First Sea Turtle Informal Intersessional Working Group Meeting (STIIWG01)

Review of CMM 2018-04 (Sea Turtles)

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Virtual Meeting

Strengthening Scientific Data Reporting to Support Sea Turtle Conservation (CMM 2018-04)

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Western and Central Pacific Fisheries Commission

SCIENTIFIC COMMITTEE
TWENTY-FIRST REGULAR SESSION

Nuku'alofa, Tonga
13–21 August 2025

Strengthening Scientific Data Reporting to Support Sea Turtle Conservation (CMM 2018-04)

WCPFC-SC21-2025/ST-WP-05
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Contents

1 Executive Summary

Sea turtles are highly vulnerable species in the Western and Central Pacific Ocean, and interactions with fisheries pose significant conservation challenges. Conservation and Management Measure (CMM) 2018-04 established a suite of operational guidelines, mitigation measures, and reporting requirements relating to sea turtle interactions and bycatch; however, identified gaps exist in how this information is included in the annual Scientific Data to be Provided to the Commission (SciData) or otherwise reported to the Commission. In response to SC20's request (paragraph 76, SC20 2024 Summary Report), this proposal outlines specific enhancements to the SciData standards for longline and purse seine fisheries to improve data quality, consistency, and conservation outcomes, for SC21 to consider.

Specifically, we have highlighted a few proposals for enhanced alignment between the reporting requirements outlined in CMM 2018-04 and the SciData, and suggest SC21 consider:

- rewording the catch reporting sections in the SciData, currently labeled as 'Weight of fish caught per set', to include turtles;
- adding specific reporting provisions on sea turtles interactions or mitigation measures to the Part 1 Report or Addendum;
- ensuring established CCM criteria to characterize shallow-sets can be determined from operational data fields (e.g., number of hooks between floats, hook depth, etc.); and
- adding additional longline gear characteristics to the SciData including hook size and type, while elevating the importance of existing voluntary operational data fields (e.g., bait type).

2 Introduction

The Western and Central Pacific Fisheries Commission (WCPFC) adopted Conservation and Management Measure (CMM) 2018-04 to reduce sea turtle bycatch in longline and purse seine fisheries by establishing comprehensive reporting on sea turtle interactions, fishing gear guidelines, and mitigation practices to be employed (CMM 2018-04). Discussions at the WCPFC Scientific Committee (SC20) meeting highlighted the importance of sea turtles in the Ecosystem and Bycatch theme as an important component of both those aspects. In the Pacific, sea turtles are important both culturally and ecologically. All seven sea turtle species found in the Western and Central Pacific Ocean are currently listed as vulnerable, endangered, or critically endangered across their global range (IUCN, 2024), underscoring the importance of effective conservation efforts within the WCPFC framework.

Observer data, particularly from the Regional Observer Programme (ROP), has played a crucial role in providing detailed information on bycatch events and supporting the assessment of compliance with bycatch mitigation measures (Clarke et al., 2014; Gilman et al., 2007). While the observer

programme does collect data on turtle interactions, the overall coverage, particularly in longline fisheries, remains low, and operational logbook data often lack detailed species-specific catch records for sea turtles, fate upon release, and mitigation practices (Western and Central Pacific Fisheries Commission, 2023). Current Scientific Data to be Provided to the Commission (SciData) reporting requirements do not specifically address sea turtles interactions and do not fully capture the reporting requirements outlined in CMM 2018-04, such as hook size and type, which are critical for evaluating the effectiveness of mitigation strategies and understanding species-specific vulnerabilities (Wallace et al., 2013; Lewison et al., 2014).

The best available science by Swimmer et al. (2017), demonstrated that sea turtle bycatch mitigation measures implemented in Hawai'i successfully reduced sea turtle bycatch by about 90%. Those measures included multiple approaches such as mandatory use of circle hooks and mackerel-type bait, dehooking and resuscitation training, and 100% observer coverage. The Hawaiian experience could be considered best practice for similar fisheries and geographic areas, and demonstrated there were proven mitigation measures which could significantly contribute to the conservation of sea turtles with minimal impact on commercial fishing.

3 Observer Data Gaps Relevant to Sea Turtles

Regional Observer Programme (ROP) longline data, with approximately 5% observer coverage, may not be sufficient to provide reasonable estimates of longline bycatch, if sea turtle interactions are relatively infrequent. In addition, there may be mis-reporting and under-reporting of sea turtles, a data gap that could be addressed through additional training and expansion of observer coverage to provide more precise estimates of bycatch levels and to monitor the mitigation and conservation measures employed.

With respect to purse seine operations and sea turtle interaction, Moreno et al. (2023) highlighted the potential impacts of drifting FADs deployed by tropical tuna purse seine fisheries on sea turtles and outlined a suite of practical guidelines (dot points below) to mitigate these impacts. The notes associated with each of the guidelines below relate to progress or implementation in the WCPFC.

- Adopt and effectively implement fully non-entangling FAD designs to reduce entanglement risks

  WCPFC: Currently implemented as part of the Tropical Tuna Measure (CMM 2023-01, in force since January 2024)

- Transition to biodegradable FADs to minimize marine debris and long-term ecological harm

  WCPFC: Currently recommended – CMM 2023-01; a transition and guidelines should be adopted at WCPFC in 2026 at the latest

- Enhance data collection by documenting the full trajectory of FADs through improved mark-

ing systems or buoy tracking technologies

WCPFC: No progress, but discussed at the FAD IMO WG, and included in the 2024/2026 work plan, in terms of trajectory data submission – not the marking component, not discussed/considered recently.

