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

Papeete, French Polynesia – February 9-12th 2026

Lauriane Escalle

Gala Moreno, Thibaut Thellier, Marlon Roman, Leanne Fuller, Craig Heberer, Kydd Pollock, Charles Daxboeck, Ariella D'Andrea, Jennyfer Mourot, Donald David, Igor Sancristobal, Maitane Grande, Jefferson Murua, Anne-Marie Trinh

8th IOTC Working Group on FADs
08-09 June 2026

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

Papeete, French Polynesia – February 9-12th 2026

3 days

110 participants

From 25 countries and territories

Diverse stakeholders: governments, scientists, fishery managers, RFMOs, CROP agencies, fishing industries and NGOs

35 presentations and 3 group exercises

First International FAD Retrieval workshop

Galápagos, 8-10 May 2024

Organized by Tunacons, ISSF and WWF Ecuador

63 Participants

Objectives

- To identify **key actions and elements** for an effective FAD Retrieval Program from land
- To identify **strategies** to retrieve FADs **in open ocean**
- To identify **research needs** and **recommendations** for tuna RFMOs

To engage in discussions and projects among **key stakeholders**

Report of the workshop available here:
https://www.iss-foundation.org/about-issf/what-we-publish/issf-documents/issf-2025-10

Recommendations from the workshop to be addressed in tuna RFMOs

- Definition of the ownership of the FAD, specifying who owns the structure and the buoy in the water.
- Regulate the deactivation or end of monitoring of the FAD in a way that allows for its recovery outside the fishing area.
- Design a registry of FADs to effectively account for the number deployed, lost, abandoned, and recovered.
- Define the tasks of a FAD recovery vessel.
- Develop marking criteria for the FAD structure, not just the tracking buoy.
- Explore potential funding sources for the FAD recovery programs.

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

MONDAY 9th of February 2026

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

TUESDAY 10th of February 2026

2. Strandings, environmental impacts, benefits?

WEDNESDAY 11th of February 2026

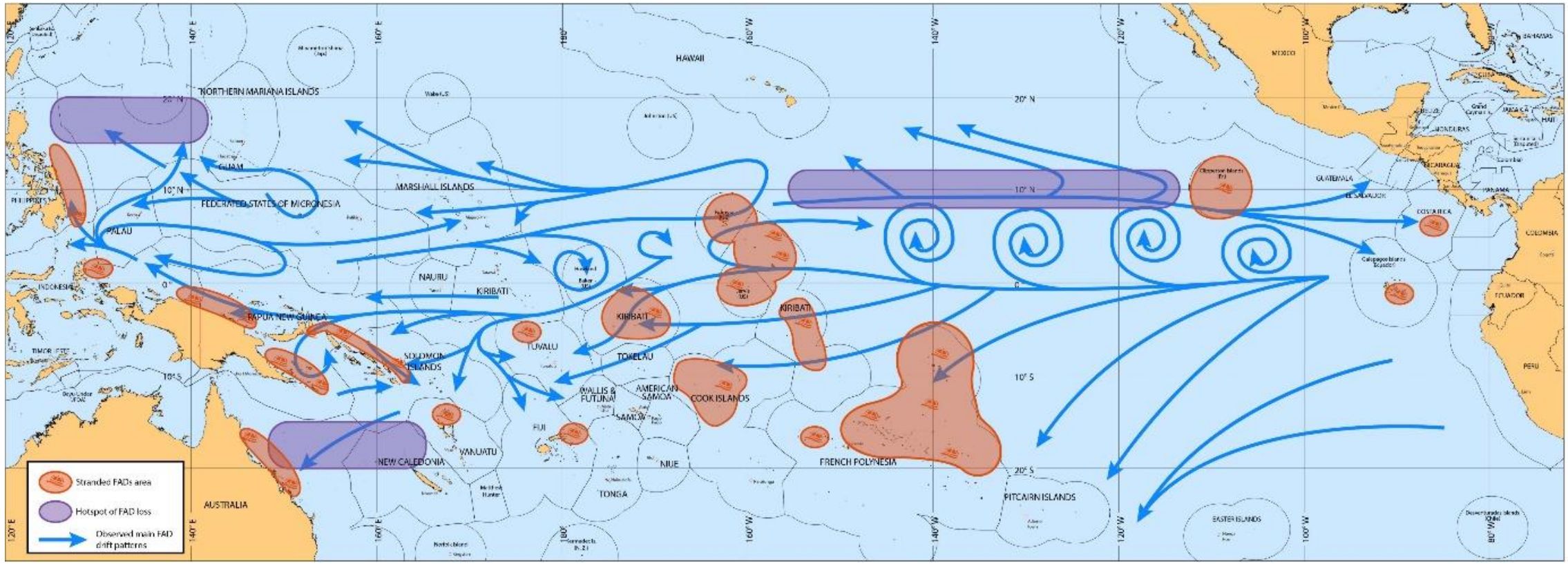
3. SOLUTIONS: A sustainable dFAD fishery: Decreasing dFAD loss; increasing recovery

