



**COMMISSION**  
**Twentieth Regular Session**  
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**PROGRESS OF FADMO-IWG PRIORITY TASKS FOR 2023**  
**INCLUDING SC19 and TCC19 OUTCOMES RELATED TO FADMO-IWG WORK**

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**WCPFC20-2023-FADMOIWG**  
**10 November 2023**

**Prepared by the FADMO-IWG Chair and the Secretariat**

## Purpose

1. This paper provides:
  - a. background information on the Progress of FADMO-IWG Priority Tasks for 2023 submitted as at SC19 as [SC19-EB-WP-13](#) (Annex 1) and TCC19 as [TCC19-2023-16](#), and
  - b. SC19 and TCC19 outcomes related to biodegradable FADs.

## Background

2. In February 2023, WCPFC Circular 2023-12 detailed the FADMO-IWG Priority Task for 2023 as suggested by the FADMO-IWG chairperson.
3. The FADMO-IWG has started to consider the issues on the stepwise introduction of biodegradable FADS, potential gaps and research needs, and implementation of paragraphs 21 and 22 of CMM 2021-01. The below are the outcomes from SC19 and TCC19.
4. The 4<sup>th</sup> workshop on the development of a revised WCPFC tropical tuna measure also discussed issues related to the FADMO-IWG work which includes suggestions on the timeline for the stepwise introduction of biodegradable FADs, support on the agreed definition of “biodegradable” and other aspects which are detailed in USA ([WCPFC-TTMW4-2023-DP01](#)) and PNA ([WCPFC-TTMW4-2023-DP02](#)) delegation papers.

## SC19 Outcomes

### Data and Statistics Theme

a) **FAD Data fields<sup>1</sup>**

5. SC19 recognised the scientific value of the PNA's proposal on "*Minimum Data Fields to be Recorded by WCPFC Vessel Operators*" (SC19-ST-WP-05).
6. Noting the current workload of observers, and some FAD data may be more effectively provided by vessel operators, **SC19 agreed on the need for developing a FAD logbook for vessel operators as a priority.**
7. SC19 noted that the PNA has developed the Standard Operating Procedures (SOPs) for the provision of FAD data by vessel operators for licensed vessels from January 2022 and IATTC have also adopted a FAD logbook, currently used for vessels operating in the EPO and in the overlap area. SC19 noted both could be used as the basis for discussion at FADMO-IWG.
8. **SC19 recommended WCPFC20 considers this work be progressed intersessionally within the FADMO-IWG.**

### Ecosystem and Bycatch Mitigation Theme

a) **Research on non-entangling and biodegradable FADs (Project 110)<sup>2</sup>**

9. SC19 noted that limited information on dFAD designs and materials is available from 2020 to 2023 due to low observer coverage, and there is a need for additional data fields or more systematic data to be recorded to adequately assess the designs, materials, and type of dFADs deployed in the WCPO.
10. **SC19 recommended that further studies are implemented to quantify the effectiveness and the entanglement frequency of Species of Special Interest (SSI) in the WCPO on dFAD designs, including Low Entanglement Risk dFADs, Non-Entangling dFADs and Biodegradable dFADs.**
11. To help reduce marine pollution and ecosystem impacts linked to the use of dFADs, SC19 promotes the reduced use of plastics and non-biodegradable materials in the construction of dFADs and the use of non-entangling FADs, as required from CMM 2021-01 and implemented beginning in January 2024.
12. SC19 noted the delays in the activities from Project 110 due to the COVID-19 pandemic and updated timing of activities, and supported the no-cost project extension with a final anticipated report to be presented at SC21 in 2025.
13. SC19 highlighted the importance of the on-going research activities led by SPC and ISSF, in collaboration with fishing industry, to trial non-entangling and biodegradable dFADs in the WCPO to inform implementation of the requirements under CMM 2021-01. SC19 supported the TOR for a follow-up project to enhance SC Project 110 by trialling additional non-entangling and biodegradable dFADs and to investigate alternative construction locations and locally sourced materials.
14. SC19 supports CCMs to encourage their purse seine vessels to participate in trials of biodegradable FADs of Category I and II (all FAD components are biodegradable except for flotation devices and GPS

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<sup>1</sup> See SC19 Outcomes Document paragraphs 14 – 17

<sup>2</sup> See SC19 Outcomes Document paragraphs 205 - 210

buoy).

