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Time Challenges in the Review of Stock Assessments

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Submitted by the Secretariat and Scientific Services Provider¹

Purpose

1. This paper responds to the following tasking from SC21 to the Secretariat and the Scientific Services Provider (SSP; SPC-OFP):

SC21 recommended that the Commission consider the utility as well as the feasibility of including data from the previous year in stock assessments, noting that the current April 30 data submission deadline and August scheduling of the SC meeting pose significant challenges when including data from the previous year. SC21 recommended that if the Commission considers it important to retain data from the previous year in the stock assessments, it should prioritize consideration of the following constraints and the implications of that decision: 1) challenges for CCMs in providing annual scientific data submissions earlier than the current 30 April deadline; and 2) the current scheduling of SC meetings to be held annually in August. SC21 requested that the Secretariat, in consultation with SPC, provide a paper outlining these challenges for consideration by WCPFC22 (para 213 of [SC21 Outcomes Document](#)).

Introduction

2. Over its last few meetings, WCPFC's Scientific Committee has discussed mechanisms to address challenges for the SSP's delivery of requested stock assessments, analyses, and advice in sufficient time to allow members' peer review prior to the start of the SC meeting each year. The factors influencing the SSP's timetable to produce tuna stock assessments and other regular meeting papers for the SC include:
 - a. The annual SC-agreed stock assessment schedule.
 - b. The 30th of April, scientific data provision deadline.
 - c. The dates of the SC meeting and hence the deadline for SC papers.
 - d. Increasing levels of analysis required for acceptable stock assessments, in line with evolving best practice.
 - e. Delivery of the expanding requests for additional regular reporting following the data provision deadline, all of which require SSP resources to be allocated.

¹ Oceanic Fisheries Programme of the Pacific Community

3. The current 30 April deadline is for the provision of catch, effort, and size composition data to the Commission. That data must then be loaded into SPC data systems, and as data are not supplied in a standardised layout/format, there is significant time spent preparing and processing those data. Errors and uncertainties within the data that are noted during subsequent verification then need to be cleared with the relevant CCM. Generally, updated data sets are only available for assessment work by the end of May or early June each year.
4. The resulting short timelines to complete comprehensive tuna assessments are particularly vulnerable to unforeseen issues such as SSP staff illness, staff turnover, or need for staff to take time away for other legitimate reasons. The SSP notes with appreciation the funding of an additional stock assessment scientist by the Commission that was agreed to in 2023, which has assisted in the delivery of the SSP's work to SC meetings since. However, this alone does not address the broader issue of the need for additional buffer time to mitigate risks arising from unforeseen delays during the tight pre-SC period.
5. Further discussions on the issue occurred at SC21 in August 2025. That meeting *"acknowledged the increasing challenge with the availability of stock assessments sufficiently in advance of SC meetings to facilitate CCM's review, which is partially due to the availability of CCM data to the SSP. SC21 again encouraged CCMs to make best efforts to submit their scientific data to the SSP earlier than the annual deadline of 30 April. SC21 recommended that the Commission consider the utility as well as the feasibility of including data from the previous year in stock assessments, noting that the current April 30 data submission deadline and August scheduling of the SC meeting pose significant challenges when including data from the previous year. SC21 recommended that if the Commission considers it important to retain data from the previous year in the stock assessments, it should prioritize consideration of the following constraints and the implications of that decision:*
 - 1) *challenges for CCMs in providing annual scientific data submissions earlier than the current 30 April deadline; and*
 - 2) *the current scheduling of SC meetings to be held annually in August.*
6. Potential ways to mitigate this issue require Commission consideration and were raised within [SC19-SA-WP-14](#) as well as [WCPFC20-2023-28](#), but due to time constraints, the latter paper was not fully discussed at WCPFC20. This paper builds on those earlier papers to examine the broader issues around time constraints inherent in current WCPFC scientific processes and provides potential areas for discussion. It also addresses the specific request from SC21 regarding the feasibility of including data from the previous year in stock assessments.