Objectives of the workshop

- Peer-to-peer & cross-sectoral exchanges, learning and discussions
- Promote discussion and collaboration across actors and regions
- Streamline data collection and present existing and developing FAD recovery programmes
- Develop collaborative proposals (FAD retrieval programs; future projects, ect.)
- Identify best practices, performance indicators, and next steps
- Draft recommendations for tuna RFMOs

DFAD loss and abandonment from fishing grounds

- **dFAD drift patterns, stranding and loss in the Pacific Ocean (Escalle et al. 2024)**



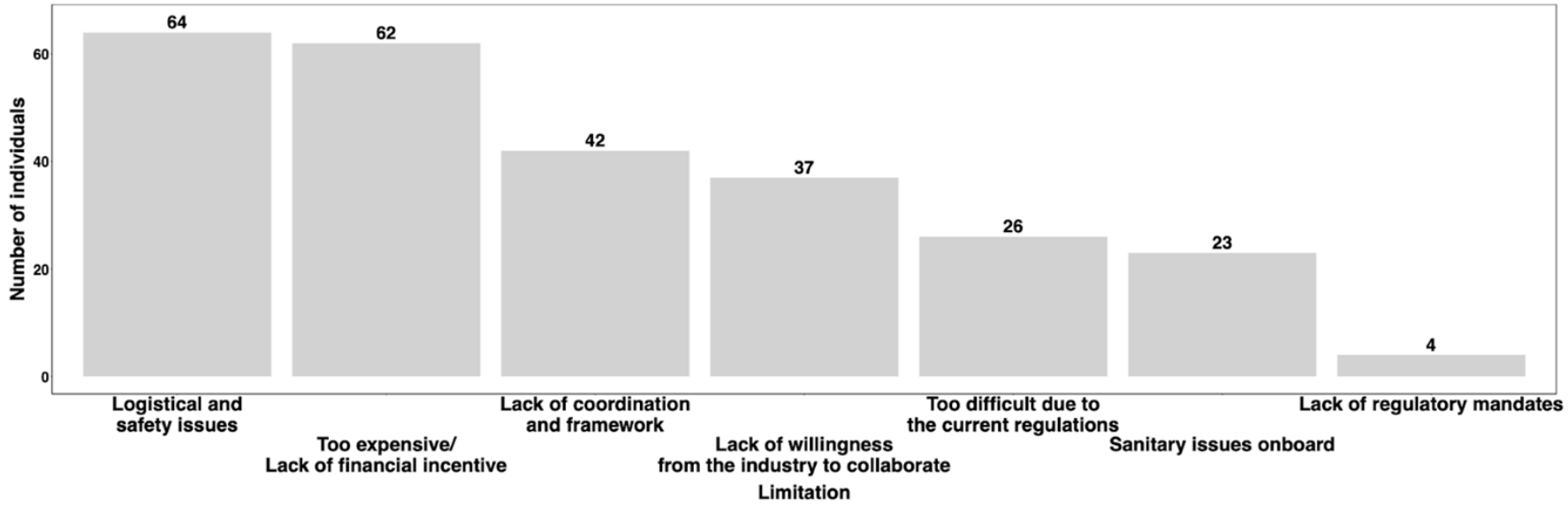
- **More than 70% of dFADs are never visited or recovered in the EPO (Ovando et al., 2025)**

