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Report from the International workshop on mitigation of dFAD loss and abandonment in the Pacific: Insights from fishing industry to communities

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Executive Summary

The International workshop on mitigation of drifting Fish Aggregating Devices (dFAD) loss and abandonment in the Pacific was held in Tahiti (French Polynesia) on 9th to 12th February 2026. It was organised by The Pacific Community (SPC), with the support of the French Polynesia Direction des Resources Marine (DRM), the International Seafood Sustainability Foundation (ISSF), The Nature Conservancy (TNC) and the Inter-American Tropical Tuna Commission (IATTC).

Key outcomes from the workshop include:

- 110 participants, including representatives from parties of the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC); as well as a wide range of stakeholders. Collaboration and cooperation among stakeholders involved is necessary for the sustainable management of dFADs in the Pacific and worldwide.
- The workshop provided an excellent opportunity for exchanges and learning between participants from different stakeholder groups, countries of origin, and specialities. This interaction has helped develop common understanding and constructive relationships that will support strengthening existing, and developing new, collaborations in the future.
- A total of 35 presentations, and three group exercises provided extensive opportunities to learn, exchange and discuss a wide range of dFAD topics. These included better understanding of dFAD use in the tropical areas and their loss and abandonment from fishing grounds; impacts on coastal areas and communities; and discussing and proposing solutions to help mitigate the impacts of dFAD loss and abandonment.
- The industry acknowledged the importance of its engagement in mitigation. A sustainable funding mechanism to recover dFADs before they strand, was initiated and supported by a significant segment of the purse seine fleet operating in the Eastern Pacific Ocean (EPO) and some in the Western and Central Pacific Ocean (WCPO). This initiative was presented and positively received, while emphasizing the importance of broader participation from other fleets and stakeholders across the supply chain.
- The buoy service suppliers announced a first of its kind joint declaration of intent. The three major companies supplying buoys to the purse seine (PS) industry announced alignment and cooperation in sustainability programmes.
- Improved monitoring and data sharing was a key topic and the workshop highlighted the need to obtain real-time positions of dFADs during their whole lifetime to assist in mitigating strandings and support retrieval operations.
- The workshop emphasized the importance of implementing stronger regional regulations that drive actions, through tuna Regional Fisheries Management Organisations (RFMOs), certifications and other market incentives.
- Strong mobilisation of actions needs to progress, with both international and local participants reiterating the need for reliable statistics to document and focus actions to reduce pollution and environmental damages and to turn dFAD strandings into strategic opportunities for local fisheries.
- Participants worked together to produce standardized definitions of “Lost”, “Abandoned”, “Stranded” and “Discarded” dFADs; this exercise contributed to a proposed full life cycle of dFADs and buoys, from deployment to ultimate fate.

- A list of 50 performance indicators of dFAD recovery programmes were proposed. These should be considered by current and future programmes.
- Four project proposals were drafted to continue monitoring stranding events; these included evaluation of impacts on sensitive habitats and promotion of recycling and the circular economy to decrease burden on small island developing states.
- A set of recommendations from the workshop will be submitted to RFMOs and could be considered at future workshops.

We invite WCPFC-SC22 to:

- Continue to close some of the knowledge gaps by progressing on monitoring dFAD fates and the environmental impacts of lost and stranded dFADs; funding mechanisms for dFAD recovery programmes; and assessing the performance of different types of dFAD recovery programmes.
- Consider adopting standard definitions of “lost”, “abandoned”, “stranded”, “reused” and “discarded” dFADs as discussed at the workshop, and options to monitor dFADs through their whole life cycle, from deployment to final fate (recover, stranded, or sunk).
- Support work towards better assessment of feasibility and economic aspects of different options to mitigate dFAD loss and abandonment and their potential impacts.
- Develop ways to better monitor dFADs reaching coral reefs across their whole range, especially gathering information regarding impacts on the deep outer slopes.
- Consider mechanisms to monitor the fates of aFADs in cases of detachment, including by exploring the use of satellite tracking and physical marking systems to support their identification and possible retrieval.

1. Background and objectives

The International workshop on mitigation of drifting Fish Aggregating Devices (dFAD) loss and abandonment in the Pacific was held in Tahiti (French Polynesia), at the Economic, Social, Environmental and Cultural Council (Conseil Economique, Social, Environnemental et Culturel de Polynésie française; CESEC) on the 9th to 12th February 2026. It was organised by The Pacific Community (SPC), with the support of the French Polynesia Direction des Resources Marine (DRM), the International Seafood Sustainability Foundation (ISSF), The Nature Conservancy (TNC) and the Inter-American Tropical Tuna Commission (IATTC).

The workshop had the general aims to foster peer-to-peer exchanges, cross-sectoral dialogue and shared understanding, streamline data collection, and develop collaborative proposals that support dFAD retrieval programmes and reduce the impacts of dFADs in the Pacific and globally. Notably, the workshop continued the discussions from the First International Workshop on FAD recovery organised by ISSF, TUNACONS and World Wildlife Fund (WWF) in Galapagos in 2024 (Moreno et al., 2025).

Building on this first international workshop, this second workshop provided an opportunity to continue advancing discussions on mitigation strategies and practical solutions addressing the environmental and socio-economic impacts of dFAD loss and abandonment, especially in coastal areas. Countries and territories participating in data collection related to stranded dFADs and recovery programmes showcased their initiatives, including examples from the Pacific, Indian and Atlantic oceans. It also provided peer-to-peer exchanges, both in plenary and during group works organised to identify good practices and next steps. The workshop agenda is available in Annex 1.

In addition to building a regional and international network from diverse stakeholders involved in dFAD fishing, mitigation of impacts and management, the workshop also aimed to develop recommendations to support the sustainable use of dFADs in tropical tuna fisheries in the Pacific and worldwide.

2. Detailed report from workshop

The International workshop on mitigation of dFAD loss and abandonment in the Pacific gathered 110 participants from 25 countries and territories (Figure 1). Participants included diverse stakeholders, such as governments, scientists, fishery managers, RFMOs, CROP agencies, fishing industries and NGOs. In particular, it included parties of the Western and Central Pacific Fisheries Commission (WCPFC) and the Inter-American Tropical Tuna Commission (IATTC). The full list of participants is available in Annex 2. The workshop therefore provided an excellent opportunity for exchanges and learning between participants from different stakeholder types, countries and specialities.

The workshop was opened by several French Polynesia political and institutional bodies' representatives, including Taivini Teai, the French Polynesia Minister of Agriculture, Marine Resources and the Environment; Maiana Bambridge, President of the CESEC of French Polynesia; Etienne de la Fouchardière, Deputy General Secretary of the French High Commissioner in French Polynesia. French Polynesia welcomed the opportunity to host the conference and highlighted the importance of collective action to implement meaningful changes aimed at reducing the environmental impacts of dFADs.

Figure 1. Participants of the International Workshop on Mitigation of dFAD Loss and Abandonment in the Pacific.

The workshop centered on three interconnected themes to advance collective understanding and action on dFAD strandings. To note, a total of 35 presentations, and three group exercises provided extensive opportunities to learn, exchange and discuss a wide range of dFAD topics from these three themes:

1- A stakeholder-informed framework to build definitions and identify potential solutions to reduce dFAD loss and abandonment,
2- A peer-to-peer exchange on stranded FAD data collection and hotspot Identification beyond observer data collection,
3- Identifying key factors for a sustainable dFAD fishery to decrease dFAD loss and increment of recovery.

2.1. dFAD loss and abandonment from fishing grounds: fate of dFADs and patterns of dFAD loss and abandonment

2.1.1. dFAD design, management and the dFAD purse-seine fishery in the Pacific Ocean

The workshop started with a presentation by Gala Moreno on the evolution of dFAD designs, structures, materials and current regulations in all oceans, including the progression from natural objects at the beginning of the fishery to the use of deeper and more complex structures, with design variability between oceans, in the last decade. More recent dFAD designs are generally deeper and more voluminous, increasing their environmental impact when lost or abandoned (Figure 2). However, deeper dFADs also tend to drift more slowly, allowing them to remain within fishing grounds for longer periods and thereby reducing loss rates. Therefore, an optimal balance should be sought between increasing tail depth to maximize retention within fishing grounds and minimizing the environmental impacts associated with lost and abandoned dFADs (Figure 2). The presentation also summarised the existing regulatory frameworks governing dFAD deployment and use. It highlighted the use of non-entangling dFADs is now required in all RFMOs, including the WCPFC since 2024 and IATTC since 2025. The adoption of a stepwise transition towards biodegradable dFADs is also underway in the IATTC, Indian Ocean Tuna Commission (IOTC) and International Commission for the Conservation of Atlantic Tunas (ICCAT) Convention Areas, while their use is only encouraged in the WCPFC Convention Area.

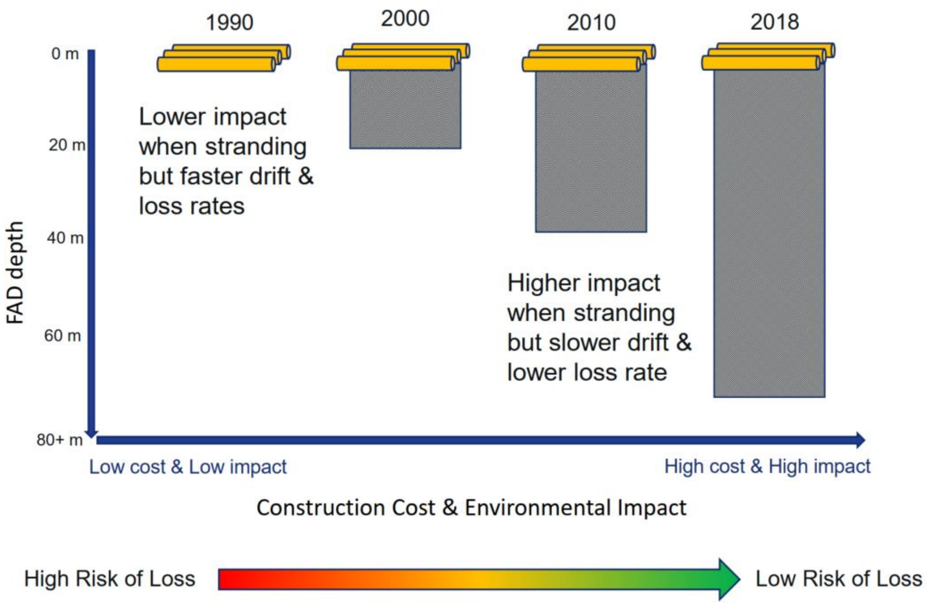


Figure 2. Evolution of dFAD design: depth, cost and risk of loss (Gala Moreno, workshop presentation).

Marlon Roman from IATTC and Lauriane Escalle from SPC, presented the current knowledge on dFAD tracking, crew interactions, and fishing strategies in the fishing grounds of the Eastern Pacific Ocean (EPO) and Western and Central Pacific Ocean (WCPO), respectively. An estimated total of 46,000 to 65,000 dFADs are deployed annually in the Pacific Ocean (Escalle et al., 2021; Lopez et al., 2026). There is still a lack of knowledge on the ultimate fate of many dFADs, and on the environmental impacts of dFAD loss and abandonment. Recent studies found that more than 70% of dFADs are never re-observed in the EPO (Ovando et al., 2025). Furthermore, Ovando et al. (2026) estimated that 23.4% of dFADs deployed in the EPO either crossed into or likely drifted into the WCPFC Convention Area. Additionally, at least 11.3% of dFADs in the WCPO end up stranded and 82% of dFADs have an unknown ultimate fate (Escalle et al., 2023). The general drift patterns of dFADs in the Pacific Ocean, areas with higher stranding rates and hotspots of dFAD loss, as estimated by fishers, was also presented (Figure 3).

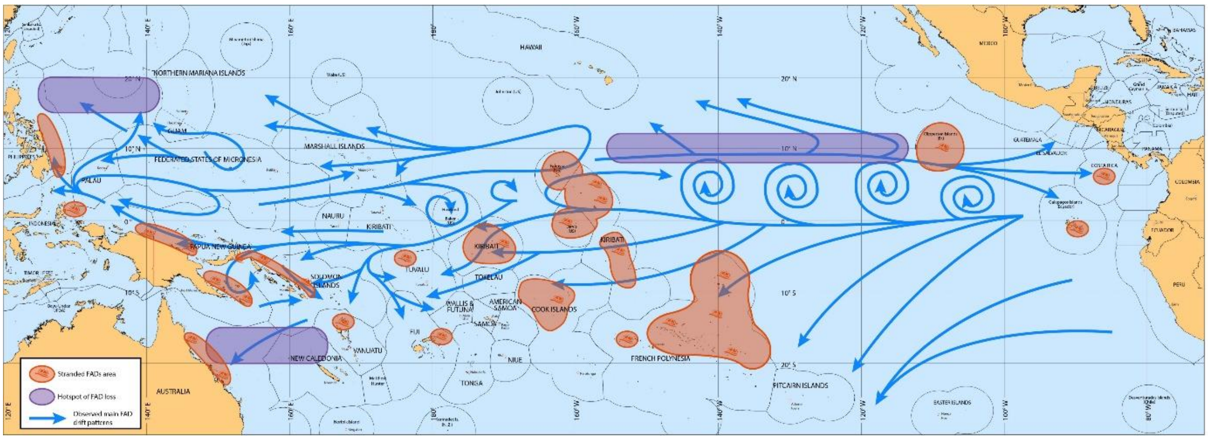


Figure 3. General drift patterns of dFADs, stranding and dFAD loss, based on skippers' knowledge (Escalle et al., 2024).

2.1.2. Stakeholders' views on dFAD loss and abandonment

SPC presented results from a stakeholder consultation conducted in 2025, that assessed the knowledge of stakeholders regarding dFAD use and their loss and abandonment, as well as potential options to reduce their loss and abandonment. For instance, Figure 4 highlights that logistics, safety and cost are the main issues considered to limit the recovery of dFADs by purse seiners; while financial incentives and regulatory requirements could promote recoveries.

