
OUTCOMES OF THE 25th SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY: IOTC SECRETARIAT, 06 OCTOBER 2023

PURPOSE

To inform participants at the 14th Working Party on Methods (WPM14) of the recommendations arising from the 25th Session of the Scientific Committee (SC25) held in December 2022, specifically relating to the work of the WPM.

BACKGROUND

At the 25th Session of the SC, the SC noted and considered the recommendations made by the WPM in 2022 that included updates on the MSE process for various IOTC species.

Based on the recommendations arising from the WPM13, the SC25 adopted a set of recommendations, provided in [Appendix A](#) of this paper.

The recommendations contained in [Appendix A](#) was provided to the Commission for consideration at its 27th Session held in May 2023. A separate paper, IOTC–2023–WPM14–04 addresses the responses and actions of the Commission from its 27th session.

In addition, the SC25 reviewed and endorsed a Program of Work for the WPM, including a revised MSE schedule, as detailed in [Appendix B](#) as well as the guidelines for the provisions of exceptional circumstances for IOTC species MPS contained in [Appendix C](#). A separate paper (IOTC–2023–WPM14–07) will outline the review and development process for a *Program of Work* for the WPM for the next five years.

DISCUSSION

In addition to the recommendations outlined in [Appendix A](#), [Appendix B](#) and [Appendix C](#), the following extracts from the SC25 Report (IOTC–2022–SC25–R) are provided here for the consideration and action of the WPM14:

Report of the 13th Session of the Working Party on Methods (WPM13)

111. The SC **NOTED** the report of the 13th Session of the Working Party on Methods ([IOTC–2022–WPM13–R](#)), including the consolidated list of recommendations provided as an appendix to the report. The meeting was attended by 60 participants (cf. 54 in 2021). No MPF funding was provided as the meeting was held online.
112. The SC **NOTED** that the WPM has reviewed and discussed a wide range of issues including MSE progress for IOTC species, multi-species MSE, exceptional circumstances considerations for bigeye tuna MSE, joint CPUE standardisations, and close kin mark recapture design study for yellowfin tuna.

7.6.1 Management Strategy Evaluation Progress

113. The SC **NOTED** the good progress made in Management Strategy Evaluations exercises for IOTC species in 2021, and the useful discussions of MSE work at the MSE Task Force meeting (a technical expert group of the WPM) and the TCMP meeting in 2022.

7.6.2 Albacore MSE

114. The SC **NOTED** that the ALB operating model (OM) has been updated from the 2021 assessment models, which are now based on 2 model runs, each with a different CPUE index. The OM consists of a total of 432 models runs which are configured along similar sources of uncertainty levels as the previous one.
115. The SC **NOTED** that alternate methods for conditioning OMs, such as Approximate Bayesian Computation (ABC), might provide a wide range of options to the many issues that can arise during conditioning. The SC agreed that it should first be tested, and albacore could serve as a useful case study for the use of ABC for OM conditioning. The SC further **NOTED** that if such a strategy is to be used in the future, prior distributions for parameters need to be established.

7.6.3 Skipjack tuna MSE

116. The SC **NOTED** the recent SKJ MSE focused on addressing the TCMP05's request to incorporate implementation errors in the MSE framework and has evaluated MPs that are resilient to implementation errors. The MSE tested implementation errors ranging from 10% to 40% (the actual catches in 2018 and 2019 were 29% and 16% greater than the current TAC). As such, the magnitude of implementation errors adequately compensates for the discrepancy between the TAC and the actual catch.

7.6.4 Yellowfin tuna MSE

117. The SC **NOTED** there has been no further progress on the OM development of yellowfin tuna, pending the results of the external review of the yellowfin stock assessment model which is scheduled to take place February in 2023.

7.6.5 CKMR design study

118. The SC, However, **NOTED** that there has been further advancement of the CKMR design study for yellowfin tuna. The SC **NOTED** that the design study indicates that collection of 30,000 samples each year would provide useful population metrics (Total Reproductive Output (TRO, similar to spawning stock biomass), depletion in TRO, adult mortality and mean recruitment) with reasonable precision. Specifically, the depletion in total reproductive output (TRO), could be estimated with a coefficient of variation (CV) of 15% with 30,000 samples collected each year for 5 years. The logistics of sampling appear feasible given the size samples available throughout the IOTC fisheries, however, it is vital to account the variability in access and sampling quality between fisheries, therefore a phased approach is needed.

119. The SC **NOTED** that the result of the design study is thought to be robust, which means that if targeted samples can be gathered and enough kinship pairs can be located, the intended precision of the population estimates can be achieved, to significantly improve the precision of assessment and robustness of management advice. Further collaborative work is needed to resolve logistical challenges of sampling, feasibility, costs and benefits.

