	Captura
											Size	Catch	Size	Catch	Size	Catch	Size	Catch	Size	Catch	Size	Catch	Species	Size	Catch	Species	Size	Catch
				Filtre																								

ASSOCIATION							OBJET FLOTTANT					BOUEE INSTRUMENTEE					COMMENTAIRES
ASSOCIACION							OBJETO					BOYA					COMMENTARIOS
ASSOCIATION							FLOATING OBJECT					INSTRUMENTED BUOY					COMMENTS
Banc Libre / Banco Libre / Free School	Objet flottant / Objeto / FOB	Balise / Balisa / Beacon	Baliseur / Barco de appoyo Support vessel	Requin baleine / Tiburon ballena Whale shark	Baleine / Ballena / Whale	Oiseaux / Aves / Birds	ACTIVITE SUR L'OBJET	TYPE D'OBJET	TYPE DE DCP DERIVANT	ISQUE DE MAILLAG		ACTIVITE SUR LA BOUEE	OUEE DÉJÀ PRESENT		BOUEE DEPLOYEE		Problèmes divers Détails sur les prises accessoires Taille du banc Autres associations Autres remarques
										RIESGO DE ENMALLAMIENTO			BOYA ANTIGUA		BOYA NUEVA		
							ACTIVIDAD SOBRE EL OBJETO	TIPO DE OBJETO	TIPO DE DCP	ENTANGLING RISK		ACTIVIDAD SOBRE LA BOYA	DY ALREADY ON THE F		DEPLOYED BUOY		
										En surface Parte superficial Surface	Sous la surface Parte sumergida Underwater		TYPE	NUMERO	TYPE	NUMERO	
							OB ACTIVIT	FOB TYPE	DFAD TYPE			BUOY ACTIVITY	TIPO	NUMERO	TIPO	NUMERO	
													TYPE	ID	TYPE	ID	

APPENDIX 2

Non-entangling DFADS



APPENDIX 3

Document is uploaded separately as Appendix 3

ALBA FISHING, LTD.

FAD MANAGEMENT POLICY

(ISSF Conservation Measure 3.7)

ALBA FISHING, an environmentally responsible company, hereby publicly states that starting on January 1, 2023 **([1])**, the following best practices for FAD management, identified in ISSF Technical Report 2019-11, "*Recommended Best Practices for FAD management in Tropical Tuna Purse Seine Fisheries*", shall be implemented:

a) Comply with flag state and RFMO reporting requirements for fisheries statistics by set type.

We commit to:

- Filling out completely and accurately the logbooks, including FAD logbook information, by set type required by the flag state and submitting them by electronic reporting to the required authority and/or tRFMO.

- Maintaining, as has been the case since 2015, 100% observer coverage, even if not required by the tRFMO, on all fishing trips through the use of a combination of human observers and voluntary Electronic Monitoring (EM). For EM, best-practice minimum standards developed by ISSF, or those developed by the tRFMO, will be followed.

b) Voluntarily report additional FAD buoy data for use by RFMO science bodies.

We commit to:

- Report FAD buoy daily position data to the scientific institution AZTI with a maximum time lag of 90 days, and request that these data be made available to the relevant RFMO for scientific purposes.

- Provide FAD buoy echo-sounder acoustic biomass data to the scientific institution AZTI with a maximum time lag of 90 days, and request that these data be made available to the relevant RFMO for scientific purposes.

c) Support science-based limits on the overall number of FADs used per vessel and/or FAD sets made.

We commit to:

[1] Original 3.7 Policy entered into force June 30, 2021.

- Abiding by the limit of active number of FADs adopted by tRFMOs.
- Deploying only FADs with satellite tracking buoys.
- Managing the activation and deactivation of buoys taking into account the corresponding tRFMO´s measures.
- Abiding by the time area closure (including FAD area closures) established by the corresponding RFMO.

d) Use only non-entangling FADs to reduce ghost fishing.

We commit to:

- Deploying only FADs that are completely less-entangling and starting **January 1, 2024** deploying only non-entangling FADs (i.e., without any netting), even when is not a requirement of the tRFMO, according to the ISSF Guide for Non-Entangling FADs.
- Not deploying any "high entanglement risk" FAD according to the ISSF Guide for Non-Entangling FADs (i.e., those using large open netting either in the raft or in the underneath part of the FADs: >2.5 inches or 7 cm mesh).
- Removing from the water and modifying the design of “high entanglement risk“ FADs according to the ISSF Guide for Non-Entangling FADs that are reused by the fleet, to make them less or non-entangling as per the ISSF classification.

e) Mitigate other environmental impacts due to FAD loss including through the use of biodegradable FADs and FAD recovery policies

We commit to:

