
OUTCOMES OF THE 20th SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY: IOTC SECRETARIAT¹, 09 OCTOBER 2018

PURPOSE

To inform participants at the 9th Working Party on Methods (WPM09) of the recommendations arising from the 20th Session of the Scientific Committee (SC20) held in December 2017, specifically relating to the work of the WPM.

BACKGROUND

At the 20th Session of the SC, the SC noted and considered the recommendations made by the WPM in 2017 that included updates on the MSE process for various IOTC species.

Based on the recommendations arising from the WPM08, the SC20 adopted a set of recommendations, provide at [Appendix A](#) of this paper.

The recommendations contained in [Appendix A](#) were provided to the Commission for consideration at its 22nd Session held in May 2018. A separate paper, IOTC–2018–WPM09–04 addresses the responses and actions of the Commission.

In addition, the SC20 reviewed and endorsed a Program of Work for the WPM, including a revised MSE schedule, as detailed in [Appendix B](#) and [Appendix C](#) respectively. A separate paper (IOTC–2018–WPM09–07) 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 (paras. 93 to 106) from the SC20 Report (IOTC–2017–SC20–R) are provided here for the consideration and action of the WPM09:

Report of the 8th Session of the Working Party on Methods (WPM08)

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).

The SC noted that the various MSE exercises for different IOTC species are constructing OMs with a focus on structural uncertainty, evaluated through a grid of model runs with alternative assumptions.

The SC noted the high number of performance indicators agreed by the TCMP (16) and the issues with the correlation between these, due to the tradeoff amongst management objectives. Therefore the SC acknowledged the difficulty of developing a structured approach to integrating the performance indicators for evaluating the MPs. The SC further noted that an objective function to evaluate MP performance based on the weighting of different performance indicators is not currently used in IOTC since this would need an agreement on the weighting criteria by Managers. The SC noted that the tuning criteria for the main objectives is used to fine tune the selection of MPs and then SC agreed figures to present the tradeoff between different objectives (eg sustainability vs. yield) and performance statistics are shown so as the manager can select the preferred MP.

The SC acknowledged that the 2017 Joint longline CPUE workshop led by the consultant included a capacity building component to provide training to participating national scientists to develop the standardised CPUE indices for individual fleets. The SC **AGREED** that national scientists should play more active roles in future joint CPUE analyses.

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7.6.1 *Presentation of MSE results*

59. 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.

7.6.2 *Bigeye and yellowfin tuna MSE*

60. 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.

7.6.3 *Swordfish MSE: update*

61. 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.

7.6.4 *Update on the status of the joint CPUE indices (yellowfin tuna, bigeye tuna & albacore)*

62. The SC recognised 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.
63. 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.

7.6.5 *Priorities for future development of the joint CPUE indices*

64. 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.
65. The SC noted the ongoing confidentiality issues with some of the datasets, and that, based on the request of the WPM, CPCs are currently seeking permission from the relevant authorities to make this available for future joint analyses.
66. The SC further noted that the joint analysis work cannot rely on independent consultants indefinitely, and that instead the IOTC Secretariat might be able to directly assist with providing capacity which ultimately needs to be transferred to CPCs so that national scientists can take on the work themselves.
67. The SC noted the request to develop and present both annual-based and quarterly-based CPUE to facilitate communications with managers.

7.6.6 *Presentation of stock status advice for data limited stocks*

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.

RECOMMENDATION

That the WPM:

- 1) **NOTE** paper IOTC–2018–WPM09–03 which outlined the main outcomes of the 20th Session of the Scientific Committee, specifically related to the work of the WPM.
- 2) **CONSIDER** how best to progress these issues at the present meeting.

APPENDICES

Appendix A: Consolidated set of recommendations of the 20th Session of the Scientific Committee (November 2017) to the Commission, relevant to the Working Party on Methods.

Appendix B: Program of Work (2018–2022) for the IOTC Working Party on Methods (WPM).

Appendix C: Schedule of MSE for the WPM (2018–2022).

APPENDIX A

CONSOLIDATED SET OF RECOMMENDATIONS OF THE 20TH SESSION OF THE SCIENTIFIC COMMITTEE (30 NOVEMBER – 4 DECEMBER 2017) TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON METHODS

*Extract of the Report of the 20th Session of the Scientific Committee
(IOTC–2017–SC20–R; Appendix XXXIX, Pages 224–232)*

GENERAL RECOMMENDATIONS TO THE COMMISSION

Report of the 8th Session of the Working Party on Methods (WPM08)

Update on the status of the joint CPUE indices (yellowfin tuna, bigeye tuna & albacore)

SC20.31 (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.