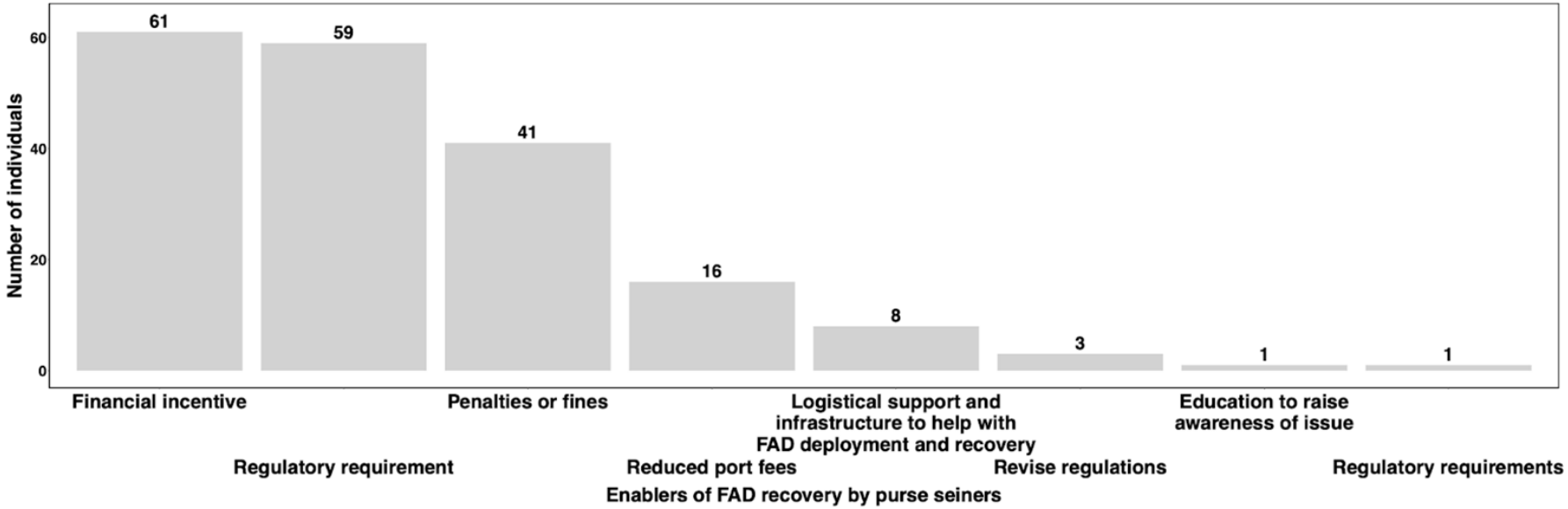
- **At least 11.3% of dFADs in the WCPO end up stranded and 82% of dFADs have an unknown ultimate fate (Escalle et al., 2023)**

DFAD loss and abandonment from fishing grounds

➢ **Stakeholder views on dFAD loss and abandonment: Consultation carried out in 2025 with 87 responses**