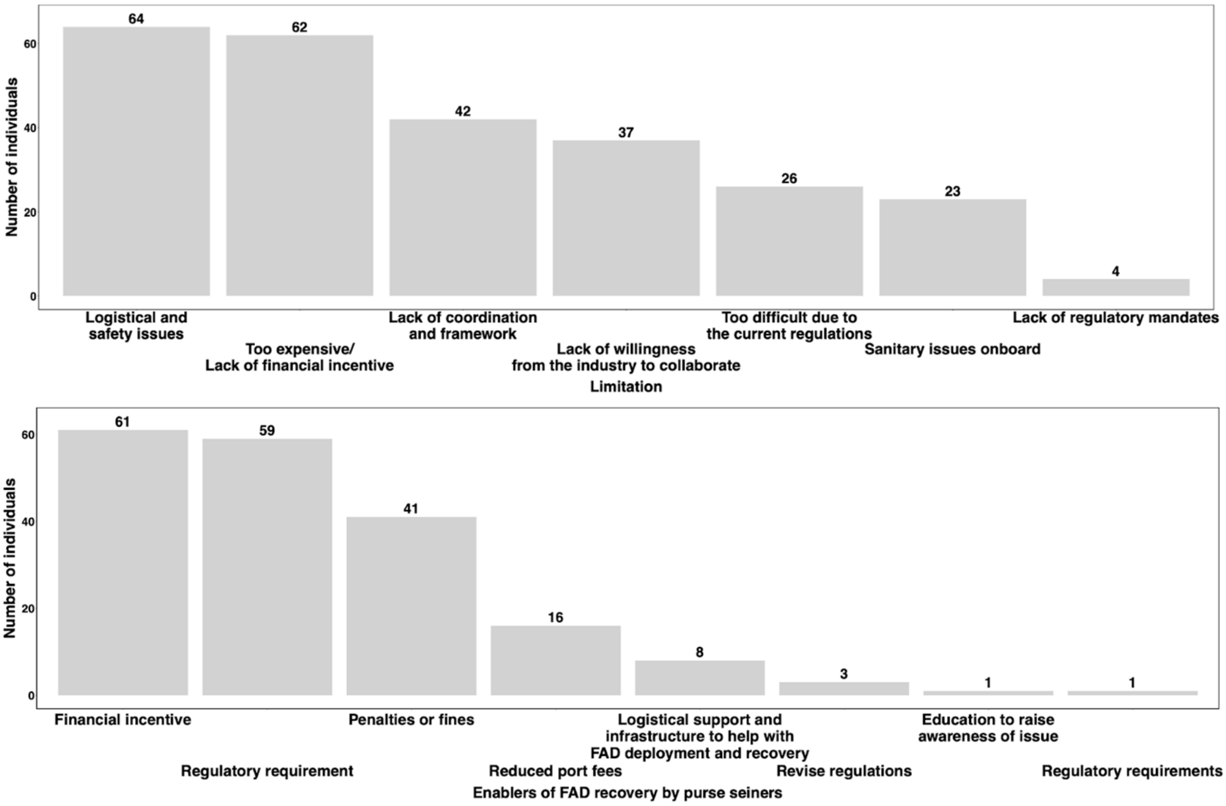


Figure 4. Opinion from stakeholders on issues that limit purse seiners from recovering dFADs (top) and options to promote recovery of dFADs by purse seiners (bottom) (Lauriane Escalle, workshop presentation).

2.1.3. Key definitions for monitoring dFAD fates

Workshop participants were divided into stakeholder groups to define what constitutes "Lost", "Abandoned", "Stranded" and "Discarded" dFADs. Currently, scientists, managers, and RFMOs have been using these terms, without necessarily referring to clear definitions of each. While the definition of "Lost", "Abandoned" and "Discarded" in the general context of Abandoned, Lost, or otherwise Discarded Fishing Gear (ALDFG) has been defined by the Food and Agriculture Organization (FAO) of the United Nations (FAO, 2019), these definitions may vary in the context of a dFAD, which is not a "capture" fishing gear per-se. The FAO definitions are the following:

- "Abandoned fishing gear" means fishing gear over which that operator/ owner has control and that could be retrieved by owner/operator, but that is deliberately left at sea due to force majeure or other unforeseen reasons.
- "Lost fishing gear" means fishing gear over which the owner/operator has accidentally lost control and that cannot be located and/or retrieved by the owner/operator.

- “Discarded fishing gear” means fishing gear that is released at sea without any attempt for further control or recovery by the owner/operator.

Hence there is a need to provide more clarity on these terms in the specific context of dFADs. This could be important for scientists to quantify dFAD fate, for managers when developing management measures, but also for monitoring the efficiency of such measures.

While the concepts of “Lost”, “Abandoned” and “Discarded” fishing gear (ALDFG) are referenced across all tuna RFMOs, the IOTC goes one step further. It is the only tuna RFMO to have adopted three separate, formal definitions specifically for dFADs within a binding conservation and management measure (IOTC Resolution 24/02, para. 1(j)–(l) (IOTC, 2024), as follows:

- “Abandoned dFAD” means a dFAD which was initially deployed with the intention of later retrieval but that is deliberately left at sea due to force majeure or other reasons.
- “Lost dFAD” means a dFAD over which the buoy owner has lost control and that cannot be located by the buoy owner.
- “Discarded dFAD” means a dFAD that is released at sea without any attempt for further control or recovery by the buoy owner.

During the workshop, different definitions were proposed by the different working groups (Tables 1–5). Generally, the discussions highlighted that the definitions may depend on the objective of a particular use of these terms: for science (e.g., Escalle et al., 2023); for management (MARPOL, 2017); for monitoring (Gilman et al., 2022). There is also a variety of views on these terms in the context of dFAD, depending on the stakeholder considered. In particular, the point of view/observation unit considered – for a fisher/dFAD owner; for the whole fishery; or for a recovery program – may lead to different responses. The group exercise clearly highlighted all these aspects and the difficulty in agreeing on clear and unique definitions. This summary aims at presenting an overview of all responses, in the context of science and monitoring, and a perspective of the whole fishery, while describing all the pathways that a dFAD may experience in its lifetime, from deployment at-sea with an activated and transmitting buoy attached, to recovery, stranding or sinking (Tables 1–4).

In this context, a distinction should be made between a buoy being switched on and being activated. A buoy is considered switched on when the device itself is powered and operational, meaning that its internal systems are functioning. By contrast, an activated buoy is one for which satellite communications have been enabled or registered by the service provider, allowing it to transmit position and other data. This distinction is similar to a mobile phone: the device may be turned on, but it will only be able to communicate once the service has been activated.

Regarding the definitions proposed by participants during the group exercise. First, regarding the definition of a lost dFAD (Table 1), two definitions were considered most relevant: “unintentional loss of contact by the owner” and “loss when the buoy owner has lost control and the dFAD cannot be located by the buoy owner”. Discussions included the fact that losing a dFAD is unintentional and may result from several factors, including buoy sinking, malfunction, appropriation by another vessel with the buoy signal being turned off, etc. The second definition encompassed the idea of loss of control of the dFAD by the original owner, while potentially the buoy could be located if stolen/appropriated by another vessel, provided that appropriate monitoring processes are in place to report this buoy, its status and that of the dFAD. This could also include a buoy being disconnected by a third party, with the signal loss by both the entire fishery or fleet and the owner. Total and absolute loss would refer to when the buoy is completely damaged or has sank and cannot function anymore.

Table 1. Definition of "Lost" dFADs proposed by the group of stakeholders participating in the workshop. Note that only five definitions were proposed for voting to remove duplication and reduce voting time. Green cells indicate the options receiving the highest number of votes.

LOST		
Stakeholder type	**Proposed definitions**	**Votes**
FAD monitoring technologies	A dFAD is lost when its buoy has ceased transmitting, preventing the owner from continuing its monitoring due to causes beyond their control.	
NGOs	A dFAD is lost when it has been stolen or the buoy malfunctions.	9%
Scientists	A dFAD is lost when there is no possible way to locate it, due to an accidental loss of signal (e.g. malfunctions) or after the action of discarding.	
Regional and International Organisations	*From a fisher's point of view:* Unintentional loss of contact by the owner.	38%
	From the whole fishery point of view: Unintentional unmonitored dFAD (ghost gear)	
Local organisation & fishers	A dFAD is lost when it is sunk voluntarily or has a definitive loss of signal at distance.	0%
Fishers	A dFAD is lost when the buoy owner has lost control and that cannot be located by the buoy owner.	36%
Governments	A dFAD is lost when the owner cannot find the dFAD even if it could be usable. There is an absence of signal that could be due to many reasons: technical failures, actions from other PS or natural reasons.	
	From a fisher's point of view: A dFAD is lost when it drifted in an exclusive economic zone (EEZ) where the vessel is not licensed to fish; the beacon stopped working; or it was stolen or vandalised.	17%
	A dFAD is lost when the buoy malfunctioned, the buoy is deactivated, the buoy is turned off by another vessel, it cannot be located by any vessel, it is taken by another vessel, the dFAD sank.	
	A dFAD is lost when the signal is unintentionally lost by the owner. It can happen anywhere, in or out the fishing ground but more frequently in the fishing grounds.	

Second, regarding the definition of an abandoned dFAD (Table 2), two definitions were considered most relevant: "a dFAD that was initially deployed with the intention of later retrieval but that is deliberately left at sea due to force majeure or other reasons" and "a dFAD that is under control of the owner but is intentionally left at sea due to economic constraints (e.g. too far away)". For the latter in particular, the difference between loss to the vessel and loss to the whole fishery was highlighted. For the group representing fishers, very different views were presented, in particular regarding this definition, which led to the need to define additional terms (Table 5: "transfer"; "outside of the operational area", "re-used"). Fishers also highlighted the importance of "force majeure" or the fact that a vessel may not be able to enter an area where they are not licensed to fish even just to retrieve their dFAD, as this would be considered as "fishing"; but the dFAD is not technically lost to the fishery.

Table 2. Definition of "Abandoned" dFADs proposed by the group of stakeholders participating in the workshop. Note that only four definitions were proposed for voting to remove duplication and reduce voting time. Green cells indicate the options receiving the highest number of votes.

ABANDONED		
Stakeholder type	**Proposed definitions**	**Votes**
FAD monitoring technologies	A dFAD that, due to force majeure circumstances, cannot be visited by the fisher.	8%
NGOs	A dFAD that a vessel tried but cannot recover, perhaps related to foul weather or crew safety	
Scientists	A dFAD that is under control of the owner but is intentionally left at sea due to economic constraints (e.g. too far away)	30%
Regional and International Organisations	*From a fisher's point of view:* Intentional loss of contact by the owner	
	From the whole fishery point of view: Intentional unmonitored potentially active dFAD	15%
Local organisation & fishers	Voluntary stop of distance tracking. Abandoned could also refer to a dFAD that could not be tracked for a certain amount of time	
Fishers	A dFAD that was initially deployed with the intention of later retrieval but that is deliberately left at sea due to force majeure or other reasons.	47%
Governments	A voluntary action that could be caused by many reasons: Insufficient fish; restricted zones for PS fishery, or decrease in productivity	
	From a fisher's point of view: A dFAD that: i) is still in the fishing ground but too far to be retrieved (economic decision); ii) has exited the fishing ground where the vessel is licensed to fish; or iii) has entered the EEZ of a country where the vessel is not licensed to fish. Abandonment starts when the owner stops paying the buoy service provider (unclear whether the beacon can be turned off remotely by the vessel or buoy company).	
	A dFAD that was purposely left in the water without being retrieved. Abandonment happens when: i) the buoy is faulty and can be discarded (becomes rubbish); or ii) if an unregistered dFAD is confiscated (PNA only).	
	A dFAD that is outside the vessel's operation grounds or reach, and the buoy is deactivated. Hence, the dFAD is left at sea intentionally.	
	A FAD which was used for fishing, then wherever the location, the owner decided that the owner is no longer interested or there is no possibility for the owner to fish on it. However, it is usable for fishing or other purposes.	

Third, regarding the definition of a discarded dFAD (Table 3), one definition was considered most relevant in plenary: "a dFAD/buoy/part of dFAD that is put (or put back) in the water without interest of using it for fishing and without means of tracing or monitoring". No definition of a discarded dFAD was proposed by the group of representatives of fishers present at the workshop. The group of fishers considered that dFAD discarding does not occur, as fishers deploy dFADs with the intention of monitoring and revisiting them. They discussed the IOTC definition, according to which a dFAD is considered discarded when it is "deployed with no intention by the owner of retrieving it or revisiting it," but did not agree with this definition. By contrast, some other workshop participants noted that, in practice, debris or components from broken or damaged dFADs may be discarded at sea. Particular RFMOs may then define what is allowed and what is not; and then adapt to different contexts for definitions (biodegradable or plastic material; force majeure; etc.).

Table 3. Definition of "Discarded" dFADs proposed by the group of stakeholders participating in the workshop. Note that only four definitions were proposed for voting to remove duplication and reduce voting time. Green cells indicate the options receiving the highest number of votes.

DISCARDED		
Stakeholder type	**Proposed definitions**	**Votes**
FAD monitoring technologies	A dFAD that, despite being accessible for revisiting, is voluntarily not visited by its owner.	21%
NGOs	Disposal would be when there is no genuine intent to retrieve it.	
Scientists	A dFAD that is under control of the owner but was intentionally disposed of at sea due to the physical state of the dFAD (e.g. damaged)	
Regional and International Organisations	*From a fisher's point of view:* Intentional deployment/placement of a non-monitored potentially inactive dFAD.	
	From the whole fishery point of view: Intentional unmonitored non-active dFAD.	
Local organisation & fishers	dFAD that is deployed without a buoy or, the buoy only is retrieved or the dFAD is sunk.	13%
Fishers	*No definition / captured in other definitions.*	
Governments	Voluntary decision depending on the stakeholder considered.	
	From a fisher's point of view: A dFAD is discarded when it is broken or if the vessel is not licensed to fish in the area where the dFAD is drifting. A vessel will only retrieve the buoys and any reusable dFAD parts that can be carried onboard (also a safety issue). It will discard the rest (tails).	
	Discarded means dismantled and thrown away as garbage by authorities.	19%
	A dFAD (not the buoy) that is left adrift; or no longer utilized for fishing purposes or to be reencountered by the buoy owner; or getting deactivated because there is no fish aggregation with it; or that was deactivated because it is outside the fishing grounds; or that was deactivated within the fishing grounds.	
	A dFAD/buoy/ part of dFAD that is put in the water without interest of using it for fishing and without means of tracing or monitoring.	46%

Finally, regarding the definition of a stranded dFAD (Table 4), two definitions were again considered most relevant in plenary: "a dFAD that could reach a coastline or become entangled in shallow water, bank or reefs", and "a dFAD on shore/reef/shallow water which is not moving, it is reported and the position is confirmed from the buoy or by a local person". The difference between both being the need for confirmation/observation of stranding. The first definition also references "shallow water", which would need to be defined as a stranded dFAD having its tail entangled on coral reef deep slopes.