**b) Extension to EU-supported biodegradable FAD Project<sup>3</sup>**

15. The SSP provided a brief summary of a proposal for additional funds to support research on biodegradable FADs being submitted to the EU’s European Maritime Fisheries and Aquaculture Fund (outlined in project TOR SC19-EB-WP-07). It was noted that the proposal has a budget of 218,000 Euros, of which 20% (44,000 Euros) would be sought from the WCPFC as co-funds. The project would need to start in 2024 to align with the current Project 110 work and co-funds would therefore be required to be approved at WCPFC20. The ISSF generously committed to providing 20,000 USD as co-funds.

**c) FAD Management Options IWG Issues<sup>4</sup>**

**16. 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.**

17. 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.

18. 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) 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.*

<b>Categories<sup>5</sup></b>	<b>Potential Timeline (Suggestion 1)</b>	<b>Potential Timeline (Suggestion 2)</b>	<b>Remarks</b>
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
Category III(a). The subsurface part of the FAD is made of 100% biodegradable	Year X	Year X +b	Year X will be determined by the WCPFC and subject to review

<sup>3</sup> See SC19 Outcomes Document paragraph 211

<sup>4</sup> SC19 Outcomes Document paragraphs 212 – 223

<sup>5</sup> The Categories were renumbered as follows: Category III = Category III(a); Category IV = Category III(b) and Category V = Category IV

materials, whereas the surface part and any flotation components contain non-biodegradable materials (e.g., synthetic raffia, metallic frame, plastic floats, nylon ropes).			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.*

**19. SC19 recommended the FADMO IWG and TCC consider incentivising the use of biodegradable dFADs.**

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

21. SC19 noted the limitation in the scientific analyses of FAD tracking data due to the current incomplete data. SC19 noted the importance of complete FAD tracking data, including for historical periods, to support scientific analyses to detect trends in dFAD use; to evaluate the effectiveness of paragraph 21 of the Tropical Tuna Measure (CMM 2021-01); to determine the origin of FADs and buoys found stranded; and to explore spatial management options to reduce stranding events.

22. SC19 supported the suggestion of the FADMO IWG on requiring the provision of the daily location records from buoys attached to dFADs to be provided, including historical periods, to research organizations (SPC), research organizations within CCMs, or to the Commission.

23. 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.**

**24. 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; and iii) to eventually abandon and deactivate buoy communication (paragraph 22 of CMM 2021-01).**

25. SC19 highlighted the need for in-situ data collection to better quantify FAD stranding events and the impacts of FADs on marine and coastal environments; and encouraged the expansion of the in-country stranded FAD data collection programs to other CCMs.

26. SC19 highlighted the need to promote FAD retrieval, preferably by the owner of the buoy attached,

and eventually through dedicated programs, before FADs are abandoned or lost and ultimately before FADs reach coastal areas. **SC19 recommended that options for increased FAD detection and retrieval should be considered, including economic aspects and standards required for programs to be effective. SC19 recommended that a FAD recovery program/strategy be an agenda item for the FADMO IWG.**

27. 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.

### TCC19 Outcomes

28. TCC19 noted the update from the FAD Management Options IWG on priority tasks for 2023 ([WCPFC-TCC19-2023-16](#)).

### Recommendations

29. The Commission is requested to consider SC19 and TCC19 outcomes related to the updates of FAD Management Options IWG priority tasks for 2023 in the development of revised tropical tuna conservation and management measures.
30. The Commission is also requested to provide guidance on the future work of the FADMO-IWG.



