SEYCHELLES DRIFTING FISH AGGREGATING DEVICE MANAGEMENT PLAN 2024-2025

Seychelles Fisheries Authority

PO BOX 449, Victoria, Mahé Seychelles

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2024

NOTE: Information provided in the Seychelles Drifting Fish Aggregating Device Management Plan serves as one year plan (December 2024 – December 2025). This plan primarily caters for IOTC obligations in regards to IOTC ***RESOLUTION 19/02 PROCEDURES ON A FISH AGGREGATING DEVICES (FADS) MANAGEMENT PLAN.*** The process to review and update the DFAD management plan to align with new IOTC requirement (IOTC RESOLUTION 24/02) and national policies, particularly the Seychelles' Marine Spatial Plan Initiative processes was initiated in early 2025. The process which involves stakeholder's consultations is expected to be completed in August 2025.

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-2024-2025 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 2025. Refer to Appendix I for more information on this potential model.

1- Objectives

The overarching objective of the Seychelles DFAD-MP-2024-2025 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-2024-2025 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-2024-2025 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- 2023-2024 component related to DFAD construction, design, and components includes some measures defined within the Seychelles Fisheries Comprehensive Plan (2019). This current DFAD-MP-2024-2025 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 2025. 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

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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)										DISCARDS			ASOCIACION						ACTIVIDAD SOBRE LOS DCP						CORRIENTE		VIENTO		OBSERVACIONES
									YELLOWFIN		SKIPJACK		BIGEYE		ALBACORE		OTHERS																					
FECHA/ DATE	HORA /TIME	LATITUDE.		LONGITUDE.		POSITIVO / SUCCESSFUL	NULO / NIL	Cuba/NO Cuve/Wrel	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 BALLENA/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

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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 (SE	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