Western and Central Pacific Fisheries Commission

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Progress of the FADMO-IWG Priority Tasks for 2025

WCPFC-SC21-EB/WP-06
15 July 2025

FADMO-IWG

Abstract

This paper summarizes the progress of the FAD Management Options Intersessional Working Group (FADMO-IWG) on its priority tasks, as communicated during its 10th session through email communications from11 April to 15 July 2025. The focus of its discussions is on the following topics:

a. Satellite Buoy Data Transmission Requirements
b. FAD Recovery Programs/Strategies
c. FAD Logbook
d. Biodegradable FADs
e. DFAD Deployment
f. Types of Vessels Allowed to Engage in FAD-related Activities

SC21 is invited to review the progress to date and provide advice to the FADMO-IWG to strengthen the scientific basis of its ongoing work, in support of ecosystem-based management and future recommendations to the Commission.

The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean

10th FAD Management Options Intersessional Working Group (FADMO-IWG10)

Email Communication
11 April – 15 July 2025

CHAIR'S SUMMARY REPORT: PROGRESS OF FADMO-IWG PRIORITY TASKS AND DISCUSSIONS 2025

I. INTRODUCTION

1. The Chair of the FAD Management Options Intersessional Working Group (FADMO-IWG), Mr. Jamel James (FSM) has advised to reconvene the FADMO-IWG activities through email communications, this information was circulated through the WCPFC Circular 2025/09 dated 19 February 2025.

II. EMAIL COMMUNICATIONS ON THE FADMO-IWG PRIORITY TASKS AND DISCUSSIONS FOR 2025

2. The Chair sent the 1st, 2nd and 3rd email communications to the working group on 11 April, 6 June and 4 July 2025, respectively. This paper is divided across the six (6) broad categories identified in the FADMO-IWG work plan for 2024 – 2026. The Chair was seeking comments and suggestions on each of the items below as detailed in the paper.

   g. Satellite Buoy Data Transmission Requirements
   h. FAD Recovery Programs/Strategies
   i. FAD logbook
   j. Biodegradable FADs
   k. DFAD Deployment
   l. Types of Vessels Allowed to Engage in FAD-related Activities

III. SATELLITE BUOY DATA TRANSMISSION REQUIREMENTS (ATTACHMENT A)

3. CTP supported the proposal to define environmental & performance data as non-mandatory data fields, given that not all buoys are equipped with such features. Furthermore, it would not be practical to require vessels to retrieve buoys solely due to a malfunctioning water temperature module—especially when the buoy remains capable of transmitting essential information, such as position. CTP seeks clarification in paragraph (c). While it outlines specific reporting requirements, it remains unclear which authority the vessel is expected to report to in those circumstances. Additionally, regarding the fifth point under paragraph (c), they wonder whether—since buoy data is to be submitted to a monitoring entity—it might be more efficient to detect FAD stranding through that entity rather than relying solely on reports from vessel operators.

4. NZ supported the technical requirements outlined in the paragraph 3(a-c).

5. PNAO noted their understanding and experience that the Buoy Make and Model can always be identified from the Manufacturer's ID No. so these fields aren't necessary in the transmissions.

6. JP wanted to seek clarification on the 72-hour reporting requirement in 3c. US expressed that this timeframe is very short and suggested that this be reported monthly. While EU suggested that this timeframe need further consideration. PNAO shared that the PNA requires these reports to be received within 24 hours and are not aware of any difficulty with a 24-hour timeframe.

7. US pointed that regarding the lost communication with FAD buoy, these could be automated to be reported by the satellite buoy companies directly and there could be a specific time span that might be defined as short losses may not be worth tracking.

8. PNAO pointed out that the Event-Based Reporting requirements in c) cannot be key data fields for satellite buoy data transmission from dFADs because the information in these fields cannot generally be generated by buoys and will not be known by the FAD Service Provider. Rather, they will have to be provided directly in separate reports by the FAD Buoy Owner/Operator.

9. In the last bullet point in 3c: "*A FAD Buoy has been **bought**, transferred, or reassigned to another company*", the proposed change from *"bought" to "sold"* was not supported by PNAO, as it appears to broaden the interpretation to include all purchases of FAD buoys, such as from FAD Service Providers. This differs from the original intent, which focused on transactions between FAD buoy-owning companies. To avoid misinterpretation, it was suggested that the original wording will be retained.

10. EU noted that, in addition to the timing of submission, the frequency of data collection (number of positions per day) should be considered. With regards to buoy speed and direction, EU viewed that this information does not seem necessary/useful, especially if it is provided at low frequency (eg, once a day).

11. ISSF flagged for later discussion that in order to accurately assign a given catch to a specific FAD/buoy—particularly in regions with high FAD densities—it is necessary to record a minimum of two positions per day.

12. USA noted that almost all the key data fields for satellite buoy data transmission from dFADs listed in 3a: Main Identification & Operational Data could be provided by satellite buoy providers.

13. SPC emphasized that beyond the actual fields, for many scientific analysis, it would be key to access data for the whole trajectory of a buoy used in the WCPO. So, including part of a buoy trajectory that is in the EPO - deployments in the EPO, accessing the whole trajectory, not only the part in the WCPO would be important.

14. SPC also commented that Vessel Name / Vessel IMO Number / WCPFC RFV VID and Buoy Model & Brand are possible to be provided as SPC is receiving this information directly for the FAD tracking data from the buoy providers, on behalf of WCPFC, based on voluntary submission following the ISSF conservation measure 3.7. Given that it is possible, SPC suggested that these should be a requirement for buoy providers. These are key parameters for scientific analyses and compliance.

15. On biomass estimation by layers, SPC noted that more than 99% of the buoys now have echosounder. SPC viewed that this should not be an optional parameter as it is critical for many analyses, including its potential use as an independent index of abundance in tuna stock assessments.

16. With respect to the timeframe for event-based reporting (within 72 hours), which IPNLF stated that this is consistent with the deadlines applied in other tuna RFMOs (e.g., IOTC) ---- this matter remains under discussion among the members. Its feasibility in the WCPO context is being explored, and at this stage, it cannot be concluded that such a timeframe is not achievable.