- Studying the feasibility of using FADs with only biodegradable material in their construction except the floatation structure of the raft.
- Participating in tests of locally-sourced biodegradable materials in collaboration with AZTI, ISSF or any other scientific institution.
- Studying the feasibility of deploying simpler and smaller FADs.
- Participating in trials of biodegradable FAD designs and tests with the participation of RFMO science bodies and/or CPCs or ISSF scientist.
- Endorsing risk and feasibility research programs aimed to determine deployment areas that are highly likely to result in stranding, in countries where FAD recovery policies could be put in place.
- Participating in cooperative efforts, such as the FAD-Watch in the Seychelles, to remove stranded FADs, in the case the fleet operates in the determined area(s).
- Gradually replacing FAD components with biodegradable materials as soon as such are proven efficient.
- Not disposing of any FAD component at sea, unless it is proven biodegradable: should a FAD be mended and/or any component replaced, the remainder material must be reused or disposed at port

- Whenever possible, use supply vessels to recover FADs that might be in risk of sinking or stranding.
- Promoting the use of bio-based material to make FADs.
- Promoting a definition of BIODEGRABLE materials applicable to marine environment.

f) For silky sharks (the main bycatch issue in FAD sets) implement further mitigation efforts.

We commit to:

- Applying Best Practices for safe handling and release of sharks and rays brought onboard.
- Participating/supporting studies to evaluate the contribution of purse seine fisheries to catches of silky sharks, and the impact of implementation of the Good Practices on post-release survival.
- Participating in projects aiming to develop and test new tools to release sharks and mobulids in tuna purse seiners, that maximize their survival and are practical to use onboard.

This policy was adopted on 1 December, 2022.

Oman 2024 DFADs Management Plan

Not submitted

Seychelles 2024 DFADs Management Plan

SEYCHELLES DRIFTING FISH AGGREGATING DEVICE MANAGEMENT PLAN 2023-2024

Seychelles Fishing Authority

PO BOX 449, Victoria, Mahé Seychelles

August 2023

NOTE: Information provided in the Seychelles Drifting Fish Aggregating Device Management Plan serves as one year plan (December 2023 – December 2024). This plan primarily caters for IOTC obligations in regards to IOTC ***RESOLUTION 19/02 PROCEDURES ON A FISH AGGREGATING DEVICES (FADS) MANAGEMENT PLAN.*** Seychelles will update its FAD management plan during 2024 through a stakeholder's consultation process to align with new IOTC requirement and national policies, particularly the Seychelles' Marine Spatial Plan Initiative processes. A revised Seychelles Drifting Fish Aggregating Device Management Plan will be submitted to the IOTC in December 2024.

Glossary

ANABAC: Asociación Nacional de Armadores de Buques Atuneros Congeladores

APR: Atún de Pesca Responsable

CMM: Conservation and Management Measures

COA: Certificate of Authorisation

CPC: Contracting Parties and Cooperating Non-Contracting Parties

DFAD: Drifting Fish Aggregating Device

EM: Electronic Monitoring

IOTC: Indian Ocean Tuna Commission

MoFA: Seychelles Ministry of Fisheries and Agriculture

MP: Management Plan

MSC: Marine Stewardship Council

MSP: Marine Spatial Planning

OCUP: Observateur Commun Unique et Permanent

OPAGAC: Organización de Productores de Atún Congelado

ORTHONGEL: Organisation française des producteurs de thon congelé et surgelé

SFA: Seychelles Fishing Authority

SIOTI: South-West Indian Ocean Tuna Initiative

WPEB: IOTC Working Party on Ecosystems and Bycatch

Definitions

Abandoned DFAD. DFAD left at sea without a buoy or with a buoy not capable of transmitting the position signal because of malfunction or deliberate deactivation.

Instrumented buoy. Buoy marked with a unique reference number allowing identification of its owner and equipped with a satellite tracking system to monitor its position

Acquired DFAD. A DFAD originally deployed by a vessel whose buoy has been exchanged for one belonging to the new (acquiring) vessel.

Active buoy. Instrumented buoy having been activated, i.e. capable of transmitting data (e.g. GPS position) through satellite communication. The start of data transmission requires a switch-on procedure.

Activation. Action of registering an instrumented buoy to start the satellite communication service. The activation is made onboard with the buoy manufacturer software or upon request by email or telephone to a 24/7 support service.

Buoy. A buoy is an electronic tracking device attached to the floating object (FOB) that includes a GPS unit to track the device's movements and determine its location as well as other electronic components such as temperature sensor, conductivity sensor, voltmeter, echo sounder unit and data recording unit.

Buoy in stock: Buoy purchased by a fishing company, stored onboard but not yet activated.

Buoy owner. Any legal or natural person, entity or branch, who is paying for the communication service for the buoy and/or who is authorized to receive information from the satellite buoy, as well as to request activation/deactivation.

Deactivation. Action of de-registering an instrumented buoy to stop the satellite communication service and stop the buoy transmission. The deactivation is made onboard with the buoy manufacturer software or upon request by email or telephone to a 24/7 support service.

DFAD. Human-made device which is deployed at sea to passively drift in near-surface ocean currents for the purpose of aggregating target tuna species for consequent capture. A DFAD is typically composed of a floating structure (e.g. bamboo or metal raft with buoyancy provided by buoys, corks, etc.) and of a submerged structure (made of old netting, canvass, ropes, etc.).