Table 4. Definition of "Stranded" dFADs proposed by the group of stakeholders participating in the workshop. Note that only four definitions were proposed for voting to remove duplication and reduce voting time. Green cells indicate the options receiving the highest number of votes.

STRANDED		
Stakeholder type	**Proposed definitions**	**Votes**
FAD monitoring technologies	A dFAD that, as a result of its drift, has ended up stranding on the coast or becoming grounded on the seabed.	
NGOs	*No response provided*	

Scientists	Physical state when an object grounds or reaches the seabed and is not moving anymore. It could happen several times during the dFAD lifespan.	19%
Regional and International Organisations	Potential end result of a lost/abandoned or discarded dFAD that washes up in a shallow marine habitat or shoreline.	22%
Local organisation & fishers	A dFAD that could reach the coastline or be entangled in shallow water, bank or reefs.	30%
Fishers	A dFAD that hits land or coast and maintains a steady position.	
Governments	A dFAD that has ended up on the reef, it has beached or it was sunk.	
	A dFAD that arrived and got immobilized in shallow waters/reefs or is on sand or rocky beaches.	
	A dFAD on shore/reef/shallow water which is not moving, it is reported and the position is confirmed from the buoy or by a local person.	30%

Table 5. Additional definitions proposed by the group of stakeholders participating in the workshop.

ADDITIONAL DEFINITIONS		
Term	**Proposed definitions**	
Transferred dFAD	A dFAD for which the ownership is transferred from the original owner to another vessel who then assumes responsibility and control of the FAD. Sold or donated.	
Out of range dFAD / outside the operational area	A FAD that drifted beyond the operational or legally allowed range of the fishing vessel.	
Reused dFAD	A dFAD that is lost to the buoy owner but for which control is assumed by another vessel.	

Figure 4. Group exercise on definitions of “Lost”, “Abandoned”, “Stranded” and “Discarded” dFADs.

The notions of “intentionality” and “usefulness” – i.e. whether the dFAD is functional/operational – were also underlined. The group also emphasized that the particular status of a dFAD, represented by these terms, may vary in space and time, in the different life cycle phases of a dFAD. Mapping such a “life cycle” would be important to understand all the potential phases and status experienced by a particular dFAD (Table 6). For the sustainable use of dFADs, the ultimate objective, in the context of a whole fishery and ocean basin, would be to reach two categories: operational dFADs (within the fishing grounds, with an active satellite buoy attached) and retrieved dFADs that are correctly treated for their end-of-life (e.g., reuse or recycled in appropriate structures). However, recovering all dFADs that are no longer operational would be extremely challenging. Hence the current life cycle of dFADs end with three possible ultimate fates: retrieved (intentionally if the position was known or opportunistically); stranded (which could be later retrieved); or sank (Table 6). These fates are irrelevant to the ultimate geographic location of dFADs, which could be within or outside the fishing grounds where it was deployed and used. Between deployment of a dFAD with an activate buoy attached, and these three ultimate fates, many pathways are possible, with status including “Active and operational”; Lost”, “Abandoned”, “Stranded”, “Discarded” and “Re-used”. While available data and monitoring of dFADs has greatly improved in recent years, improved monitoring and data sharing is still needed. In particular there is a need to obtain real-time positions of dFADs from deployment to ultimate fate to prevent strandings and enable rapid retrieval operations.

Table 6a. Life cycle of dFADs and buoys, from deployment to ultimate fate.

0- dFAD is onboard - buoy is activated and switched on
1- dFAD deployed with activated buoy attached
2- dFAD + buoy drifting at-sea and the buoy is active and transmitting

2- dFAD+buoy drifting at-sea and the buoy is active and transmitting → **can be located**	3- dFAD+buoy drifting at-sea; the buoy is active but not transmitting → **cannot be located** (**signal loss**)	4- dFAD and buoy get separated at-sea → buoy can be located → **dFAD cannot be located** (**signal loss**)

Table 6b. Life cycle of dFADs and buoys, from deployment to ultimate fate. Intent. = intentional; opport. = opportunistic.

<table>
<tr><td></td><td colspan="14">2- dFAD+buoy drifting at-sea and the buoy is active and transmitting
→ **can be located**</td></tr>
<tr><td>**dFAD status**</td><td>Activity on dFAD+buoy: Fishing set, visit, repair</td><td colspan="3">dFAD is robbed but buoy is transmitting</td><td>Buoy attached to dFAD transfered to a new owner while dFAD is drifitng at-sea</td><td colspan="4">dFAD and/or buoy taken from the sea (PS owner, another PS or other vessel)</td><td colspan="3">Buoy owner decide not to recover dFAD and/or buoy and to stop monitoring it (to deactivate the buoy)</td><td colspan="2">dFAD and/or buoy on-shore and stationary for x days</td></tr>
<tr><td>**Buoy status**</td><td>Buoy transmitting</td><td colspan="3">Buoy transmitting</td><td>Buoy transfer</td><td colspan="4">Buoy deactivated and switched off</td><td colspan="3">Buoy deactivated</td><td colspan="2">Buoy deactivated or not</td></tr>
<tr><td>**Fate**</td><td>Same dFAD and buoy put back in the water, the buoy is active and transmitting (back to 2)</td><td>dFAD put back in the water with new buoy (back to 1)</td><td>Buoy kept onboard</td><td>Buoy left to drift alone active and transmitting</td><td>dFAD+buoy drifting at-sea</td><td>dFAD/ buoy kept onboard</td><td colspan="3">dFAD and/or buoy thrown back in the water without intention of retrieval (no monitoring), i.e. discarded</td><td colspan="3">dFAD and/or buoy drifting unmonitored at-sea</td><td colspan="2">dFAD and/or buoy on-shore</td></tr>
<tr><td>**Classification at time of final buoy position**</td><td>dFAD+buoy drifting at-sea and the buoy is active and transmitting</td><td>dFAD redeployed with activated buoy attached</td><td>Retreived buoy</td><td>Discarded buoy ON</td><td>dFAD+buoy drifting at-sea and the buoy is active and transmitting</td><td>Retreived dFAD/ buoy</td><td colspan="3">Discarded dFAD/buoy

a) unusable – Bio-FAD
b) unusable – Plastics
c) still usable</td><td colspan="3">Abandoned dFAD/buoy</td><td colspan="2">Stranded dFAD/buoy</td></tr>
<tr><td>**Change of classification post buoy deactivation**</td><td></td><td>Lost dFAD for owner - Re-used</td><td></td><td></td><td></td><td></td><td>dFAD and/or buoy on shore</td><td>dFAD and/or buoy sank</td><td>dFAD and/or buoy taken from sea</td><td>dFAD and/or buoy on-shore</td><td>dFAD and/or buoy sank</td><td>dFAD and/or buoy taken from sea</td><td>dFAD and buoy taken from shore</td><td></td></tr>
<tr><td>**Final fate**</td><td>Go to 2</td><td>Go to 1</td><td>Retreived (Intent.)</td><td>Go to 2 (buoy only)</td><td>Go to 2</td><td>Retreived (Intent.)</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport.)</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport.)</td><td>Retreived (Intent. or Opport.)</td><td>Stranded</td></tr>
</table>

Table 6c. Life cycle of dFADs and buoys, from deployment to ultimate fate.

<table>
<tr><td></td><td colspan="9">3- dFAD+buoy drifting at-sea; the buoy is active but not transmitting
→ **cannot be located** (**signal loss**)</td><td colspan="7">4- dFAD and buoy get separated at-sea
→ **buoy can be located**
→ **dFAD cannot be located**</td></tr>
<tr><td>**dFAD status**</td><td colspan="5">dFAD is robbed but buoy is not transmitting</td><td colspan="3">dFAD+buoy drifting at-sea and buoy malfunction</td><td>dFAD+buoy sank</td><td colspan="3">dFAD drifting alone unmonitored</td><td>Buoy active and transmitting, owner did not detect that it detached from dFAD</td><td colspan="3">Buoy deactivated, owner detected that it was drifting alone</td></tr>
<tr><td>**Buoy status**</td><td colspan="5">Buoy switched off or damaged
Signal loss from owner</td><td colspan="3">Signal loss from owner</td><td>Signal loss from owner</td><td colspan="3">--</td><td>Buoy transmitting (back to 2; buoy only)</td><td colspan="3">Buoy deactivated</td></tr>
<tr><td>**Fate**</td><td>dFAD put back in the water with new buoy (back to 1)</td><td>Buoy kept onboard</td><td colspan="3">Buoy put back in the water not transmitting, i.e. discarded</td><td colspan="3">dFAD and/or buoy drifting unmonitored at-sea</td><td>dFAD+buoy sank</td><td colspan="3">dFAD drifting unmonitored at-sea - detachment from buoy likely unnoticed</td><td>Buoy left to drift alone active and transmitting</td><td colspan="3">Buoy drifting unmonitored at-sea</td></tr>
<tr><td>**Classification at time of final buoy position**</td><td>dFAD redeployed with activated buoy attached</td><td>Retreived buoy</td><td colspan="3">Discarded buoy OFF</td><td colspan="3">Lost dFAD/buoy</td><td>Lost dFAD/buoy</td><td colspan="3">Lost dFAD</td><td>Buoy drifting at-sea active and transmitting</td><td colspan="3">Abandoned buoy</td></tr>
<tr><td>**Change of classification post buoy deactivation**</td><td>Lost dFAD for owner - Re-used</td><td></td><td>Buoy on-shore</td><td>Buoy sank</td><td>Buoy taken from sea</td><td>dFAD and/or buoy on-shore</td><td>dFAD and/or buoy sank</td><td>dFAD and/or buoy taken from sea</td><td></td><td>dFAD on shore</td><td>dFAD sank</td><td>dFAD taken from sea</td><td></td><td>Buoy on-shore</td><td>Buoy sank</td><td>Buoy taken from sea</td></tr>
<tr><td>**Final fate**</td><td>Go to 1</td><td>Retreived (Intent.)</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport.)</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport.)</td><td>Sank</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport)</td><td>Go to 2 (buoy only)</td><td>Stranded</td><td>Sank</td><td>Retreived (Opport)</td></tr>
</table>

2.1.4. Review of the legal framework of dFAD loss and abandonment

This session included presentations from the SPC and the Marine Stewardship Council (MSC). Ariella D'Andrea (SPC) presented the results from a review of the legal framework of dFAD loss and abandonment carried out by a consultant, Justin Rose. The presentation highlighted legal uncertainties, particularly regarding when a dFAD is fishing, who owns it, and when loss or abandonment may trigger marine pollution obligations. Current RFMOs and national measures include limits on active buoys used to track dFADs, deactivation and activation, tracking requirements, dFAD design standards and retrieval options, but enforcement challenges remain significant. The dFAD life cycle illustrates multiple pathways to loss, abandonment and recovery across jurisdictions. Overall, the framework is complex and multi-layered, reflecting both operational realities and legal gaps. As a way forward, it is suggested that RFMO rules and national frameworks on dFAD use can be strengthened, and that improved collaboration with the fishing industry and local communities are crucial. Further, Adrian Gutteridge presented the MSC requirements and their application to certified dFAD fisheries, in particular the new requirements entering into force in March 2030**.** The certification framework increasingly incorporates explicit consideration of ghost gear, including dFAD loss, with requirements focusing on prevention, mitigation and remediation measures such as gear marking, tracking, retrieval and fisher awareness. Importantly, the revised MSC standards introduce a phased timeline for implementation (2027 for new fisheries and from 2030 for reassessment of certified fisheries), requiring new and existing fisheries to transition to updated requirements.

Both presentations prompted extensive plenary discussions on the evolving legal and regulatory challenges associated with dFADs. Regarding the legal framework of dFAD loss and abandonment, participants emphasised the need to tailor measures to regional contexts while ensuring compatibility across jurisdictions, particularly as dFADs frequently drift across EEZ boundaries subject to different legal regimes. Concerns were raised about operational practices, including deployment by carrier vessels on behalf of fishing vessels – potentially in breach of applicable laws – and the complexity of shifting ownership of dFADs across fleets. Discussions also addressed whether activities such as dFAD deployment, drifting and retrieval constitute fishing operations, and the implications for regulation and enforcement. Further, it was noted that while some coastal states (e.g. French Polynesia and Palau) prohibit dFAD use, there are no initiatives aiming at a global ban; instead, a clear trend towards stricter RFMO and national measures to improve tracking and reduce environmental impacts was noted. Participants also noted relevant legal entry points for the improvement of dFAD sustainability, including: environmental impact assessment provisions under the United Nations Agreement on marine biological diversity of areas beyond national jurisdiction (BBNJ Agreement); broader consideration of international instruments on waste management, such as the Basel Convention on the transboundary movements of hazardous wastes, to fill potential gaps in MARPOL Convention on pollution from ships or the London Convention and Protocol on marine dumping of wastes; and possible clarification from the International Tribunal for the Law of the Sea (ITLOS) on flag state responsibilities under the United Nations Convention on the Law of the Sea (UNCLOS) provisions on artificial structures. Overall, there was broad agreement on the need for multi-stakeholder engagement across fleets, governments, communities and partners. As a practical measure, a deposit-refund or bonding system was proposed to incentivise retrieval of drifting dFADs and to support locally funded recovery efforts. The transition to biodegradable dFADs was also discussed, including in relation to marine pollution law. While reducing environmental harm, lost or abandoned bioFADs may still constitute marine litter when stranded or sunk.