7.6.6 Bigeye tuna MSE

120. The SC **NOTED** that the running the BET MP and the calculation of the TAC has been presented to both the WPM13 and WPTT24 (see Section 7.4.3).

121. The SC **NOTED** that the 1-year time gap between the running of an MP by the SC and its actual implementation is less than ideal. The SC **NOTED**, however, that such a delay in the implementation has been MSE tested for the adopted BET MP and thus its effect on the performances has been already taken into account. The SC **RECOMMENDED** that the Commission identify and adopt a decision-making process to shorten the delay in the implementation of the MP output.

7.6.7 Swordfish MSE

122. The SC **NOTED** that the newly proposed simplified OM grid provides a comparable perspective on uncertainty to the existing OM. It was noted that there is a wide spread of uncertainty related to stock status in the swordfish OM.

123. The SC **NOTED** that the value of 0.2 for sigmaR that came from the assessment is quite low and may not be appropriate for an oceanic species like swordfish. The SC agreed that higher values are explored as a robustness test of the OM

7.6.8 Update on TCMP05

124. The SC **NOTED** document IOTC-2022-TCMP05-R on the Report of the 5th session of the TCMP held in May 2022. The SC **NOTED** that the WPM had taken into consideration the recommendations and discussions held at that meeting.

125. The SC **QUERIED** whether it would be necessary to hold a virtual TCMP meeting early in the year if no MPs are considered ready for presentation to the TCMP that particular year. The SC **RECOMMENDED** that there is no need to organize a virtual TCMP as no candidate MPs will be ready for consideration for adoption in 2023.

126. The SC however **CONSIDERED** that it is advisable to have focused dialogue with managers on those MSE which are more advanced such as that for SKJ. The SC **RECOMMENDED** that a virtual TCMP is tentatively convened early in 2024 with a special focus on MSE for SKJ.

RECOMMENDATION

That the WPM:

- 1) **NOTE** paper IOTC–2023–WPM14–03 which outlined the main outcomes of the 25th Session of the Scientific Committee, specifically related to the work of the WPM.
- 2) **UPDATE** Appendix B as required.
- 3) **CONSIDER** how best to progress these issues at the present meeting.

APPENDICES

Appendix A: Consolidated set of recommendations of the 25th Session of the Scientific Committee to the Commission, relevant to the Working Party on Methods.

Appendix B: Schedule of MSE for the WPM (2021–2024).

APPENDIX A

CONSOLIDATED SET OF RECOMMENDATIONS OF THE 25TH SESSION OF THE SCIENTIFIC COMMITTEE (5 – 9 DECEMBER 2022) TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON METHODS

*Extract of the Report of the 25th Session of the Scientific Committee
(IOTC–2022–SC25–R; Appendix 38, Pages 261–226)*

GENERAL RECOMMENDATIONS TO THE COMMISSION

REPORT OF THE 13TH SESSION OF THE WORKING PARTY ON METHODS (WPM13)

SC25.20 (para. 118) The SC **NOTED** that the 1-year time gap between the running of an MP by the SC and its actual implementation is less than ideal. The SC **NOTED**, however, that such a delay in the implementation has been MSE tested for the adopted BET MP and thus its effect on the performances has been already taken into account. The SC **RECOMMENDED** that the Commission identify and adopt a decision-making process to shorten the delay in the implementation of the MP output.

Update on TCMP05

SC25.21 (para. 122) The SC **QUERIED** whether it would be necessary to hold a virtual TCMP meeting early in the year if no MPs are considered ready for presentation to the TCMP that particular year. The SC **RECOMMENDED** that there is no need to organize a virtual TCMP as no candidate MPs will be ready for consideration for adoption in 2023.

SC25.22 (para. 123) The SC however **CONSIDERED** that it is advisable to have focused dialogue with managers on those MSE which are more advanced such as that for SKJ. The SC **RECOMMENDED** that a virtual TCMP is tentatively convened early in 2024 with a special focus on MSE for SKJ

SUMMARY DISCUSSION OF MATTERS COMMON TO WORKING PARTIES (CAPACITY BUILDING ACTIVITIES – STOCK ASSESSMENT COURSE; CONNECTING SCIENCE AND MANAGEMENT, ETC.)

Invited Expert(s) at the WP meetings

SC25.29 (para. 151) Given the importance of external independent review for working party meetings, the SC **RECOMMENDED** the Commission continue to allocate sufficient budget for invited scientific experts to be regularly invited to scientific working party meetings.