Limitations and factors for more dFAD recoveries by purse seiners





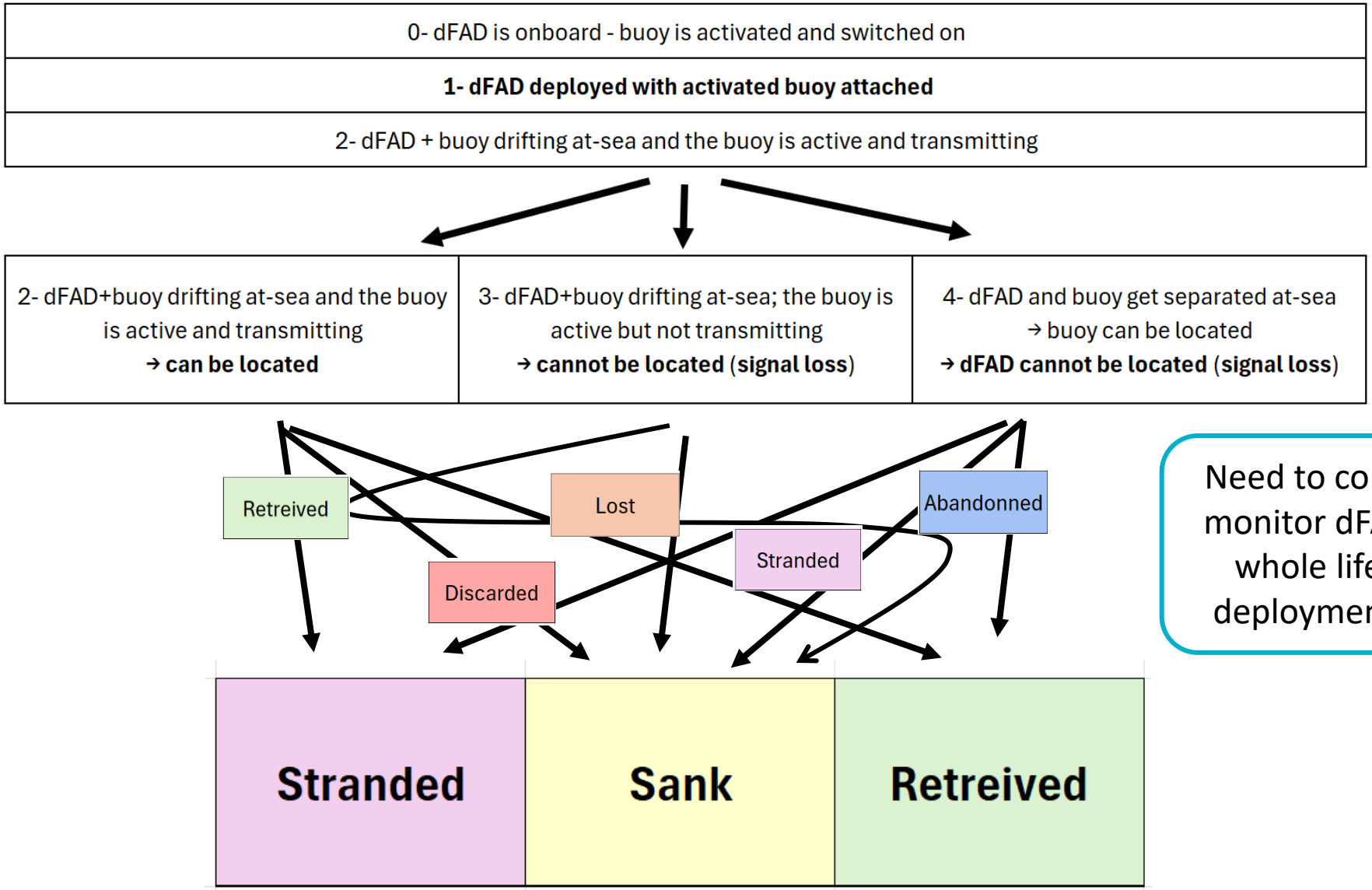
DFAD loss and abandonment from fishing grounds

➢ **Definitions of "Lost", "Abandoned", "Stranded" and "Discarded" dFADs**

Term	Proposed definitions
Lost	Unintentional loss of contact by the owner.
	A dFAD is lost when the buoy owner has lost control and that cannot be located by the buoy owner.
Abandonned	A dFAD that is under control of the owner but is intentionally left at sea due to economic constraints (e.g. too far away).
	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.
Discarded	A dFAD/buoy/ part of dFAD that is put in the water without interest of using it for fishing and without mean of tracing or monitoring.
Stranded	A dFAD that could reach the coastline or be entangled in shallow water, bank or reefs.
	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.
Transferred	A dFAD for which the ownership is transferred from the original owner to another vessel who then assumes responsibility and control of the FAD.
Out of range	A FAD that drifted beyond the operational or legally allowed range of the fishing vessel.
Reused	A dFAD that is lost to the buoy owner but for which control is assumed by another vessel.