SC20.32 (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.

Priorities for future development of the joint CPUE indices

SC20.33 (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.

Presentation of stock status advice for data limited stocks

SC20.34 (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.

Summary discussion of matters common to Working Parties (capacity building activities – stock assessment course; connecting science and management, etc.)

SC20.39 (para. 122) The SC **AGREED** that, while external funding is helping the work of the Commission, funds allocated by the Commission to capacity building are still too low, considering the range of issues identified by the SC and its Working Parties, particularly in relation to the implementation of the Regional Observer Scheme and data collection and reporting for artisanal fisheries and **RECOMMENDED** that the Commission further increases the IOTC Capacity Building budget to fund these activities in the future.

Invited Expert(s) at the WP meetings

SC20.40 (para. 124) Given the importance of external peer review for working party meetings, the SC **RECOMMENDED** that the Commission continues to allocate sufficient budget for an invited expert to be regularly invited to all scientific WP meetings.

Meeting participation fund

SC20.41 (para. 126) 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

- SC20.42 (para. 127) 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 CPCs scientific observers, both on board and port, still do not have smart phone technology/hardware access and need to have hard copies on board.

IOTC Secretariat staffing

- SC20.43 (para. 128) Noting the very heavy workload at the IOTC Secretariat and the ever increasing demands by the Commission and the Scientific Committee, and also the capacity to respond to requests for assistance by countries, the SC **RECOMMENDED** that the recommendation from the Performance Review PRIOTC02.07(g) is implemented, and that permanent staff of the IOTC Data and Science Section be increased by two (2) (1 x P4 and 1 x P3 level positions), supplemented by additional short-term consultants, to commence work by late-2018 or earlier, and that funding for these new positions should come from both the IOTC regular budget and from external sources to reduce the financial burden on the IOTC membership.

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

- SC20.44 (para. 132) 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 VII](#).

Implementation of the Regional Observer Scheme

- SC20.47 (para. 197) The SC therefore **RECOMMENDED** that the EMS standards presented for purse seine fisheries (IOTC-2016-SC19-15) are adopted and **REQUESTED** that draft standards are similarly proposed for the longline fleets by CPCs currently trialling and implementing EMS on these vessels and that draft standards are also developed for gillnet fleets through the ROS Pilot Project.

Progress on the Implementation of the Recommendations of the Second Performance Review Panel

- SC20.48 (para. 201) The SC **RECOMMENDED** that the Commission note the updates on progress regarding Resolution 16/03, as provided at [Appendix XXXIII](#).

*Program of work and schedule of Working Party and Scientific Committee meetings**Consultants*

- SC20.49 (para. 212) Noting the highly beneficial and relevant work done by IOTC stock assessment consultants in 2016 and 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.

Template for Invited Experts

- SC20.50 (para. 237) Noting the recommendation of the IOTC Performance Review (PRIOTC02.02d), the SC **AGREED** that a comprehensive, formal external peer review is sometimes important for important or contentious assessments. Thus, the SC **RECOMMENDED** that a process is established and that the Commission allocates funding for external peer review of stock assessments to take place periodically, based on priorities identified by the SC, and **REQUESTED** that the Secretariat develop ToRs for these, with input from the SC Chair and Vice-Chair, and potentially based on a framework similar to that established for the Center for Independent Experts.

APPENDIX B
PROGRAM OF WORK (2018–2022) FOR THE SCIENTIFIC COMMITTEE AND ITS SUBSIDIARY BODIES

The SC **NOTED** the proposed Program of Work and priorities for the Scientific Committee and each of the Working Parties and **AGREED** to a consolidated Program of Work as outlined in Appendix XXXVIa-g. The Chairpersons and Vice-Chairpersons of each working party shall ensure that the efforts of their working party are focused on the core areas contained within the appendix, taking into account any new research priorities identified by the Commission at its next Session. (IOTC-2017-SC20-R, Para.204)

Working Party on Methods (WPM)

(Extracts from IOTC-2017-SC20-R: Appendix XXXVI)

Table 1. Priority topics for obtaining the information necessary to deliver the necessary advice to the Commission. Resolution 15/10 elements have been incorporated as required by the Commission.