**SCIENTIFIC COMMITTEE  
NINETEENTH REGULAR SESSION**

Koror, Palau  
16 - 24 August 2023

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**PROGRESS OF FADMO-IWG PRIORITY TASKS FOR 2023<sup>6</sup>**

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**WCPFC-SC19-2023/EB-WP-13**

**FAD Management Options Intersessional Working Group**

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<sup>6</sup> Refer to the attached FADMO-IWG8-01



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

**FAD MANAGEMENT OPTIONS INTERSESSIONAL WORKING GROUP  
EIGHTH SESSION**

**EMAIL CORRESPONDENCE**  
28 April 2023 – 19 July 2023

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**FADMO-IWG PRIORITY TASKS FOR 2023<sup>7</sup>**

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**FADMO-IWG8-01**

**A. PURPOSE**

1. This paper provides background information on the priority tasks of the FAD Management Options IWG to progress its work this 2023 which includes:

- i. outcomes from SC18, TCC18, and WCPFC19 related to biodegradable FADs and areas to be addressed.
- ii. implementation of paragraph 21 of CMM 2021-01 and

*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.*

- iii. implementation of paragraph 22 of CMM 2021-01

*CCMs shall also encourage vessels to:*

- (a) responsibly manage the number of drifting FADs deployed each year;*
- (b) carry equipment on board to facilitate the retrieval of lost drifting FADs;*
- (c) make reasonable efforts to retrieve lost drifting FADs; and*

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<sup>7</sup> Refer to Attachment 1, FADMO-IWG8-01: FADMO-IWG8 Summary Report for more details of the FADMO-IWG discussions.

*(d) report the loss of drifting FADs, and if the loss occurred in the EEZ of a coastal State, report the loss to the coastal State concerned.*

2. The SC is requested to review and provide recommendations/guidance to be considered by the FADMO-IWG, TCC, or the Commission.

## **B. BACKGROUND**

3. In November 2020, the FAD Management Options Intersessional Working Group (FADMO-IWG) finalized a draft *Guidelines for non-entangling and biodegradable FADs*<sup>8</sup>, which was forwarded to the Commission.

4. In the SC17 online discussion forum (SC17-ODF), there was general support for strengthening the existing provisions to reduce entanglement on FADs and more work is needed for the use of biodegradable materials on FADs. At TCC17, there was general support for the use of non-entangling and biodegradable FAD materials and research on the development and application of suitable biodegradable materials in FAD construction including the use of locally available materials.

5. In 2021, the FADMO-IWG recommended (WCPFC18-2021-FADMO-IWG5-01):

- the use of biodegradable materials in the construction of FADs to reduce the number of synthetic debris in the environment but acknowledged that more research is needed on the development and application of suitable biodegradable materials and FAD designs in FAD construction including the use of locally available materials;
- that CCMs continue to encourage its flagged vessels to use available biodegradable materials on FAD construction; and
- that the Commission considers developing a definition of “biodegradable FAD”, ideally in consultation with other t-RFMOs.

6. Noting the report and recommendations of the FADMO-IWG, the Commission established a prohibition on the use of mesh net for any part of a FAD, from January 1, 2024, and agreed to further consider other issues related to FADs (biodegradable FADs, the impact of FADs, and FAD numbers)<sup>9</sup>.

7. The Commission adopted a revised Tropical Tuna Measure (CMM 2021-01) at WCPFC18 in December 2021 and tasked the Scientific Committee to provide specific recommendations on other issues (Paragraph 19):

*19. The Scientific Committee shall continue to review research results on the use of biodegradable material on FADs and shall provide specific recommendations to the Commission in 2022 including on a definition of biodegradable FADs, a timeline for the stepwise introduction of biodegradable FADs, potential gaps/needs and any other relevant information.*

8. The FADMO-IWG has started to consider the issues specified in paragraph 19 of CMM 2021-01. Along with the FADMO-IWG Chair's work plan (Attachment A, WCPFC Circular 2022/25 dated 11 May 2022), the paper prepared by the FADMO-IWG was submitted to SC18 (SC18-EP-IP-13) and TCC18 (WCPFC-TCC18-2022-25). This paper includes i) the definition of biodegradable FADs, ii) the timeline for

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<sup>8</sup> [FADMO-IWG-04-2020-WP-02](#); Attachment K, WCPFC17 Summary Report.

