



**SCIENTIFIC COMMITTEE
TWENTIETH REGULAR SESSION**

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Strengthening Stock Assessments and Operations of the Scientific Committee

WCPFC-SC20-2024/GN-WP-05

Submitted by the Secretariat and SPC-OFP

Purpose

1. This paper provides an update of discussions since WCPFC20 on efforts to identify viable options for (1) alleviating time constraints faced by CCMs in reviewing the outcomes of stock assessments before SC meetings, in addition to allowing more time for SPC to finalize stock assessments by the agreed submission deadline of meeting papers and (2) rationalizing the process and streamlining the outcomes of SC meetings to support more effective and efficient discussions at the Commission.
2. This paper responds in part to a tasking from SC19, as adopted at WCPFC20, that the Secretariat, SC Chair, Vice-Chair, and Convenors further explore options discussed at SC19 for rationalizing SC's operations to develop recommendations for improving the structure and functioning of the SC, to be presented to SC20.¹

Introduction and Background

Time constraints related to CCMs' review of stock assessments before SC meetings

3. At the 19th Regular Session of the Scientific Committee (SC19) in 2023, the WCPFC Scientific Services Provider (SSP), the Pacific Community (SPC), presented a paper [SC19-SA-WP-14 REV1](#) that outlined options to address time challenges associated with SC's review of WCPFC stock assessment inputs.
4. This issue first arose at SC18, where discussions took place on the limited time available for CCMs to review and provide feedback on key inputs to stock assessments. This issue arises mainly from requiring a longer period for SPC's stock assessment to meet the expanding requirements and best practices. The issue also includes a range of factors, including the WCPFC's stock assessment schedule as recommended by SC, the deadline for the provision of scientific data (30 April), the scheduling of SC meeting dates and associated SC paper deadlines, and the accumulation of additional regular reporting requests after the data provision deadline, which requires additional SSP resources.

¹ See paragraph 243 of the [SC19 Outcomes Document](#)

5. Options presented by the SSP at SC19 to alleviate the time constraints for CCMs to review stock assessment reports are summarized below, and details are in **Attachment A**:
 - a. Change existing data and/or SC paper deadlines: e.g., moving the data provision deadline earlier and/or the SC meeting later in the year; expected to allow more time for the SSP to deliver the assessment following data provision before the SC paper deadline, allowing more time for CCMs' review.
 - b. Adjust the workload: e.g., simplify the assessment process, for example, reducing model complexity, uncertainty grid sizes, the number of assessments performed in a year.
 - c. Allow more time for the work to be undertaken: e.g., extend the period over which an assessment is undertaken to span two years, comparable to the approach now used for shark assessments.
 - d. Increase resources: provide additional funds to allow more human resources to be devoted to delivering assessments within the available time.
6. The SC19 established an Informal Small Group (ISG-02) to review the SSP paper, and provided the following recommendations (paragraphs 403 – 404, SC19 Summary Report) and possible solutions to address challenges as outlined in Table 1 (**Attachment B**):

403. Noting the need for the SSP to have more time to complete the work required to conduct annual stock assessments and other analyses reviewed by the SC each year, SC19 recommended that:

- i) the data manager at the SSP liaise and consult with CCMs about the possibility of bringing forward the data submission deadline for fleets, especially historical data updates, and*
- ii) the Secretariat explore options for moving the dates of the SC meeting to a later period in the calendar year,*
- iii) The Secretariat and SSP explore options for the WCPFC website to include a portal for CCMs to enter/edit/manage their ACE data submissions, and*
- iv) The SSP develops guidelines for standardised structure/file layouts for Annual Catch Estimates and aggregate catch/effort data that can be used by CCMs to submit these data.*

404. Noting the need for further resources to assist the SSP in conducting annual stock assessments and other analyses related to the work of the Commission, SC19 recommended that the Commission consider increasing the SSP's budget so that the number of full-time assessment scientists can be increased to four or five.