Regarding MSC certification, the discussion clarified that certification operates at both fleet and broader governance levels, linking vessel practices (e.g. bycatch handling) with regional regulatory frameworks. Existing tuna RFMO measures are integrated into certification assessments for dFAD fisheries, particularly under Principle 1, which evaluates stock status and management effectiveness at a broader scale. Therefore, RFMO regulations relating to non-entangling or biodegradable dFADs can be considered part of a fleet's management strategy and may positively influence certification outcomes where stocks are effectively managed. In terms of compliance, it was explained that fisheries failing to meet MSC requirements are typically subject to suspension, with recertification contingent on addressing identified shortcomings and demonstrating measurable improvements.

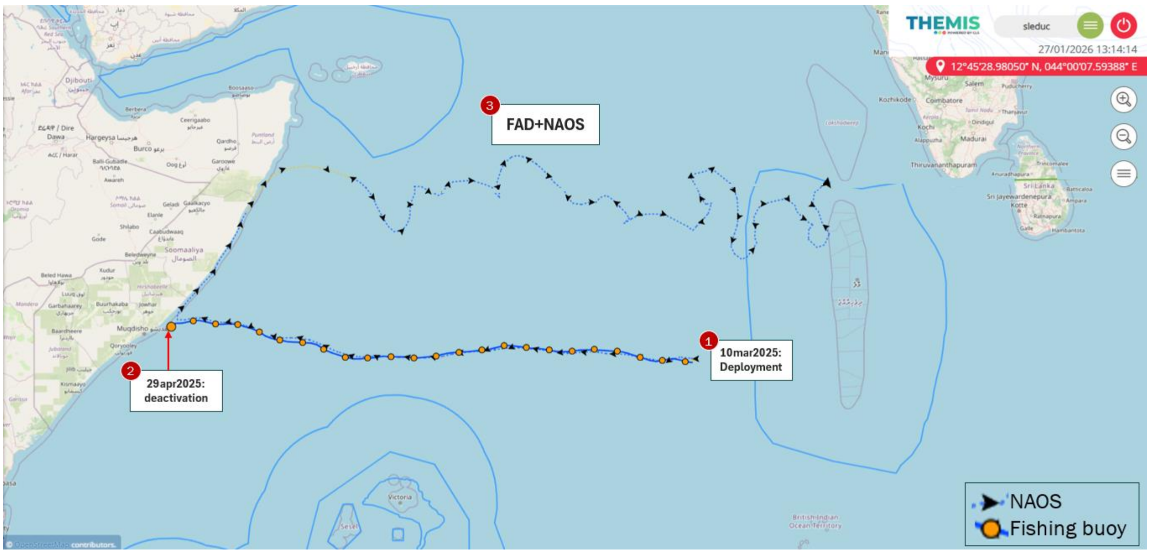
2.1.5. Monitoring dFADs throughout the whole life cycle

The three main buoy providers, Zunibal, Satlink, and Marine Instruments, presented the contributions of technology providers to responsible buoy use and management. They also committed to collaborating to support responsible technology use through a joint declaration of intent. This commitment to collaborate, included:

- alignment of their internal system to support existing and future dFAD recovery programmes;
- promote recovery and circularity through unified "Best Practices"; and
- continuous technological evolution, so that data can best support the industry and other stakeholders.

Plenary discussions included the topic of monitoring buoys throughout their whole lifespan and reactivation of buoys for dFAD recovery programmes, which could be possible upon request from the original owner. The discussion also addressed events in which the buoy becomes separated from the structure, which may hinder efforts to track dFAD structures through to the end of their lifetime. Finally, discussions included the topic of reducing the overall environmental impact of the buoy itself.

Igor Sancristobal presented the Naos buoy developed by Collecte Localisation Satellites (CLS), an independent device designed to support the monitoring of dFADs throughout their lifetime (Figure 5). The device could facilitate the tracking of dFADs independently from fishing operations, including during fishing buoy exchanges or after fishing buoy deactivation, and may provide useful information for future management or research applications.



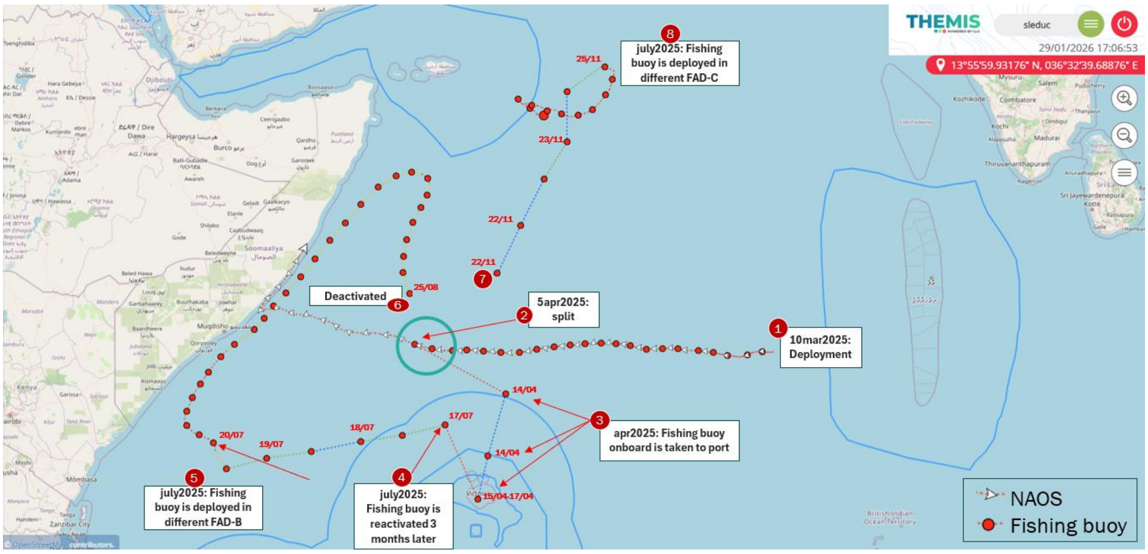


Figure 5. Examples of tracks of dFADs combining a fishing satellite buoy and NAOS device (Igor Sancristobal, workshop presentation).

Discussions and questions highlighted: i) that the Naos device needs to remain at the surface, although it could be attached either directly to the raft or by rope; ii) that the initiative has so far been implemented on a voluntary basis with collaborating fishers, with discussions acknowledging the potential added value of independent monitoring, particularly once the operational life of the dFAD has ended; and iii) the potential to use the device directly on anchored FADs (aFADs).

Finally, Gala Moreno presented results from the first international workshop on dFAD registry. The purpose of a dFAD registry would be to: i) improve the monitoring of dFAD use; ii) support scientific research; iii) enhance transparency and accountability; iv) enable harmonized reporting across RFMOs; and v) help reduce environmental impacts.

2.2. Strandings, environmental impacts, benefits?

2.2.1. Stranding and recovery FAD data collection programmes

This session included presentations from the SPC and IATTC Regional *in-situ* data collection programmes, presented by Jennyfer Mourot and Leanne Fuller, respectively. In the WCPO, SPC has been coordinating a network of local programmes since 2019 (with data starting in 2006), and more than 4,000 entries at time of this workshop (Mourot et al., 2025a). The IATTC has adopted the same data collection standards and format as SPC and is launching a voluntary programme for countries to collect dFAD strandings information (IATTC Res C-25-07; IATTC, 2026; Mourot et al., 2025b).

In addition to these Pacific regional frameworks, presentations from 7 individual dFAD stranding data collection programmes were made, including French Polynesia, Australia, the Indian Ocean, the Caribbean and United States East Coast and the Galapagos. These represented advanced programmes (more than 1,500 stranding reports in French Polynesia from community reports and dedicated surveys), original initiatives (in Australia, Tangaroa Blue Foundation is leading the Australian Marine Debris Initiative; in the Galapagos, the data collection and interception is led by the Galapagos Marine Park with the support of Galapagos Conservation Trust), or projects covering other regions of the world.

Initiatives to collect information on dFAD stranding and their impacts have clearly been developing and extending over the last few years. These data collections provide baseline data against which to monitor changes following the implementation of management measures. The data is also critical to help inform development and progress the adoption of management measures. While other regions have also been gathering information on stranding events in specific locations, the WCPO has been a leader worldwide in terms of the level and regional coordination of monitoring and quantifying rates and location of stranding events.

Some of the discussion points included:

- the fact that industrial aFADs (offshore anchored FADs used by industrial fishing fleets, such as in the Philippines, Indonesia, Papua New Guinea or Solomon Islands) often detach and do not have any tracking buoys attached, nor official reference markings to identify their origin (stranding detected in the Micronesia region), highlighting the need to better monitor these aFADs as well;
- the PS fishing industry's view regarding stranding, waste management and the monitoring programmes described and their involvement;
- the possibility of such programmes to detect any change in dFAD design/materials following adoption of management measures on dFAD construction (netting component´s presence, biodegradability);
- the need for long-term funding for the programmes and need for support to countries and territories;
- discussion around how buoys and dFAD materials are reused or recycled in countries and territories, that often need to be sent abroad for processing, otherwise locally ending up in landfills;
- the need to better monitor and collect information on dFADs reaching coral reefs, especially the deep outer slopes, considering that many dFADs reaching beaches and coastlines have already lost their submerged appendages, likely entangled on the outer reef shelves.
- the value of complementing shore-based and community-led recovery initiatives and data collection programmes with retrieval programmes with dedicated vessels adapted for offshore dFAD recovery before the devices reach reef systems or coastlines (see section 3.3).

2.2.2. Peer to peer exchange on stranded FAD data collection

In break-out groups (Figure 6), participants involved in stranded FAD data collection programmes were asked to reflect on successes and challenges they have encountered (Table 7 and Figure 6). Successes from community-based programmes in the Cook Islands, Solomon Islands, Tuvalu, and FSM; as collaboration with fishers through a bounty system in Hawaii were presented. Participants also mentioned some more regional successes. This included the First International dFAD Retrieval Workshop; the new IATTC Resolution C-25-07 (2025), to keep buoys active when drifting south of 10°S and west of 100°W; and the shared format to collect data between WCPFC and IATTC. In terms of the challenges mentioned, these included:

- the difficulty in evaluating the real impact of stranding events;
- the difficulty of having full stakeholders' involvement;
- financial constraints, including the cost of leaving buoys transmitting;

- the need to maximize coordination among RFMOs;
- the difficulty in including all islands, especially in archipelagos;
- the difficulty in retrieving dFADs with small vessels. A portable crane, which can lift up to 250kg and developed by AZTI was presented as a potential solution (Figure 7);
- the need to better recycle/re-use dFAD materials and buoys to decrease the impact of bringing gear to landfills only.

Some solutions were proposed, including the stakeholders that could be involved (see Table 8).

Figure 6. Presentation from the group exercise on the peer-to-peer exchange on stranded FAD data collection programmes.

Table 7a. Successes of FAD stranding data collection and dFAD recovery programmes (individual programmes), as mentioned by workshop participants.

Successes	**Reason**	**Stakeholder(s) involved**	**Next steps / Improvements**
Cook Islands stranded FAD recovery program	Successful cleanup of stranded FADs; Collaboration with environmental services; DFADs used by local fishers, which encourages reporting.	Local communities Fisheries department NGOs and environmental services	Reviewing licensing agreements
Solomon Islands stranded FAD recovery program	Data on more than 600 strandings collected during 4 dedicated 1-week trips; MOU with SPC to formalize agreement; Pictures + interviews with local villages (no need to send forms): Highlights that they collect and use buoys + floats.	Local community Fisheries department SPC	Implement a full program: nation-wide roll out that expand to some of the other islands Community engagement, especially fishers
Tuvalu stranded FAD recovery program	Collects information on buoys retrieved at-sea by local fishers; provides incentives / pay back for bringing buoys.	Local communities Fisheries department SPC	Start gathering stranded FAD data Involve the industry to buy buoys back to fund the system (circular economy)
FSM stranded FAD recovery program	State level stranded FAD data collection; Can track FAD through PNA FIMS (but not real time); Reuses buoys on aFADs through Satlink ReCon.	Local communities Fishery departments	Cover all the FSM states and islands
Hawaii derelict fishing gear bounty program	Pays local fishers for retrieval of derelict gear, including FADs; No spatial limit for collection area; Data entered into the SPC database if FAD found; Additional project on recycling of materials; Reuse of buoys on aFADs through Satlink ReCon with TNC.	Local longliners (LL) and artisanal fishers HPU NGO (TNC) SPC	Find funding to continue Expansion to ecotourism companies

Table 7b. Successes of FAD stranding data collection and dFAD recovery programmes (regional / international initiatives), as mentioned by workshop participants**.**

Successes	Reason	Stakeholder(s) involved	Next steps / Improvements
Expanding existing programmes into dFAD watch recovery programmes	Alerts when buoys come close to shore through a platform to track buoy positions, enabling early recovery before stranding occurs; These programmes are based on stakeholder agreement and collaboration.	Buoy companies National authorities Local communities Vessel owners NGOs Artisanal fishers Technology providers Research institutions	Integrate the action in management measures / regulations Economic viability / funding Development of efficiency/progress indicators Continuity Compromise
Galapagos First International dFAD Retrieval Workshop	Raised awareness around issues and solutions; Promoted shared responsibility.	Buoy companies National authorities Local communities Vessel owners NGOs Scientists	Development of efficiency/progress indicators Continuity Compromise
Adoption of new IATTC resolutions C-25-01 and C-25-07 related to keeping buoys active (2025)	Enables monitoring; Promotes FAD stranding data collection; Reduces abandonment of FADs; Allows for robust scientific studies.	Fishing industry CPCs scientific staff	Analysis to identify the magnitude of the issue Establish measures accordingly
FAD recovery form used in both WCPO and EPO	Allows for data collection from both RFMOs in a homogenized/ standardized way; Adaption of a form already developed and tested by SPC, with adjustments to the EPO reality; Complements existing IATTC forms; Allows for monitoring of the spatial distribution of FAD strandings.	Fishing industry FAD recovery programmes that adopt the form; Scientific staff Local communities CPCs (voluntary)	Creation of app to facilitate data collection Need for better communication (who to train, what materials, etc.) Budget allocation to prioritize studying the impacts
Institutional frameworks	RFMO FAD WG.	Fishing industry National authorities Scientific staff CPCs RFMOs	Harmonizations across RFMOs

Table 8. Difficulties and challenges encountered by dFAD stranding data collection and dFAD recovery programmes, as mentioned by workshop participants.