Meeting participation fund

SC25.30 (para. 153) The SC reiterated its **RECOMMENDATION** that the IOTC Rules of Procedure (2014), for the administration of the Meeting Participation Fund be modified so that applications are due not later than 60 days, and that the full Draft paper be submitted no later than 45 days before the start of the relevant meeting. The aim is to allow the Selection Panel to review the full paper rather than just the abstract, and provide guidance on areas for improvement, as well as the suitability of the application to receive funding using the IOTC MPF. The earlier submission dates would also assist with visa application procedures for candidates.

IOTC species identification guides: Tuna and tuna-like species

SC25.31 (para. 154) The SC reiterated its **RECOMMENDATION** that the Commission allocates budget towards continuing the translation and printing of the IOTC species ID guides so that hard copies of the identification cards can continue to be printed as many CPC scientific observers, both on board and at port, need to have hard copies.

Chairpersons and Vice-Chairpersons of the SC and its subsidiary bodies

SC25.32 (para. 156) **ACKNOWLEDGING** the need to have officers with sufficient experience and capability to serve as Chairs and Vice-chairs of the SC Working Parties and Working Groups, the SC **RECOMMENDED** that the Commission revise the current Rules of Procedure (if necessary) to allow Chairs to serve an additional year or years beyond two terms if no suitable candidates are available to replace them once their terms are completed

SC25.33 (para. 157) The SC **RECOMMENDED** that the Commission note and endorse the Chairpersons and Vice-Chairpersons for the SC and its subsidiary bodies for the coming years, as provided in [Appendix 7](#).

IMPLEMENTATION OF THE REGIONAL OBSERVER SCHEME

SC25.34 (para. 172) The SC **RECOMMENDED** that the Commission **ENDORSE** the mandatory reporting of geo-referenced effort data as number of sets/operations for longline and surface fisheries (according to the definitions in Res 15/02) to complement the current requirements of Res. 15/02, in order for the Secretariat to accurately and independently calculate the ROS coverage in agreement with the provisions of Res. 22/04.

PROGRAM OF WORK AND SCHEDULE OF WORKING PARTY AND SCIENTIFIC COMMITTEE MEETINGS**Consultants**

SC25.35 (para. 186) Noting the highly beneficial and relevant work done by IOTC stock assessment consultants in previous years, the SC **RECOMMENDED** that the engagement of consultants be continued for each coming year based on the Program of Work. Consultants will be hired to supplement the skill set available within the IOTC Secretariat and CPCs.

Data preparatory meetings and Hybrid meetings

SC25.36 (para. 188) **ACKNOWLEDGING** that holding data preparatory meetings prior to stock assessments is considered to be best practice and noting that since 2019 data preparatory meetings were successfully held for the WPTmT, WPTT and WPEB, the SC **AGREED** to continue the practice of having data preparatory meetings prior to stock assessment meetings for the major IOTC species. The SC **RECOMMENDED** that data preparatory meetings continue to be held virtually so as not to increase the travel and costs required for the already full IOTC timetable of meetings.

SC25.37 (para. 189) The SC **NOTED** the utility of facilitating both in-person and virtual participation at future meetings to ensure increased participation and reduce the logistical costs for many CPCs. As such, the SC **RECOMMENDED** that future working party and Scientific Committee meetings are held in a hybrid format.

REVIEW OF THE DRAFT, AND ADOPTION OF THE REPORT OF THE 25TH SESSION OF THE SCIENTIFIC COMMITTEE

SC25.38 (para. 192) The SC **RECOMMENDED** that the Commission consider the consolidated set of recommendations arising from SC25, provided at [Appendix 38](#).

APPENDIX B

SCHEDULE OF WORK FOR THE DEVELOPMENT OF MANAGEMENT PROCEDURES FOR KEY SPECIES IN THE IOTC AREA

Year	Albacore	Skipjack	Yellowfin	Bigeye	Swordfish
2021	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p>	<p>TCMP: Provide advice to the Commission on outcomes from the application of the HCR.</p> <p>Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p>
	<p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need for further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>
2022	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for</p>

	<p>an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need for further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>	<p>an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p> <p>WPs/SC: Process and application of the adopted MP.</p>	<p>an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>
2023	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to</p>	<p>TCMP:</p> <p>Commission:</p>	<p>TCMP: Provide advice to the Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies and provide direction to the WPs/SC on the need to</p>

	<p>undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>		<p>undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs.</p>		<p>undertake further MSE of candidate or alternative MPs.</p> <p>WPs/SC: Consider recommendations from the Commission and undertake MSE to provide advice on the performance of candidate MPs,</p>
2024	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p>	<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p>		<p>TCMP: Provide advice to Commission on elements of candidate MPs, and any proposed Resolutions for an MP, that require a decision by the Commission, including the performance of candidate MPs against Commission objectives.</p> <p>Commission: Consider work and advice from subsidiary bodies. Decision and adoption of an MP.</p>