7. TCC19 discussed SC19's recommendation but did not develop its recommendations. Only views were expressed by some CCMs.
8. WCPFC20 considered SC19's recommendation on this matter and adopted the following (paragraphs 831 – 832, WCPFC20 Summary Record):

831. *The Commission did not change the current scheduling of SC20 and TCC20, but requested that the Secretariat, SC Chair, SC Vice-Chair, SC Convenors, TCC Chair, and TCC Vice-Chair further explore and consider options discussed at SC19 and TCC19 and report the intersessional discussions to WCPFC21 for its consideration.*

832. *The Commission agreed that in 2024, the deadlines for AR Pt 1 reports will be 7 July 2024 and AR Pt 2 reports will be 15 June 2024.*

9. The Commission also agreed to include additional funding of USD 165,000 in its 2024 Budget to support one additional stock assessment scientist to SPC in 2024.

Future operations of the Scientific Committee

10. During previous SC meetings, some CCMs have suggested improvements to the SC operations, noting that the 8-day meeting duration is lengthy and involves reviewing numerous documents. To streamline future operations, it was proposed to explore alternative platforms like the online discussion forum (ODF) and virtual meetings, streamline the SC agenda in alignment with the Commission's requests or its initiatives, and review the number and submission timeframe of SC working papers. To aid this review, a working paper [SC19-GN-WP-06](#) was posted on the ODF and presented at SC19, summarizing the main options and feedback in Table 2 (**Attachment C**), with pros and cons outlined. SC19 emphasized the importance of improving SC functionality while maintaining the quality of scientific information provided to the Commission without compromising its mandate as outlined in the WCPF Convention.
11. In addition to the use of alternative platforms, SC19 considered streamlining the SC theme agenda. While it is important to critically review the number of items in the SC agenda, rationalizing the Commission's demands on the SC should also be considered. It was highlighted that the SC14 agenda included around 90 issues with directions from the Commission that SC “shall or will consider” and around 20 that it “may” consider; thus over 100 different requests were reflected in the agenda (paragraphs 680 – 684, SC14 Summary Report).
12. The ISG-02 also reviewed this working paper and provided the following recommendations, which were endorsed by the Commission at WCPFC20:

284. *SC19 recommended that the options outlined in the Tables to Attachment H be further explored by the Secretariat, SC Chair, Vice-Chair and Convenors in order to develop recommendations for improving the structure and functioning of the SC, to be presented to SC20.*

285. *SC19 recommended that the Commission consider reducing the length of SC to 7 days in 2024. The length of future SC meetings should be further considered following the 7-day SC20, particularly considering the workload for subsequent SC meetings.*

Update on 2024 intersessional discussions

13. In early 2024, SPC's Head of the Oceanic Fisheries Program visited the WCPFC Secretariat to start discussions on the options for addressing the time constraints associated with SC's ability to review inputs to stock assessments. With the additional financial support approved by the Commission at WCPFC20 for scientific services, SPC's resource constraints are partially alleviated in 2024.

14. Challenges remain, however, in that the time between data submission by CCMs and the timing of the SC meeting is still a relatively short window to address a range of requirements to analyze and produce stock assessments for SC's review. CCMs did not agree to an earlier deadline for data submission and only agreed that earlier data submission could be done on a voluntary basis. SC19 noted the potential for full implementation of electronic reporting within WCPFC fisheries to aid in this process, although some CCMs noted challenges in achieving this. SC19 also noted the changing role of the stock assessment within the harvest strategy framework, where stock assessments moved from the key basis of management decision making to a key part of the monitoring strategy. CCMs noted that in the fullness of time, this may also streamline the work of the SC.
15. In early July 2024, the SPC-OFP Head and the WCPFC Executive Director took the opportunity on the margins of the Regional Secretariat's Network meeting at UN FAO Headquarters to meet with the Executive Directors of the other four² tuna Regional Fisheries Management Organizations (tRFMOs). Discussions focused on the current meeting schedules of each organization and understanding of their respective meeting cycles and associated deadlines. It was clear from those discussions that all tRFMOs are struggling with time constraints in some way and that the current meeting schedule reflects processes that have been in place for a long time.
16. To rationalize the SC's functioning, the Secretariat worked with the SC Chair to develop guidelines to assist SC Theme Convenors in developing clear and concise SC recommendations (SC20-GN-IP-04). This was done to ensure that SC recommendations are effectively taken up by TCC and the Commission, where required, and without confusion.
17. Additionally, the Secretariat has introduced some new features to the WCPFC meetings website. The changes are designed to improve the user experience during meetings, by:
 - Linking meeting documents to agenda items, allowing the navigation and searching for documents to be agenda-based.
 - Introducing an "activity feed" where notifications and meeting updates can be easily identified, reducing the reliance on email.
 - Adding a full-text search feature allowing users to find content contained within PDF documents by search terms, either for the current meeting or across all meetings.
18. The Online Discussion Forum (ODF) will continue to be used for SC20, reflecting the importance many CCMs place on the ability to review and discuss certain agenda items in advance. The Secretariat took note of CCM views expressed at SC19 against other options considered for improving SC functions, such as the utilization of intersessional virtual meetings and the creation of videos to present some issues to be viewed by participants on their own time.
19. The current procedure for submitting papers for SC20, as determined at SC2, involves several steps. The Annual Report Part 1, using the updated online template, should be submitted by July 7, 2024. Titles and preliminary abstracts of meeting documents must be submitted by July 10, 2024, and full papers by July 27, 2024, to the SC Chair, Secretariat, and relevant Theme Convenors. All papers will