DFAD loss and abandonment from fishing grounds

➢ **Life cycle of dFADs and buoys, from deployment to ultimate fate**



Need to consider ways to monitor dFAD through its whole life cycle, from deployment to final fate

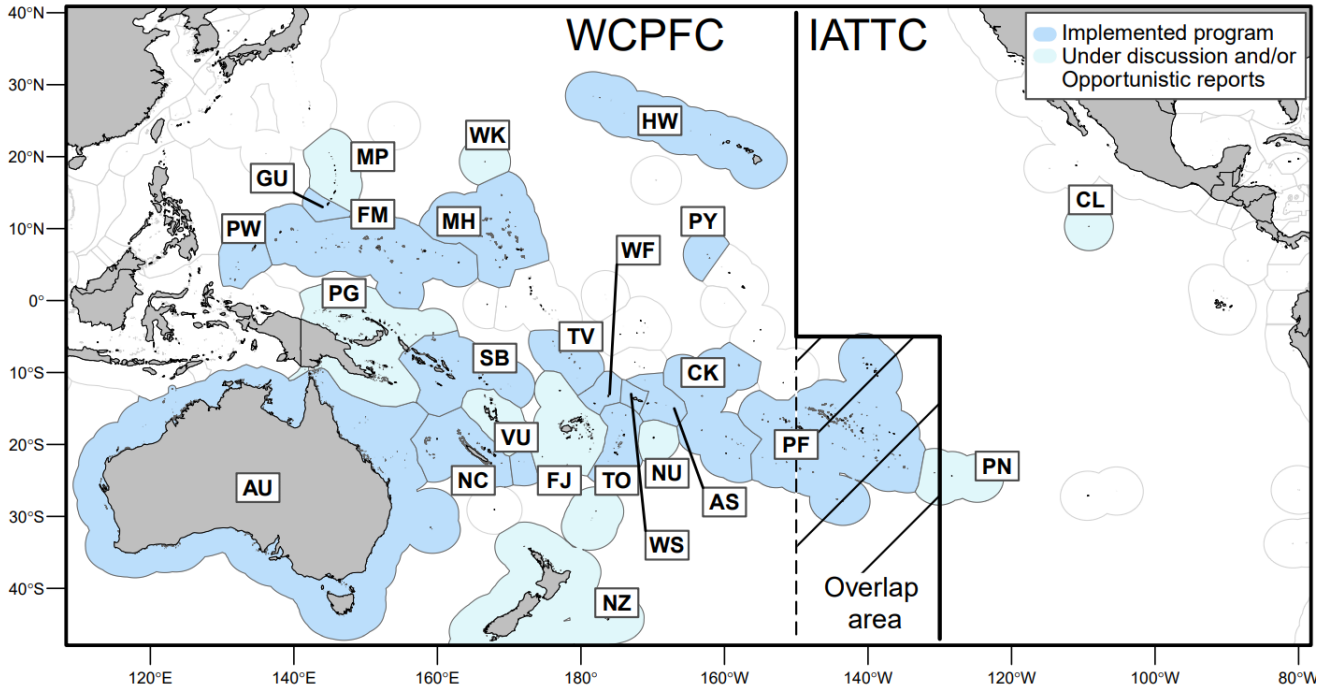
Strandings, environmental impacts, benefits?

Pacific Community
Communauté du Pacifique

➢ **In-situ stranding FAD data collection program**

PICT	Start of the programme	Events recorded
French Polynesia	2019	1,556
Australia	2004	523
Solomon Islands	2024	432
Cook Islands	2020	313
Wallis and Futuna	2020	275
Kingdom of Tonga	2023	211
Federated States of Micronesia	2021	204
Hawai'i (US)	2014	169
New Caledonia	2022	117
Republic of the Marshall Islands	2021	103
Palmyra (US)	2009	87
Tuvalu	2022	61
Samoa	2024	40
American Samoa	2024	36
Republic of Palau	2024	11
Guam	2024	8

16 PICTs !



Clipperton atoll	Opportunistically	50
Pitcairn	Opportunistically	21
Vanuatu	Opportunistically	20
Wake Island (US)	Opportunistically	13
Papua New Guinea	Opportunistically	4
Fiji	Opportunistically	2
Niue	Opportunistically	2
New Zealand	Opportunistically	2
Alaska (US)	Opportunistically	1
Northern Mariana Islands (US)	Opportunistically	1

Total of stranding events	4,261

Strandings, environmental impacts, benefits?

Successes	Reason	Stakeholder(s) involved	Next steps / Improvements
Cook Islands stranded FAD recovery program	Success in cleaning up stranded FADs; Collaboration with environmental services; Used by local fishermen, 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 in 4 1-week dedicated 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	Collect information on buoys picked up at-sea by local fishers Incentive / pay back for bringing buoys	Local communities Fisheries department SPC	Start gathering stranded FAD data Involve the industry to by 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) Reuse of buoys on aFADs through Satlink ReCon	Local communities Fishery departments	Cover all the FSM states and islands
Hawaii derelict fishing gear bounty program	Pay 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 LL and artisanal fisher HPU NGO (TNC) SPC	Find funding to continue Expansion to ecotourism companies

Strandings, environmental impacts, benefits?