IV. FAD RECOVERY PROGRAMS/STRATEGIES (ATTACHMENT B)

17. CN suggested that the definition of FAD loss needs to be clarified. For example, if a FAD is appropriated by another vessel, should it be classified as a loss? Additionally, if a FAD drifts out of the fishing grounds and no longer has any interactions but the buoy continues to transmit location data, should this also be considered a loss?

18. CTP appreciated the effort to require vessels to retrieve FADs or buoys before entering coastal areas. However, to their understanding, purse seine vessels are typically not authorized to operate within territorial seas. Therefore, CTP was concerned that requiring vessels to retrieve lost FADs may pose challenges for compliance verification, as it is difficult to determine—using current monitoring tools—whether a vessel is retrieving a FAD or engaging in fishing activities. CTP also seek clarification on the third point of paragraph (c). CTP was uncertain about the meaning of “transfer” of FADs among fleets and how this process contributes to minimizing FAD loss.

19. NZ noted that coastal CCMs are to take the lead in addressing the issue of abandoned or stranded FADs, NZ proposed that a standardised form or template (potentially a WCPFC web portal) could be developed to facilitate CCMs in highlighting FAD issues to the flag CCM and associated operator/vessel owner.

20. PF viewed that coastal states (especially those not allowing PS) were victims of dFADs abandonment, they should not get the burden of being required to oversee FAD management! It is non-sense. Regional cooperation is required for this, including coastal states and fishing states.

21. JP suggested discussing the benefits of including buoy manufacturers in the framework. Buoys manufacturers may play an important role in retrieving and reusing the buoys.

22. SI viewed that in reality, it will be operationally difficult to implement a requirement that FAD & buoy owners retrieve dFADs before reaching coastal areas, if there is an expectation that vessels do this themselves, given FADs drift significant distances away from vessels' fishing grounds. Instead, coordinated FAD recovery programs will need to be developed in partnership with coastal communities to be able to successfully achieve this, with cooperation from vessel operators (e.g. funding support, provision of real-time buoy tracking data). Given the cost and effort involved, FAD recovery programs should ideally focus on hotspots, as it will not be feasible to implement recovery programs to intercept all dFADs which are lost/abandoned throughout the WCPO region. At the same time, a concerted effort to move to fully biodegradable designs needs to occur.

23. US suggested that on FAD monitoring, establishing geofences for each recovery program to allow fishers to automatically share buoy data with the recovery team's software program while the buoy is in geofence range.

24. On FAD retrieval, EU pointed out that the deployment of support vessels should be considered for the operationalization of this objective.

25. SPC informed the FADMO-IWG of a project considering economic, feasibility and logistical consideration for FAD recovery programme and ways to reduce FAD loss, abandonment and stranding. This will include consideration for the following options:
    - Modification of the deployment areas to limit dFAD losses.
    - A greater emphasis on purse seiner's retrieval before dFAD loss and abandonment (including collaboration between fishing companies).
    - Dedicated / chartered vessel(s) for at-sea collection of lost or abandoned dFADs at the edge of fishing grounds.
    - At-sea collection of vessels (e.g., longliners) already present at-sea (in areas outside the purse seine fishing grounds).
    - 'FAD watch' systems that enables community collection of dFADs prior to stranding events in sensitive areas.

26. SPC further shared that the project will include a large stakeholder consultation, scientific and economic analyses. The said project and any preliminary results will be presented at SC21, and final results at SC 22 next year. In addition, a workshop to present results and discuss the topic of FAD loss abandonments, stranding, and solutions to reduce them, is planned for February 2026. This will also be an opportunity for further stakeholder consultation and exchanges.

27. On the suggested edits related to 5c: "*Require retrieval, or retrieval corresponding to a percentage of dFADs deployed or set, before abandonment, using tracking tools",* US expressed concern that this requirement could pose operational challenges, especially when dFADs drift into areas where vessels lack fishing access. Additionally, the retrieval obligation may be impractical in cases where FADs are stolen or transferred without the operator's knowledge.

28. PNAO suggested that the definitions of "abandoned" and "lost" need to be considered. PNAO does not consider it appropriate to consider buoys as "abandoned" while the buoy owner is paying for the buoys to be tracked, noting that vessels operating in PNA waters are required to keep buoys activated between 20N and 20S except where the buoy has been stranded for a month.

29. IPNLF urges stronger, enforceable measures on FAD management by requiring owners to retrieve FADs and buoys before they reach coastal areas, removing vague language like "if/when possible," and setting clear obligations, such as retrieval rates linked to deployment and use of tracking tools. They emphasize that the financial and operational burden of recovering drifting FADs should not fall on coastal states. Coastal states should retain the right to address pollution in their own waters, while the states that deploy FADs take responsibility for the environmental damage their activities cause. Coastal recovery programs should complement, not replace, high seas recovery efforts to prevent damage before FADs reach shore. Finally, IPNLF calls for greater regional cooperation, including collaboration with other RFMOs to standardize data collection and reduce the workload of coastal states.

V. FAD LOGBOOK (ATTACHMENT C)

30. CN suggested that the primary purpose of the FAD logbook, in terms of scientific research and regulatory management, needs to be further defined. A clear understanding of its intended use will help guide the development of effective data fields. In particular, the complexity of FAD operations should be taken into account, and there should be a connection between buoy event reporting and FAD activity reporting.

31. CTP supported the harmonization of FAD logbook requirements between PNA and WCPFC, as they wish to avoid creating redundant obligations for fishers. CTP also notes that both WCPFC-TCC20-2024-18 and SC19-ST-WP-05 include a data field labeled "FAD ID or Markings." To their understanding, FADs are relatively susceptible to theft, and such markings can be easily tampered with. If this information is to be used to trace FAD ownership and potentially enforce retrieval fees, the reliability of these identifiers may present significant challenges. In this regard, they viewed that there may be benefit from consulting with our PNA colleagues on their experience in implementing similar measures.