² In addition to the WCPFC, the four tRFMOs are: Inter-American Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), Commission for the Conservation of Southern Bluefin Tuna (CCSBT), and the Indian Ocean Tuna Commission (IOTC).

be posted on the SC20 website by July 31, 2024. The SC Chair and Theme Convenors will decide whether papers are accepted as Working Papers, which should be relevant to specific agenda items for presentation, or Information Papers, which are of general interest but not for presentation.

Recommendations

20. SC20 is invited to:

- a. Note that the additional budget approved at WCPFC20 for scientific services in 2024 has partially alleviated the time constraints faced by the SC in reviewing stock assessment inputs.
- b. Note that the Secretariat and the SSP will continue to explore options for adjusting SC's meeting dates with other tRFMOs.
- c. Encourage CCMs that are able to do so to submit their scientific data earlier than the annual deadline of 30 April.
- d. Note the adjustments to the WCPFC Meeting webpage designed to support CCMs' participation in SC discussions.

Options to address time challenges in the SC review of WCPFC stock assessment inputs

No.	Adaptation option	Benefits	Drawbacks
1	Move data provision deadline from end April to earlier in the year (and maintain/move SC meeting timing (#4)).	Gives more time for supporting analyses to be performed, reviewed, updated.	Most recent year of data unlikely to be included in the assessment (SKJ) unless option #2 also pursued. Later-in-the-year updates to e.g. longline data may limit supporting analyses for all assessments. Could affect indicators/SPA trends papers etc. similarly.
2	Provide data more frequently throughout the year. For example, propose an additional data submission deadline for earlier in the year (e.g. end of February) to cover: (i) submission of updated ACE and AGGREGATE data for previous years (y-2, y-3, y-4, etc.), and (ii) submissions of ACE, AGGREGATE and SIZE data for (y-1) for the purse seine and other key fisheries for skipjack. (see discussions arising from the ER&EMWG on data provision at WCPFC19).	Allows supporting analyses to be initiated earlier. Internal automatic checking on data entry should improve data quality and reduce manual checking processes. Data from the purse seine fishery are available in a more timely manner than other fisheries and would assist skipjack assessments in being as up to date as possible. Updates to data from previous years (y-2, y-3, y-4) should usually be available for this earlier deadline to assist in assessments for other stocks.	Region-wide and consistent adoption of ER required. Data checking processes need to be undertaken rapidly. Improves ability to undertake analyses by 2 months only.
3	Adopt mechanisms for more efficient data provisions, including: - Guidelines for standardised structure/file layouts for Annual Catch Estimates and aggregate catch/effort data are used by countries to submit their data. - Consideration of a new portal/app on the WCPFC web site for CCMs to enter/edit/manage their ACE data submissions.	Saves time on loading and checking the data submission into the WCPFC databases. Approach is consistent with the requirement to submit standardised operational catch/effort and observer data according to the WCPFC ER SSPs and the recent update to the Scientific data to be provided to the Commission (ANNEX 2).	Some initial work required by CCMs to change data submission formats, although the WCPFC SSP would assist CCMs to work towards any new requirements.

