

## PROGRESS MADE ON THE RECOMMENDATIONS AND REQUESTS OF WPM07 AND SC19

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### PURPOSE

To provide participants at the 8<sup>th</sup> Working Party on Methods (WPM08) 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 7<sup>th</sup> 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 2016.

### 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 16<sup>th</sup> Session adopted a set of reporting terminology SC16.07 (para. 23), which was subsequently endorsed by the Commission at its 18<sup>th</sup> 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 18<sup>th</sup> 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 WPM07.

#### **RECOMMENDATION**

That the WPM **NOTE** the progress made in implementing the recommendations and requests of the 7<sup>th</sup> 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 WPM07

## APPENDIX I

### Progress made on the recommendations and requests of WPM07 and SC19

WPM07 Rec. No.	Recommendation from WPM07	SC19 Rec. No.	Recommendation adopted by the SC19	Progress/Comments
WPM07.01	<p><b>Outcomes of the 20<sup>th</sup> Session of the Commission</b></p> <p>(para. 9): The WPM <b>NOTED</b> the request for advice (IOTC-2016-S20-R, para. 16) on the feasibility of reporting stock status in relation to limit reference points in addition to the target reference points currently used. Further <b>NOTING</b> that managing to target reference points is unlikely to yield a stock status that is always in the green zone of the KOBE plot, the WPM <b>RECOMMENDED</b> that the Scientific Committee consider this issue further and refers it for discussion at the Technical Committee on Management Procedures.</p>	SC19.29	<p>(para 101): The SC <b>NOTED</b> the request for advice on the feasibility of reporting stock status in relation to limit reference points in addition to the target reference points currently used:</p> <p><i>“The Commission <b>NOTED</b> the progress towards development of harvest strategies for key stocks, including the adoption of limit and target reference points for a number of stocks, and <b>REQUESTED</b> that the SC provide advice to the 21<sup>st</sup> Session of the IOTC on the feasibility of reporting stock status in relation to the agreed limit reference points”</i> (IOTC-2016-S20-R, para. 16<sup>2</sup>).</p> <p>The SC <b>NOTED</b> that if stock status advice changes as soon as the target reference points are exceeded, it is likely for advice to change based purely on natural fluctuations in stock abundance or other expected sources of variability. The SC <b>RECOMMENDED</b> that the operational definition of TRPs and LRPs is included for discussion at the Technical Committee on Management Procedures.</p>	<p>Update: [Ongoing]</p> <p>TCMP01 (para 40-41): The TCMP <b>NOTED</b> although target and reference points are established in the Resolution 15/10, there is a lack of clarity between on how to reach them:</p> <ul style="list-style-type: none"> <li>• “...achieve target reference points on average” (Resolution 15/10; para. 2, Annex I)</li> <li>• “Maintain stock within green KOBE zone with “high probability” (Resolution 15/10; para. 6c)”</li> </ul> <p>while the Resolution refers to yellowfin, bigeye, skipjack, albacore and swordfish, the different management objectives might be seen as suitable for species with differing life history traits as appropriate, e.g. the second objective and associated more precautionary management might be more preferable for a less resilient species. It was observed that using the same tuning process for different species may not make sense given the differing status of stocks, e.g., rebuilding or not fully exploited.</p>
WPM07.02	<p><b>Visualisation of MSE results</b></p>	SC19.28	<p>(para. 100): The SC <b>RECOMMENDED</b> the proposed standardised methods for the presentation</p>	<p>Update: [Ongoing]</p>

<sup>2</sup> Provisional until approval of the final version of the S20 report by correspondence.

