
PROGRESS MADE ON THE RECOMMENDATIONS AND REQUESTS OF WPM09 AND SC21

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PURPOSE

To provide participants at the 10th Working Party on Methods (WPM10) with an update on the progress made in implementing those recommendations from the previous WPM meeting which were endorsed by the Scientific Committee (SC), and to provide alternative recommendations for the consideration and potential endorsement by participants as appropriate given any progress.

BACKGROUND

At the 9th Session of the WPM, participants agreed on a series of actions to be taken by participants, CPCs, and the IOTC Secretariat on a range of issues. The subsequent table developed and agreed to by the WPM was provided to the SC for its endorsement at its meeting in December 2018.

DISCUSSION

The Rules of Procedure of the Scientific Committee include the following seven core tasks, which are to be supported by the various Working Parties.

- a) recommend policies and procedures for the collection, processing, dissemination and analysis of fishery data;
- b) facilitate the exchange and critical review among scientists of information on research and operation of fisheries of relevance to the Commission;
- c) develop and coordinate cooperative research programmes involving Members of the Commission in support of fisheries management;
- d) assess and report to the Commission on the status of stocks of relevance to the Commission and the likely effects of further fishing and of different fishing patterns and intensities;
- e) formulate and report to the sub-commission, as appropriate, on recommendations concerning conservation, fisheries management and research, including consensus, majority and minority views;
- f) consider any matter referred to by the Commission;
- g) carry out other technical activities of relevance to the Commission.

Recalling that the SC, at its 16th Session adopted a set of reporting terminology SC16.07 (para. 23), which was subsequently endorsed by the Commission at its 18th Session in 2014 (S18, para 10), to further improve the clarity of information sharing from, and among the science bodies, the following two term levels should be noted when interpreting the Reports and [Appendix I](#) to this paper:

Level 1: From a subsidiary body of the Commission to the next level in the structure of the Commission:

RECOMMENDED, RECOMMENDATION: Any conclusion or request for an action to be undertaken, from a subsidiary body of the Commission (Committee or Working Party), which is to be formally provided to the next level in the structure of the Commission for its consideration/endorsement (e.g. from a Working Party to the Scientific Committee; from a Committee to the Commission). The intention is that the higher body will consider the recommended action for endorsement under its own mandate, if the subsidiary body does not already have the required mandate. Ideally this should be task specific and contain a timeframe for completion.

Level 2: From a subsidiary body of the Commission to a CPC, the IOTC Secretariat, or other body (not the Commission) to carry out a specified task:

REQUESTED: This term should only be used by a subsidiary body of the Commission if it does not wish to have the request formally adopted/endorsed by the next level in the structure of the Commission. For example, if a Committee wishes to seek additional input from a CPC on a particular topic, but does not wish to formalise the request beyond the mandate of the Committee, it may request that a set action be undertaken. Ideally this should be task specific and contain a timeframe for the completion.

In addition to the Recommendations endorsed by the SC at its 21st Session, the SC also made several requests which, although are not passed to the Commission for its endorsement, are considered actions which the Scientific Committee has the mandate to issue. The revised recommendations are contained in [Appendix I](#) for the consideration and potential endorsement by the WPM10.

RECOMMENDATION

That the WPM **NOTE** the progress made in implementing the recommendations and requests of the 9th Session of the WPM, and consider whether revised recommendations need to be sent to the SC for its consideration.

APPENDICES

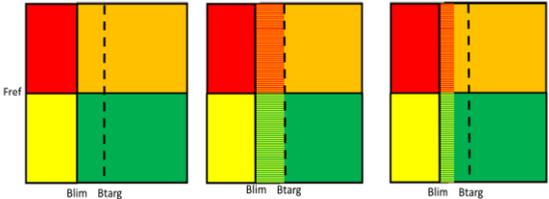
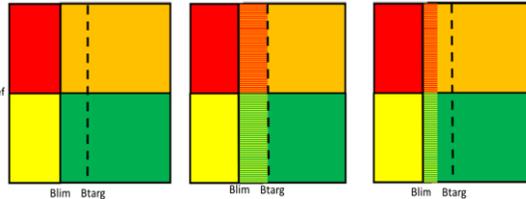
Appendix I: Progress made on the Recommendations and Requests of WPM09