Difficulties / challenges	Potential solutions or strategies to overcome	Stakeholder(s) involved
Evaluating the real impact of stranding events	Standardize methods to evaluate impacts.	NGOs Scientists Local communities
Ensure full stakeholder involvement and participation	Consider incentives to encourage participation; Adapt or strengthen regulatory frameworks as needed.	All stakeholders
Maximizing coordination and alignment among RFMOs	Increase dFAD monitoring to avoid unmonitored dFADs; Establish recovery programmes; Enable recovery vessels in corridor of dFAD loss; Encourage forums for discussion and collaboration.	CPCs / governments Scientific staff and other researchers
Financial constraints	Budget allocation from the industry (need to define how to channel the resources); Create common projects to search/apply for fund/grants; Consider low-cost options to improve the safety of local fishers and partners, such as Garmin inReach devices or portable cranes.	Industry NGOs CPCs / governments International organizations
Cost of leaving buoys transmitting	Reduce costs by transmitting position data only; Provide incentives for industry participation, such as license discounts for early adopters.	Buoy companies Industry NGOs CPCs / governments
Including all islands (large number of islands; or remote ones): communication and/or access challenges and difficulties to recover materials	Need larger funding; Promote reuse, repurposing locally of recovered materials.	Local communities Fisheries departments SPC
Difficulty retrieving dFADs with small vessels: tails are heavy, challenges with storage, time, space. Some local fishers only recover the buoy or part of the FAD, letting the remaining parts drift	Develop dFAD recovery programmes, such as FAD watch; Adapt licensing agreements to support dFAD recovery; Identify mechanisms and protocols to recover dFADs located beyond the 2–3 nm range typically covered by fishers (e.g. portable crane); Secure funding; strengthen collaboration with the purse-seine industry, particularly national fleets.	Industry Local communities Fisheries departments NGOs and environmental services

Identifying how to recycle recovered gear, to decrease the impact of bringing gear to land	Develop recycling plants at ports or nearby.	Industry Governments Fisheries departments NGOs and environmental services Buoy companies
Streamlining dFAD recovery programmes through data sharing agreements	Develop a universal or standardized data-sharing agreement to avoid the need for separate agreements with each partner.	All stakeholders
Slow Institutional change, particularly within RFMOs and governments	Recognize that change can take time and plan accordingly.	All stakeholders
Challenges in ensuring effective stakeholder involvement	Engage the right people and partners to be cost-effective and valuable.	All stakeholders

Figure 7. Portable crane that could help dFAD recovery from small vessels (Jefferson Murua, personal communication).

2.2.3. Potential projects to continue monitoring stranding events & monitoring the impact on sensitive habitats

In break-out groups, participants were asked to think about potential project proposals to continue monitoring stranding events; the impact on sensitive habitats and to promote recycling and the circular economy to decrease burden on small island developing states. Four short proposals were developed (Tables 9a, b, c & d):

- Monitor impact of dFAD sinking on deep seabeds,
- Reverse the burden of receiving materials from dFAD stranding to opportunity for communities in coastal countries (re-using, upcycling, etc.),
- Promote circular economy and recycling as means for participation incentives for recovery programmes,
- Monitor impact on coastal ecosystems

Table 9a. Project proposal developed in group exercise by participants in the international workshop on mitigation of dFAD loss and abandonment in the Pacific.

Title Project 1	Monitor impact of dFAD sinking on deep seabeds
Objective	Evaluate biodegradability of dFAD materials in deep sea conditions (between 200m and 6,000m)
Details	Evaluate how a dFAD that sank will biodegrade over time between 200m and 6,000m. This would require experiments in a lab, due to the complexity of ocean dynamics. Compare this impact to deep-sea habitats with shallower habitat impacts in case of stranding (e.g. close to French Polynesia). Include the carbon footprint comparison between sinking a dFAD and having a vessel travel to pick it up.
Outcomes	Compare impacts of dFAD stranding events vs sinking; to inform mitigation strategies
Funding required	No precise amount for funding because it is difficult to evaluate. Underwater drones could be used to assess how these biodegrade over time, but that would be expensive. Could be cheaper using existing labs that can observe environment down to 6,000m
Financed by who?	Environmental NGOs; Fishing companies (for them could be a more economical way of disposing of the bio-FADs in a sound environment way if it shows that there is no impact); World Bank; European Union. This research would benefit all the world, not only one RFMO.
Ideal case study location(s)	In a laboratory; oceanography research station in deep-sea settings; and/or a pilot location
Stakeholders involved	FAD materials producers Financers Scientists NGOs RFMOS Fishing companies
Q&A	The idea of minimizing the size of the tail by cutting them in small pieces, rather than sinking the whole dFAD. Need to look into the legal, economic and political questions.

Table 9b. Project proposal developed in group exercise by participants in the international workshop on mitigation of dFAD loss and abandonment in the Pacific.

Title Project 2	Reverse burden to opportunity for communities in coastal countries
Objective	Reverse burden to opportunity for coastal communities by identifying dFADs that are arriving in coastal waters and providing the location to coastal fishers so they can fish around them; then collaborate to retrieve and reuse, repurpose, recycle or discard them.
Details	Authorities to provide position of dFADs close to shore (once in 50nm). Get more report/data from fishers in exchange. A government boat could also help to retrieve heavy FADs. Need for a recycling plant or other option for non-reusable buoys / dFAD materials. Give a value to the raft and beacon. Have a bond associated to each FAD/beacon that could help pay for the project/initiative. Buoy can be reactivated/transferred for repurposing including conservation purposes (not back to industry). Need to make sure the whole life cycle of the buoy is useful. Need to intercept dFADs that are coming in and make sure they are actually being recovered; this could be done through QR code to access data Have an app for data collection - Fisheries department to train fishers
Outcomes	Keep FADs off the reef Increase small-scale catches: fishing opportunity for local fishers Get data from fishers in exchange. Win-Win Reduce marine pollution: pick up dFAD and buoys
Funding required	At least, 1,000 USD reward to retrieve a dFAD Cost of reactivation of buoy and satellite communication fees Government boat capable of retrieving dFAD but funding is required for fuel and staff Cost of treatment of garbage on the island (e.g. burn it, boat to pick it up) Costs of repurposing the buoy for aFADs (e.g. TNC Micronesia; pick up in Palmyra then sent to the Federated States of Micronesia, the Republic of Palau, and the Republic of Marshall Islands)
Financed by who?	Fishing vessel (bond per dFAD deployed) Government SPC World Bank
Ideal case study location(s)	Cook Islands (Aitutaki) Samoa (Sava'i) Tonga (Vava'u) Micronesia (The Federated States of Micronesia, the Republic of Marshall Islands, the Republic of Palau)
Q&A	

Table 9c. Project proposal developed in group exercise by participants in the international workshop on mitigation of dFAD loss and abandonment in the Pacific.

Title Project 3	Promote circular economy and recycling as means for participation incentives to recovery programmes
Objective	Local valorization, re-use and recycling of buoys and dFAD materials: - re-use buoys that are still functioning, - recycling nets or buoys that do not work; in particular components that have certain interest for specific industries (public benches).

Details	Create and develop hub(s) in identified ports, by creating a storage area in port that can hold a large volume: - to enable vessels to collect them (in the hub port or shipped somewhere else); - to re-use buoys to support local projects (artisanal fishers through aFADs monitoring, tracking of marine debris or local vessels); - to develop local recycling value chains, with the idea of a pilot plant (Plastic Odyssey–type model): - to ship non-working buoys to manufacturers in case of lack of local recycling options. Buoys could be the ones collected through recovery program; beach clean ups; or brought back to shore by purse seiners when finding buoys from other vessels. These include 3 categories of buoys: 1. Those that are collected and reusable without modifications; 2. For intact buoys that don't work, these could be used in circular economy by dismantling and re-using parts; 3. Those that have been used for >10 years and are too deteriorated, it's better to recycle them. Could be mandatory or voluntary basis for the purse-seine companies. The different steps would include: 1. FAD watch: observatory system to identify at risk situations and signal to authorities 2. Local authorities give list and position of buoys that could be retrieved to local partners 3. Local partners collect dFADs and buoys from the FAD watch 4. Observatory system to identify at risk situations and signal to authorities 5. Buoys and FAD materials from FAD watch and PS stored in Hub ports
Outcomes	Buoy refurbishment/re-use: by purse seiners or identify options for local projects Buoy recycling: identify options for reusing the batteries/solar component according to local community needs, for everyday use. dFAD materials: development of a plastic-type recycling/value chain. When biodegradable materials are mandatory, potential to avoid the need for such to be developed. Training programmes: for reuse centers or environmental associations to support reuse and recycling activities, and to collect FADs or buoys.
Funding required	Storage in port Recycling in port: might first need a study to investigate feasibility and diagnostics of buoy components Vessels dedicated to retrieve or reward to local fishers and communities Transport/shipment (between hubs or back to manufacturers)
Financed by who?	A fund financed by the industry, such as a purse-seine fishing association (currently only certain fleets are involved, not all). Could promote existing certifications (MSC, possibly by strengthening certain criteria) or create new labels to promote a fishing value chain that is more socially and environmentally sustainable. Buoy providers and satellite communication service providers (Iridium and Inmarsat), as they are also involved in the fishing value chain and could help reduce satellite communication costs for these activities.
Ideal case study location(s)	French Polynesia: already proactive in local recycling. Creation of a case-study hub where vessel operators could recover their buoys (somewhat based on the same model as what exists in the Seychelles, e.g. Europêche), possibly in a major port in the Pacific (e.g. Majuro). Fiji, Papeete, the Republic of the Marshall Islands, Australia

Stakeholders involved	All stakeholders involved in the purse-seine fishing value chain Managing countries Waste-management actors and environmental associations Certification bodies Vessel operators Ports Processing plants Ultimately the consumer Canneries
Q&A	Incentives/rewards for buoy and dFAD recovery by local partners need to be carefully investigated as it could lead to improper/unregulated collection of dFADs and buoys and concerns over fisher safety. Part of the financing source could be through buoys recovered in a functional state sold to the original company for a reduced price. Noting that there might be costs (to reactivate, retrieve the data, etc.).

Table 9d. Project proposal developed in group exercise by participants in the international workshop on mitigation of dFAD loss and abandonment in the Pacific.

Title Project 4	Monitor impact on coastal ecosystems
Objective	Quantify the impact of dFADs on coastal habitats, species and local communities Compare the effect/consequences of dFADs compared to other marine debris
Details	Select 3 ecosystems representatives of a Pacific island (atoll, beach, coral, etc.) Develop a temporal series to follow the impact through time Also include other debris Analyses and recommendations Caveats (changes in dFAD fishery): - adoption and start of a transition towards bioFADs - development of recovery programmes - decrease of number of FAD deployed
Outcomes	Quantified impact of FADs on the habitat Compare effect with FAD and effect with no FADs Socio-economic aspects
Funding required	1,500,000 euros over 5 years
Financed by who?	Purse seine companies Buoy companies Other actors in the supply chain Environmental NGOs
Ideal case study location(s)	French Polynesia (3 ecosystems that could be scaled to the rest of the Pacific): high islands with a barrier reef and a fringing reef, high islands with only a fringing reef, and an atoll with barrier reef).
Stakeholders involved	Local villages Scientists/ Universities (students = less expensive) NGOs Marine park managers Local fishers Local recycling facilities

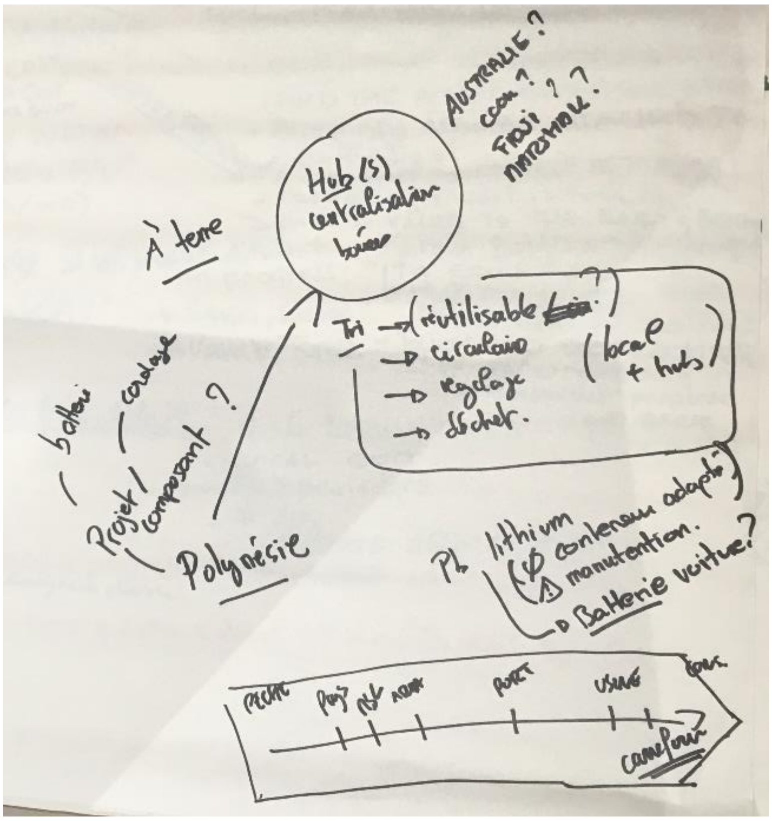


Figure 8. Diagram to illustrate the notion of "hub", as part of the project proposal n°2 "Promote circular economy and recycling as means for participation incentives to recovery programmes".