4	Move SC later in the year (and maintain/move data provision deadline (#1)).	Allows data provision up to the most recent year to be incorporated within (SKJ) assessment (if data provision deadline maintained; but see also #2, #3). Gives more time for supporting analyses to be performed, reviewed, updated.	Limited time for subsequent further analyses prior to that year's Commission meeting (e.g. during TT CMM years, for harvest strategy analyses, where managers require advice based upon SC outputs).
5	Move deadline for data input papers specifically earlier in the year.	Would provide greater time for SC feedback on input analyses.	Analyses undertaken early in the calendar year may not be updated with the latest information if the data deadline were not pushed earlier (#1). Current limited human resources available to undertake analyses well in advance of the assessment year and provide outputs for review. Additional burden on assessment scientists to re-run analyses once finalised data/suggested changes received. If data provision deadline maintained, analyses may need to be reduced and assessments simplified to achieve the deadline. Feedback on analyses would need to be rapidly received, as they may not lead to changes if the time available prior to the assessment finalisation were insufficient.
6	Increase resources to the SSP to provide additional person-power to deliver outputs.	More resources allow additional work to be performed, earlier in the year. For example, an additional staff position dedicated to data preparation and analysis and the development and maintenance of streamlined approaches for assessment reporting and repeatability. This would also help mitigate the time lost in inevitable staff turnover and the associated training and development requirement that typically must occur of new assessment staff.	Still constrained by the existing data/paper deadlines. Feedback on analyses would need to be rapidly received, as they may not lead to changes if the time available prior to the assessment finalisation were insufficient. Implications for SC budget.
7	Develop tools for more efficient review and feedback	Online tools such as GitHub and R Shiny apps allow interested regional scientists to view data inputs as they are produced. This could also extend to standard plots for model development and diagnostics. Can provide up to date information on assessments as they develop, rather all information being received close to the	This approach requires staff resources to step away from assessment work to create, structure and populate tools and repositories in the initial stages. The tools would need to be easily accessible by all interested regional scientists. There is a risk that this type of more real time 'view/review' could lead to specific influences on assessments, without wider

		SC meeting. Perceived issues could be communicated directly to the SPC assessment scientists for wider consideration.	SC review. Requires time allocation by SPC scientists to keep up with feedback/comments and respond to these if necessary. There would be a need to be selective in the information provided to avoid representing a 'branch' of the assessment development process that is subsequently abandoned due to issues. Housing of the apps incurs some costs based upon the number of users/views/bandwidth levels required.
8	Reduce number of assessments performed each year.	Allows more assessment scientist time to be brought to bear on the assessment with existing resources. Reduces the volume of information/papers SC needs to review.	Without an increase in SSP funding to allow more scientist-time per assessment (#6), there would be a reduced number of assessments performed, the frequency of assessments for a stock would be reduced, and status advice for a stock developed less frequently.
9	Move to a cycle of 'update' and 'full' assessments	Allows more focus on one assessment each year (dependent upon the cycle period). Allows SC to focus their review on the 'full' assessment that year.	'Update' assessments do not necessarily allow the 'best available scientific information' to be developed. Ongoing improvements to assessments would not be actioned for all stocks in a timely manner. This approach may not be consistent with the use of the assessment as part of the harvest strategy's monitoring strategy
10	Extend the period over which tuna assessments are performed to two years (as per recent decision for shark assessments). For example, perform a "preliminary assessment" that may be more focussed on structural and modelling changes, rather than data changes. Following SC review in the first year, that structure could then be fixed and a data update applied for the year 2 assessment.	Allows greater time to perform input analyses, receive SC review, then perform the assessment. Assessments would be of comparable rigour to that currently provided.	Dependent on approach, if analyses were not re-run, it could increase the lag in the data relative to the year in which advice is provided by 1 year (to 2 to 3 years historically). This is significant, particularly for skipjack tuna where most of the population will not have been 'seen' within the assessment being considered. If SC's review 'set' the approach for data input development in the prior year, it would still increase assessment workloads under the current assessment cycle, as analyses could still need to be re-run with finalised data – particularly if issues were then identified - and reports re-written.