Lost DFAD. DFAD that can no longer be tracked because the information from the buoy attached is no longer transmitted for different potential reasons, e.g. beaching, sinking, etc.

Operational buoy. Active instrumented buoy transmitting data through satellite communication while drifting at sea.

Purchased buoy. Buoy purchased by a fishing company from a buoy manufacturer.

Reactivation. Action of registering a deactivated buoy that was previously activated to start a new satellite communication service and enable the buoy transmission. The reactivation is made onboard with the buoy manufacturer software or upon request by email or telephone to a 24/7 support service after the buoy has been brought back to port.

Shared buoy. Buoy whose data are provided to more than one purse seiner vessel.

Switch on/off. Action of applying a magnet on the buoy to start/stop data transmission after activation.

Transmitting buoy. Active instrumented buoy that is transmitting data through satellite communication while at sea, onboard a vessel or on land.

Table 1: CECOFAD classification of Floating OBjects (FOBs)

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

Table 2. CECOFAD classification of activities with FOBs and buoys

Code	Name	Description
FOB	Encounter	Random encounter (without fishing) of a FOB belonging to another vessel or not equipped with a buoy
	Visit	Visit (without fishing) of a FOB (known position, owned by the vessel)
	Deployment	Deployment of a FAD at sea
	Consolidation	Deployment of a FAD on a FOB (e.g. to enhance floatability)
	Retrieval	Retrieval of the FOB
	Fishing	Fishing set on the FOB
BUOY	Deployment	Deployment (tagging) of a buoy on a FOB 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 FOB drifting at sea
	Loss	Loss of the buoy/end of transmission

Background

In 2012, the Indian Ocean Tuna Commission (IOTC) adopted the Resolution 12/08 which called upon all Contracting Parties and Cooperating Non-Contracting Parties (CPCs) having vessels fishing on Drifting Fish Aggregating Devices (DFADs) to develop management plans (MPs) for the use of DFADs by their purse seine fleets by the end of 2013. The overarching objective of the IOTC Resolution 12/08 and subsequent Resolution 13/08, was to improve the collection and reporting of data on DFAD-related activities as from January 2015.

Following the Resolution 13/08, the Seychelles implemented in 2015 a DFAD-MP that included four main components:

(1) Collecting data on buoy identifier, buoy ownership, DFAD design and components, and operations involving both the floating object and the buoy,

(2) Reporting the data to the IOTC,

(3) Managing purse seine effort through a limit of the number of floating objects tracked by a purse seiner at anytime, and

(4) Implementing technical measures for the design and components of the materials to limit the incidental catch of marine species through entanglement and reduce the amount of synthetic marine debris. In addition, the plan recommended to limit bycatch and discards, with particular attention to sensitive species such as sharks and marine turtles. attention to sensitive species such as sharks and marine turtles.

The IOTC Resolutions 15/08, 17/08, 18/08 and 19/02 strengthened the Resolution 13/08 by increasing the data collection and reporting requirements and sequentially reducing the number of instrumented buoys available to each purse seiner at any time. Furthermore, the rebuilding plan for the Indian Ocean stock of yellowfin tuna (Resolution 16/01 superseded by 17/01, 18/01 and 19/01) called for a progressive reduction in the number of auxiliary (support) vessels supporting the purse seiners' activities through the maintenance of the DFAD network. In 2019, the IOTC Compliance Committee reviewed the DFAD-MPs available from eight CPCs and showed that the Seychelles plan was not fully compliant with the IOTC guideline, and it covered only 75% of the requirements (IOTC2019a).

Since 2015, the use of DFADs in the Indian Ocean purse seine fishery has been greatly modified in relation with technological innovations, market demand and management measures such as the catch limit on the yellowfin tuna stock. During 2015-2019, the Seychelles purse seine fishery has substantially increased the part of the catch taken on tuna schools associated with DFADs, i.e. from 75% in 2015 to about 95% in 2019. During 2017-2019, the fleet, comprising of 13 purse seiners caught on average more than 110,000 metric tonnes of tropical tuna each year, of which more than 90% was taken on DFADs.

In this context, the report presents a one-year plan for the DFAD-MP-2023-2024 that follows the guidelines of the IOTC (Annex I of Resolution 19/02) and builds on the different certifications already obtained by some fishing companies (i.e. MSC, APR, and Friends of the Sea), the ongoing Fisheries Improvement Projects involving Seychelles purse seiners (SIOTI, OPAGAC), and some company-led initiatives dealing with FAD data collection (e.g. Code of Good Practices, French industry-funded observer program OCUP, Seychelles National Observer Program, Electronic

Monitoring, and ECHEBASTAR FAD Management Plan) and adverse impact mitigation (e.g. FAD WATCH).

It was anticipated that the DFAD-MP-2022-2023 will incorporate a third-party model where vessel owners will be responsible for engaging authorized service providers to administer DFAD activities. As a condition of the issuance of a fishing license, this model would require third-party service providers to establish government approved DFADs, receive and review DFAD data, submit required reports and infractions of fishing activity to SFA, and store data to be accessed by governmental auditors or enforcement personnel. The responsibility for auditing and enforcement, whether civil or criminal, would remain the domain of SFA. In this model, the SFA would also qualify third-party service providers and set the performance standards that must be met by industry.