32. JP would like to confirm if the FAD data fields for WCPFC are identical to the FAD data fields (Table 1 of WCPFC-TCC20-2024-18) in PNA FIMS. It is important to avoid unnecessary burden on vessels due to different and/or reporting requirements.

33. NZ also supported the harmonising RFMO standards (reducing the impact on fishers) and the adoption of IATTC standards for the FAD logbook. Regarding FAD markings (noted in IATTC as 5cm in height) NZ thinks there is merit in further discussion so that they may also be large enough to be identified by patrol aircraft.

34. PNAO noted the importance of compatibility in terms of the Convention requirement for measures established for the high seas and those adopted for areas under national jurisdiction to be compatible.

35. SI shared that MSC certification requires independent verification that FAD designs comply with regulations (e.g. non-entangling designs). However, FAD logbooks completed by vessel operators are not independent. To meet MSC certification requirements (and presumably WCPFC compliance monitoring requirements), simultaneous independent monitoring will need to be undertaken to compliment vessel FAD logbook reporting (e.g. flag state monitoring; observer monitoring; electronic monitoring).

36. Regarding Table 1 of SC19-ST-WP-05, EU raised concern that this table needs to be revised and updated (eg, prohibition of entangling designs, introduction of biodegradable designs). Discussion is still needed in terms of feasibility and harmonization before such a table is adopted. Also, it would be necessary to clarify who will be collecting this information and further viewed that this task seems appropriate for observers.

37. US noted that the determination of the underwater structure should be done as carefully as possible to not damage the raft. As vessels are moving towards the use of biodegradable materials, FADs are more prone to break when hauled out of the water.

VI. BIODEGRADABLE FADS (ATTACHMENT D)

38. CTP reminded that as mentioned last year, the group is still monitoring the development of relevant technologies. While the preliminary outcomes appear promising in many respects, CTP would prefer to reserve their position on the implementation timeline for biodegradable FADs until the complete results are presented at SC22.

39. JP noted that WCPFC Project 110 is ongoing and its results will be reported to WCPFC next year. FADMO-IWG should review the results of the project before considering actual implementation schedule.

40. NZ supported the SC19 recommendations to incentivise the use of biodegradable FADs. However, further consideration by TCC is needed to determine monitoring and controls implications should biodegradable FADs be used during closure periods.

41. SPC will provide updates to WCPFC Project 110 and 110a at SC21.

42. IPNLF sought clarification from the working group on the definition of "biodegradable," asking whether it refers only to natural materials or also includes synthetic biodegradable ones, and whether a specific timeline for biodegradation has been defined. IPNLF's position is that BIOFADs should be implemented as soon as possible but only using materials that are truly biodegradable within a short timeframe, with a preference for natural over synthetic materials. In response, it was noted that the definition of biodegradable can be referenced in paragraph 182 of the WCPFC19 Summary Report and paragraph 164 of the SC18 Summary Report, and that the timeline for the stepwise introduction of biodegradable FADs is still under consideration by the FADMO-IWG.

VII. DFAD DEPLOYMENT (ATTACHMENT E)

43. CTP noted that as previously stated, they believed that our discussions would benefit from the establishment of a robust and efficient FAD and buoy monitoring system. This is why they have proposed a stepwise approach to advance the dialogue. To facilitate an accurate understanding of the number of activated buoy-FADs, the implementation of such a system

is essential. Additionally, they believed that the impact of biodegradable FADs on catchability should also be taken into account when considering limits on activated FADs. In light of these uncertainties, they are not in a position to propose a specific number at this stage.

44. SI noted that previous suggestions that bioFAD requirements apply only to drifting FADs (not AFADs) have already been taken into account.

45. PNAO emphasized that this measure was adopted from other regions. Applying this measure in the WCPO has proven complex. In addition, the text of the paragraph is unclear. It seems that in other regions, FAD buoys are managed by individual vessels or companies. In the WCPO, many FADs are managed collectively by groups of companies, in some cases involving vessels of different flags. The management of FADs and FAD buoys collectively contributes to the relatively low-level FAD use in the WCPO. In this situation, it is not possible to associate particular FAD buoys with specific vessels. Effective monitoring requires associating groups of FAD buoys with groups of vessels, including vessels of different flags.

46. PNAO further noted that the text of the measure is unclear. The PNAO has previously asked in the FADMO about the meaning of "The buoy shall be activated exclusively on board the vessel". The PNAO understands that "activation" refers to the process of initiating satellite communication services for the FAD buoy which is typically done by the FAD buoy provider at the request of the FAD buoy owner and is not done "on board the vessel".

47. In addition, on the number of FAD buoys, the PNA FAD Buoy Tracking Programme is currently receiving transmissions from around 20,000 FAD buoys monthly, including some buoys that are not deployed. This is an average of around 80 FAD buoys per vessel. This is well below the 350 limit. However, it is clear from the pattern of transfers of FAD buoys between FAD buoy operators that some groups of vessels operate near the 350 limit per vessel. On that it seems clear that the 350 limit has some effect in deterring high levels of dependence on FADs and limiting the numbers of FADs deployed by the most FAD dependent groups of vessels. The 350 limit is made more effective by the PNA ban on deactivation of drifting buoys. While the overall level of FAD use in the WCPO is low, fishing in the EEZs of some PNA Members is more dependent on FADs and reducing the 350 limit would have a disproportionate effect on fishing in those EEZs.

48. EU suggested that it would be necessary to expand the scope of the recent analysis to cover the diversity of fishing strategies of all the fleets and also take into account other parameters such as size of PS f/v, fishing season and range among others. In response, SPC agrees, but the previous analyses (from 128 vessels) were from the data available at the time. If a more complete analyses was to be done, including all fleets and accounting for other parameters, SPC needs to have access to the data. Alternatively, SPC also proposed collaboration with other national research organisation to provide a more global analysis.

49. SPC informed that they will be submitting to SC22 an updated analysis on the number of FADs and buoys used per vessel, to provide scientific advice to the FADMO-IWG, SC and the Commission.