	(para. 59): The WPM <b>RECOMMENDED</b> the proposed standardised methods for the presentation of MSE results ( <u>Appendix IX</u> ) are submitted to SC21 for discussion, revision and endorsement, as appropriate. Subsequently, this should be considered a living document that will benefit from revision based upon feedback received from the TCMP, which will first meet in 2017.		of MSE results ( <u>Appendix VIb</u> ) are submitted to TCMP and S21 for discussion, revision and endorsement, as appropriate. Subsequently, this should be considered a living document that will benefit from revision based upon feedback received from the TCMP, which will first meet in 2017.	A number of improvements were agreed by the TCMP (available in para. 28-37 of the TCMP01 report)  For example, TCMP <b>AGREED</b> that performance indicators to present the number of years in which the stock has fallen into the red zone ( $B < B_{msy}$ and $F > F_{msy}$ ) of the Kobe plot should also be developed.
WPM07.03	<p><b>Performance indicators</b></p> <p>(para. 61): The WPM reviewed the performance statistics, used for measuring the performance of alternative management procedures against different objectives, that were endorsed by the SC and <b>AGREED</b> the following:</p> <ul style="list-style-type: none"> <li>the measure of catch variability would be more comparable across MPs if expressed as a coefficient of variation (CV)</li> <li>arithmetic means should be used for all statistics (rather than geometric means)</li> </ul> <p>The WPM therefore <b>RECOMMENDED</b> that the Scientific Committee endorses the revised list of performance statistics provided in <u>Appendix V</u>.</p>		(para. 99): The SC <b>ENDORSED</b> the revised list of performance statistics representing a suite of candidate management objectives, provided in <u>Appendix VIa</u> which provides a means of measuring the performance of alternative management procedures against different objectives.	Update: <b>Completed</b>
WPM07.04	<p><b>Joint CPUE standardisation</b></p> <p>(para. 75): The WPM <b>NOTED</b> that the joint CPUE work undertaken so far has become a critical component for assessments of temperate and tropical species and <b>RECOMMENDED</b> that this work continue under the current framework, but that plans should be developed to normalize the process within the IOTC in the near future.</p>	SC19.25  SC19.38	<p>(para. 93) The SC <b>RECOMMENDED</b> that the multi-nation CPUE standardisation collaboration continue their efforts to improve the understanding of commercial CPUE as relative abundance indices, and expand future work to include other fleets, including the Seychelles longline fleet.</p> <p>(para. 127) The SC <b>ACNOWLEDGED</b> the work of the WPTT and WPTmT and especially improvements in the joint CPUE standardization work which is critical for reliably estimating the stocks. The SC <b>NOTED</b> that the joint CPUE has become a critical component for the assessments of temperate and tropical tuna species and the SC <b>RECOMMENDED</b> that this work continue under</p>	Update: <b>Ongoing</b>  The 4 <sup>th</sup> joint CPUE workshop was held in Busan in July 2017 (IOTC-2017-WPM08-INF04).  The CPUEWG <b>REQUESTED</b> scientists from member countries to explore the following complementary strategies:  <u>Strategy 1</u> : Data access agreements that specify the scientists who may access the joint data, the purpose it may be used for, the access period, and the required security provisions. For

			the current framework, but that plans should be developed to formalize the process within the IOTC in the near future.	example, this arrangement may be coordinated by an independent organisation.  No regular budget was allocated by SCAF in 2018 for this activity (IOTC-2017-SCAF14-05) but the work has been included as part of an application for an extra-budgetary project.
WPM07.05	<b>Revision of the WPM Program of work (2017–2021)</b>  (para. 97): The WPM <b>NOTED</b> that the next stock assessment of Indian Ocean swordfish is due to take place in 2017 and <b>RECOMMENDED</b> that the development of MSE of swordfish is considered as a high priority in the revised WPM Program of Work and that funding is allocated for this activity, to start the conditioning of an OM for this stock.	SC19.30	(para. 102): SC <b>NOTED</b> that the next stock assessment of Indian Ocean swordfish is due to take place in 2017 and <b>RECOMMENDED</b> that the development of MSE of swordfish is considered as a high priority in the revised WPM Program of Work and that funding is allocated for this activity, to start the conditioning of an OM for this stock.	Update: [Ongoing]
WPM07.06	(para. 100): The WPM <b>RECOMMENDED</b> that the Scientific Committee consider and endorse the WPM Program of Work (2017–2021), as provided at <u>Appendix V</u> .		(para. 170): The SC <b>NOTED</b> the proposed Program of Work and priorities for the Scientific Committee and each of the Working Parties and <b>AGREED</b> to a consolidated Program of Work as outlined in <u>Appendix XXXIVa-g</u> .	(S21, para. 40) The Commission noted that the development of a MSE of swordfish is considered as a high priority in the revised WPM Program of Work, and that possible funding has been identified to begin this activity.  This work has been initiated and is being undertaken by scientists from IPMA, Portugal and the JRC with support from the IOTC regular budget.
WPM07.07	(para. 112): The WPM <b>RECOMMENDED</b> that the WPM should be held in conjunction the WPTT in 2017, with a day's break in between meetings and slightly earlier in the year (October).		The SC <b>NOTED</b> paper IOTC–2016–SC19–10 which outlined the proposed schedule for IOTC Working Parties and SC meetings for 2017 and 2018.  The SC <b>REQUESTED</b> that the schedule of Working Party and Scientific Committee meetings for 2017 and 2018 provided at <u>Appendix XXXVI</u> be communicated by the IOTC SC Chair to the Commission for its endorsement.	Update: [Completed]  Update: [Completed]
WPM07.08	<b>Review of the draft, and adoption of the Report of the 7th Session of the WPM</b>  (para. 115): The WPM <b>RECOMMENDED</b> that the Scientific Committee consider the consolidated set of recommendations arising from WPM07, provided at <u>Appendix VII</u> .		(para. 97): The SC <b>NOTED</b> the report of the 7 <sup>th</sup> Session of the Working Party on Methods (IOTC–2016–WPM07–R), including the consolidated list of	Update: [Completed]

			recommendations provided as an appendix to the report.		