This third-party model will increase program efficiency and accountability, while reducing overall costs. It will also shift much of the burden of DFAD program execution and capacity constraints from SFA to industry, allowing SFA to access propriety information in real-time and further cultivating industry collaboration. As of March 2020, the third-party model was piloted with electronic monitoring systems within three (3) longline and (2) purse seine vessels operating in Seychelles EEZ. Lessons learned from the pilot model will be used to inform implementation of a third-party model for DFADs within Seychelles.

The development of a third-party model for the DFAD-MP could not be developed during the 2021 - 2023 period due to limited capacity. In the interim, SFA continued to administer functions and activities within the DFAD program. The current FAD-MP-2023-2024 therefore notes functions and activities which may be overseen by SFA or a qualified third-party service provider, depending on the outcome of the revision process during 2024. Refer to Appendix I for more information on this potential model.

1- Objectives

The overarching objective of the Seychelles DFAD-MP-2023-2024 is to provide a fair and transparent framework that determines the roles and responsibilities of each stakeholder involved in the Seychelles purse seine fishery operating within the IOTC area of competence in a first step as well as the foreign purse seine fleet licensed to operate within the Seychelles' waters in a second step. The DFAD-MP-2023-2024 aims to propose a set of operationalizable actions, recommendations and regulatory measures that address the data collection and reporting requirements related to DFADs and their use by purse seiners and support vessels, with the aim of reducing their impact on marine and coastal ecosystems without affecting the economic viability of industrial fishing in and around Seychelles' Exclusive Economic Zone.

The Seychelles DFAD-MP aims to comply with national fisheries policies and regulations (Seychelles Fisheries Act (2014), Seychelles Fisheries Comprehensive Plan (2019)) and international Conventions and Agreements signed by the Seychelles, including but not limited to the IOTC Conservation and Management Measures (IOTC2019b), the FAO Code of Conduct for Responsible Fisheries (FAO 1995), and the Annex V of the International Convention for the Prevention of Pollution from Ships (MARPOL 1983).

The Seychelles Fishing Authority (SFA) is the agency responsible for the implementation and follow-up of the DFAD-MP on behalf of the Ministry of Fisheries and Agriculture (MoFA) (Section Institutional arrangements).

2- Scope

The core of the Seychelles DFAD-MP-2023-2024 covers the large-scale purse seiners and support vessels flying the Seychelles flag. Vessels flagged from other states are expected to adopt and employ equivalent conservation measures. The DFAD-MP- 2022-2023 component related to DFAD construction, design, and components includes some measures defined within the Seychelles Fisheries Comprehensive Plan. This current DFAD-MP-2023-2024 does not include a spatial component related to the specific conditions applying within the Medium Biodiversity Protection and Sustainable Uses areas delineated through the Seychelles Marine Spatial Plan, which will enter into force in 2021. However, we aim to incorporate buy-in to address Seychelles Marine Spatial Plan processes, including concerns about all foreign purse seiners and support vessels authorized to operate within the Seychelles' waters in future plans.

2.1- DFADs & buoys numbers

In 2022, the number of DFADs that can be deployed by each Seychelles purse seiner and associated support vessel must comply with the maximum limits of 500 instrumented buoys acquired annually for each purse seiner and a maximum of 300 operational buoys by any purse seiner at any one time in conformity with the IOTC Resolution 19/02.

The monitoring of the number of DFADs tracked by each Seychelles purse seiner at any time is based on the information (e.g. GPS position) transmitted through satellite communication by the instrumented buoys attached to the DFADs. SFA or a qualified third-party service provider will track each Seychelles purse seiner and provide data reports (including but not limited to infractions) on all legally deployed DFADs and vessel positions via VMS. Whereby a third-party

service provider, designated by the SFA is used, SFA shall maintain audit rights over the data. SFA's specified requirements include:

- Vessels are strictly prohibited from deploying a DFAD at sea without any instrumented buoys with satellite tracking ability or to use alternative positioning systems (e.g. radio), in accordance with IOTC resolution 19/02.

- Each buoy deployed at sea must be in active transmission mode and included in the individual quota of each Seychelles purse seiner. Operational buoys cannot be remotely activated or re-activated at sea after deactivation (See Definitions), i.e. they must be brought back to port where they can be recovered for reuse.

- The marking of the electronic buoy consists of two components: (1) a unique and permanent identifier linked to the satellite transmission communication and (2) the full name or approved acronym of the purse seiner to which the buoy is permanently assigned in compliance with IOTC Resolution 19/02. The unique identifier includes the buoy model followed by a number of digits that varies with the third-party service provider [i.e., Thalos model + 4 digits (Iridium satellite transceiver); Satlink model + 4-6 digits (Insmarsat satellite transceiver); Marine Instruments Model + 5-6 digits (Iridium satellite transceiver)].