50. IPNLF recommended establishing an annual limit on the number of dFADs acquired per vessel to effectively control deployments, noting the example of IOTC Resolution 24/02, which caps each vessel at 400 instrumented buoys annually from 2026. They also suggested developing a WCPFC FAD register, aligned with similar initiatives in other tropical tuna RFMOs, to streamline implementation for vessels operating across oceans and enable global comparisons of FAD use data. IPNLF emphasized that such data should be widely available to improve management of a fishery with international impacts.

VIII. TYPES OF VESSELS ALLOWED TO ENGAGE IN FAD-RELATED ACTIVITIES (ATTACHMENT F)

51. CTP viewed that while they supported the approach of clarifying the definition of FAD-Related Activities, CTP would like to inquire whether the definition of "transportation" includes carrier or bunker vessels that transport FADs from one port to another for delivery to purse seine fishing vessels in port.

52. NZ supported the recommendations of paragraph 3 to strengthen reporting requirements for CNMs, including explicit detail on the types of operations to be undertaken by their fleets and ensuring that those CNM vessels involved with FADs are subject to the same provisions as all other CCMs.

53. SI suggested that FAD-related activities should be limited to dFADs. SI acknowledged that the current proposal focuses on CNM participatory rights, but thought there is merit of ensuring AFADs were excluded from the outset, given: a) like some other Pacific Island countries, Solomon Islands' domestic tuna fisheries are reliant on AFADs deployed in archipelagic waters, which may be deployed and serviced at times by support vessels; b) it is highly unlikely that CNM carriers and bunkers have or will ever deploy AFADs. Currently, some carriers transport materials for constructing FADs which are delivered to fishing vessels during transshipment (e.g. ropes, bamboo, buoys). Provided the carriers are not transporting and transferring fully-constructed FADs to fishing vessels, this activity could continue to be permitted, with appropriate monitoring processes in place (e.g. provision of documentation by the carrier and fishing vessel which demonstrates the quantity/type of materials loaded onto the carrier matches the quantity/type of materials transferred to a fishing vessel). SI considered the provision of FAD materials to be similar in nature to the carrying of other operational inputs (i.e. salt, fishing net, spare parts).

54. PF suggested that final retrieval should be considered as servicing dFADS. To facilitate dFAD retrieval before abandonment, loss or stranded, any vessel should be allowed to retrieve dFADs as far as it is final retrieval for recycling or waste processing (and not for servicing at all). Indeed, these carrier, bunker or supply vessel could be part of dFADs retrieval programs, as any other kind of vessel as far as not servicing dFADs.

55. US viewed that on FAD retrieval, they supported restrictions on redeployments of FADs, US do not believe it is necessary to restrict retrieval of FADs. US believed all avenues for FAD retrieval should be supported. While documentation is important, US caution against requirements that would discourage FAD retrieval.

56. ISSF suggested allowing CNM to register "FAD retrieval vessels" that could only be used to retrieve FADs from the water. These vessels should be subject to the following monitoring and reporting requirements: (i) use of electronic reporting systems to document FAD retrieval, (ii) submission of logs detailing FAD retrieval activities, including vessel identification, date, and FAD fate or disposal, and the location of activities, and (iii) observer coverage (human or EM) and VMS tracking to ensure compliance.

57. PNAO does not support the view that the WCPFC's rules for FAD management "are silent on the involvement of non-purse seine vessels in supporting FAD-related activities". Paragraph 13 of CMM 2013-01 says explicitly that the FAD closure shall be in place "for all purse seine vessels, tender vessels, and any other vessels operating in support of purse seine vessels fishing in exclusive economic zones and the high seas in the area between 20N and 20S". There is no prohibition in place on FAD operations by any type of vessel in any WCPFC instrument, so it is clear that this paragraph means that tender vessels, and any other vessels operating in support of purse seine vessels, are prohibited from deploying, servicing, or setting on FADs during the FAD closure. This language was introduced by the PNA in 2017 – see WCPFC14-2017-08 Rev5 of the Draft Bridging Measure For Tropical Tunas (Consultative Draft). Most of the FAD fishery occurs in PNA waters and they are not aware of any difficulty in understanding the meaning of this paragraph. In particular, there is no language in this paragraph or any other instrument that the PNA Office is aware of that distinguishes the application of this paragraph between CNM vessels and the vessels of other CCMs.

58. In that respect, the PNAO sees no difficulty with understanding the language in the participatory rights of Bahamas, Curacao, Liberia, Thailand and Vietnam relating to carrier vessels to mean that the carriers of these CCMs are not different from the participatory rights of other CCMs and include the right to deploy FADs. PNAO also sees no difficulty in understanding that Panama's participatory rights include "vessels that supply food, water and spare parts to carrier vessels that engage in transhipment activities, provided that these vessels do not engage in activities supporting fishing vessels, including providing and/or servicing FADs ". Panama's carriers may deploy FADs, but vessels supplying the carriers may not. However, the PNA Office considers that:
    a) There may be merit in clarifying the language of the participatory rights of CNMs relating to FAD-related activities, including extending the restriction on Panama's supply vessels to the supply vessels of other CNMs, if there are any; and
    b) All vessels engaged in FAD-related activities should be subject to monitoring and reporting requirements.

59. SPC emphasized that given the current topic related to FAD retrieval, it should be clarified if «retrieval» is prohibited for carrier, bunker, and supply vessels "under CNM, but also the same vessels and other fishing vessels for CCMs. A discussion should be made regarding clarifying which vessel and when, can a FAD/buoy retrieval occur, with the only aim of recycling or processing back in port.

60. PNAO also clarified their position that the carrier and bunker vessels of all CCMs, including CNMs, should be subject to the same monitoring and reporting requirements.

61. IPNLF emphasized that the responsibility for recovering dFADs should rest with the purse seine fishery and be integrated into its regular operations. They expressed concern that creating a new category of "dFAD retrieval vessels" could contribute to effort creep within the fleet and would be difficult to

monitor effectively, particularly to ensure such vessels are used solely for retrieval and not as additional supply vessels. IPNLF also noted concerns regarding potential subsidies for retrieval vessels.