APPENDIX I

Progress made on the recommendations and requests of WPM09 and SC21

WPM09 Rec. No.	Recommendation from WPM07	SC21 Rec. No.	Recommendation adopted by the SC21	Progress/Comments
WPM09.01	<p>Albacore MSE: Update</p> <p>(para. 16): The WPM NOTED that there would be a new assessment in 2019 and, therefore, in case that 2019 assessment result are different from the envelope of the OM grid, the OM may need to be reconditioned to 2019 stock assessment. For example, if the resulting stock assessment results are within the central 50 % of the OM distribution there would not need to recondition the OM, however, if the results are within the extreme bounds of the OM this may require to recondition the OM for ALB. The WPM noted that this is linked to the definition of the "Exceptional Circumstances" and, thus, the WPM RECOMMENDED that this is discussed in the Scientific Committee. If reconditioning is required or additional uncertainty dimensions are added the developers should consider using partially confounded factorial design to reduce the computational overhead.</p>			<p>Update: The issue was raised at the 8th Workshop on Management Strategy Evaluation (WPM subgroup). The issue has also been tabled for discussion during the WPM10 meeting.</p>
WPM09.02	<p>Skipjack tuna MSE: Update</p> <p>(para. 20): WPM also NOTED that the SKJ HCR is not a fully specified Management Procedure (MP), since the underlying data required and assessment methodology are not fully specified under Res 16/02. Hence the WPM SUGGESTED that the review and potential revision required under Res 16/02 be conducted with the aim of fully determining an MP for SKJ, should the Commission desire. The WPM RECOMMENDED feedback from TCMP be sought on these issues, considering the future MSE guidelines agreed by the Commission.</p> <p>(para. 21): The WPM CONSIDERED that currently available resources are not sufficient for the required</p>	SC21.23	<p>(para. 148) Noting that the skipjack tuna harvest control rule is not a fully specified management procedure, the SC RECOMMENDED that a workplan and budget should be developed to undertake review and possible revision of the skipjack tuna harvest control rule under Resolution 16/02.</p>	<p>Update: Funding from a European Union Grant has been set aside for contracting an external expert to conduct this work. The WPM MSE subgroup provided a list of candidates to the secretariat. It is expected that the contract will be signed in the near future.</p>

WPM09.03	review and possible revision called for under RES 16/02 and RECOMMENDED that WPTT and SC develop an appropriate workplan and budget for this work			Update: Funding has been secured from the IOTC Commission to continue the work on MSE. In addition, voluntary contributions have been made by the European Union and Australia to advance MSE for various species
WPM09.04	Bigeye and yellowfin tuna MSE (para. 25): The WPM RECOMMENDED exploring partially-confounded experimental design as a computationally tractable method for expanding the number of uncertainty dimensions and the main interactions (at the expense of losing higher order interactions). It should be adopted if it is not found to have a significant reduction in full grid uncertainty.			Update: This was addressed by the modeller conducting the BET MSE and presented to the the 8th Workshop on Management Strategy Evaluation (WPM subgroup) and the TCMP03.
WPM09.05	Joint CPUE Standardisations (para. 52): The WPM NOTED that YFT assessment results are sensitive to the target variable in the standardization and AGREED that it is important to examine the target effects thoroughly. The WPM RECOMMENDED further joint CPUE analysis should continue to explore and test alternative methods for identifying and accounting for targeting.			Update: An update on the joint CPUE analysis will be provided during the WPM10.
WPM09.06	(para. 63) The WPM congratulated the authors of WPM09-12 and WPM09-13 which are responsive to prior recommendations made by WPM and SC. It was again noted that the process has greatly improved the ability of the SC to provide management advice to the Commission. Unfortunately, the lack of access to the operational level longline CPUE, except during the limited time available for joint meetings between authors, greatly reduces the efficiency of the process and limits the degree of capacity building for participating scientists, because these data are only available for analysis and quality assurance for a limited time. In the interest of normalizing the process for producing joint longline CPUE for future assessments, the WPM again RECOMMENDED that			Update: Ongoing

	<p>the Secretariat continue discussions with the affected CPCs to develop a confidential operational LL data repository at the IOTC that would permit more detailed evaluation of these data as well as assuring the confidential nature of the information. The WPM also REQUESTED that these meetings are also open to any interested scientists to participate in the discussions held, although the data will remain confidential and accessed only by pre-agreed experts.</p>			
<p>WPM09.07</p>	<p>Stock Status Guidance</p> <p>(para. 74): The WPM RECOGNIZING that such a definition does not imply that no management action should take place until after a stock breaches the biomass limit, the WPM RECOMMENDED considering alternative formulations to indicate an appropriate buffer zone below BMSY to account for natural variations in biomass (for example, using the figures below). As such, WPM REQUESTED that this topic be considered by other WPs and subsequently by the SC when formulating the scientific management advice to the Commission. Ideally this type of modified display should be coordinated with other tRFMOs through a KOBE process.</p>  <p>Figure 1. Three examples of modified Kobe Plots in which there is a target biomass, B_{targ}, and a reference F (F_{ref}) such as F_{MSY}. In each plot. The red quadrant is based on biomass being below the limit (B_{lim}) rather than below a target biomass. The plot in the middle retains the four colours, but contains red-orange and</p>	<p>SC21.24</p>	<p>(para. 156) The SC noted that IOTC provide stock status relative to target reference points or MSY-based reference points. The SC further noted that WCPFC only considers a stock “overfished” when biomass falls below limit reference points, not the target reference point. The SC RECOMMENDED to consider alternative formulations of the Kobe plot to indicate an appropriate buffer zone below BMSY to account for natural variations in biomass. A plot such as that included in figure 1 was SUGGESTED to be discussed by the Working Parties and the SC as a possibility for formulating the scientific management advice to the Commission.</p>  <p>Figure 1 Three examples of modified Kobe Plots in which there is a target biomass, B_{targ}, and a reference F (F_{ref}) such as F_{MSY}. In each plot. The red quadrant is based on biomass being below the limit (B_{lim}) rather than below a target biomass. The plot in the middle retains the four colours, but</p>	<p>Update: The TCMP NOTED that in 2018, the Scientific Committee recommended to consider alternative formulations of the Kobe plot to indicate an appropriate buffer zone below BMSY to account for natural variations in biomass. This would include characterising stock status relative to limits rather than targets, including a buffer zone between the target and the limit reference point. The TCMP NOTED that further discussion is required on this issue and that no consensus was reached at the current meeting. The TCMP AGREED that progress on this issue should continue intersessionally within a small working group and be presented to relevant working groups throughout the year with final presentation to the TCMP in 2020. Terms of reference for this group are provided in Appendix VI. These deliberations could then be used to revise Resolution 15/10</p>