			Improvements to assessment inputs due to learnings from other assessments/reviews would be delayed by a year. Appears to provide little gain over the current approach where SC inputs to a data input approach in one year are adopted for the next assessments in line.
11	Reduce analyses/representation of uncertainty (size of the grid) in assessments and/or model diagnostics presented.	Assessment and assessment report production would be faster, providing more time post SC review. Saves SC some time spent in review of SC documents.	Does not significantly assist in the earlier delivery of input data analyses for SC review. Reducing grid size would result in a limited gain in personnel time. A grid with fewer uncertainty factors might not represent the full uncertainty and could thus underestimate the actual risk of unwanted management outcomes. Reduction in diagnostics will provide a slightly greater gain in time but reduce transparency and utility. Does not assist in the review of assessment inputs, which may inform uncertainty grid structure. Assessments may not continue to meet global 'best practice' or 'good practice' guidelines.
12	Improve planning of SC budget so that funding to support specific inputs does not delay their production.	Allows work on specific inputs to be started well in advance of the assessment being considered.	Only applies to specific (generally biological) assessment inputs, not those based on fisheries data.
13	Reduce the overall scope of issues considered across SC.	Reduces review workload of SC members allowing them to concentrate on assessments.	Reduces the ability of Scientific Committee to cover the range of topics for which advice is needed. Potentially slows down the incorporation of advice in management action.

Table1. List of challenges and options

Challenge	Option	Pros	Cons
Extend the period over which the assessment and related work done by the SSP is undertaken.	Bring forward the deadline of data submission.	The earlier the data are submitted and processed, the earlier the data is available for analysis.	Possible difficulties for CCMs to compile data by an earlier deadline.
	More frequent data submissions (e.g., quarterly) and more streamline data submission (using better formats).	Allows supporting analyses to begin earlier. Greater efficiency in loading new data into the SciData database. Greater use of electronic monitoring and reporting is seen as greatly facilitating the need to report data in a more timely manner.	Possibly more work for CCMs related to submitting data more regularly.
	Swap dates of TCC and SC.	May be able to provide up to an additional 5 weeks for assessment and related analyses and will help reduce the 'stress' and extreme workloads currently being experienced by SPC staff.	Constraints imposed by existing schedule of other RFMO meetings. Issues for changing the current compliance monitoring schedules.
	Explore the option of moving the SC to a later date by identifying a window of time that is suitable for all CCMs.	Will provides additional time for assessment and related analyses and will help reduce the 'stress' and extreme workloads currently being experienced by SPC staff.	
Adjust the level of work undertaken by SSP	Fewer assessments.	Reduce time to review assessments thus saving time for the SC.	SC19 did not see this as a viable option as the review of assessments for the key target species, together with co-occurring species, is a principal remit of the Commission's work.
	2-year assessment period.	Provides an opportunity for continued dialogue between the assessment team and SC in the two years of the assessment, and potentially help concerns identified early on within the assessment time-frame to be addressed before assessments are used to inform management.	Without an increase in overall staffing levels, would increase the workload for SSP scientists.
	Lengthen the stock assessment cycle (i.e., the number of years between when an assessment is undertaken for each stock).	Would allow further exploratory analyses to be undertaken between assessments to assist with improving the model inputs and model structure. Could be combined with a 2-year assessment	Would lengthen the period between the last year of data in the assessment and the year when management procedure/action is implemented. This would not be tenable for short-lived species like skipjack tuna.

