

PROGRESS MADE ON THE RECOMMENDATIONS AND REQUESTS OF WPM08 AND SC20

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PURPOSE

To provide participants at the 9th Working Party on Methods (WPM09) 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 8th 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 2017.

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

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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 20th 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 WPM09.

RECOMMENDATION

That the WPM **NOTE** the progress made in implementing the recommendations and requests of the 8th 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 WPM08

APPENDIX I

Progress made on the recommendations and requests of WPM08 and SC20

WPM08 Rec. No.	Recommendation from WPM07	SC20 Rec. No.	Recommendation adopted by the SC19	Progress/Comments
WPM08.01	<p>Outcomes of the 21st Session of the Commission</p> <p>(para. 10): NOTING that the Commission considers the development of an MSE for swordfish to be a high priority activity, the WPM RECOMMENDED that this is reflected in the 2019 budget of the Commission.</p>	SC20.18	<p>Swordfish stock assessment and MSE</p> <p>(para. 55) The SC noted that the next step of the swordfish MSE is to finalize the OM and present the results to the TCMP02 within the current resource constraints (e.g., staff time and travelling). NOTING that the Commission considers the development of an MSE for swordfish to be a high priority activity, the SC RECOMMENDED that this is reflected in the 2019 budget of the Commission.</p>	<p>Update: Budget was provided for this item under an EU grant.</p>
WPM08.02	<p>Skipjack tuna MSE: Update</p> <p>(para. 44): The WPM NOTED some ambiguity in the interpretation of the approach for deriving median values for the stock status statistics used to calculate the TAC. To provide some clarity, the WPM RECOMMENDED that the SC apply the median value of the distribution of B_{curr}/B_0 outcomes from the stock assessment with associated characterised uncertainty for specifying the I value for use in TAC setting. Likewise, median values of estimates of B_{curr} and E_{targ} with associated characterised uncertainty should also be used in calculations of TAC (i.e. $I \times E_{targ} \times B_{curr}$).</p>			<p>Update: The recommendations were adopted in the subsequent calculation of Skipjack TAC presented to the 20th session of the SC (IOTC-2017-SC20-12 Rev_1).</p>
WPM08.03	<p>(para. 45): Further, NOTING that the simulations used in testing robustness of the agreed HCR in Res 16/02 projected forward applying a first year catch level of 425,000 t (as documented in https://github.com/iotcwpm/SKJ/blob/master/procedure.s.hpp#L303), representing the recent reported catch, C_{recent} used in the simulations used for testing the HCR), and considering para 9.d in Res 16/02, the WPM RECOMMENDED that the SC consider that, in the event $B_{curr}/B_0 > 0.4$ (i.e. $> B_{thresh}$), the TAC for 2018-2020 should not exceed $1.3 \times C_{recent}$ or, in the event that</p>			