<sup>9</sup> Paragraph 141, WCPFC18 Summary Report



the stepwise introduction of biodegradable FADs, iii) potential gaps/needs, and iv) any other relevant information.

9. WCPFC19 considered the outcomes from SC18 and TCC18. The Commission provided the following recommendations:

Paragraphs 23 – 24, WCPFC19 Outcomes Document

*23. The Commission supported the SC18 and TCC18 recommendations for the IATTC definition of biodegradable and categories of biodegradable FADs. The Commission further noted that the FADMO-IWG will further examine the categories of biodegradable FADs, timeline for the stepwise introduction of biodegradable FADs, potential gaps and other relevant information.*

*24. The Commission tasked the FADMO-IWG with assistance from the Secretariat and the SSP to review the effectiveness of paragraph 22 of CMM 2021-01 and other FAD related issues and incorporate into its 2023 work plan.*

10. The FADMO-IWG started to discuss the priority tasks that were identified for 2023 noting the recommendations from SC, TCC, and the Commission.

**C. PRELIMINARY VIEWS ON THE STEPWISE INTRODUCTION OF BIODEGRADABLE FADs**

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

Categories <sup>10</sup>	Potential Timeline <i>(Suggestion 1)</i>	Potential Timeline <i>(Suggestion 2)</i>	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
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

<sup>10</sup> The Categories were renumbered as follows: Category III = Category III(a); Category IV = Category III(b) and Category V = Category IV

Category IV. The surface and subsurface parts of the FAD contain non-biodegradable materials.	Current	Year X	
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Note:

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

\*\* These categories and associated potential timelines relate to drifting FADs only.

#### Key Points for SC:

**11. Some FADMO-IWG members viewed that the year 2025 maybe too ambitious to start the gradual implementation of biodegradable FADs taking into account the various categories, though some viewed that 2025 as reasonable.**

**12. As discussed by the FADMO-IWG there were two suggestions on the potential timeline for implementation of biodegradable FADs noting the different categories. The FADMO-IWG needs some views/guidance from SC19 in determining the year (X) or the timing to start the gradual implementation of biodegradable FADs, considering the ongoing research (e.g. Project 110) and other initiatives.**

#### D. POTENTIAL GAPS/ RESEARCH NEEDS

13. The FADMO-IWG also received several suggestions from its members on areas of future research ([WCPFC18-2021-FADMO-IWG5-01-Attachment C](#)).

- *The design of the FAD is crucial to reduce stress on the structure and increase their lifetime. This is especially important for biodegradable FADs, as materials might be more susceptible to physical stress. The correct assessment of the flotation and weight distribution in the design of the FAD is a crucial factor to extend its working lifetime. If those parameters are not well calculated and placed, the tension and torsion suffered by the structure will result in substantial damages, and the submerged appendage is more likely to detach from the raft — reducing FAD’s lifetime and aggregation effectiveness. Results from ongoing studies on new designs such as the jelly-FAD type structure should be reviewed by the SC. There are ongoing studies related to these areas and progress to these works are detailed in the following papers submitted to SC18 for its review.*
  - [SC18-EB-IP-17: G. Moreno, J. Salvador, I. Zudaire, J. Murua, J. Pelegrí, J. Uranga, H. Murua, M. Grande, V. Restrepo. The jelly-FAD: A paradigm shift in biodegradable FAD design](#)
  - [SC18-EB-IP-01: Escalle et al. Updates from Project 110: WCPFC Non-Entangling and Biodegradable FAD trial](#); which includes a review (in Appendix 2) of all the Non-Entangling and Biodegradable FAD trials that have been performed worldwide, as well as the potential biodegradable materials that could be used.
- *For FADs to drift slowly, the tail or drogue should be three-dimensional and symmetric and should be placed in the deeper part of the FAD.*
- *The physical impact of FAD structures on the ecosystem is proportional to their size. Current dFAD structures are very large and bulky, which makes the logistics for their retrieval and storage difficult. Research to reduce the mass (i.e., size, volume and weight) of traditional and biodegradable dFAD structures is required. This would also reduce price costs in materials per FAD.*