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
Full involvement/participation by stakeholders	Incentives might be needed Regulatory aspects: adapt regulations	All stakeholders
Maximize organization/coordination between RFMOS	Increase FAD monitoring (avoid unmonitored FADs) Establish recovery program 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 canalize the resources); Create common projects to search/apply for fund/grants Some cheap options regarding safety of local fishers (e.g. Garmin inreach)	Industry NGOs CPCs / governments International organizations
Cost of leaving buoys transmitting	Cheaper if only position is transmitted Incentive for industry to participate (e.g. discount on license for early adopter)	Buoy companies Industry NGOs CPCs / governments
Include all islands (large number of islands; or remote ones), some with communication and/or access challenges **Hard to recover materials**	Need larger funding Promote reuse, repurposing locally	Local communities Fisheries departments SPC

Strandings, environmental impacts, benefits?

Difficulties / challenges	Potential solutions or strategies to overcome	Stakeholder(s) involved
Difficulty retrieving FADs 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 FAD recovery programs (FAD watch) Adapt licensing agreements for FAD recovery Fishers focus on 2-3 nm from shore so need way to recover the ones further Funding Further collaborating with PS industry, in particular national fleets	Industry Local communities Fisheries departments NGOs and environmental services
How to recycle, 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
Streamline FAD recovery programs through data sharing agreements	Something universally needed, not having to sign different agreements with each partner	Industry Local communities Fisheries departments Governments NGOs and environmental services Scientists Buoy companies
Institutions (RFMOs, governments) are slow to change	Change can take time	All stakeholders
Stakeholder involvement can be a challenge	Engage the right people and partners to be cost-effective and valuable	All stakeholders

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

- Presentations from 10 dFAD recovery initiatives

- **The type of dFAD recovery programs included:**
  - dFAD watch, with real time position shared with a program partner through the buoy service providers software 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)

- A dFAD recovery fund from the industry (through several PS associations including ATA, ATUNEC, OPAGAC) to support recovery programs

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

- **A list of 50 performance indicators of dFAD recovery programmes**

- **Divided into 5 categories:**

- Economic (costs, efficiency, financial participation, incentive)
- Ecological (environmental pressure, risk reduction, lifecycle management)
- Social (participation, capacity building, engagement)
- Governance (compliance, regulation, institutional alignment, collective action)
- FAD fishery monitoring (fishing strategy, use of dFADs, loss and abandonment)

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

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

Performance indicators of dFAD recovery programmes

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

Pacific Community
Communauté du Pacifique

Economic

Ecological

14. Number of FADs retrieved, and number of successful recoveries versus failed recovery attempts
Total number of FADs successfully recovered and operational success rate of recovery actions.

15. Number of FADs and buoys shared and monitored by a recovery program (total and active)
FADs actively tracked within structured recovery schemes.

16. Number of FADs transiting but not retrieved (ratio of recovered vs monitor FADs) and FADs reported in proximity to coastal areas
FADs detected but not recovered;retrieval effectiveness from notified or reported FADs.

17. Ratio of recovery to deployment or active FADs; and ratio of FAD loss and abandonment to deployment
Proportion of recovered FADs relative to deployed or drifting FADs or active; and indicator of unmanaged loss or abandonment pressure.

18. Proportion of recoveries relative to losses or sinkings
Ratio of retrieved FADs to those lost or sunk.

19. 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 whole RFMO area.

20. Total stranding and strandings in sensitive habitats over time
Trend and maps of strandings occurring in ecologically sensitive areas.

21. Weight of dFAD materials recovered and materials left at sea
Mass of recovered FAD components and indicator of environmental recovery efficiency.

22. Weight and proportion of buoys and materials recycled, reused, redeployed or landfilled
End-of-life outcomes of recovered FAD materials and circular reuse of buoy assets following recovery.