	<p>$0.1 < B_{curr} / B_0 < 0.4$, the TAC for 2018-2020 should not be less than $0.7C_{recent}$. The WPM also noted that using C_{recent} values different to those used in the simulation trials could result in unexpected performance of the HCR</p>			
WPM08.04	<p><i>Bigeye and yellowfin tuna MSE</i></p> <p>(para. 49): Due to the project funding delays, the WPM NOTED that there will be no opportunity for scientific review of the BET MSE work before the SC20 takes place in November 2017 so the informal technical MSE workshop represents the only review opportunity before the TCMP02 in 2018. Therefore the WPM RECOMMENDED the SC schedule the next informal technical MSE workshop to take place between March-April 2018 to facilitate review ahead of the TCMP02.</p>		<p><i>Bigeye and yellowfin tuna MSE</i></p> <p>(para. 98): Due to the project funding delays, the SC noted that there was no opportunity for scientific review of the Bigeye MSE work before the SC20 meeting in November 2017 so the informal technical MSE workshop represents the only review opportunity before the TCMP02 in 2018. Therefore, the SC AGREED the next informal technical MSE workshop takes place between March-April 2018 to facilitate review ahead of the TCMP02.</p>	<p>Update: [Completed] This meeting took place in March 2018 as requested</p>
WPM08.05	<p><i>Swordfish MSE: update</i></p> <p>(para. 55): The WPM NOTED the large number of independent CPUE indices, and AGREED that it would be useful to bring the datasets together and undertake a joint analysis as a joint CPUE series based on operational data should increase spatio-temporal coverage, as well as better handle changes in targeting. The WPM therefore RECOMMENDED that future stock assessments of swordfish are based on a joint standardised CPUE series.</p>		<p><i>Swordfish MSE: update</i></p> <p>(para. 99) The SC noted a number of independent CPUE indices are available for this stock, and AGREED that it would be useful to undertake a joint analysis to develop a joint CPUE series based on operational data. This should increase spatio-temporal coverage, as well as better handle changes in targeting. The SC therefore AGREED that future stock assessments of swordfish are based on a joint standardised CPUE series.</p>	<p>Update: The possibility of extending the Joint CPUE analysis to billfish was discussed briefly during the 5th Joint Longline CPUE workshop. Given the constraint of time and resources and data confidentiality, the Joint CPUE workshop can only focus on tropical and temperate tuna at this stage. During the WPB16, the Taiwanese scientists indicated the possibility of exploring the option to collaborate with Japanese scientists for future CPUE analysis for billfish.</p>
WPM08.06	<p>(para. 56) The WPM RECOMMENDED that stock assessment results should include both MSY and depletion-based indicators. The WPM NOTED that the current stock assessment of swordfish shows a stock in the green area of the Kobe plot, given the current value of B/BMSY ratio, while the stock is estimated to be at around 30% of virgin biomass. This latter value would be generally considered to indicate a stock is likely to be overexploited.</p>			<p>Update: Both MSY and depletion-based indicators will be presented in the next iteration of swordfish assessment. The issues related to the definition of stock status have also been discussed during the TCMP02.</p>

WPM08.07	<p>Visualisation of MSE results</p> <p>(para. 65): The WPM RECOMMENDED the proposed revisions to the standardised methods for the presentation of MSE results (Appendix IV) are submitted to the SC20 for discussion, revision and endorsement, as appropriate. This should still be considered a living document that will benefit from revision based upon ongoing feedback received from the SC and the TCMP.</p>		<p>Presentation of MSE results</p> <p>(para. 97): The SC ENDORSED the proposed revisions to the standardised protocol for the presentation of MSE results (Appendix VIb). This should still be considered a living document that will benefit from revision based upon feedback received from the TCMP</p>	<p>Update: [Ongoing] This recommendation was endorsed by the SC and should be applied in the presentation of future MSE results</p>
WPM08.08	<p>Update on the status of the joint CPUE indices (yellowfin tuna, bigeye tuna & albacore)</p> <p>(para.79): WPM RECOGNISED the importance of normalizing these procedures and approaches into the various Working Party stock assessments making use of longline catch rate indices and RECOMMENDED that the SC endorse such joint analyses and REQUESTED these continue into the future as a normal course of business. It was NOTED that additional time for more detailed analysis is still needed and WPM SUGGESTED that methods to increase analysis time, such as the use of secure, cloud-based data exchange and increased use of electronic communication between analysts be investigated.</p>	SC20.31	<p>Update on the status of the joint CPUE indices (yellowfin tuna, bigeye tuna & albacore)</p> <p>(para. 100): The SC recognized the importance of normalizing these procedures and approaches into the various Working Party stock assessments making use of longline catch rate indices, ENDORSED such joint analyses and RECOMMENDED these continue into the future as a normal course of business. It was noted that additional time for more detailed analysis is still needed and SC REQUESTED that methods to increase analysis time, such as the use of secure, cloud-based data exchange and increased use of electronic communication between analysts be investigated.</p>	<p>Update: This is being addressed through an expert consultancy and the update on this work will be presented to the WPTT20.</p>
WPM08.09	<p>(para.86): The WPM THANKED the authors for the investigation selectivity changes and spatial size patterns of bigeye and yellowfin tuna in the early years of the Japanese longline fishery and AGREED that this work is important in terms of improving understanding of the trends in CPUE. NOTING that various issues have been identified that could be explored further, the WPM RECOMMENDED that this work is continued.</p>	SC20.32	<p>(para 101): The SC congratulated the WPM for the investigation of catchability/selectivity changes and spatial size patterns of bigeye and yellowfin tuna in the early years of the Japanese longline fishery and AGREED that this work is important in terms of improving understanding of the trends in CPUE. Noting that various issues have been identified that could be explored further, the SC RECOMMENDED that this work is continued.</p>	<p>Update: [Ongoing] This work could be continued by the national scientists.</p>
WPM08.10	<p>Priorities for future development of the joint CPUE indices</p>	SC20.33	<p>Priorities for future development of the joint CPUE indices</p>	<p>Update: This was discussed at both the WPB and WPEB and the work is scheduled for the</p>