- *Due to the high incidence of dFAD loss through change of hands, sinking, beaching or out-of-reach deactivations, trials of experimental biodegradable dFADs in real fishing conditions need to test great quantities in order to obtain statistically significant results. Fishers when testing individually biodegradable dFADs, should share with scientists, data from echo-sounder buoys attached to biodegradable dFADs (i.e., position and biomass associated), to follow remotely the evolution of the biodegradable FADs that are not visited by fishers, and thus still get results on their performance.*

14. It was also suggested that additional research into FAD-relevant oceanography, drift, entrainment, connectivity, and ecosystem impacts are important. In the context of biodegradable FADs, understanding how biodegradable FADs might break up and be differently impacted by currents over their lifetime will be important. Characteristics linked to the biodegradable FADs, such as drogue characteristics are also key parameters to monitor.

15. Noting other views that progress has been made on the concept of non-entangling FADs, the gradual disintegration of FADs including those with biodegradable parts will continue to pose an unquantified risk to cetaceans. A non-synthetic rope would certainly be an improvement as it would disintegrate in time and reduce risk. However, how long various non-synthetic materials take to degrade in the marine environment is unknown. Research on how these ropes would degrade would be useful including potential research into the known lifespan of potential components of a 'weak link' approach to FAD disintegration to promote sinking.

16. There was also a suggestion that research on biodegradable FADs will need to be incorporated into the stepwise timeline – as the outcomes of this research will be fundamental to decisions on biodegradable FADs. Such considerations would include: i) What are the implications of the use of biodegradable materials for the design of an effective FAD (e.g. size, depth); ii) What linkages can be made to improve tracking of FADs – for example, to ensure retrieval of electronic buoys once a FAD is no longer functional due to degradation; iii) How accessible and affordable are alternative biodegradable materials; and iv) Need to ensure that new biodegradable FAD designs do not contribute to navigational hazards.

17. It was also suggested that due to the slow nature of progressing research on drifting FADs, it was suggested that Members consider testing designs and materials on anchored FADs to gather information on durability.

18. There was another suggestion that the lack of detailed FAD position and biomass data for scientific use was also identified as a gap. It was noted that FAD positions are required by PNA and shared with Scientific Services Provider (SSP). WCPFC could consider requiring FAD daily position throughout the WCPFC Convention Area (CA). Same with echosounder buoy estimates, these are very useful to science and help inform stock assessments. The SSP has received such data from some fleets participating in voluntary pilots. WCPFC could also make this a requirement covering the entire WCPFC CA.

19. Other sources of information related to potential gaps include:

- Roadmap to Biodegradable Plastics - Current State and Research Needs: <https://pubs.acs.org/doi/10.1021/acssuschemeng.1c00801>
- Dempster T., Taquet M., 2004, Fish aggregation device (FAD) research: gaps in current knowledge and future directions for ecological studies. Rev. Fish Biol. Fish. 14, 21–42

- In 2022, the Ad-Hoc Permanent Working Group on FADs (FADWG) at the IATTC SAC 6<sup>th</sup> FADWG meeting recommended to "revise, as needed, IATTC data collection methods and tools, including fisheries observer data, so that the gradual implementation of biodegradable FADs in the EPO can be effectively monitored" which is a common potential gap at different RFMOs.