Broader WCPFC time constraints

7. SC21 observed that *"the challenge remains the time available between the annual data provision deadline and the timing of the SC meeting to perform the work and provide the results to SC"*, and noted that *"if the Commission considered it important to retain that previous year's data ... it should prioritize consideration of the following constraints:*
 - 1) *challenges for CCMs in providing annual scientific data submissions earlier than the current 30 April deadline;*
 - 2) *the current scheduling of SC meetings to be held annually in August."*
8. The time available to the SSP to develop the stock assessments is primarily defined by the two factors outlined in 1) and 2) in the preceding paragraph. [SC19-SA-WP-14](#) highlighted some non-exclusive options to address these challenges. The following is not an exhaustive list from that

paper, but represents some key options with accompanying narrative, including the two noted by SC21:

- a. *moving the deadline for scientific data delivery earlier*: Some CCMs noted that this would be challenging, particularly in the absence of electronic reporting. Significantly, distant water CCMs who previously provided updated historical longline data on that 30 April deadline have undertaken efforts to provide that information by the end of the previous calendar year. This has helped longline-influenced stock assessments, and those CCMs are thanked and commended for their efforts in this regard.
- b. *adopt mechanisms for more efficient data provision*: In addition to considering moving the deadline for scientific data delivery earlier, the recent proposal for standardization of data submission templates would facilitate the data preparation process and improve the timeliness of data availability for assessments. We see this as an area of priority.
- c. *moving the date of the SC meeting later in the year/modifying the Commission meeting schedule*: Options to shift the timing of the SC meeting later in the year, swap the timing of TCC and SC, or a more holistic re-evaluation of the timing of the Commission meeting and its subsidiary bodies have been raised. Implications for the time available to the Secretariat and SSP for the Compliance Monitoring Scheme (CMS) process of TCC have also been highlighted. CCMs noted the need to consider the wider schedule of tRFMO meetings. On discussion with other tRFMOs, they did not appear to have significant flexibility in dates. Consideration of modifying the schedule of WCPFC meetings requires discussion between relevant Chairs, as well as consideration of the wider existing tRFMO meeting schedule.
- d. *reduce the frequency of assessments*: This has the potential to lead to similar issues in terms of timeliness of advice, as noted later in this document, and would require careful planning given the overlap with harvest strategies and tropical tuna CMM evaluation.
- e. *adjusting the complexity of assessments*: This option may be inconsistent with providing 'the best scientific information', while implications for the harvest strategy's monitoring strategy need to be considered.

Areas for Commission consideration around SC's request regarding the most recent year of data in stock assessments

9. On SC21's request to the Commission to consider the utility and feasibility of including data from the previous year in stock assessments, three areas are highlighted for the Commission to consider: stock assessment, harvest strategy, and additional scientific papers.

Stock assessment

10. This SC21 observation specifically refers to assessments for WCPO skipjack tuna. All other key tuna (and billfish) stock assessments (WCPO bigeye and yellowfin, South Pacific albacore) require longline data as inputs. Currently, data receipts from the longline fishery component are often delayed, particularly from vessels that may spend many months operating on the high seas. Data from the most recent year are therefore considered incomplete and hence are not included within those assessments. Without widespread adoption of electronic reporting², inclusion of the most recent year's data remains impractical.

² Noting in electronic reporting applications, there are mechanisms for partial trip reporting.

11. For skipjack, key fisheries are purse seine, pole and line, and domestic fisheries in the western tropical Pacific Ocean, with most of the catch taken by the purse seine fishery (83% of the catch weight in recent years). The wide-scale adoption of electronic reporting and shorter periods away from port make the inclusion of the latest year's data more feasible. However, delays can still occur in the receipt of pole and line data – a key source of information used to generate important time series of relative abundance for the stock assessment. Delays can also arise in domestic fisheries, where some national workshops to prepare annual data submissions are currently held toward the end of the second quarter of the calendar year or later. Discussions are proposed within the WPEA project to schedule those meetings earlier in the calendar year. The pole and line fishery is now mostly a Japanese fishery. The operational data for that fishery is not shared directly with SPC and is entered into the Japan FRA's database by an external service provider to the Japan FRA. These data have not been available for the most recent year in the last two skipjack assessments, resulting in the pole and line CPUE series being truncated one year earlier than all the other data. The provision of the most recent year of pole and line operational data continues to be challenging for Japan FRA's analyses.
12. Removal of the most recent year of data from the skipjack stock assessment would allow analysis on the 'full' data set to begin earlier, potentially in the preceding year; work on the final data set should, in theory, no longer be constrained by waiting for data processing after receipt on 30 April.
13. A disadvantage of excluding the most recent year of data from the skipjack assessment is that incorporating the latest data is particularly important for skipjack, as it is a short-lived species. The average lifespan of skipjack is about four years, with a maximum age of around eight years or older. Under the current approach, which includes the most recent year of data in the skipjack assessment, there is a two-year lag in management. For example, data up to 2024 were used in the 2025 assessment, and management decisions based upon that assessment would apply in 2026. If the most recent year of data were excluded from the assessment, a three-year lag in management would result. Such a lag represents a significant portion of the skipjack's lifespan and would increase the risk that decisions are based on outdated stock status information.