IX. CLOSE OF EMAIL COMMUNICATIONS

62. The email communications for the 10th session of the FADMO-IWG were closed on 15 July 2025.

ANNEX A

FAD Management Options Intersessional Working Group
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FADMO-IWG10_Attachment A

Satellite Buoy Data Transmission Requirements

1. **ACTION NEEDED:** Consider requirements for the transmission of satellite buoy data from drifting FADs in 2024 to promote effective and sustainable FAD management in the WCPFC *(paragraph 56, WCPFC20 Outcomes Document)*
2. There was a broad range of discussions on this topic at FADMO-IWG09, covering aspects such as registration, transmission requirements, data submission, and type approval, among others. To structure our discussion, let's first focus on **key data fields for satellite buoy data transmission from drifting fish aggregating devices (dFADs)**, as the primary goal to ensure data availability for scientific, monitoring and management use. Later, we can address topics like registration, submission timing, and period covered (historical period and start of regular transmissions), organisational roles, data access procedures and data protection requirements.
3. Based on our previous discussions the identified **key data fields for satellite buoy data transmission from dFADs** are as follows:

   a) Main Identification & Operational Data
   - FAD Buoy Unique Identification Number (Manufacturer's ID No.)
   - FAD Buoy Owner *(Service Provider knows who pays for the service, but not necessarily the Fishing Company/Vessel)*
   - Fishing Company (if available in the transmission)
   - Vessel Name / Vessel IMO Number / WCPFC RFV VID (if available in the transmission)
   - Buoy Model & Brand (*may need to be sourced from a separate register as it is not currently transmitted*)
   - Position Fix (Latitude & Longitude)
   - Date and Time (UTC) of Position Fix

   b) Environmental & Performance Data *(If Available/Optional)*
   - Status of the Buoy (In-Water, On-Board, Stranded, etc.)
   - Water Temperature
   - Buoy Speed
   - Buoy Direction
   - Biomass Estimation by Layers *(Brand-Specific)*

   c) Event-Based Reporting *(Within 72 Hours[1])*

   Operators must report when:
   - A FAD Buoy is activated

[1] Refer to paragraph 6 of the Chair's Summary Report

- A FAD Buoy is switched off following retrieval from the water
- A FAD Buoy is deactivated, including the reason for deactivation
- Communication with a FAD Buoy is lost for any reason
- A FAD Buoy has been stationary near shore for 72+ hours, suspected of stranding
- A FAD Buoy has been [sold][2], transferred, or reassigned to another company

[2] Refer to paragraph 9 of the Chair's Summary Report

FADMO-IWG10_Attachment B

FAD Recovery Programs/Strategies

1. **ACTION NEEDED:** Consider ways to implement FAD recovery programs/strategies, including economic aspects and standards required for programs to be effective *(paragraph 52, WCPFC20 Outcomes Document)*

2. There were several points raised under this topic at FADMO-IWG09 which include the importance of data collection, retrieval programs to mitigate their environmental impact, best practices for FAD recovery programs, collaboration, and reporting.

3. Since FADs are often abandoned or stranded near coastal areas, it is important to highlight that coastal states should take the lead in addressing this issue. At the same time, the international community (such as regional fisheries organizations like WCPFC and IATTC) can provide support, guidance, and coordination.

4. It can be inferred from our discussions that it will be of the best interest that countries develop and implement their FAD recovery programs/strategies tailored to their needs and situations. Considering that the primary objectives of the proposed FAD Recovery Program are to minimize environmental impact, enhance data collection, increase compliance, foster collaboration, and ensure economic viability.

5. Here are some key elements for a FAD recovery program/strategy that countries may need to consider for its development and implementation, as noted in the FADMO-IWG09 discussions:

    a) Standards for FAD Recovery
        - Establish stranded FAD recovery and recycling guidelines and protocol
        - Require FAD and buoy owners to make efforts to retrieve them before reaching coastal areas when/if possible.
        - Identify key stakeholders in the FAD recovery program and their role.
        - Identify infrastructure needs
        - Identify FAD retrieval vessels
        - Consider real-time reporting and buoy position sharing to aid recovery, when a buoy enters a geofenced area in which a FAD recovery program is in place.
        - Create FAD recovery protocols

    b) Economic Considerations
        - Develop cost-sharing models (e.g., fleets, governments, and regional bodies).
        - Consider providing incentives for fleets participating in retrieval.
        - Promote shared resources, like retrieval vessels and tracking systems (e.g. unique platform amongst buoy providers).

c) FAD Retrieval and Prevention of Abandonment
   - [Require retrieval or require retrieval corresponding to a % of dFAD deployed or set)][1] before abandonment, using tracking tools.
   - Regulate buoy deactivation to ensure continued tracking.
   - Facilitate FAD transfers between fleets to minimize loss.

d) Monitoring and Effectiveness
   - Establish stranded FAD and recovered FAD data collection and monitoring
   - Implement real-time monitoring (e.g. FAD WATCH Program).
   - Establish buoy register platform to share information regarding lost FADs
   - Require regular reporting and feedback to refine strategies.
   - Adjust policies based on data and stakeholder input.
   - Create a database to Monitor:
     - the number of FADs (structure and buoy) retrieved both at sea and in land.
     - The characteristics of FAD structure, material and designs
   - Develop indicators to assess the effectiveness of the program—for example, the ratio of recovered FADs to those whose positions were shared by fleets, or the number of FADs recovered relative to the total number of FADs deployed

e) Legal and Regulatory Frameworks
   - Develop national regulations enforcing FAD retrieval and reporting.
   - Require coastal states to oversee FAD management but encourage regional cooperation.
   - Consider options for banning.

f) Regional and International Cooperation
   - Strengthen collaboration between WCPFC, IATTC, and coastal states.
   - Strengthen regional FAD retrieval programs both at sea and in land
   - Support cross-border FAD recovery efforts, especially for drifting FADs.
   - Promote knowledge exchange on best practices, including across tuna RFMOs (e.g. FAD WATCH Program and other recovery).

g) Technology and Innovation
   - When possible/available, utilize satellite tracking and real-time data for FAD monitoring by the flag CCM and the coastal CCM.
   - Explore innovative retrieval methods, including cost-effective tracking.
   - Enhance data-sharing platforms if possible unique across different buoy companies, for FAD sharing and recovery coordination.