	(para. 92): The WPM NOTED that a substantial amount of work has already been completed for the tropical tunas and that it may be more worthwhile to focus on some other species for which this approach would be useful. The WPM therefore RECOMMENDED that a similar joint analysis approach is explored for key IOTC billfish and shark species.		(para. 102) The SC noted that a substantial amount of work has already been completed for the tropical tunas and that it may be more worthwhile to focus on some other species for which this approach would be useful. The SC therefore RECOMMENDED that a similar joint analysis approach is explored for key IOTC billfish and shark species.	future pending the availability of the independent expert
WPM08.11	Revision of the WPM Program of work (2018–2022) (para. 119): The WPM RECOMMENDED that the Scientific Committee consider and endorse the WPM Programme of Work (2018–2022), as provided in Appendix V .		Report of the 8th Session of the Working Party on Methods (WPM08) (para. 93): The SC noted the report of the 8 th Session of the Working Party on Methods (IOTC–2017–WPM08–R), including the consolidated list of recommendations provided as an appendix to the report. The meeting was attended by 28 participants (29 in 2016), including 5 recipients of the MPF (9 in 2016).	Update: [Completed]
WPM08.12	Presentation of stock status advice for data limited stocks (para. 121): The WPM AGREED that work on the presentation of stock status advice for data limited stocks will need to be carried out inter-sessionally, and that this will require some level of preparation and planning. The WPM REQUESTED the Chairperson liaise with the Chairs of the species WPs (WPNT and WPB) in order to draft a study proposal on this issue and RECOMMENDED the SC allocate funding to this project.	SC20.34	Presentation of stock status advice for data limited stocks (para. 106) The SC AGREED that work on the presentation of stock status advice for data limited stocks will need to be carried out inter-sessionally, and that this will require some level of preparation and planning. The SC REQUESTED the WPM Chairperson liaise with the Chairs of the species WPs (WPNT and WPB) in order to draft a study proposal on this issue and RECOMMENDED the Commission allocates funding to this project.	Update: Funding has been secured for the proposed study from an EU grant and it will commence in 2019.
WPM08.13	Election of a Chairperson and Vice-Chairperson for the next biennium (para. 130): The WPM RECOMMENDED that the SC note the Chairperson, Dr Toshihide Kitakado and Vice-Chairperson, Dr Iago Mosqueira, of the WPM for the next biennium			Update: [Completed]
WPM08.14	Development of priorities for Invited Expert(s) at the next WPM meeting (para. 132): Given the importance of external peer review, the WPM RECOMMENDED that the			Update: [Ongoing] An expert has been invited to the WPM09 meeting.

	Commission continues to allocate sufficient budget for a regular invited expert to be invited to meetings of the WPM.			
WPM08.15	<p>Review of the draft, and adoption of the Report of the 8th Session of the WPM</p> <p>(para. 134): The WPM RECOMMENDED that the Scientific Committee consider the consolidated set of recommendations arising from WPM08, provided in Appendix VII.</p>		<p>Report of the 8th Session of the Working Party on Methods (WPM08)</p> <p>(para. 93): The SC noted the report of the 8th Session of the Working Party on Methods (IOTC-2017-WPM08-R), including the consolidated list of recommendations provided as an appendix to the report. The meeting was attended by 28 participants (29 in 2016), including 5 recipients of the MPF (9 in 2016).</p>	Update: [Completed]