- Facilitate FAD retrieval at sea by purse seine vessels through best practices, including lifting and inspecting FADs during visits, repairing or removing damaged devices, retrieving FADs on the periphery of fishing grounds, and coordinating with other vessels to ensure comprehensive retrieval efforts

  WCPFC: No progress to date

- Actively participate in FAD retrieval programs in collaboration with third parties or other fishing companies to support broader ocean stewardship initiatives.

  WCPFC: CMM 2023-01: "encourage CCMs to initiate retrieval programs for lost, abandoned or stranded FADs through cooperative initiatives among fishing vessels or other vessels implementing programmes for the recovery of such FADs." In addition, FAD Recovery Programs/Strategies is one of the items in the FAD IMO WG workplan 2024-2026: Consider ways to implement FAD recovery programs/strategies, including economic aspects and standards required for programs to be effective. With the following elements that the commission is asking CCMs to consider in the development and implementation of FAD recovery programs/strategies:

  1. Standards for FAD Recovery
  2. Economic Considerations
  3. FAD Retrieval and Prevention of Abandonment
  4. Monitoring and Effectiveness
  5. Legal and Regulatory Frameworks
  6. Regional and International Cooperation
  7. Technology and Innovation
  8. Capacity Building and Technical Support

More recently, the Regional Observer Program – Intersessional Working Group (ROP-IWG) has been reviewing the ROP minimum standard observer data fields to check that they can effectively support monitoring the implementation of CMMs, including CMM 2018-04. Specific questions the ROP-IWG participants are considering in relation to CMM 2018-04 include whether the minimum standard observer data fields sufficiently record interactions with sea turtles, and whether required

mitigation measures under CMM 2018-04 were used, and if they met the agreed gear specifications. WCPFC-SC21-2025/ST-WP-10 provides further details on the ROP-IWG's current activities.

4 Identified Gaps Between CMM 2018-04 and SciData

4.1 Species Coverage

CMM 2018-04 mandates reporting on "all captured sea turtles" by species and "incidents involving sea turtles". However, the current SciData species list focusses on 'fish' species, with no explicit requirement for sea turtle species reporting under operational data. In Section 1 of Annex 1 to the SciData, the operational data field reporting by gear is detailed, and in each section the reporting of *fish* in numbers and/or weight is detailed with a list of key species to report. After the list of key species there is a clause that states 'or other species as determined by the Commission'. Here, one could interpret additional species to be reported as turtles, since the Commission has determined reporting of interactions with them is required. However, turtles are not fish, and therefore, the interpretation above may not be universal.

4.2 Operational Detail

CMM 2018-04 provides guidelines for specific actions to be taken (e.g., avoid encirclement of sea turtles in purse seine nets) and equipment (e.g., dip nets) to provision to mitigate unintended interactions, captures, and mortality of turtles for both purse seine and longline. Reporting on the implementation of these measures may be best captured in the Part 1 Report or Addendum, as opposed to additional operational data fields in the SciData. There are, however, several provisions with respect to longline activities for which monitoring could be enhanced through changes to the operational SciData fields, and those are detailed below.

Longline:

- The measure requires detailed reporting on mitigation measures, such as hook size, hook type (i.e., circle hooks), bait type, and hook depth.
- SciData includes some relevant fields (bait type, hooks between floats) but lacks specific fields for hook type, size and depth[1], and bait type, for example, is only reported on a voluntary basis.

[1] hooks between floats is often used as a proxy for setting depth

Table 1: Summary of data reporting provisions in CMM 2018-04 with a corresponding proposal for modifications to the SciData reporting to address identified gaps

	CMM 2018-04	**SciData**
Purse seine	Purse seine: report incidents involving sea turtles to CCM	Could be captured more explicitly in the Part 1 Report or Addendum
Longline	Longline: For shallow-sets, use only large circle hooks with an offset not to exceed 10 degrees	Consider adding hook type and size to operational longline data fields
	Longline: For shallow-sets, use only finfish bait	Bait type is already included as a **voluntary** operational longline data field
	Longline: For shallow-sets, use any other measure or mitigation plan approved by the Commission	Could be captured more explicitly in the Part 1 Report or Addendum

Provision 7(c) of the CMM notes that CCMs shall establish their own operational definitions of shallow-set longline fisheries, large circle hooks, and any measure adopted under 7(a)(iii). Given potential variation in these established definitions, it would be advisable to ensure that any proposed data fields for shallow-sets are comprehensive enough to adequately capture the specifics of those definitions. Currently, hooks between floats (already captured in the SciData operational data fields) is the only known proxy used for determining shallow-sets, but if other metrics are used, these should be given consideration with respect to data fields proposed to identify shallow-set activity.

5 Recommendations for Alignment

1. One of the simplest steps to better align the reporting requirements could be to rename the catch reporting sections in the SciData, currently labeled as 'Weight of fish caught per set', to include turtles.

2. Consider adding hook size and type (with standardized reporting options) to the longline gear characteristics to comply with provision 7(a)(i) in the CMM.

3. Ensure established CCM criteria to characterize shallow-sets can be determined from operational data fields (e.g., number of hooks between floats, hook depth, etc.).

4. Bait type is already established as a voluntary operational data field; encouraging submission of these data could strengthen the reporting.

The proposed fields likely represent the minimum fields to capture the intent of the CMM; however, additional information regarding possible interactions with sea turtles could be provided in communications with the Commission and in Part 1 Reports. Increased observer coverage, potentially including through electronic monitoring (EM), and enhancements to ROP minimum observer data fields to improve alignment with CMM 2018-04 may provide alternative approaches to addressing these data gaps for effective monitoring of sea turtles.

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