[1] Refer to paragraph 26 of the Chair's Summary Report

h) Capacity Building and Technical Support
   - Provide training and technical assistance for FAD monitoring and recovery.
   - Establish regional knowledge-sharing mechanisms (e.g. FAD WATCH Program experience).
   - Establish communication protocols to socialize the FAD recovery program locally.
   - Support capacity-building initiatives for developing national recovery programs.

6. The Commission is requested to consider these elements in the development and implementation of FAD recovery programs/strategies by CCMs.

FADMO-IWG10_Attachment C

FAD logbook

1. **Task:** Consider relevant information/materials to develop the WCPFC FAD logbook for vessel operators *(paragraph 53c, WCPFC20 Outcomes Document)*

2. SC19 recognized the scientific value of the PNA's proposal on "Minimum Data Fields to be Recorded by WCPFC Vessel Operators" (SC20-ST-WP-06) and highlighted the need for a FAD logbook for vessel operators to improve the range and quality of data related to FADs and ease observer workload. It acknowledged the PNA's Standard Operating Procedures (SOPs) for FAD data provision, in place since January 2022, and the IATTC's FAD logbook used in the EPO and overlap area, both of which could serve as a basis for discussions. SC19 recommended that WCPFC20 advance this work intersessionally through the FADMO-IWG.

3. The IATTC Resolution C-19-01 on the Collection and Analysis of Data on FADs including the related forms, requires the following data to be provided for each interaction with a FAD:
    i. Position
    ii. Date;
    iii. Hour;
    iv. FAD identification[1]
    v. FAD type (e.g., drifting natural FAD, drifting artificial FAD)
    vi. FAD design characteristics (dimension and material of the floating part and of the underwater hanging structure), including the amount and type of flotation and weight components used);
    vii. Type of the activity (set, deployment, hauling, retrieving, loss, intervention on electronic equipment, other (specify));
    viii. If the activity is a set, the results of the set in terms of catch and bycatch; and
    ix. Characteristics of any attached buoy or positioning equipment (positioning system, whether equipped with sonar, etc.)

[1] CPCs shall obtain unique alphanumeric codes from the IATTC staff on a periodic basis and distribute those numbers to the vessels in their fleets for FADs that may be deployed or modified, or in the alternative, if there is already a unique FAD identifier associated with the FAD (e.g., the manufacturer identification code for the attached buoy), the vessel owner or operator may instead use that identifier as the unique code for each FAD that may be deployed or modified. The alphanumeric code shall be clearly painted in characters at least 5 cm in height. The characters shall be painted on the upper portion of the attached radio or satellite buoy in a location that does not cover the solar cells used to power the equipment. For FADs without attached radio or satellite buoys, the characters shall be painted on the uppermost or emergent top portion of the FAD. The vessel owner or operator shall ensure the marking is durable (for example, use epoxy-based paint or an equivalent in terms of lasting ability) and visible at all times during daylight. In circumstances where the observer is unable to view the code, the captain or crew shall assist the observer (e.g. by providing the FAD identification code to the observer).

4. Table 1 of SC20-ST-WP-06 is robust enough to cover all the data fields identified in the IATTC FAD Data Collection for harmonization of FAD logbook among different regions and organizations and compatibility with the PNA FAD log which is already widely used in WCPO.

5. Also considering the information about the needs for these FAD data fields for the work of the WCPFC detailed in Table 1 of WCPFC-TCC20-2024-18.

6. FADMO-IWG09 Discussions:

   a) The importance of identifying both the buoy and the FAD structure is emphasized to account for the origin of FAD structures found stranded without a buoy. This helps in tracking and managing FADs more effectively.

   b) There is a need for harmonization of the FAD logbook among different regions and organizations and compatibility with FAD logs in place in WCPO. This includes harmonizing the data fields and formats used in the logbooks to ensure consistency and comparability of data across different regions.

   c) The logbook should include a space to indicate the FAD specific characteristics. This helps in characterizing different types of FADs more effectively.

   d) Reporting requirements on FADs by vessel operators are considered a high priority. These requirements need to be in place before adopting additional FAD reporting requirements or requirements for the use of biodegradable material in FADs.

   e) The implementation of electronic reporting requirements is crucial, This helps in streamlining the reporting process and ensuring timely and accurate data collection.

   f) The practicability of some fields and the usefulness of a harmonized form between different organizations are considered. This ensures that the data collected is practical and useful for all stakeholders involved.

7. Taking into account the available information provided at SC and TCC and discussion at FADMO-IWG09, the proposed FAD data fields in Table 1 to be recorded by vessel operators are forwarded to the Commission for its endorsement and adoption.

FADMO-IWG10_Attachment D

Biodegradable FADs

1. **Task:** Consider ways for the implementation of the stepwise introduction of biodegradable dFADs *(paragraph 53a, WCPFC20 Outcomes Document)*

2. Below are key points from SC19:

   a) SC19 recommended that the FADMO-IWG and TCC review the timelines for the stepwise introduction of biodegradable dFADs considering the expected outcomes of projects related to the design, cost-effectiveness and performance of biodegradable dFADs (e.g. jelly FADs) in the WCPO and other oceans.

   b) SC19 viewed that moving to biodegradable FADs is important for reducing marine pollution and other impacts. However, SC19 noted that it is challenging for some CCMs, especially for purse seine operators that are going through a major process of eliminating netting in FADs, to meet the non-entangling requirement for 2024 and further noted that trials for biodegradable FADs are still ongoing. In this regard SC19 noted that, for some CCMs, the year 2025 to start the transition to biodegradable FADs implementation may not be viable.

   c) SC19 noted IATTC's biodegradable FAD implementation program, which includes timelines with the mandatory use of categories I to IIIb by 2026 (Table FAD-1); and categories I to II by 2029, which could be reviewed by TCC and the FADMO IWG for consideration in the WCPO.

