

OUTCOMES OF THE 18th SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY: IOTC SECRETARIAT¹, 24 OCTOBER 2016

PURPOSE

To inform participants at the 7th Working Party on Methods (WPM07) of the recommendations arising from the 18th Session of the Scientific Committee (SC18) held in November 2015, specifically relating to the work of the WPM.

BACKGROUND

At the 18th Session of the SC, the SC noted and considered the recommendations made by the WPM in 2015 that included updates on the MSE process for various IOTC species.

Based on the recommendations arising from the WPM06, the SC18 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 20th Session held in May 2016. A separate paper, IOTC–2016–WPM07–04 addresses the responses and actions of the Commission.

In addition, the SC18 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–2016–WPM07–07) 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 SC18 Report (IOTC–2015–SC18–R) are provided here for the consideration and action of the WPM07:

1.1.1 Proposal for a Technical Committee on Management Procedures

59. **NOTING** with concern the lack of adequate communication of the IOTC MSE process between the Scientific Committee and the Commission to date, the SC **RECOMMENDED** that the Commission consider the following draft outline to establish a formal communication channel for the science and management dialogue to enhance decision making. Possible adjustments to the mechanisms of communication between the Commission and the IOTC Scientific Committee could include the following:

- The progress of the MSE process will benefit from having communication between the Scientific Committee and the Commission more formally structured, for example, through a dedicated Technical Committee on Management Procedures (MP) that would serve as an effective two-way channel for scientists to communicate the results of the ongoing MSE work. The Technical Committee would require that specific terms of reference (in line with the priorities identified in Resolution 14/03), roles and responsibilities of both fisheries managers and scientists, and possible interactions and feedback, are developed and clarified. The Technical Committee on MP could meet in conjunction with the annual Commission Session, to facilitate full attendance by CPCs.
- The Technical Committee on MP would augment the ability of the Scientific Committee to communicate the progress of the MSE process.
- The Technical Committee on MP would focus on the presentation of results and exchange of information necessary for the Commission to consider possible adoption of harvest strategies, utilizing standard formats for the presentation of results to facilitate understanding of the material by the non-technical audience.
- It would be advisable that the agenda of the Technical Committee on MP place an emphasis on the elements of each MP that require a decision by the Commission. To facilitate such decisions,

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wherever necessary, interim choices should be offered to the Commission, noting that these choices can be modified at a later stage in the review. The MSE is an iterative process that allows for adjustments as the work, and the understanding of the elements involved, progresses.

1.1.2 Presentation and evaluation of MSE results

60. The SC **ENDORSED** the draft list of performance statistics representing a suite of candidate management objectives, provided in Appendix VI which provides a means of measuring the performance of alternative management procedures against different objectives.

1.1.3 Albacore MSE update

61. The SC **NOTED** the progress made towards management strategy evaluation (MSE) for the Indian Ocean albacore fishery. This work was primarily led by the WPM Chair and the informal MSE working group. An operating model (OM) was presented together with an initial set of Management Procedures (MP), and the platform that could be used to explore alternative control rules for the Commission.
62. The SC **ENDORSED** the Operating Model for albacore as the basis for the provision of advice to the Commission on the performance of alternative Management Procedures, **NOTING** that external reviewers have considered the albacore MSE work and largely endorsed the approach taken, while recommending a number of improvements to be incorporated.

1.1.4 Skipjack tuna MSE update

63. The SC **NOTED** the progress made towards management strategy evaluation (MSE) for the Indian Ocean skipjack tuna fishery. This work was supported by the IPNLF, WWF, ABNJ and the Maldives' MSC client, MSPEA. An operating model (OM) was presented, together with an initial set of Management Procedures (MP), and the platform that could be used to explore alternative control rules for the Commission.
64. The SC **ENDORSED** the use of the Operating Model for skipjack tuna as the basis for the provision of advice to the Commission on the performance of alternative Management Procedure, **NOTING** that external reviewers have considered the skipjack tuna work MSE and largely endorsed the approach taken, while recommending a number of improvements to be incorporated.
65. The SC **NOTED** that Resolution 15/10 calls for completing the work on assessing the appropriateness of interim target and limit reference points and evaluating candidate harvest control rules as per the decision framework for skipjack tuna and albacore for presentation to the Commission in 2016.