- To ensure full control and compliance of the status (active, de-activated, lost, stolen, etc.) and total number of DFADs tracked by the Seychelles purse seine fishery and address the IOTC reporting requirements (Appendix III), each company operating Seychelles purse seiners must provide the SFA or the designated third-party service provider with specified data requirement. If a third-party service provider is used, the provider will relay data to SFA in consolidated and coordinated reports. This data includes:

    1. Invoices and receipts of the buoy orders made during the current year from the different buoy manufacturing companies, including the number of buoys assigned to each purse seiner;

    2. Monthly reports of numbers of buoys with activations/deactivations for each purse seiner, including first day of the month, last day of the month, minimum, mean, and maximum daily numbers of operational buoys in the month;

    3. The data set of GPS buoy positions within a maximum delay of three (3) months, including the unique buoy identifier, timestamp (yyyy-mm-dd H:M:S UTC), longitude, latitude, and IOTC vessel registration number as per the requirement under clause 21 of Resolution 19/02.

2.2- DFAD deployments and monitoring

Information on the extent and location of the DFADs deployed by the Seychelles purse seiners and associated support vessels must be collected and reported to the IOTC Secretariat as per the requirement of IOTC Resolutions 19/01 and 19/02. Whereby a designated third-party service provider is used, it shall provide the specified data to the SFA and the latter shall transmit the mandatory data or reports to the IOTC. To address the IOTC reporting requirements (Appendix II), industry will work with SFA and/or a third-party service provider to collect the following data from DFADs within the Seychelles purse seine fishery:

1. Logbooks for all purse seiners and support vessels that include the buoy identifier, the DFAD type (See Definitions), the date, UTC time and geographical coordinates of their deployment in

addition to other activity types in compliance with the Annex III of Resolution 19/02 (Section DFAD logbooks & Appendix I);

2. The data set of GPS buoy positions to derive the position of deployment from the starting point of each DFAD trajectory at sea (Section DFADs buoys numbers);

3. Observations at sea collected from onboard observers and review of videos and images collected with Electronic Monitoring (EM) programs conducted within the Seychelles purse seine fishery.

2.3- DFAD design and construction

All DFADs deployed by Seychelles purse seiners and support vessels in the IOTC area must be designed and built following the guidelines and best practices on non-entangling DFADs defined by the International Seafood Sustainable Foundation (ISSF)[1] to reduce the entanglement of marine species as much as possible in agreement with IOTC Resolution 19/02:

- The surface structure of the raft must not be covered with netting or non-meshed materials (e.g. canvas, tarpaulin or shade clothes) to reduce entanglement of marine turtles;
- The subsurface structure must be made with non-meshed materials, i.e. ropes, canvas, nylon sheets, or other non-entangling material, to reduce the entanglement of sharks and marine turtles

As per the IOTC Resolution 19/02, information on DFAD design characteristics, i.e. dimension and material of the floating part and of the subsurface structure of the raft, must be recorded by the vessel operator at deployment and entered in the DFAD logbook for all Seychelles purse seiners and support vessels following the logbook template designed by the SFA (Section DFAD logbook & Appendix I). Furthermore, information on DFAD design and materials must be collected by the observers onboard Seychelles purse seiners and support vessels as well as by the dry observers analyzing data collected with Electronic Monitoring (EM) onboard Seychelles vessels following the protocols used in the Seychelles national scientific observer program that relies on the ANABAC/OPAGAC Code of Good Practices and the ORTHONGEL's OCUP program.

Following IOTC Resolution 19/02 and the Seychelles Fisheries Comprehensive plan (2019), the use of natural or biodegradable materials in DFAD construction should be promoted to reduce as much as possible the amount of synthetic marine debris. . Petroleum-derived products such as plastic, PVC, and nylon nets, as well as metallic components employed in both the submerged and sub-surface structure of DFADs should be progressively replaced by biodegradable materials, i.e. naturally occurring materials (e.g., bamboo, cotton, or vegetal fibres), or in their absence, bio-based and biodegradable compounds complying with international standards such as CEN/TS 16137[2] or ASTM D6868[3], with the exception of materials used for the instrumented buoys, as per Clause 18 of IOTC Resolution 19/02. Recommendations from the experiments conducted throughout the BIOFAD project should be followed and trials pursued with the aim of progressively increasing the proportion of natural and biodegradable materials used in the DFADs deployed by the Seychelles fleet. A full review of the progress

[1] https://iss-foundation.org/knowledge-tools/guides-best-practices/non-entangling-fads/

[2] https://www.european-bioplastics.org/bioplastics/standards/

[3] https://www.astm.org/Standards/D6868.htm

accomplished in this domain will be made during the review in 2024 to define future directions and take measures related to the use of natural or biodegradable materials in DFAD construction in consultation with all stakeholders.

In order to monitor and control the DFAD design and components as per the Seychelles fisheries comprehensive plan (2019), as of 1st January 2022, all DFADs deployed within the Seychelles waters by Seychelles-flagged purse seiners and associated support vessels must be assembled on land in the Seychelles in dedicated DFAD manufacturing workshops where inspections will take place.