**Key Point for SC:**

**20. SC19 is requested to consider items identified in this section in developing future research initiatives related to FAD issues.**

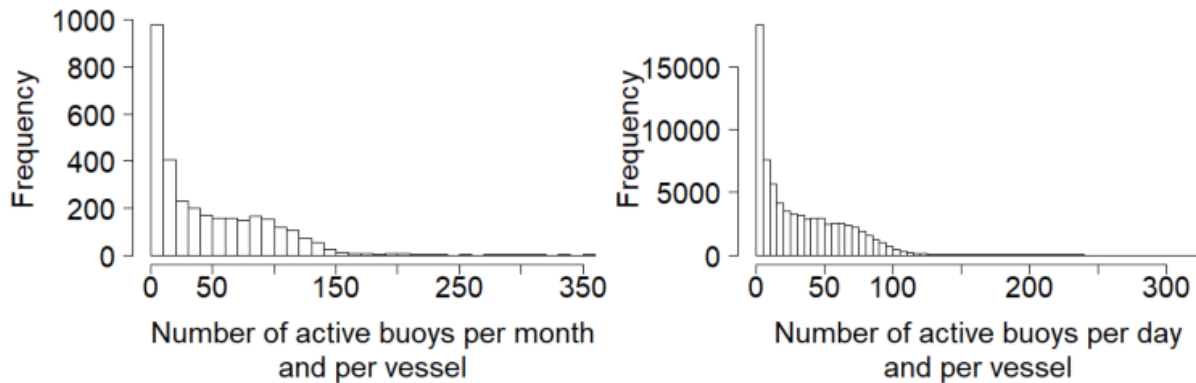
**E. CMM 2021-01 PARAGRAPH 21**

*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.*

21. Related to 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 national laws/rules/ regulations supporting the implementation of this paragraph. But there was no information, or it is not part of the assessment to report the maximum or average number of FADs with activated instrumented buoys deployed per vessel per month per year.

22. 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).

**Key Point for SC:**

23. As shared by some FADMO-IWG members, providers of instrumented buoys can exchange their daily location records with research organizations (SPC), with CCMs or with the Commission (WCPFC) in order to evaluate the effectiveness of this requirement in paragraph 21 of CMM 2021-01 which is already being done in other t-RFMOs such as ICCAT, IOTC, and IATTC. SC19 is encouraged to provide some guidance if this option or another option may be considered by WCPFC in order to evaluate the effectiveness of the provision in paragraph 21 of CMM 2021-01 in limiting the number of dFADs with activated instrumented buoys per vessel per year.

**F. CMM 2021-01 PARAGRAPH 22**

22. CCMs shall also encourage vessels to:

- (a) responsibly manage the number of drifting FADs deployed each year;
- (b) carry equipment on board to facilitate the retrieval of lost drifting FADs;
- (c) make reasonable efforts to retrieve lost drifting FADs; and
- (d) report the loss of drifting FADs, and if the loss occurred in the EEZ of a coastal State, report the loss to the coastal State concerned.

24. Paragraph 22 has never been assessed yet by TCC. This is a new paragraph in the Tropical Measure which was not included in the previous tropical tuna measure. The way paragraph 22 was worded, it seems it is not a mandatory obligation noting the text “CCMs shall also encourage vessels to ...”. Since this was not assessed we do not know how CCMs are currently implementing this provision.

**Key Point for SC:**

25. As noted by FADMO-IWG members, this paragraph is non-binding and further work needs to be done to progress the issues identified which includes i) reporting of the total number of dFADs and buoys deployed and retrieved per year, ii) procedure to report lost and abandoned dFAD including consideration of real-time reporting to coastal states; and iii) process or conditions to eventually

**abandon and deactivate buoy communication. SC19 may give their views/suggestions related to these issues that may be relevant to scientific work.**