23. Carbon footprint per FAD recovered
Greenhouse gas emissions associated with retrieving one FAD.

24. Number of FAD 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.

25. Number of methodologies developed for FAD recovery, monitoring, or analysis
Scientific and technical capacity indicator.

26. Models and brands of buoys recovered
Technical characteristics supporting material traceability and management.

Performance indicators of dFAD recovery programmes

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

Pacific Community
Communauté du Pacifique

Economic

Ecological

Social

27. Number of vessels and companies participating
Fleet actors actively engaged in recovery programmes and sending buoy position.

28. Proportion of fleet and flag states participating
Share of eligible vessels engaged across the ocean basin.

29. Number of local partners, participants, focal points in remote islands and fishers involved
Local participation in recovery networks.

30. Number of people employed, included new job created, or people engaged in recovery
Employment and livelihood contributions of recovery activities.

31. Number of people trained in FAD recovery and reporting
Capacity-building efforts supporting effective retrieval.

32. Number or proportion of islands participating in the programme and expansion to new geographic areas
Geographic and community coverage indicator.

33. Awareness and capacity-building activities related to FAD recovery targeting fishing fleets and communities
Qualitative or quantitative indicator of outreach and training efforts.

34. Delay in response time between FAD reporting and recovery action
Time elapsed between notification and recovery action.

35. Market and consumer recognition of recovery programmes
Visibility and acknowledgement of recovery initiatives.

36. Safety performance during retrieval operations
Number of accidents or incidents during recovery activities.

37. 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.

Scientific and technical capacity indicator.

26. Models and brands of buoys recovered
Technical characteristics supporting material traceability and management.

Performance indicators of dFAD recovery programmes

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

Pacific Community
Communauté du Pacifique

Performance indicators of dFAD recovery programmes

Economic

Ecological

Social

Governance

38. Number of FAD recovery projects implemented; supported or coordinated.
Scientific, institutional, policy, administrative, or operational facilitation and programme alignment.

39. Timeliness and regularity of FAD data reporting and integration of recovery data into decision-making
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.

41. Number of agenda items addressing FAD recovery and degree of prioritization in RFMO or regional meeting
Indicator of sustained political and institutional attention.

42. Participation of national delegations in regional meetings addressing FAD recovery and strength of political commitment
Stakeholder engagement at RFMO or regional governance fora and level of sustained political backing for recovery initiatives.

43. Number of regulations developed or adapted to support FAD retrieval, and harmonisation between RFMOs (e.g. IATTC and WCPFC)
Legal or regulatory frameworks enabling FAD retrieval.

44. Compliance rate and proactivity of vessels and flag States to RFMO measures
Adherence to FAD recovery and management rules, in particular IATTC, and proactive voluntary practice in WCPFC.

Time elapsed between notification and recovery action.

35. Market and consumer recognition of recovery programmes
Visibility and acknowledgement of recovery initiatives.

36. Safety performance during retrieval operations
Number of accidents or incidents during recovery activities.

37. 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.

Scientific and technical capacity indicator.

26. Models and brands of buoys recovered
Technical characteristics supporting material traceability and management.

A sustainable dFAD fishery: decreasing dFAD loss; increasing recovery

Pacific Community
Communauté du Pacifique

Performance indicators of dFAD recovery programmes

Economic

Ecological

Social

Governance

Fishery monitoring

45. Number of FADs deployed, active, retrieved, deactivated, reactivated, lost and exiting fishing grounds per year
Comprehensive lifecycle tracking indicator; indicator of offshore removal and reduction of coastal stranding risk.

46. Decrease in number of FADs deployed over time
Reduction in total FAD deployments attributable to management or recovery measures.

47. Number of dFADs deployed in high-stranding-risk areas relative to low-risk areas
Indicator of spatial risk mitigation (e.g. deployment near MPAs or coasts).

48. Average time a FAD remains in the ocean before recovery, loss, or deactivation
Mean residence time before recovery, loss, or deactivation.

49. Number of FADs monitored through to end-of-life
FADs tracked from deployment until recovery, loss, or deactivation.

50. 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.

Adherence to FAD recovery and management rules, in particular IATTC, and proactive voluntary practice in WCPFC.

Time elapsed between notification and recovery action.