2.4- Incidental bycatch reduction & utilization policy

All Seychelles vessels operating within the IOTC area must strictly comply with the IOTC Resolutions on the conservation of marine turtles (12/04), cetaceans (13/04), whale sharks (13/05), sharks (12/09, 13/06 and 17/05), and on the full retention for both targeted tuna species and finfish bycatch species (19/05). Information relative to the capture, retention and discarding practices (i.e. species composition, magnitude and status) must be collected through logbooks, landing reports and the Seychelles national scientific observer program and reported to the SFA at the scale of the fishing operation following the SFA logbook (Section DFAD logbook) and observer data collection forms. Data will be reported to the IOTC Secretariat in conformity with the IOTC reporting requirements, i.e. forms and formats of the Regional Observer Scheme and IOTC forms 1DI and 1DR.

Furthermore, the fishing companies operating Seychelles purse seiners must follow the best practices for materials and construction for non-entangling DFADs(section 2.3) and best practices for the handling and release of sensitive marine species (i.e. sharks, rays and marine turtles) taken as bycatch following the ISSF guidelines[4] in order to maximise their chances of survival through release. This includes sorting practices and equipment that allow for quick, safe and effective live release during sorting, and providing regular training for skippers and crew in bycatch handling.

It is strongly recommended that the fishing companies technically and/or financially contribute and support programs devoted to the study of handling practices and post-release mortality, e.g. based on tagging operations.

2.5- Statement or policy on 'DFAD ownership'

In line with the voluntary guidelines for the marking of fishing gear developed by the FAO to improve the state of the marine environment by combating, minimising and eliminating abandoned, lost or otherwise discarded fishing gear (ALDFG) and taking into account the fact that all DFADs deployed must be equipped with instrumented buoys and the frequent exchange of buoys attached to the DFADs, the marking ownership of each DFAD deployed by Seychelles-flagged vessels must be made through the attached buoy based on (i) the unique buoy identifier of the satellite transmission communication and (ii) the full name or approved acronym of the purse seiner to which the instrumented buoy is permanently assigned in compliance with IOTC Resolution 19/02 (Section 2.1 DFADs & buoys numbers). It is strictly prohibited to modify the buoy marking.

[4] https://iss-foundation.org/downloads/16456/

2.6- Consideration of interaction with other gear types, including small scale fisheries

DFADs and associated buoys are not equipped with radar reflectors but are generally visible within a distance of 1-2 nautical miles, although some rafts are designed to be positioned below the water surface for stealthiness and more difficult to detect. Buoys are equipped with flashing lights which are remotely activated to detect the DFADs at sea but not used to indicate their presence and avoid an interaction with a vessel.

Interactions between the purse seine fishery and longline fisheries are considered to be limited as DFADs are small floating devices of surface area around 2.5-4 m^2 as compared to the length of a longline (10-150 km). Interactions with the semi-industrial longline fishery is spatially restricted as the main fishing grounds of the Seychelles semi-industrial longline fleet are situated on and around the Mahe Plateau where purse seiners do not operate, but where DFADs do drift. Some interactions with semi-industrial longliners and small-scale vessels have however been reported and may result in some high risk for the crew when the propeller of the outboard motor is entangled with the net and other components of the DFAD subsurface structure.

Cases of interaction between a DFAD and any fishing gear or whereby a DFAD could constitute a hazard to navigation within the Seychelles waters must be reported to the SFA and/or a designated third-party service provider with information on the date, position, and ownership of the buoy attached to the DFAD (if any) to assess the extent and nature of the issue and propose solutions through a consultative meeting with the company concerned when the DFAD ownership can be determined. Noting special considerations to avoid sensitive areas relative to MSP zoning, including the Seychelles Plateau and small gears that exploit these areas.

2.7- Plans for monitoring and retrieval of lost DFADs

Each fishing company operating Seychelles purse seiners must provide the SFA and/or a third-party service provider with the data set of GPS buoy positions (Section DFADs & buoys numbers)so as to monitor the movements of the tracked DFADs and determine beaching events (i.e., stranding in coastal environments), potentially damaging sensitive habitats such as coral reefs, and contributing to coastal marine debris and ghost fishing. Based on a methodology developed in consultation with the companies to determine when beaching occurs, the SFA will estimate the extent and location of beached DFADs in the Seychelles to contribute to the preparation of the DFAD tracking and recovery policy of the IOTC. The GPS buoys equipping DFADs considered to be beached by the companies must be kept in transmission for one month after stranding to ensure the location of the DFADs and facilitate their retrieval when possible, or until SFA deems them irretrievable.

All purse seine fishing companies with DFADs occurring within the Seychelles waters must contribute and participate to national projects of marine debris monitoring and cleanup activities, including initiatives to anticipate and predict stranding events, develop collaborations with national institutes and local NGOs to facilitate the removal of stranded DFADs and encourage recycling practices, particularly of non-functional instrumented buoys. FAD WATCH is an example of collaborative project with the industry which covers five islands of the Seychelles and involves the 42 purse seiners of the SIOTI Fisheries Improvement Project.