WPM07 Report	WPM07REQUESTS	Update/Progress
Para. 26	<p><b><i>Albacore MSE : simulation platform</i></b> The WPM <b>NOTED</b> that the MSE simulator should not synthesize historical observations for the MP, because these data may provide additional information about the stock history that is not available in the real world, e.g. alternative CPUE series may be used in different OM conditioning scenarios to admit alternative possible abundance histories, but the MP must only use one CPUE series because we do not know what series is closer to reality. The WPM <b>REQUESTED</b> that the MSE simulator be changed to only provide a single data series to the MP in the next iteration.</p>	<p>Update: [ongoing] A full update is provided in IOTC-2017-WPM08-13</p>
Para. 42	<p><b><i>Yellowfin tuna MSE</i></b> The WPM <b>REQUESTED</b>:</p> <ul style="list-style-type: none"> <li>the OM grid is updated in relation to the 2016 assessment (Table 2).</li> </ul>	<p>Update: [completed] A full update on the progress of the development of MSE for YFT is provided in IOTC-2017-WPM08-17</p>
Para. 49	<p><b><i>Management Procedures</i></b> Both empirical and model-based types of MP were implemented and described. The first would adjust future catches based on the observed CPUE trends (and level relative to a desirable target CPUE). The model-based MP includes fitting a surplus production model, from which key estimates are plugged into a 10:40 type Harvest Control Rule. Demonstration MP results were presented along with an attempt to identify an MP "tuning" range within which MP performance should be targeted to reflect the stated Commission objectives. Some particular comments to the MPs were <b>NOTED</b> by the WPM:</p> <ul style="list-style-type: none"> <li>The WPM <b>NOTED</b> that the MSE framework is complete with respect to the feature set required from the previous assessments, though minor modifications will be required for 2016 assessments.</li> <li>The WPM <b>NOTED</b> that the PT4010 MP included an HCR that defined control parameters that could be interpreted as reference points. The WPM <b>AGREED</b> to re-name the control parameters to avoid confusion.</li> <li>The WPM <b>NOTED</b> that the size data could be used to try to make recruitment inferences within MPs.</li> </ul>	<p>Update: [completed] A full update on the progress of the development of MSE for YFT is provided in IOTC-2017-WPM08-17</p>

	<ul style="list-style-type: none"> <li>The WPM <b>REQUESTED</b> that the Irate and Brule MPs (tested for albacore) also be applied to YFT and BET to reduce options and simplify communication with the Commission if MP performance is similar.</li> </ul>	
Para. 60	<p><b>Presentation of MSE results</b> The WPM was advised of the ABNJ Tuna Project plan for its second capacity building workshop in the Indian Ocean region in the first quarter of 2017 (possibly March). These workshops are global in nature and are overseen by FAO, but led by WWF which has engaged a consultant group that has developed and delivers curriculum and participatory exercises to promote better understanding of the use of MSE for guiding selection of MPs. The WPM <b>NOTED</b> that this workshop could be a very useful test bed for using the summary formats proposed in <u>Appendix IV</u> and <b>REQUESTED</b> that the workshop organizers be made aware of these formats and incorporate them into the curriculum, to the degree possible.</p>	<p>Update: <b>[Completed]</b> The ABNJ capacity building workshop was held in March 2017 and the agreed standards for presenting MSE results were introduced to participants of the workshop and were well received and understood. Indian Ocean YFT was used as an example for introducing MSE concepts (IOTC-2017-WPM08-INF05).</p>
Para. 86	<p><b>I.R. Iran purse seine fishery</b> The WPM <b>WELCOMED</b> the collection of logbook data and size data in Iran, especially from the gillnet fishery, and <b>ENCOURAGED</b> Iran to continue this valuable data collection. The WPM <b>NOTED</b> that these data have not yet been reported to the IOTC Secretariat and <b>REQUESTED</b> the submission of these data by Iran with assistance from the IOTC Secretariat, where necessary.</p>	<p>Update: <b>[Pending]</b></p>
Para. 88 & 89	<p><b>Indonesia: enumeration methods for estimating yellowfin tuna production</b> The WPM <b>WELCOMED</b> the collection of catch and effort data and size sampling of yellowfin tuna in Indonesia, and <b>ENCOURAGED</b> Indonesia to continue this valuable sampling and data collection. The WPM <b>WELCOMED</b> any updates on results from this data collection and sampling and <b>REQUESTED</b> that any further analysis of these data are presented at future WPM meetings.</p>	<p>Update: <b>[Pending]</b></p>
Para. 99	<p><b>Revision of the WPM Program of work (2017–2021)</b> The WPM <b>REQUESTED</b> that the Chairperson and Vice-Chairperson of the WPM, in consultation with the IOTC Secretariat, develop Terms of Reference (TOR) for each of the high priority projects detailed on the WPM Program of Work (2017–2021) that are yet to be funded, for circulation to potential funding bodies.</p>	<p>Update: <b>[ongoing]</b></p>
Para. 111	<p><b>Date and place of the 8<sup>th</sup> and 9<sup>th</sup> sessions of the WPM</b> The WPM <b>REQUESTED</b> that the IOTC Secretariat liaise with CPCs to determine if they would be able to host the 8<sup>th</sup> and 9<sup>th</sup> sessions of the WPM respectively (Table 3).</p>	<p>Update: <b>[Pending]</b> No host found for 8<sup>th</sup> session 2017</p>