Harvest strategies

14. The second consideration relates to the harvest strategy approach. Under CMM 2022-01, the adopted management procedure (MP) for skipjack was developed based upon modelling analyses that assumed a two-year lag between data collection and management implementation. A decision to exclude the most recent year of data would therefore require the simulation modelling that underpins the skipjack MP to be re-done, as this change would increase the risk that the MP is informed by out-of-date stock status information from the estimation process. If the updated modelling were to show differences in the performance of the adopted MP, this outcome would necessitate a re-evaluation by managers to determine whether the existing MP remains appropriate. In effect, the exclusion of the most recent year of data could constitute an exceptional circumstance under the harvest strategy framework.
15. Separately, we highlight the additional requirements for submission and processing of fishery data under the harvest strategy approach. In addition to the routine running of stock assessments, fishery-specific data are also required to run the management procedure. Management procedures are deliberately scheduled to operate in years when a full stock assessment is not conducted, to maintain a clear distinction between the MP outputs, which are used directly for management decisions, and the stock assessment outputs, which are used to monitor and evaluate the performance of the MP. This staggered implementation increases the overall demand

for timely data processing and coordination to support both the stock assessment and the management procedure.

Additional Scientific Papers

16. While SC21's comments focussed primarily on stock assessment, the SSP notes this issue also extends to the increasing number of annual analytical products prepared for the regular Commission meeting and its subsidiary bodies, beyond the core stock assessment and harvest strategy work. These products also rely on the most recent year of catch and effort data and include, but are not limited to, the following examples: GN-01³, compendium of fisheries indicators, albacore trends, evaluation of the tropical tuna measure, and the catch and effort data summaries for the tropical tuna CMM. Even if adjustments were made to the years used in the skipjack stock assessment modelling, this would not reduce the SSP's workload in producing these other outputs. The current timing of data submissions and the existing meeting schedule would continue to pose significant challenges for their timely preparation and delivery.

Summary

17. Excluding the most recent year of data would contribute to reducing the time constraints associated with developing the skipjack assessment. However, it's important to be aware of the trade-off that exclusion of the most recent year of data is likely to increase uncertainty in management decision making, have implications for the adopted skipjack management procedure and progress against the Commission's harvest strategy workplan, and would not mitigate the work involved in delivering other regular products to SC or the Commission. Based upon this analysis, we suggest other solutions are more effective (see Recommendations).

Recommendations

18. As noted in [WCPFC20-2023-28](#), there appears to be no easy fix for these important matters. However, the changing demands on the provision of scientific information offer an opportunity to realign resources and redefine the way the Commission carries out its work.
19. The Commission is invited to:
 - a. consider the utility and feasibility of including data from the previous year in the skipjack stock assessment, noting the information provided in this paper;
 - b. consider the constraints that exist, with a focus on:
 - i. challenges for CCMs in providing annual scientific data submissions earlier than the current 30 April deadline;
 - ii. the current scheduling of SC meetings to be held annually in August;
 - c. identify potential solutions to the issue that can be implemented/trialled in the coming years, including consideration of a combination of process, technology, and scheduling improvements aimed at improving both timeliness and data completeness, such as:
 - Enhancing electronic reporting (ER) coverage across key fisheries, including the provision of partial trip data where applicable, to accelerate the timeliness of verified operational data;
 - Support the proposal for standardization of data submission templates;

³ Annual Overview of Tuna Fisheries in the WCPO – a statistical summary of catch, effort, and fleet trends across all tuna fisheries, which includes catch and effort data from the most recent year.

- Consideration of the data delivery deadline, particularly whether national situations permit movement of the submission deadline earlier than 30 April; and
- Task the Secretariat, the Commission and Subsidiary Body Chairs, and the SSP to evaluate options for adjusting meeting timetables for consideration by WCPFC23 and its subsidiary bodies in 2026.