2.3. A sustainable dFAD fishery: Decreasing dFAD loss; increasing recovery

2.3.1. dFAD recovery initiatives

This section included short presentations from 10 dFAD recovery initiatives: i) the TNC Palmyra dFAD watch; ii) the TUNACONS-Galapagos dFAD recovery programme; iii) the European Union PS Fleet's (Spain and France) role in dFAD Watch Programmes; iv) the Hawaii Longline ghost gear bounty programme; v) SPC FAD recovery pilot trials; vi) the development of the French Polynesia dFAD watch; vii) the development of the American Samoa dFAD watch; viii) the development of the Aitutaki dFAD recovery programme; ix) the Ocean dFAD Recovery Foundation, from the industry (through several PS associations including ATA, ATUNEC, OPAGAC) fishing in the EPO and the WCPO; and x) the NFC Solomon Island dFAD recovery.

This session clearly highlighted the progress since the first international workshop on FAD recovery methods organised by ISSF, TUNACONS and WWF Ecuador in 2024 and gave a good overview of the type and locations of existing and developing dFAD recovery programmes in the Pacific and worldwide.

The type of dFAD recovery programmes included:

- dFAD watch, with real time position shared with a programme partner through the buoy service providers software. This occurs when the dFAD enters a buffer around certain areas of interest (Palmyra, Seychelles, French Polynesia, Aitutaki, American Samoa)
- dFAD recovery program through position shared directly by the industry to a local coordinator and the involvement of local fishers (Galapagos).

- Discarded gear, including dFADs, bounty system with the involvement of local fishers (Hawaii).
- Industry-led program with a specific local dedicated FAD-retrieval vessel (Solomon Island, Seychelles).

Each presentation was followed by extensive discussion in plenary. It included:

- the cost of each programme and who is financing it, in particular the need to include all the actors benefiting from dFAD fishing;
- the type of vessels involved in recovery was also discussed. In the case of small vessels, the importance of safety was highlighted, with the need to carry appropriate safety equipment, portable crane (Figure 7), if possible, communication equipment and knowledge/training for appropriate method to retrieve dFAD depending on vessel and situations;
- the need to develop protocols for safe and practical retrieval of dFADs from small boats, entangled on coral reef or stranded;
- the potential value of complementing existing retrieval programmes with dedicated vessels (i.e., dFAD cleaning vessels) adapted for offshore dFAD recovery before the devices reach reef systems or coastlines. Such vessels, equipped with appropriate deck space, lifting cranes, and suitable hull characteristics for safe operations, could significantly increase retrieval capacity and operational safety;
- the issues with storage onboard and in-port;
- the need to develop ways to recycle, reuse or repurpose recovered dFAD and buoys, to decrease the impact of bringing them to land;
- streamlining dFAD recovery programmes, identifying and combining all partners in unique agreements to avoid the need for separate agreements with each partner.

2.3.2. Options to mitigate dFAD loss and abandonments, and their impacts

The SPC presented preliminary results on a feasibility and economic study, carried out in collaboration with the consultant MarFishEco, to assess options to mitigate dFAD loss and abandonments and their impacts (Escalle et al., 2026). The options considered i) modification of the deployment areas to limit dFAD losses and stranding; ii) a greater emphasis on owner collection before dFAD loss and abandonment (including collaboration between fishing companies); iii) dedicated “cleaning” vessel(s) for at-sea collection of lost or abandoned dFADs at the edge of fishing grounds; iv) at-sea collection by “other” vessels (e.g., longliners) already present at-sea; and v) FAD recovery programme from shore ('FAD watch' system) that enables community collection of dFADs prior to stranding events in sensitive areas.

These options and results were discussed in plenary, noting that current regulations limit the retrieval of dFADs by purse seiners (e.g. licensing requirements such as the PNA Vessel Day Scheme). It was mentioned that the five options are not exclusive of each other and could all be implemented in synergy or in specific areas. The fact that there is still progress to be done on identifying the optimum number of dFADs to be deployed and be drifting at-sea was also mentioned (ISSF, 2023).

A deposit - refund system was also presented by Danielle Ferrero and Erin O’Reilly from the Environmental Markets Lab (University of California Santa Barbara), considering that a deposit could be paid by fishing companies upon deployment of a dFAD and a refund could be paid to a retriever not necessarily associated with the fishing companies, upon collection of any dFAD (Ferraro et al., 2025). While the model is currently flexible and basic, it could be adapted to certain areas using real data and more complexity, in order to further assess its potential implementation.

2.3.3. Repurposing and recycling buoys

Donald David from SPC presented some work undertaken to repurpose satellite buoys found stranded by deploying them on aFADs to support artisanal fishers in the Federated States of Micronesia and other small island developing states. In addition to giving an indication of the amount of fish aggregated under the aFAD, it would provide precise aFAD position and could alert a local fishery department in case of aFAD detachment to recuperate it, hence reducing the cost of replacing some of the components.

SPREP also presented their current work on recycling facilities in Pacific Island countries and territories. By contrast, this presentation highlighted that there is currently no work undertaken in relation to dFADs or other fishing gear.

2.3.4. Performance indicators for dFAD retrieval programmes

During the First International Workshop on FAD Retrieval, held in Galapagos, participants identified the importance of developing key performance indicators (KPIs) to evaluate the success of dFAD recovery programmes (FRPs) (Moreno et al., 2025). These KPIs would allow programmes to track specific metrics, such as the number of dFADs recovered, cost incurred in dFAD retrieval, etc. Regular monitoring of these indicators, together with the publication of results, would promote transparency and support program adaptation to changing conditions, thereby facilitating progress and improving overall effectiveness. Building on this, the workshop provided an opportunity for participants to identify relevant indicators through group discussions and collaborative exercises. This participatory approach helped ensure that the proposed KPIs reflected different stakeholder perspectives and practical needs, while also supporting the development of indicators that are feasible, useful, and applicable across different FAD recovery contexts.

Workshop participants were organized into nine groups of stakeholder types and were asked to propose performance indicators for dFAD retrieval programmes. Each group proposed a list of 10 to 26 indicators that were shared in plenary and grouped in this report (Table 10). Indicators were then separated into six categories: i) economic (costs, efficiency, financial participation, incentive); ii) operational indicators (dFAD retrieval efficiency, dFAD materials recovered) iii) ecological (environmental pressure, risk reduction, lifecycle management); iv) social (participation, capacity building, engagement); v) governance (compliance, regulation, institutional alignment, collective action); and vi) dFAD fishery monitoring (fishing strategy, use of dFADs, loss and abandonment). For each indicator, the stakeholders responsible for reporting were indicated, based on the classification made by the different groups.

A list of 51 indicators for dFAD recovery programmes was compiled. These indicators cover both programme-specific aspects, relevant to individual recovery initiatives, and broader indicators designed to assess recovery efforts at the basin-wide and RFMO levels (Table 10). Some of the comments mentioned were i) the need to clarify the purpose for each indicator and who would be evaluating it, for instance the ones important for RFMOs; ii) the need for a baseline; and iii) need to define some of the terms used, such as dFAD loss or abandonment (see section 3.1.3).

Generally, the very exhaustive list of performance indicators proposed by the participants in the workshop can be considered as guidelines for recovery programmes, scientists, managers and RFMOs to consider while recovery programmes are being developed or extended. This list is based on the workshop outcomes and could be further refined, particularly regarding identifying the stakeholders responsible for reporting specific indicators.

Figure 9. Group work on performance indicators from dFAD recovery programmes.

Table 10. List of performance indicators of dFAD recovery programmes proposed by participants in the workshop, including the stakeholder(s) who would be responsible for this indicator and the number of groups that proposed the indicator (# groups).

Indicator	dFAD Fishing fleets	Program Coord.	Local org. and fishers	NGOs	National author.	Buoy comp.	Scient.	RFMOs	# groups
Economic indicators									
1. Cost of retrieval per dFAD Average total monetary cost incurred to recover one dFAD, including fuel, labour, logistics, and disposal.	X	X	X	X	X	X			6
2. Overall cost of a dFAD retrieval programme Total financial and in-kind resources allocated to programme implementation.		X		X	X	X			4
3. Fuel cost per dFAD retrieved Fuel expenditure directly associated with each FAD recovery operation.		X							1
4. Programme budget allocated specifically to support the retrieval network (safety, equipment, logistics) Operational investments to enable safe and effective recovery.		X		X					3
5. Amount of funding received / public funding allocated to support dFAD recovery projects and dFAD stranding clean-up activities Financial resources received and public funding committed or disbursed for retrieval activities and dFAD stranding clean-up activities		X		X	X				3
6. Financial contributions to recovery funds by vessels or companies Monetary contributions from industry actors to support retrieval systems.	X								1
7. Ratio of outputs achieved per unit of resources used Indicator of economic efficiency and value for money.				X					1
8. Cost (and potential revenue generated) of recycling or reuse of dFAD and buoy components Expenditure related to processing recovered materials and income derived from recycling or repurposing recovered FAD components.		X		X		X			2
9. Total buoy fees paid by participating vessels or companies Aggregate buoy-related fees paid under FAD management or recovery schemes.	X								1
10. Rewards or incentives paid to retrievers Financial compensation provided to individuals or communities for retrieval actions.			X	X					2
11. Estimated economic damages avoided through recovery programmes and prevented strandings Avoided or reduced costs due to coordinated retrieval and prevention actions.		X					X		3
12. Percentage of fishing licences benefiting from fee reductions Share of licences receiving reduced fees via retrieval or fishing-day incentives.					X				1

13. Weight of fish caught on the dFAD before their recovery If fishing is carried out by local fishers before dFAD removal, weight of fish caught.			X						1
Operational indicators of the dFAD retrieval program									
14. Number of dFADs retrieved, and number of successful recoveries versus failed recovery attempts Total number of FADs successfully recovered and operational success rate of recovery actions.	X	X	X	X	X	X	X	X	7
15. Number of dFADs and buoys shared and monitored by a recovery program (total and active) dFADs actively tracked within structured recovery schemes.	X	X				X		X	2
16. Number of dFADs transiting but not retrieved (ratio of recovered vs monitor dFADs) and dFADs reported in proximity to coastal areas dFADs detected but not recovered; retrieval effectiveness from notified or reported FADs.		X				X			2
17. Weight of dFAD materials recovered and materials left at sea Mass of recovered dFAD components and indicator of environmental recovery efficiency.		X							2
18. Weight and proportion of buoys and materials recycled, reused, redeployed or landfilled End-of-life outcomes of recovered dFAD materials and circular reuse of buoy assets following recovery.		X		X		X			2
19. Models and brands of buoys recovered Technical characteristics supporting material traceability and management.						X			1
20. Use of automated geofencing to alert FAD retrieval program operators of the potential arrival of a dFAD for retrieval A geofencing tool that automatically shares dFAD positions when they cross a predefined boundary, helping dFAD recovery programmes with localisation, monitoring, and retrieval.	X								1
21. Availability of FAD´s real-time position data to identify, monitor and retrieve FADs in a timely manner Use of a real-time dFAD positioning system to facilitate dFAD localisation and retrieval	X								1
22. Delay in response time between FAD reporting and recovery action Time elapsed between notification and recovery action.		X	X						2
23. Number of buoy manufacturing companies involved in recovery programmes Buoy manufacturing sector engagement in retrieval and reuse systems and automated transmission of buoy data to recovery programmes.						X			1
Ecological indicators									
24. Extent of spatial coverage of recovery programme relative to stranding hotspots or RFMO waters Area monitored or covered by recovery operations compared to high-risk zones or entire RFMO Convention area.	X						X	X	2
25. Total stranding and strandings in sensitive habitats over time Trend and maps of strandings occurring in ecologically sensitive areas.				X			X		2

26. Carbon footprint per dFAD recovered Greenhouse gas emissions associated with retrieving one FAD.							X		1
27. Number of dFAD strandings avoided and estimated number or size of environmental damages caused and prevented Strandings prevented through early retrieval or intervention and reduction in coastal, benthic, or habitat impacts due to recovery.		X	X		X		X		2
28. Number of methodologies developed for dFAD recovery and monitoring; and analysis performed to estimate impact of dFAD recovery programme. Scientific and technical capacity indicator.							X		1
Social indicators									
29. Number of vessels and companies participating Fleet actors actively engaged in recovery programmes and sending buoy position.	X		X						1
30. Proportion of fleet and flag states participating Share of eligible vessels engaged across the ocean basin.	X							X	2
31. Number of local partners, participants, focal points in remote islands and fishers involved Local participation in recovery networks.		X	X						2
32. Number of people employed, including new jobs created, or people engaged in recovery Employment and livelihood contributions of recovery activities.		X	X	X	X				2
33. Number of people trained in dFAD recovery and reporting Capacity-building efforts supporting effective retrieval.				X					1
34. Number or proportion of islands participating in the programme and expansion to new geographic areas Geographic and community coverage indicator.			X		X				3
35. Awareness and capacity-building activities related to dFAD recovery targeting fishing fleets and communities Qualitative or quantitative indicator of outreach and training efforts.	X	X	X	X	X				2
36. Market and consumer recognition of recovery programmes Visibility and acknowledgement of recovery initiatives.		X		X					2
37. Safety performance during retrieval operations Number of accidents or incidents during recovery activities.		X							1
Regional governance indicators									
38. Number of dFAD recovery projects implemented, supported or coordinated. Scientific, institutional, policy, administrative, or operational facilitation and programme alignment.				X	X		X	X	2
39. Timeliness and regularity of dFAD data reporting and integration of recovery data into decision-making	X				X	X	X	X	5