35. Market and consumer recognition of recovery programmes
Visibility and acknowledgement of recovery initiatives.

36. Safety performance during retrieval operations
Number of accidents or incidents during recovery activities.

37. 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.

Scientific and technical capacity indicator.

26. Models and brands of buoys recovered
Technical characteristics supporting material traceability and management.

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

Pacific Community
Communauté du Pacifique

Key outcomes:

- **110 participants, wide range of stakeholders**

All noted the need for progress, with the need for reliable statistics to reduce pollution and environmental damages and to turn dFADs into strategic opportunities for local fisheries.

- **Opportunity for exchanges and learning between participants from different stakeholder types, country of origin, and speciality**

This will likely lead to strengthening existing and developing new collaborations in the future.

- **35 presentations and three group exercises**

Provided extensive opportunities to learn, exchange and discuss wide range of dFAD topics

- **The industry acknowledged the importance of its engagement**

A sustainable funding mechanism, supported by the purse seine industry fishing in the Eastern Pacific Ocean (EPO), to recover dFADs before they strand was presented

- **The buoy service suppliers announced a first of its kind joint declaration of intent**

The 3 major companies supplying buoys to the purse seine industry announced alignment and cooperation in sustainability programmes.

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

Pacific Community
Communauté du Pacifique

Key outcomes:

- **Improved monitoring and data sharing**

The workshop highlighted the need to obtain real-time positions of dFADs during their whole lifetime to prevent strandings and enable rapid retrieval operations.

- **Implementing stronger regional regulations**

The workshop emphasized the need for action through RFMOs, certifications and other market incentives.

- **Participants work together to progress on definitions of "Lost", "Abandoned", "Stranded" and "Discarded" dFADs**

This helped propose a full life cycle of dFADs and buoys, from deployment to ultimate fate.

- **A list of 50 performance indicators of dFAD recovery programs were proposed.**

These should be considered by current and future programs.

- **Four potential project proposals were drafted**

To continue monitoring stranding events; the impact on sensitive habitats and promote 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**

Recommandations:

- **Continuing organising such meetings on a regular basis**, including other actors of the supply chain represented. It should continue to fill in some of the knowledge gaps by progressing on monitoring dFAD fates and the environmental impacts of dFADs lost and stranded; funding mechanisms for dFAD recovery programs; and assessing the performance of different types of dFAD recovery programmes.

- **Facilitate dialogue between different actors and promote knowledge transfer** through peer-to-peer learning on the topic of dFAD stranding monitoring and dFAD recovery programs.

- RFMOs that have not yet adopted definitions of “lost”, “abandoned”, “stranded” and “discarded” dFADs should **consider the definitions discussed at the workshop**, and ways to monitor dFAD through its whole life cycle, from deployment to final fate (recover, stranded, or sunk).

- **Continue to develop ways to support countries’ and territories’ fisheries authorities** in the development and expansion of dFAD stranding monitoring and dFAD recovery programs.

- **Support work towards better assessment of feasibility and economic aspects of different options to mitigate dFAD loss and abandonments and their potential impacts.**

Recommandations:

- **Better monitor FADs reaching coral reefs across their whole range**, especially gathering information regarding impacts on the deep outer slopes.
- **Develop protocols for safe and practical retrieval of dFAD** from small boats when their structures are entangled on coral reef or stranded.
- **Facilitate and develop infrastructures and pathways for FAD and buoy materials to be reused, repurposed or recycled** to extend their life and minimize waste.
- **Consider the performance indicators proposed by experts in this document as guidelines**, to better monitor and assess the performance of recovery programs, while they are currently being developed and extended across many oceanic tropical regions.
- **Consider that a combination of actions is essential to mitigate FAD impacts**: the use of biodegradable FADs, monitoring throughout the FAD lifetime, improved FAD usage strategies to reduce lost, and recovery at sea and along the coast, supported by deposit-refund schemes or other mechanisms.

Workshop funded by

The World Bank, under the project Pacific Ocean Advisory Program (POAP), supported by the PROBLUE Multi-Donor Trust Fund Direction des Ressources Marines (DRM), ISSF, IATTC, The Nature Conservancy, The Palmyra FAD Watch Program, American Tunaboat Association, Bolton Food, Tri Marine, Satlink, Zunibal, Marine Instruments, and Tunacons

laurianee@spc.int