WPM08 Report	WPM08REQUESTS	Update/Progress
Para. 25	<p>Conditioning of operating models</p> <p>The WPM REQUESTED a comparison of the OM grid before and after model filtering, to illustrate the effect of filtering.</p>	Update: on-going
Para. 27	<p>The WPM REQUESTED that the ALB OM reference set is modified so that projections include the same CPUE catchability trends (0, 1% per year) that were assumed in the conditioning (to be consistent with the YFT and BET reference case OMs).</p>	
Para. 28	<p>The WPM REQUESTED that the south Pacific albacore growth curve is included as a robustness scenario.</p>	
Para. 80	<p>Update on the status of the joint CPUE indices (yellowfin tuna, bigeye tuna & albacore)</p> <p>NOTING the ongoing confidentiality issues with some of the datasets, the WPM REQUESTED that the authors and the Secretariat explore possibilities for independent data holders to facilitate the process. However, the WPM further NOTED that while there is a need for an agreement and an agreed process to provide access to confidential data, once in place, this may not necessitate face-to-face meetings and could instead become a remote process.</p>	Update: This work is being facilitated by an external expert, who has been in contact with the national scientists and utilised the confidential data required.

<p>Para. 89</p>	<p>The WPM REQUESTED that the Secretariat adjusts Japanese size data to a consistent rounding direction, assuming that all the size data are similarly affected unless there is reason to believe there are exceptions.</p>	<p>Update: The LL size-frequency data submitted by Japan to the IOTC Secretariat do not seem to show the marked changes over time in size-class rounding as highlighted in paper IOTC-2017-WPM08-21, but rather a tendency to report a mix of 1-cm and 2-cm size bins in the same strata for small and medium-large fish (respectively). Additionally, the IOTC Secretariat has REQUESTED that JPN (see Para. 115 in IOTC-2017-WPTT19-R[E]) provide fine-resolution SF data for its LL fleets for years prior to 2008 (included) given that the information available to the Secretariat for those years is aggregated to the level of 10x20 degrees grids (instead of 5x5) and therefore is thought to negatively affect the efficacy of further analysis. So far, the IOTC Secretariat did not receive any update on this matter from JPN.</p>
<p>Para. 112</p>	<p>Revision of species supporting information for IOTC Executive Summaries</p> <p>The WPM NOTED that the inclusion of stochastic projections in support of the Kobe II strategy matrix would make the IOTC species Executive Summaries more consistent with other tRFMOs. The WPM further AGREED that trajectories of SSB and F should be included in the supporting information for the Executive Summaries, with uncertainty bounds. The WPM REQUESTED the authors include these proposals in the revised document to be presented to WPTT.</p>	<p>Update: The trajectories of SSB and F with uncertainty bounds for 2017 skipjack stock assessment have been incorporated into the supporting information for the Executive Summaries.</p>
<p>Para. 118</p>	<p>Revision of the WPM Program of work (2018–2022)</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 (2018–2022) that are yet to be funded, for circulation to potential funding bodies.</p>	<p>Update: [Ongoing]</p> <p>ToRs for several of the projects identified under the WPM Programme of Work (2018-2022) have been developed. As a result funding has been secured for several of these items.</p>
<p>Para. 122</p>	<p>Joint tRFMO Management Strategy Evaluation working group</p> <p>The WPM NOTED that while no joint tRFMO MSE meeting took place in 2017 the joint tRFMO MSE initiative is continuing with a new Chairperson due to be elected shortly. The WPM further REQUESTED the WPM Chairperson to provide an update on any progress made by the joint technical working group at the next meeting of the WPM in 2018.</p>	<p>Update: [Ongoing]</p> <p>Both the SC Chair and IOTC secretariat attended the 2nd Meeting of the joint tRFMO MSE meeting held in 2018. Progress will be provided during the WPM09 meeting.</p>
<p>Para. 123</p>	<p>Date and place of the 9th and 10th 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 9th and 10th sessions of the WPM respectively (Table 2).</p>	<p>Update: [Pending]</p> <p>No host found for 9th or 10th sessions. Likely these will take place in the Seychelles</p>