3- Institutional arrangements for managing the DFAD-MP

The SFA is the agency responsible for the implementation and follow-up of the DFAD-MP on behalf of the MoFA and in close collaboration with the fishing companies operating purse seiners and support vessels flying the Seychelles flag or flying a foreign flag and operating within the Seychelles EEZ through access agreements. SFA is responsible for the monitoring and reviewing the DFAD-MP regularly so as to make the appropriate changes to the MP when needed in consultation with the industry and in line with the evolution of the IOTC Conservation and Management Measures (CMMs).

An annual report including information on the protocols, training, main results and challenges (including but not limited to monitoring, compliance, infractions) of the programs implemented by the companies to address the objectives of the DFAD-MP must be provided to the SFA a maximum of three months after the year of operation. Data confidentiality rules and arrangements relative to the data collected through the monitoring actions of DFAD-related activities must be defined as part of a general Memorandum of Understanding to develop between the SFA, the fishing companies or their associations, and/or a designated third-party service provider.

Penalties and fines following infractions and non-compliance with the DFAD-MP will be defined and included in national legislations and as licensing conditions or as conditions of the Certificate of Authorisation (COA).

3.1 - Application processes for DFAD and/ or DFAD deployment

Vessel owners and operators shall notify the Seychelles Fishing Authority of the number of DFAD including instrumented buoys they planned to deploy prior to leaving for any fishing operation. All actual deployment shall be recorded in the purse seiner and support vessel logbook as per appendix II.

3.2 Satellite Transceivers (requirement for serial number)

Any DFAD deployed at sea shall be equipped with an Instrumented buoy and shall be identified by the associated buoy serial number. The master of the vessel shall maintain a specific record on the buoys (serial number, brand and type in the appropriate logbook (appendix II), at the time of deployment of the corresponding DFADs. Additionally, the same information, as well as type of operation undertaken on DFAD shall be recorded for any DFAD visited.

4- Applicable areas

In a first step, the Seychelles DFAD-MP concerns the IOTC area of competence for the Seychelles flag purse seine and support vessels. In a second step and following discussions to occur with the stakeholders, the DFAD-MP aims to include all the foreign-flagged purse seine and support vessels operating within the Seychelles Exclusive Economic Zone through the Access Agreement (EU/Seychelles Sustainable Fisheries Partnership Agreement, Mauritius/Seychelles Fisheries Agreement and private fishing agreements.

5- Applicable period for the DFAD-MP

The current Seychelles DFAD-MP is valid for a duration of one year and covers the period December 2023- December 2024.

6- Monitoring & reviewing implementation of the DFAD-MP

The implementation of the DFAD-MP-2023-2024 will be monitored and reviewed at regular intervals by the SFA based on the feedback of the different stakeholders and changes in the Seychelles fisheries regulations and IOTC Conservation and Management Measures. It will be revised in 2024, to better include stakeholder feedback and align with national policies such as Seychelles' Marine Spatial Plan Initiative processes. DFAD-related data sets are managed by SFA and/or the designated third-party service provider. If a third-party service provider is selected, they will provide SFA with access to reports, data, and associated secured databases that ensure the storage and easy extraction of data. The monitoring will be conducted in close collaboration with the purse seine fishing companies and their associations to ensure the guidelines and actions of the DFAD-MP are clear and agreed by all stakeholders and modified in a transparent way (Section Institutional arrangements for managing the DFAD-MP). The DFAD-MP will at regular intervals to account for the evolution of the IOTC Conservation and Management Measures (CMMs) related to DFADs. A progress report on the implementation of the DFAD-MP will be submitted to the IOTC Secretariat on a yearly basis.

7- DFAD logbook

The SFA designed a logbook for purse seiners and support vessels that includes the DFAD and buoy-related activities within the traditional skipper logbook that mainly focuses on fishing operations and associated catch (Appendix III).

Appendix I. Third-Party Service Provider Roles and Responsibilities Overview

Key Roles – Purse Seine Fishery (Licensed Flagged and non-Flagged, including vessels operating under chartering arrangements)				
Function/Task	**RESPONSIBILITY**			
	Fisheries Agency (where applicable)	**Industry/Fishers**	**Third-Party Service Provider**	***Costs***
Project inception: scoping, installation, and launch	Prequalify vendors	Contract vendors as needed for equipment procurement, shipping, installation, and servicing/maintenance. Contract with vendors for video review	Perform services as procured by industry/fishers	*Industry*
Data collection	Sets minimum FAD requirements for data collection	Ensures hardware, software, storage, maintenance, security, etc. meets FAD performance standard and data management plan	Work with industry to develop required FAD systems and procedures to meet minimum data requirements	*Industry*
Transmission of data	Sets protocols to ensure non-tampering, confidentiality and privacy	Transmits data to FAD data review centers in accordance with data management plan and other protocols	Receives and stores data in accordance with protocols; submits analyzed data to national authority; provides raw data to national authority under pre-specified protocols; provides data and reports to national authority and industry as specified in data management plan	*Industry*
FAD inspection and maintenance	Reserves right to inspect systems in accordance with applicable regulations	Ensures regular functionality of FAD systems	Performs maintenance as required (in collaboration with industry)	*Industry*
Data storage	Sets FAD data retention specifications	N/A	Stores raw FAD data in accordance with minimum retention requirements	*Industry*