	<p>yellow-green “buffer zones” between the target and limit. In the plot on the right, the buffer zone starts somewhat below the target biomass to account for natural fluctuations of the stock around the target. Note: This figure is from the ISSF Stock Assessment Workshop report (IOTC-2018-WPM09-INF06). It is not the recommendation of the WPM.</p>		<p>contains red-orange and yellow-green “buffer zones” between the target and limit. In the plot on the right, the buffer zone starts somewhat below the target biomass to account for natural fluctuations of the stock around the target. Note: This figure is from the ISSF Stock Assessment Workshop report (IOTC-2018-WPM09-INF06).</p>	
WPM09.08	<p>Revision of the WPM Program of work (2019–2023)</p> <p>(para. 89): The WPM RECOMMENDED that the Scientific Committee consider and endorse the WPM Programme of Work (2019–2023), as provided in Appendix IV.</p>			<p>Update: Completed</p>
WPM09.09	<p>The WPM reviewed the progress of the MSE work conducted to date, and subject to the comments held in this report, endorsed the MSE conducted thus far and RECOMMENDED additional work to address the reviewed comments made</p>			<p>Update: Ongoing</p>
WPM09.10	<p>Development of priorities for Invited Expert(s) at the next WPM meeting</p> <p>(para. 97): Given the importance of external peer review, the WPM RECOMMENDED that the Commission continues to allocate sufficient budget for a regular invited expert to be invited to meetings of the WPM. The WPM NOTED the difficulty in adequately funding through the Commission budget, work in support of the TCMP, which, in part, relates to the timing of the SCAF and TCMP meetings. WPM RECOMMENDS that the budgetary needs to support these activities be considered during the next SCAF meeting.</p>			<p>Update: Completed. Funding has been secured from the IOTC Commission to continue the work on MSE.</p>
WPM08.15	<p>Review of the draft, and adoption of the Report of the 9th Session of the WPM</p> <p>(para. 99): The WPM RECOMMENDED that the Scientific Committee consider the consolidated set of</p>			<p>Update: Completed</p>

	recommendations arising from WPM09, provided in Appendix V.			
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WPM09 Report	WPM09REQUESTS	Update/Progress
Para. 77	<p>Stock status advice for data limited stocks</p> <p>The WPM NOTED that funding has been received to conduct this work, particularly for the WPNT, from an EU grant and that it should commence in 2019. The WPM welcomed this information and REQUESTED that the WPB also be included in this planning and review.</p>	Update: Ongoing. This issue has again been tabled for the WPM10 meeting
Para. 78	<p>Other Stock Status Issues</p> <p>The WPM REQUESTED the assumption of the recruitment used in the short and medium term forecast to be added in the stock assessment report and in the executive summaries (either in the main summary or supplementary information).</p>	Update: Ongoing. To be addressed by the modellers for each species
Para. 79	<p>The WPM REQUESTED the level of risk (probability of failure to achieve the KOBE 'green' zone) used in the short and medium term forecast to be added in the stock assessment report and in the executive summary.</p>	Update: Ongoing. To be addressed by the modellers for each species
Para 80	<p>The WPM REQUESTED that the trends in SSB, recruitment and F as estimated by the assessment model are to be added in the supplementary information of the executive summary</p>	Update: Ongoing. To be addressed by the modellers for each species
Para. 88	<p>Revision of the WPM Program of work (2019–2023)</p> <p>The WPM REQUESTED that the Chairperson and Vice-Chairperson of the WPM, in consultation with the IOTC Secretariat, develop Terms of Reference (ToR) for each of the projects detailed on the WPM Programme of Work (2019–2023) that are yet to be funded, for circulation to potential funding bodies.</p>	Update: Ongoing. But funding has been secured for much of the work through the IOTC main budget and member country contributions.
Para. 94	<p>Date and place of the 10th and 11th sessions of the WPM</p> <p>The WPM REQUESTED that the IOTC Secretariat liaise with CPCs to determine if they would be able to host the 10th and 11th sessions of the WPM respectively (Table 2).</p>	Update: Complete. The 10 th session has been organised and the 11 th session may be held in the Maldives