Frequency and responsiveness of data submissions and use of recovery information in national and regional governance.									
40. Number of reports and scientific documentation produced annually (indicators, impact studies, assessments) Knowledge products informing decision-making and regulation; transparency and accountability indicator.	X	X	X	X	X	X	X	X	4
41. Number of agenda items addressing dFAD recovery and degree of prioritization in RFMO or regional meeting Indicator of sustained political and institutional attention.					X			X	2
42. Participation of national delegations in regional meetings addressing dFAD recovery and strength of political commitment Stakeholder engagement at RFMO or regional governance fora and level of sustained political backing for recovery initiatives.					X			X	2
43. Number of regulations developed or adapted to support dFAD retrieval, and harmonisation between RFMOs (e.g. IATTC and WCPFC): Legal or regulatory frameworks enabling FAD retrieval.					X			X	2
44. Compliance rate and proactivity of vessels and flag States to RFMO measures on dFAD retrieval. Adherence to FAD recovery and management rules, in particular IATTC, and proactive voluntary practice in WCPFC.	X			X		X		X	2
Regional dFAD fishery monitoring indicator									
45. Number of dFADs monitored through to end-of-life Number of dFADs tracked from deployment until recovery, loss, or deactivation. This corresponds to a comprehensive lifecycle tracking indicator, including monitoring of number of dFADs deployed, active, retrieved, deactivated, reactivated, lost and exiting fishing grounds per year	X				X	X	X	X	6
46. Decrease in number of dFADs deployed over time relative to the number of dFADs recovered Reduction in total FAD deployments attributable to management or recovery measures.	X								1
47. Ratio of recovery to deployment or active dFADs; and ratio of dFAD loss and abandonment to deployment Proportion of recovered FADs relative to deployed or drifting dFADs or active; indicator of unmanaged loss or abandonment.	X			X	X		X	X	2
48. Proportion of recoveries relative to losses or sinkings Ratio of retrieved dFADs to those lost or sunk.	X								1
49. Number of dFADs deployed in high-stranding-risk areas relative to low-risk areas Indicator of spatial risk mitigation (e.g. deployment near Marine Protected Areas or coasts).	X						X		1
50. Average time a FAD remains in the ocean before recovery, loss, or deactivation Mean residence time before recovery, loss, or deactivation.							X		1
51. Number and spatial distribution of drifting and stranded FADs and number of communities affected by FAD loss and abandonment Ecological pressure and risk-mapping indicator; communities experiencing direct impacts from stranded or FADs drifting nearshore.					X		X	X	2

2.3.5. Options for funding mechanisms

During the first workshop on dFAD retrieval (Moreno et al., 2025), the potential funding sources for FAD Retrieval Programmes (FRPs) were discussed in a plenary session. Although different stakeholders were present, including the fishing industry, buoy representatives, governments and NGOs, no concrete funding model emerged from the discussions. As this was the first meeting specifically focused on dFAD recovery, participants agreed that further dialogue was needed among stakeholders, particularly regarding their respective responsibilities in financing retrieval initiatives.

In the second workshop, participants revisited these issues and discussed several possible funding options. The idea of a bond or tax was mentioned, based on dFAD deployment, dFAD set or licensing requirements. The group also mentioned that the entire supply chain needs to be involved, with many actors not represented at the workshop (canneries, food transformation companies and processing companies). Participants stressed the need to engage not only proactive fishers, early adopters of good practices, but also the broader fleet and other actors involved in, or benefiting from, dFAD-based tuna production. This was considered essential to ensure that the ongoing transition towards improved dFAD management is inclusive and scalable.

The importance of market incentives was also discussed, which could accelerate processes when compared to RFMO implementation measures, which often take longer to be negotiated and adopted. For example, including an eco-label for tuna from fishing companies that participate in a recovery program (e.g., a "FAD watch label") was suggested.

Finally, participants discussed opportunities to reduce the costs of recovery programmes. These included increasing the sharing of dFADs among fishing vessels, either within the same company or fleet or between different companies and transferring dFADs among vessels operating in different Convention areas, for example from the IATTC to the WCPFC. These options could reduce unnecessary deployments and improve the recovery or continued use of existing devices. Together with the funding ideas discussed, these proposals point to the need for a diversified approach that combines stable financing, supply chain involvement, market incentives and operational efficiencies to support the long-term viability of dFAD retrieval programmes.

3. Conclusion

The workshop gathered 110 participants including government representatives, scientists, fishery managers, RFMOs, CROP agencies, fishing industries and NGOs. The three days allowed for fruitful discussions on a wide range of dFAD topics, from better understanding dFAD use in the tropical areas and their loss and abandonment from fishing grounds; to impacts to coastal areas, and finally discussing and proposing solutions to mitigate the impacts of dFAD loss and abandonment. Meetings of such scale enhance the inter- and intra-regional knowledge on the topic and can ultimately lead to strengthening existing and developing new collaborations in the future among stakeholders from multiple nations. Given the success of the workshop, we recommend continuing organising such meetings on a regular basis. Future workshops should also include other actors of the supply chain, such as tuna processors and retailers.

Industry, through representatives from purse seine companies and the three main buoy suppliers, emphasised their commitment to reduce the environmental impact of dFAD use. All called, however, for the participation of the rest of fleets and actors of the supply chain in this international effort to progress towards more sustainable dFAD fishing. Definitions of “Lost”, “Abandoned”, “Stranded” and “Discarded” dFADs were drafted, which helped propose a full life cycle of dFADs and buoys, from deployment to ultimate fate. A list of over 50 performance indicators of dFAD recovery programmes was proposed, which could be considered by current and future programmes. Finally, the workshop emphasized the need for action through RFMO, certifications and other market incentives, resulting in a draft set of recommendations from the workshop, which will be submitted to RFMOs in the coming year.

Finaly, it was highlighted that a combination of actions is essential to mitigate dFAD impacts: the use of biodegradable FADs, monitoring the dFAD throughout its lifetime, improved FAD usage strategies to reduce lost, and recovery at sea and along the coast, supported by deposit-refund schemes or other mechanisms.

Recommendations for tuna RFMOs:

- facilitate regular technical exchanges on dFAD recovery, including through dedicated workshops, discussions within FAD Working Groups or other appropriate fora, to support the development, implementation and evaluation of dFAD recovery programmes.
- explore appropriate mechanisms to engage relevant tuna supply chain actors, including processors, retailers and other market actors, in discussions related to dFAD recovery and the implementation of FAD recovery programmes.
- continue to close the knowledge gaps by progressing on monitoring dFAD fates and the environmental impacts of lost and stranded dFADs; funding mechanisms for dFAD recovery programmes; and assessing the performance of different types of dFAD recovery programmes.
- tuna RFMOs that have not yet adopted definitions of “lost”, “abandoned”, “stranded”, “reused” and “discarded” dFADs should consider the definitions discussed at the workshop, and ways to monitor a dFAD through its whole life cycle, from deployment to final fate (recovered, stranded, or sunk).
- continue to develop ways to support countries’ and territories’ fisheries authorities in the development and expansion of stranding dFAD monitoring and dFAD recovery programmes.
- support work towards better assessment of feasibility and economic aspects of different options to mitigate dFAD loss and abandonment and their potential impacts.
- develop ways to improve monitoring of dFADs reaching coral reefs across their entire range, especially gathering information regarding impacts on the deep outer slopes.
- support the development of protocols for safe and practical retrieval of dFAD from small boats when their structures are entangled on a coral reef or stranded.
- facilitate and develop infrastructures and pathways for dFAD and buoy materials to be reused, repurposed or recycled to extend their life and minimize waste.
- develop mechanisms to monitor aFADs and their fate in cases of detachment, including by exploring the use of satellite tracking and physical marking systems to support their identification and retrieval.

- tuna RFMOs, as well as dFAD recovery programmes, scientists, and managers should consider the performance indicators proposed by experts in this document as guidelines, to better monitor and assess the performance of recovery programmes, while they are currently being developed and extended across many oceanic tropical regions.

4. References

Escalle, L., Hamer, P., PNA Office, N., 2023. Spatial and temporal description of drifting FAD use in the WCPO derived from analyses of the FAD tracking programmes and observer data. WCPFC Sci. Comm. SC19-2023/EB-WP-05.

Escalle, L., Hare, S.R., Vidal, T., Brownjohn, M., Hamer, P., Pilling, G., 2021. Quantifying drifting Fish Aggregating Device use by the world's largest tuna fishery. ICES J. Mar. Sci. https://doi.org/10.1093/icesjms/fsab116

Escalle, L., Johnson, A., DiNardo, J., Moreno, G., Hamer, P., 2026. Stakeholder Perspectives and Economic Feasibility of dFAD Mitigation Options. WCPFC Sci. Comm. SC22-2026/EB-WP-03.

Escalle, L., Phillips, J.S., Lopez, J., Lynch, J.M., Murua, H., Royer, S.J., Swimmer, Y., Murua, J., Gupta, A. Sen, Restrepo, V., Moreno, G., 2024. Simulating drifting fish aggregating device trajectories to identify potential interactions with endangered sea turtles. Conserv. Biol. https://doi.org/10.1111/cobi.14295

FAO, 2019. Voluntary Guidelines on the marking of fishing gear. FAO Guidel. Sect. 16 (d, e, f). https//openknowledge.fao.org/items/1652dd68-6ae1-488d-81c1-dbef581c54ff.

Ferraro, D., Costello, C., Fullerton, D., Lennon, T., O'Reilly, E., 2025. A novel deposit-refund system to reduce lost fishing gear impacts in the world's major tuna fisheries. IATTC Ad-Hoc Perm. Work. Gr. FADs. 09th Meet. FAD-09-PRES.

Gilman, E., Humberstone, J., Wilson, J.R., Chassot, E., Jackson, A., Suuronen, P., 2022. Matching fishery-specific drivers of abandoned, lost and discarded fishing gear to relevant interventions. Mar. Policy 141, 105097. https://doi.org/10.1016/J.MARPOL.2022.105097

IATTC, 2026. Staff recommendations (non-target species). IATTC Sci. Advis. committee. 17th Meet. SAC-17-10b.

IOTC, 2024. Resolution 24/02 On management of drifting fish aggregating devices (FADs) in the IOTC area of competence. https://iotc.org/sites/default/files/documents/2024/06/IOTC-2024-WGFAD06-INF03_-_resolution_2402.pdf.

ISSF, 2023. ISSF Workshop on Different Approaches to Limit the Number of FADs in the Oceans. ISSF Tech. Rep. 2023-03. Int. Seaf. Sustain. Found. Pittsburgh, PA, USA.

Lopez, J., Roman, M., Lennert-Cody, C.E., Maunder, M.N., Vogel, N., Fuller, L., Caillot, S., 2026. Floating-object fishery indicators: a 2025 report. IATTC Ad-Hoc Perm. Work. Gr. FADs. 10th Meet. FAD-10-01.

MARPOL, 2017. Guidelines for the Implementation of MARPOL: Annex V. Guidel. Implement. MARPOL Annex V. https://doi.org/10.62454/KC656E

Moreno, G., Morán, G., Guerrero, P., Escalle, L., 2025. Summary of the First International Workshop on FAD Retrieval: May 8–10, 2024, Galápagos, Ecuador. ISSF Technical Report 2025-10. International Seafood Sustainability Foundation, Pittsburgh, PA, USA.

Mourot, J., Thellier, T., David, D., Lopez, L., Fuller, L., Roman, M., Ochavillo, D., Smith, D., Nicholas, T.., Tibatt, B., Stevens, K., Vaipuna, L., Bigler, B., Prioul, F., Lercari, M., Pollock, K., Mesebeluu, K., Ah Fook, S., Iakopo, M., Mesepitu, J., Halumwane, C., Batty, M., Doutreloux, N., Mugneret, B., Lynch, J.., Tait, H., Office, the P., Hamer, P., Escalle, L., 2025a. Analyses of the regional database of stranded drifting Fish Aggregating Devices (dFADs) in the Pacific Ocean: a 2024 update. WCPFC Sci. Comm. SC21-2025/EB-WP-05.

Mourot, J., Thellier, T., Lopez, L., Fuller, L., David, D., Ochavillo, D., Smith, D., Nicholas, T.., Tibatt, B., Stevens, K., Vaipuna, L., Bigler, B., Prioul, F., Lercari, M., Pollock, K., Mesebeluu, K., Ah Fook, S., Iakopo, M., Mesepitu, J., Halumwane, C., Batty, M., Doutreloux, N., Mugneret, B., Lynch, J.., Tait,

H., Hamer, P., Escalle, L., 2025b. Analyses of the regional database of stranded drifting Fish Aggregating Devices (dFADs) in the Pacific Ocean. 9th Meet. Ad Hoc Work. Gr. FADs FAD-09-INF-A.
Ovando, D., Roman, M., Fuller, D., Lennert-Cody, C., Lopez, J., 2025. Lifespan dynamics of biodegradable and conventional Fish Aggregating Devices in the Eastern Pacific Ocean. IATTC Ad-Hoc Perm. Work. Gr. FADs. 9th Meet. FAD-09-02.
Ovando, D., Román, M., Fuller, L., Lennert-Cody, C., Caillot, S., Escalle, L., Mourot, J., Lopez, J., 2026. Dynamics of Fish Aggregating Devices (FADs) in the EPO: a trajectory based analysis. IATTC Ad-Hoc Perm. Work. Gr. FADs. 10th Meet. FAD-10-02.

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Authors notes that this paper summarises discussions during the workshop and the views of its participants and does not necessarily represent the views of its authors, SPC or the funders.

6. Declaration of generative AI and AI-assisted technologies in the SC paper preparation process

No AI technologies were used in the preparation of this paper.

Annex 1. Agenda of the International Workshop on Mitigation of drifting Fish-Aggregating Devices (dFAD) Loss and Abandonment in the Pacific.