TABLE FAD-1: Preliminary categories of drifting FADs biodegradability levels (from non-biodegradable to 100% biodegradable, except the echosounder buoy) for the gradual implementation of biodegradable drifting FADs. *In year X, FADs of either category III(a) (biodegradable tail) or/and category III(b) (biodegradable raft) are required/implemented simultaneously.*

Categories[1]	**Potential Timeline** *(Suggestion 1)*	**Potential Timeline** *(Suggestion 2)*	**Remarks**
Category I. The FAD is made of 100% biodegradable materials.	Year X + 3	Year X + d	Year X will be determined by the WCPFC and subject to review based on available information and availability of materials
Category II. The FAD is made of 100% biodegradable materials except for plastic-based flotation components (e.g., plastic buoys, foam, purse-seine corks).	Year X + 2	Year X + c	Year X will be determined by the WCPFC and subject to review based on available information and availability of materials

[1] The Categories were renumbered as follows: Category III = Category III(a); Category IV = Category III(b) and Category V = Category IV

Category III(a). The subsurface part of the FAD is made of 100% biodegradable materials, whereas the surface part and any flotation components contain non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).	Year X	Year X +b	Year X will be determined by the WCPFC and subject to review based on available information and availability of materials
Category III(b). The subsurface part of the FAD contains non-biodegradable materials, whereas the surface part is made of 100% biodegradable materials, except for, possibly, flotation components.	Year X	Year X +a	Year X will be determined by the WCPFC and subject to review based on available information and availability of materials
Category IV. The surface and subsurface parts of the FAD contain non-biodegradable materials.	Current	Year X	

Note These definitions do not apply to electronic buoys attached to FADs to track them.*

d) SC19 recommended the FADMO IWG and TCC consider incentivising the use of biodegradable dFADs.

e) SC19 noted that some CCMs suggested one example of an incentive could be to allow biodegradable dFADs to be deployed during the FAD closure.

3. Noting that a follow-up project to enhance WCPFC Project 110 by trialing additional non-entangling and biodegradable dFADs, investigating alternative construction locations, and using locally sourced materials is still ongoing, it is viewed that the FADMO-IWG periodically reviews WCPFC Project 110 outcomes (as well as other relevant projects) as the projects progress , to have robust information on NEBD FADs discussion concerning the timeline for the stepwise introduction of biodegradable FADs including its design, cost-effectiveness, performance and any monitoring and reporting requirements.

4. FADMO-IWG09 Discussions:

a) The FADMO-IWG09 discussions focused on several key points regarding the implementation and harmonization of biodegradable FADs. One of the main concerns raised was the inconsistency in category numbers between different regions. Since some vessels operate in multiple areas and FADs can drift across the Pacific, it was suggested that harmonizing the nomenclature would be beneficial.

b) There was also an emphasis on monitoring the buildup of biodegradable materials after the initial implementation phases. Finding ways to incentivize earlier adoption and capacity buildup was supported.

c) The idea of seeking funding to build and provide biodegradable FADs for free was proposed. However, there are still challenges in finding interested fishing companies to test and use these bio-FADs.

d) Concerns were expressed about potential loopholes and the impact on the performance of conservation measures if exemptions were allowed. It was suggested revisiting the issue when more information is available.

e) There was support for the proposal to revisit the issue with additional information and the need for a FAD logbook before adopting requirements for biodegradable FADs. Appropriate reporting on FADs deployed, retrieved, lost, and deactivated was also emphasized.

f) It was noted that ongoing projects, such as WCPFC Project 110, could be analyzed in conjunction with other initiatives. Collaboration and sharing of results from work in other oceans were encouraged

FADMO-IWG10_Attachment E

DFAD Deployment

1. **Task:** Provide advice to WCPFC23 on the effectiveness of the limit on the number of dFADs deployed as set in paragraph [21] of the CMM 2023-01 *(paragraph 53b, WCPFC20 Outcomes Document)*.

2. There were limited discussions related to this topic during FADMO-IWG08 and FADMO-IWG09. Below are some information related to this topic.

   > *Para 21. A flag CCM shall ensure that each of its purse seine vessels shall have deployed at sea, at any one time, no more than 350 drifting Fish Aggregating Devices (FADs) with activated instrumented buoys. An instrumented buoy is defined as a buoy with a clearly marked reference number allowing its identification and equipped with a satellite tracking system to monitor its position. The buoy shall be activated exclusively on board the vessel. A flag CCM shall ensure that its vessels operating in the waters of a coastal State comply with the laws of that coastal State relating to FAD management, including FAD tracking.*

3. Paragraph 21 (referred to as paragraph 23 in earlier tropical tuna measure); all CCM were assessed as COMPLIANT to this obligation. This means they have a national law / rules/ regulations supporting implementation of this paragraph . But there was no information, or it is not part of the assessment to report the minimum or maximum number of FADs with activated instrumented buoys deployed at one time for a reporting year.