		period.	Assessment of the status of stocks would be delayed, resulting also in a delay in taking appropriate management actions when required.
	Use of simpler 'updated' assessments only using new data.	Limited need to undertake supporting data analyses and development of the stock assessment model, thus saving time. Several CCMs considered it was essential to simplify the assessments for any stocks for which there are management procedures, noting that with management procedures in place, the stock assessments will no longer be the basis for management.	Other CCMs did not see this as a viable option as the stock assessments form a critical component of the monitoring strategy for the Commission and the assessment models are not yet mature enough. There is a need for scientific rigour by using the best assessment models so that SC can provide the best scientific advice to the Commission.
	Smaller set of axes in the grid of uncertainty used in stock assessments.	Smaller set of analyses required to be run, thus saving time.	SC19 did not see this as a viable option as it is important that the full grid of uncertainties is explored by the assessment models. This is required for management, such as monitoring the probability of breaching a limit reference point.
Increase the resources available to SSP for undertaking its work	More SSP staffing resources (e.g., 5 full-time assessment scientists, with one assessment scientist dedicated to each key species, and data analysis support).	An expanded team of scientists would allow more staff to work on the range of analyses required for assessments and other projects. With a dedicated scientist for each stock, allows for follow-up work on a single assessment to continue between the 3-year assessment cycle. Less staff 'burn-out'.	Increase in WCPFC budget for SPC-OFP scientific services.
	More computing power.	Many model analyses currently have long time times (up to 24 hours). Increased computing power may help to shorten these run times and allow models runs to be undertaken simultaneously (as required to construct the full uncertainty grid).	Possible increase in WCPFC budget for SPC-OFP scientific services.
	Better use of SPC alumni.	Helps spread analysis load across a larger number of assessment scientists who have experience with MULTIFAN-CL and the WCPO assessments.	In-kind budgetary commitment from CCMs. Additional project management load for the SSP.

	Better resources and processes to allow for more input by CCM scientists into development of assessment models and other inputs.	Helps to overcome problems of process relating to a lack of mechanism at the SC for timely feedback and review. Could be facilitated by online meetings.	In-kind budgetary commitment from CCMs. Additional project management load for the SSP.
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Table 2. Possible options to improve SC structure and efficiency.

Issue	Option	Pros	Cons
Use of alternative platforms	ODF	Seen as a useful complementary tool to provide feedback on papers/topics that are not discussed in plenary. May be useful for administrative agenda items, and for technical feedback.	At present it is not seen as providing a viable option to replace the substantive discussion and review of papers during plenary. Also, seen as by many as peripheral to the main SC record, and so not widely used. Concern expressed that it may result in many instances in moving the work of the SC to other formats that might not be as efficient as in-person meetings
	Online-meeting	Maybe useful for small meeting groups	Seen as unlikely to replace SC plenary. Issues associated with timing, etc. for some CCMs. Does not allow for the many benefits from in-person meetings.
	Video presentations	May be useful for some very specific matters (e.g., training materials).	Little support, as not many, if any, benefits from this approach. Indeed, likely to increase workload for both presenters and delegates, so does little to reduce workload.
Streamlined SC agenda	Scope for re-prioritising WPs as IPs to save time presenting and discussing these items.	May allow the number of days that SC meets to be reduced. However, any time-savings from restructuring SC should be re-invested to increase time for discussion of main agenda items (e.g., stock assessments) rather than to reduce it.	SC19 noted that important issues which had been discussed in previous in-person SCs did not get the scrutiny that they deserved during the streamlined SCs. Reducing the number of items discussed may also reduce the functioning of the SC.
	Condense theme sessions such that they occur over a period of 3-4 days. For example, all MI theme sessions occur over	May reduce the duration of stay for a few delegates from larger delegation	Extra time needed for drafting recommendations, consideration of these drafts by CCMs, and then final clearance

	days 1 - 3, all SA theme sessions occur over days 4-6, etc.		and adoption. As such the foreseen savings in time may not be possible.
	Streamline stock assessments	<p>Would reduce the time during SC to review stock assessments.</p> <p>Several CCMs considered it was essential to simplify the assessments for any stocks for which there are management procedures, noting that with management procedures in place, the stock assessments will no longer be the basis for management.</p>	Other CCMs did not see this as a viable option as the stock assessments form a critical component of the monitoring strategy for the Commission and the assessment models are not yet mature enough. There is a need for scientific rigour by using the best assessment models so that SC can provide the best scientific advice to the Commission.
	The EB agenda could be streamlined by addressing species groups in a rolling 3 or 4-year program instead of having management of sharks, seabirds and turtles on the agenda annually.	Time savings due to reduced EB agenda.	<p>Reporting on, and assessment of the status of these species groups, would be delayed, resulting also in a delay in taking appropriate management actions when required.</p> <p>May not be consistent with CMM requirements for certain species.</p>
SC document deadlines	Consider a ~1 month deadline for submitting papers	Would provide additional time for members to review the scientific input to the SC.	Without an increase in the length of time available to the SSP to undertake the work required for SC, would likely increase the workload of the SSP. Highly dependent on SSP schedules and workload.