SEYCHELLES FISHING AUTHORITY

P.O Box 449, Fishing Port, Mahé, Republic of Seychelles

Telephone: 670300 Fax: 224508 E-mail:management@sfa.sc

Annexe II: Logbook for Seychelles Flagged Tuna Purse Seiners

Version 04.2016

SALIDA / DEPARTURE			LLEGADA / ARRIVAL		PATRON / PATRON / MASTER		BARCO / VESSEL	HOJA SHEET
PUERTO / PORT			PUERTO / PORT				NOMBRE/NAME:	
DATE / FECHA			FECHA / DATE				INDICATIVO/CALL SIGN	
HORA / HOUR			HORA / HOUR		VIAJE / TRIP		BANDERAF/FLAG	
CORREDERA / LOCH			CORREDERA / LOCH					

		POSICION				LANCE			CAPTURAS ESTIMADAS (toneladas)/ Estimated catch (Tonnes)														ASOCIACION						ACTIVIDAD SOBRE LOS DCP						CORRIENTE		VIENTO		OBSERVACIONES
									YELLOWFIN		SKIPJACK		BIGEYE		ALBACORE		OTHERS			DISCARDS																			
FECHA/ DATE	HORA /TIME	LATITUDE.		LONGITUDE.		POSITIVO / SUCCESSFUL	NULO / NIL	Cuba/Nº Cuve/Well	CAT.	TONS	CAT.	TONS	CAT.	TONS	CAT.	TONS	ESPECE/ SPECIES.	CAT.	TONS	ESPECE/ SPECIES.	CAT.	TONS	OBJETO / RAFT	LIBRE / FREE	AVES / BIRDS	BALLENA / WHALE	TIBURON BELEINA/WHALE SHARK	BARCO de APOYO/ Supply	TIPO DE VISITA/ VISIT TYPE	TIPO DCP/ FAD TYPE	MARCAS DEL DCP	TIPO BALIZA/ BUOY TYPE	ID BALIZA/ BUOY ID	TEMPERATURA (°C)	DIRECCION (grados)	VELOCIDAD (m/s)	DIRECCION (grados)	VELOCIDAD (nudos)	

SEYCHELLES FISHING AUTHORITY

P.O Box 449, Fishing Port, Mahé, Republic of Seychelles

Telephone: 670300 Fax: 224508 E-mail:management@sfa.sc

Annexe II: Logbook for Seychelles Flagged Support Vessels

Version 04.2016

SALIDA / DEPARTURE		LLEGADA / ARRIVAL		PATRON / PATRON / MASTER		BARCO / VESSEL	HOJA SHEET
PUERTO / PORT		PUERTO / PORT					
DATE / FECHA		FECHA / DATE					
HORA / HOUR		HORA / HOUR		VIAJE / TRIP			
CORREDERA / LOCH		CORREDERA / LOCH					

		POSICION		ACTIVIDAD SOBRE LOS DCP (See worksheet Referentials)												TONELAJE TOTAL ESTIMADO					CORRIENTE			VIENTO		COMENTARIOS
					BALIZA AL LLEGAR						BALIZA AL PARTIR															
FECHA DATE	HORA TIME	LAT.	LONG.	TIPO DE VISITA/ VISIT TYPE (S	TIPO DCP/ FAD TYPE	MARCAS DEL DCP	ID BALIZA/ BUOY ID	TIPO BALIZA/ BUOY TYPE	PROPIA/ AJENA		TIPO DCP/ FAD TYPE	MARCAS DEL DCP	ID BALIZA/ BUOY ID	TIPO BALIZA/ BUOY TYPE	PROPIA/ AJENA	YELLOWFIN (MT)	SKIPJACK (MT)	BIGEYE (MT)	ALBACORE (MT)	MT	TEMPERATURA (°C)	DIRECCION (grados)	VELOCIDAD (m/s)	DIRECCION (grados)	VELOCIDAD (nudos)	

Appendix III. Mandatory reporting requirements of the Indian Ocean Tuna Commission pertaining to the use of DFADs and buoys

- Form 3FA: Yearly interactions with Fish Aggregating Devices (FAD) set by purse seiners and supply vessels by moth, grid and fleet
  https://www.iotc.org/sites/default/files/documents/data/Form_3FA.zip

- Form 3FD: Number of FADs deployed in 2018 and 2019 by purse seine vessels and associated supply vessels per 1°x1° grid
  https://www.iotc.org/sites/default/files/documents/data/Form_3FD.zip

- Form3BU: Detailed monthly report of active buoys by vessel
  https://www.iotc.org/sites/default/files/documents/data/Form_3BU.zip

Tanzania 2024 DFADs Management Plan