Topic	Sub-topic and project	Research Priority	Funding Priority	Lead	Est. budget (potential source)	Timing				
						2018	2019	2020	2021	2022
1. Management Strategy Evaluation	1.1 Albacore	High	5	EU (JRC)	Funded (EC JRC)					
	1.1.1 Revision of Operating Models based on WPM and SC feedback, including possible robustness tests									
	1.1.2 Implementation of initial set of simulation runs and results									
	1.1.3 Revision of Management Procedures and Indicators after presentation of initial set to TCMP and Commission									
	1.1.4 External peer review (2018 or date TBD)					US\$15,000				
	1.1.5 Evaluation of new set of Management Procedures (if required)									
	1.2 Skipjack tuna	High	2	Maldives						
	1.2.1 Review of model implementation and participation in MSE process				\$?? (TBD)					
	1.3 Bigeye tuna	High	4							

	1.3.1 Update OM & present preliminary MP results to TCMP, WPTT/WPM review of new OM			Australia (CSIRO)	\$75,000 (ABNJ/CSIRO)					
	1.3.2 External peer review (2018 or date TBC)				US\$15,000					
	1.3.3 Present revised MP results to TCMP with target adoption date of 2019				\$30,000 (Jan - Jun 2018)					
	1.3.4 Additional iterations if required				(TBD)					
	1.4 Yellowfin tuna	High	3							
	1.4.1 Update OM & present preliminary MP results to TCMP, WPTT/WPM review of new OM			Australia (CSIRO)	Funded to Dec 2018 (ABNJ/CSIRO)					
	1.4.2 External peer review (2018 or date TBD)				US\$15,000					
	1.4.3 Present revised MP results to TCMP with target adoption date of 2018; iteratively update development if required)				US\$30,000 (Jan-Jun 2018)					
	1.4.4 additional iterations if required				(TBD)					
	1.5 Swordfish	High	1	TBD	?? (TBD)					
	1.5.1 Initial OM									
	1.5.2 Conditioning and OM set up									
	1.5.3 Generic MP tests									
	1.5.4 Final Model with MPs									
	1.5.5 External peer review				US\$15,000					
2. Presentation of stock status advice for data limited stocks	2.1 Explore potential methods of presenting stock status advice to managers from a range of data limited scenarios, e.g. through the development of a 'Tier' approach for providing stock status advice, based on the type of indicators used to determine stock status (e.g. CPUE series, stock assessment model)	Medium	7	Consult.						
					US\$10,000 (TBD)					

3. Multiple stock status derived from different model structures	3.1 Develop specific guidance for the most appropriate models to be used or how to synthesize the results when multiple stock assessment models are presented. (<i>see IOTC-2016-WPTT18-R, para.91</i>)	Medium	6	\$?? (TBD)					
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APPENDIX C

**SCHEDULE OF STOCK ASSESSMENTS FOR IOTC SPECIES AND SPECIES OF INTEREST FROM
2018–2022, AND FOR OTHER WORKING PARTY PRIORITIES**

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2018–22, for the tuna and tuna-like species under the IOTC mandate, as well as the current list of key shark species of interest, as outlined in Appendix XXXVII (IOTC–2017–SC19–R, Para. 210)

The SC **NOTED** that the WPM has selected five species for MSE (albacore, yellowfin, bigeye, skipjack and swordfish). While these species are equally prioritised in terms of science, swordfish has been labelled as the first priority given that it is the only species currently lacking funding.

At the 21st session of the Commission:

Schedule of work for the development of management procedures for key species in the IOTC Area

(Para. 58): The Commission noted the presentation by Australia on the schedule of work for the development of management procedures for key species in the IOTC Area (IOTC-2017-S21-14). The schedule provides information on when and how the Commission ought to be engaged in the management procedures process, and was developed with inputs from CPC’s, relevant IOTC working parties, the Scientific Committee, and uses, as its basis, the work plan of the Scientific Committee.

*(Para. 59): The Commission **ENDORSED** the schedule that was revised during S21 (provided in Appendix 9), noting it is a ‘living document’ to guide the work of the Commission and its subsidiary bodies in the future. The Commission also **REQUESTED** that a budget for implementation of the schedule be reviewed by the SCAF in 2018.*

The proposed schedule is available in IOTC-2018-WPM09-04 as Appendix B: Schedule of Work for TCMP (Schedule of work for the development of management procedures for key species in the IOTC area)