4. The SC paper that provides some analysis related to paragraph 21 was SC15-MI-WP-12: Report on analyses of the 2016/2019 PNA FAD tracking programme, it states that:

   > *Regarding the number of buoys per vessel, for buoys with identified owners (62%), vessels monitored one to 350 active buoys per day or per month (Figure 13). However, the majority of vessels had less than 150 active buoys per month and less than 100 per day. It should be noted that these statistics correspond to the data submitted by fishing companies to PNA, so they are likely underestimates of the true number of active buoys. In addition, these patterns represent the activity of only 128 purse seine vessels (out of 254 purse seiners in the logsheet data for 2016–2018).*

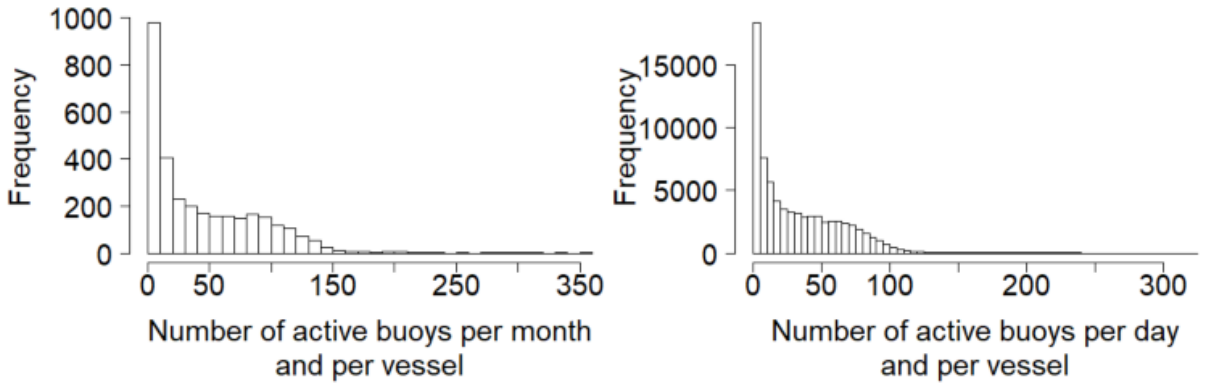

Figure 13. Histograms of the number of active buoys per month (left) or per day (right), per vessel (when vessel name was available) from 2016–2018, as recorded in the PNA FAD tracking data (see section 3.2. for estimated data submission rates).

5. SC19 noted that, based on the information available, no vessel monitored more than 350 active buoys per day (the current buoy number limit under CMM 2021-01), with 90% of the vessels monitoring less than 130 buoys per day. It was noted these results were limited to the fleets that have provided tracking information since January 2023 and some differences for at least one fleet have been noted. SC19 recommended that the FADMO IWG and TCC further discuss the active FAD buoy limit and provide advice to TTMW4 and the Commission on this limit.

6. SC19 recommended that options should be developed by the FADMO IWG and TCC for reporting the number of active buoys per vessel (paragraph 21 of CMM 2021-01); and to develop processes to i) report the number of dFADs and buoys deployed and retrieved per year; ii) report lost and abandoned dFAD including reasons for lost and abandonment; and iii) to eventually abandon and deactivate buoy communication(paragraph 22 of CMM 2021-01).

7. SC19 supported the Pacific-wide collaboration on dFAD research, in particular on harmonising data collection processes, increasing non-confidential data exchanges and collaborating on data analyses.

FADMO-IWG10_Attachment F

Types of Vessels Allowed to Engage in FAD-related Activities

1. **Task:** Consider clarifying the ambiguity around the existing participatory rights text as to **which types of vessels should be allowed to engage in FAD-related activities and provide recommendations** to WCPFC22 *(paragraph 8, WCPFC21 Outcomes Document)*.

2. Key Issues:
   a. Lack of Clear Definition for most CNM participatory rights: The current participatory rights text for most CNMs with an interest in carrier and bunker activities is silent on whether such vessels can engage in FAD-related activities. For example, in 2025 Bahamas, Curacao, Liberia, Thailand and Vietnam have this formulation: "*The participatory rights of XX CNM in the WCPO are limited to the provision of carrier and bunker vessels only.*"
   b. Potential Different Standards: Some CNMs, such as Panama, are permitted to operate carrier and bunker vessels but are explicitly prohibited from supporting fishing vessels with their FAD-related activities. This is the formulation of the current participatory rights for Panama in 2025: "*The participatory rights of Panama in the WCPO are limited to the provision of carrier and bunker vessels. Panama's participatory rights also apply to vessels that supply food, water and spare parts to carrier vessels that engage in transhipment activities, provided that these vessels do not engage in activities supporting fishing vessels, including providing and/or servicing FADs* ".
   c. FAD Management Complexity: Different vessel types are included within the definition of "fishing vessel" under Article 1 of the Convention, such as carrier vessels, bunker vessels, supply vessels, and fishing vessels. The WCPFC's rules for FAD Management, which are set out in CMM 2023-01 and CMM 2009-02 prescribe limits and rules for purse seine vessel activities and are silent on the involvement of non-purse seine vessels in supporting FAD-related activities. This review has identified that there is a potential regulatory gap for non-purse seine vessels that may engage in supporting FAD-related activities.

3. Recommendations for WCPFC22
   a. Uniformity with Existing CNM Restrictions for CNM Carrier and Bunker Vessels
   The existing restriction on Panama's supply vessels, which prohibits them from engaging in FAD-related activities, should be a good example and extended uniformly to the supply vessels of all CNMs. This ensures equal treatment of all CNMs, gives clarity to the participatory rights and prevents inconsistencies that could create challenges.

   b. Monitoring and Reporting requirements
   Carrier, bunker, longline and supply vessels engaging in any FAD-related activities, including but not limited to:
      - Deployment of FADs (e.g. anchored, drifting)

- Retrieval or relocation of FADs
- Servicing or maintaining FADs, including modifications or maintenance of existing FADs, including adding tracking buoys or materials.

shall be required to meet the following requirements:

- submission of electronic FAD log to be adopted by the Commission.
- submission of electronic trip logs including vessel identification, date, and location of activities.
- Observer coverage; and
- VMS tracking to ensure compliance.

c. Allow CNM to register "FAD retrieval vessels" that could only be used to retrieve FADs from the water. These vessels should be subject to the following monitoring and reporting requirements: (i) use of electronic reporting systems to document FAD retrieval, (ii) submission of logs detailing FAD retrieval activities, including vessel identification, date, and FAD fate or disposal, and the location of activities, and (iii) observer coverage (human or EM) and VMS tracking to ensure compliance.

4. The FADMO-IWG is forwarding these recommendations to TCC21 and WCPFC22 to clarify the ambiguity in the existing CNM participatory rights on the types of vessels that should be allowed to engage in FAD-related activities.