<u>Monday 9th of February 2026</u>

8:30–9:00 Opening

- **Maiana Bambridge**, President of the Conseil Economique Social Environnemental et Culturel of French Polynesia
- **Moetai Brotherson**, French Polynesia President
- **Etienne de la Fouchardière**, Deputy General Secretary of the High Commissionner in French Polynesia
- **Voltina Dauphin**, Conseil Economique Social Environnemental et Culturel of French Polynesia, Orero
- Prayer
- **Introduction to the workshop: Lauriane Escalle**, The Pacific Community (SPC)

1. **dFAD loss and abandonment from fishing grounds: fate of dFADs and patterns of dFAD loss and abandonment**

9:00–10:15

- 1.1 The evolution of dFAD designs, structure and materials, and current regulation *[Gala Moreno – 5min]*
- 1.2 FAD tracking, visits and strategies in fishing grounds (EPO and WCPO) *[Marlon Roman and Lauriane Escalle – 30min: 10min each +Q&A]*
- 1.3 Corridors of dFAD loss and trajectories of buoys attached to lost and abandoned dFADs *[Lauriane Escalle – 30min: 20min +Q&A]*

10:15-10:45 Morning tea and group photo

10:45-12:30

- 1.4 Stakeholders views on FAD loss and abandonment *[Lauriane Escalle: results from SPC survey – 10min; followed by group exercise]*

12:30-13:30 Lunch

13:30-14:45

- 1.5 Review of the legal framework of dFAD loss and abandonment *[Ariella D'Andrea – 50min: 30min +Q&A]*
- 1.6 MSC requirements and their application to certified dFAD fisheries *[Adrian Gutteridge – 15min: 10min +Q&A]*

14:45-15:15 Afternoon tea

15:15-17:00

- 1.7 Monitoring, supporting recovery, reusing buoys: joint approach from buoy providers *[Patricia Ordóñez – 15min]*
- 1.8 Independent tool to monitor dFADs *[Igor San Cristobal – 10min]*
- 1.9 Results from the first international workshop on dFAD register *[Gala Moreno – 10min]*
- General Q&A

<u>Tuesday 10th of February 2026</u>

8:30–9am Summary of day 1

2. ***Strandings, environmental impacts, benefits?***

9:00–10:30

- 2.1 Regional *in-situ* data collection programmes (SPC and IATTC) *[Jennyfer Mourot and Leanne Fuller – 45min: 20min and 10min + Q&A]*
- 2.2 Case studies of stranding FAD data collection programmes in the Pacific and elsewhere *[mini seminar; 5–8min each]*

- French Polynesia and Clipperton *[Thibaut Thellier]*
- Collect of marine debris and dFADs in French Polynesia *[Heinui Tepahauaitaipari & Rava Sachet]*
- Australia *[Heidi Tait]*
- Atlantic Ocean *[Esther Mollier]*

10:30-11:00 Morning tea

11:00-12:30

- 2.2 Case studies of stranding FAD data collection programmes in the Pacific and elsewhere *[mini seminar; 5–8min each]*
  - Indian Ocean *[Emilia Dyer]*
  - Caribbean and U.S. East coast *[Erin Kimak]*
  - Galapagos *[Edwin Robalino]*
- 2.2 Q&A *[30min]*
- 2.3 Group work
  - Peer to peer exchange on stranded FAD data collection and FAD recovery programme

12:30-13:30 Lunch

13:30-15:00

- 2.3 Group work – reporting [40min]
- 2.4 How to monitor impact on coral reefs from stranding events *[Maitane Grande – 20min: 10min + Q&A]*

15:00-15:30 Afternoon tea

15:30-17:00

- 2.5 Group exercise / discussion: continued / increase monitoring of stranding events & monitoring the impact on sensitive habitats.

<u>Wednesday 11th of February 2026</u>

8:30–9am Summary of day 2

3. SOLUTIONS: A sustainable dFAD fishery: Decreasing dFAD loss; increasing recovery

9:00–10:30

- 3.1 FAD recovery initiatives *[mini seminar; 8min each]*
  - TNC Palmyra FAD *watch [Kydd Pollock]*
  - TUNACONS-Galapagos FAD recovery programme *[Guillermo Moran]*
  - The European Fleet's Role in FAD Watch Programmes *[Anne-France Mattlet]*
  - Hawaii Longline ghost gear bounty programme *[Katie Stevens]*
  - SPC FAD recovery pilot trials *[Lauriane Escalle]*
  - The development of the French Polynesia FAD watch *[Thibaut Thellier]*
  - The development of the American Samoa FAD watch *[Ekueta Schuster]*
  - The development of the Aitutaki FAD recovery programme *[Michael Henry]*
  - dFAD recovery fund [*Bill Gibbons-Fly*]
  - NFC Solomon Island FAD recovery [Russel Dunham]
- 3.1 Q&A

10:30-11:00 Morning tea

11:00-12:30

- 3.2 Preliminary results from the economic and feasibility analysis of options to mitigate dFAD loss and abandonments and their impacts *[Lauriane Escalle; 40min]*
- Q&A and group discussion *[40min]*

12:30-13:30 Lunch

Presentation of projects to re-use buoys

13:30-15:00

- 3.3 Deposit - refund system [*D. Ferrero & E. O'Reilly;* 20min: 10min + Q&A]

- 3.4 Re-purposing buoys on aFADs in PICTs [*Donald David*] [15min: 10min +Q&A]
- 3.5 Recycling opportunities? Limit burdens to small island developing states, etc. [*Mohammed Zullah*] [15min: 10min +Q&A]
- 3.6 Options for funding mechanisms of dFAD recovery programmes *[plenary discussion: 30min]*

15:00-15:30 **Afternoon tea**

Presentation of projects to re-use buoys

15:30-16:45

- 3.7 Group work: Performance indicators for dFAD retrieval programmes
- 3.7 Group work – reporting

16:45-17:00

- 3.8 Final discussion / Q&A

Annex 2. List of participants to the international workshop on mitigation of dFAD loss and abandonment in the Pacific.

First Name	Last Name	Organisation	Country
Serafina	Ah Fook	Samoa Ministry of Agriculture & Fisheries	Samoa
Aitor	Aizpura	Zunibal	Spain
François	Amaudric Du Chaffaut	Service D'Etat Des Affaires Maritimes En Polynésie Française	France
Maiana	Bambridge	CESEC	French Polynesia
Heimana	Bastian	DAIEP	French Polynesia
Jean-François	Benhamza	CESEC	French Polynesia
Francisco	Blaha	Independent Advisor	NZ
Vaitoare	Bruno	DAIEP	French Polynesia
Carolina	Cavero Pérez Frade	Satlink	Spain
Stuart	Chikami	Western Pacific Fisheries, Inc.	USA
Laetitia	Clément	Volume Océan	French Polynesia
Raul Edgardo	Cortez Cota	Centro De Desarrollo De La Pesca Y La Acuicultura (Cendepesca)	El Salvador
Ariella	D'Andrea	The Pacific Community (SPC)	New Caledonia
Voltina	Dauphin	CESEC	French Polynesia
Donald	David	The Pacific Community (SPC)	FSM
Charles	Daxboeck	The Nature Conservancy	French Polynesia
Etienne	De La Fouchardière	High Commissionner in French Polynesia	France
Alvin	Delgado Martinez	Programa Nacional Observadores De Venezuela Minpesca Ve/Fundatun	Venezuela
Russel	Dunham	Trimarine/NFD	Solomon Islands
Emilia	Dyer	International Pole And Line Foundation	United Kingdom
Lauriane	Escalle	The Pacific Community (SPC)	France
Isaac	Faatau-u	DRM	French Polynesia
Pafini	Fepuali	Tuvalu Fisheries Authority	Tuvalu
Danielle	Ferraro	Environmental Markets Lab (University Of California Santa Barbara)	USA
Marie	Feucher	French Governement	France
Alex	Filous	The Nature Conservancy	USA
Arnulfo	Franco Rodriguez	Inter-American Tropical Tuna Commission (IATTC)	USA
Leanne	Fuller	Inter-American Tropical Tuna Commission (IATTC)	USA
Patrick	Galenon	CESEC	French Polynesia
François	Galgani		French Polynesia
Mahanatea	Garbutt	Ministère Ressources Marines	French Polynesia
Kathryn	Gavira O'Neill	Satlink	Spain
Alex	Genicot	Joint Rescue Coordination Center	French Polynesia
William	Gibbons-Fly	American Tunaboat Association	USA
Maitane	Grande Mendizabal	AZTI (On behalf of ICCAT)	Spain
Mathieu	Grellier	Office Français De La Biodiversité	French Polynesia
Julio Cesar	Guevara Quintana	Instituto Nicaragüense de la Pesca y Acuicultura (INPESCA)	Nicaragua
Adrian	Gutteridge	Marine Stewardship Council	Australia
Claudius	Halumwane	Solomon Islands Ministry Of Fisheries And Marine Resources	Solomon Islands
Greg	Hammann	Marine Instruments	Spain
Juliette	Haziza	DGAMPA	France
Craig	Heberer	The Nature Conservancy	USA
Clay	Hedson	Pohnpei Office of Fisheries and Aquaculture	FSM
Michael	Henry	Private sector / Aitutaki Island Government	Cook Islands
Nicholas	Henry	Aitutaki Island Government	Cook Islands
Belinda	Hui	Fédération des Associations Environnementales (FAPE)	French Polynesia
Vaiana	Joufoques	DRM	French Polynesia
Kevin	D'Hauteserre	DRM	French Polynesia
Erin	Kimak	FAD tracker Caribbean	USA
Sophie	Lapèze	Service D'Etat Des Affaires Maritimes En Polynésie Française	French Polynesia
Mareva	Lechat - Kitalong	DAIEP	French Polynesia
Nathalie	Lemesle	The Pacific Community (SPC)	New Caledonia
Wilfrido	Lucero	Trimarine and Bolton	Ecuador
Moana	Maamaatuaiahutapu	Direction des ressources marines (DRM)	French Polynesia
Sophie	Marinesque	French Biodiversity Agency - OFB	French Polynesia
Moses	Mataika	Ministry of Fisheries	Fiji

Anne France	Mattlet	Europêche	Belgium
Tapati	Mitena	APF	French Polynesia
Esther	Mollier	Institude de Recherche pour le Developement (IRD)	France
Guillermo	Moran	Fundacion TUNACONS	Ecuador
Gala	Moreno	International Seafood Sustainability Foundation (ISSF)	Spain
Julio	Moron Ayala	Opagac/Agac	Spain
Jennyfer	Mourot	The Pacific Community (SPC)	New Caledonia
Bruno	Mugneret	Wallis And Futuna Dpt Of Agriculture, Forestry And Fisheries	Wallis Et Futua
Jefferson	Murua	AZTI	Spain
Tiare-Renee	Nicholas	Cook Islands Ministry Of Marine Resources	Cook Islands
Steve	Niuia	Samoa Ministry Of Agriculture & Fisheries	Samoa
Lucia	Norris	Galapagos Conservation Trust	Ecuador
Patricia	Ordonez	Zunibal	Spain
Erin	O'Reilly	Environmental Markets Lab (University Of California Santa Barbara)	USA
Bernald	Pacheco Chaves	Instituto Costarricense De Pesca Y Acuicultura	Costa Rica
JB	Paulino	Pohnnpei State Office of Fisheries and Aquaculture	FSM
Moea	Pereyre	Reseau Des Ressourceries	French Polynesia
Stephane	Perez	Cluster Maritime De Polynesie Francaise	French Polynesia
Sara	Pfeifer	Global Ghost Gear Initiative (Ocean Conservancy)	USA
Yesuri	Pino	ARAP- Aquatic Resources Authority Of Panama	Panamá
Kydd	Pollock	The Nature Conservancy	USA
Dike	Poznanski	Marshall Islands Marine Resources Authority	Marshall Islands
Anthony	Quillec	Tahiti FAD Watch	French Polynesia
Paul	Raftery	Zunibal	Spain
Stéphane	Renard	Niusystem	French Polynesia
Rodriguo	Robalino	Parque Nacional Galapagos	Ecuador
Marlon	Roman	Inter-American Tropical Tuna Commission (IATTC)	Ecuador
Sarah-Jeanne	Royer	The Ocean Cleanup	USA
Rava	Sachet	TSP	French Polynesia
Pierrick	Salaun	Marine Instruments	Spain
Igor	Sancristobal	CLS	Spain
Ekueta	Schuster	American Samoa Department Of Marine And Wildlife Resources	American Samoa
Marie	Soehnlen	Direction des ressources marines (DRM)	French Polynesia
Jim	Sousa	GS Fisheries Inc. / ATA	USA
Katie	Stevens	Hawaii Pacific University Center For Marine Debris Research	USA
Yonat	Swimmer	NOAA Fisheries & IATTC Chair ecosystem and bycatch working group	USA
Heidi	Tait	Tangaroa Blue Foundation	Australia
Taivini	Teai	Ministère de l'Agriculture, des ressources marines et de l'environnement	French Polynesia
Tehina	Temorere	Repésentant pêche côtière	French Polynesia
Heinui	Tepahauaitaipari	Direction De L'Environnement (Department Of Environment)	French Polynesia
Thibaut	Thellier	Direction des ressources marines (DRM)	French Polynesia
Jean-Claude	T'IEFITI	UPF	French Polynesia
Anne-Marie	Trinh	Direction des ressources marines (DRM)	French Polynesia
Richard	Tuheiava		French Polynesia
Lavinia	Vaipuna	Tonga Ministry Of Fisheries	Tonga
Ralph	Van Cam	Repésentant pêche côtière	French Polynesia
Beth	Vanden Heuvel	Cape Fisheries Management Company Llc	USA
Xavier	Vincent	The World Bank	Fiji
Jale	Wae	Ministry of Fisheries	Fiji
Shawn	Walter	FSM National Oceanic Resource Management Authority	FSM
Maeva	Wane	CESEC	French Polynesia
Lily	Wheatley	FFA	Solomon Islands
Mohammed	Zullah	SPREP	Samoa

Annex 3. Visual documentation of the workshop.









FAD fishing: A vital fishing activity for global food security
FAD fishing is essential for global nutrition. 38% of global tropical tuna is caught on dFADs. Proven sustainable, as 99% of tropical tuna landings come from healthy, well-managed stocks
By leveraging the natural aggregation behavior of tuna, FADs equipped with satellite buoys improve fishing efficiency
These fishing tools drive informed decision making at sea, improving selectivity and further minimizing environmental footprint






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