1.1.5 Special session on Management Strategy Evaluation (MSE)

66. The SC **NOTED** that a special session on Management Strategy Evaluation took place during the SC meeting, following a request from the Working Party on Methods. The session gathered members of the WPM involved in the development of MSE for IOTC stocks. A presentation on Management Procedures and their evaluation and comparison through MSE explained the steps involved in this process and the roles of scientists and managers.
67. The SC **NOTED** that this was followed by a practical exercise in which participants could use a simplified Operating Model to tune a Management Procedure to achieve certain management objectives given different levels of uncertainty.
68. The SC **THANKED** the demonstrators for their work and agreed that there is a need for this kind of effort to help members understand the details and progress of the work on Management Strategy Evaluation.

RECOMMENDATION

That the WPM:

- 1) **NOTE** paper IOTC–2016–WPM07–03 which outlined the main outcomes of the 18th 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 18th Session of the Scientific Committee (November 2015) to the Commission, relevant to the Working Party on Methods.

Appendix B: Program of Work (2016–2020) for the IOTC Working Party on Methods (WPM).

Appendix C: Schedule of MSE for the WPM (2016–2020).

APPENDIX A

CONSOLIDATED SET OF RECOMMENDATIONS OF THE 18TH SESSION OF THE SCIENTIFIC COMMITTEE (23–27 NOVEMBER 2015) TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON METHODS

Extract of the Report of the 18th Session of the Scientific Committee

(IOTC–2015–SC18–R; Appendix XXXVII, PAGES 168–175)

GENERAL RECOMMENDATIONS TO THE COMMISSION

Report of the 6th Session of the Working Party on Methods (WPM06)

Proposal for a Technical Committee on Management Procedures

SC18.18 (para. 59) **NOTING** with concern the lack of adequate communication of the IOTC MSE process between the Scientific Committee and the Commission to date, the SC **RECOMMENDED** that the Commission consider the following draft outline to establish a formal communication channel for the science and management dialogue to enhance decision making. Possible adjustments to the mechanisms of communication between the Commission and the IOTC Scientific Committee could include the following:

- The progress of the MSE process will benefit from having communication between the Scientific Committee and the Commission more formally structured, for example, through a dedicated Technical Committee on Management Procedures (MP) that would serve as an effective two-way channel for scientists to communicate the results of the ongoing MSE work. The Technical Committee would require that specific terms of reference (in line with the priorities identified in Resolution 14/03), roles and responsibilities of both fisheries managers and scientists, and possible interactions and feedback, are developed and clarified. The Technical Committee on MP could meet in conjunction with the annual Commission Session, to facilitate full attendance by CPCs.
- The Technical Committee on MP would augment the ability of the Scientific Committee to communicate the progress of the MSE process.
- The Technical Committee on MP would focus on the presentation of results and exchange of information necessary for the Commission to consider possible adoption of harvest strategies, utilizing standard formats for the presentation of results to facilitate understanding of the material by the non-technical audience.
- It would be advisable that the agenda of the Technical Committee on MP place an emphasis on the elements of each MP that require a decision by the Commission. To facilitate such decisions, wherever necessary, interim choices should be offered to the Commission, noting that these choices can be modified at a later stage in the review. The MSE is an iterative process that allows for adjustments as the work, and the understanding of the elements involved, progresses.

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

Meeting participation fund

SC18.24 (para. 98) The SC **RECOMMENDED** 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.

Capacity building activities

SC18.25 (para. 99) 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, and **RECOMMENDED** that the Commission consider allocating more funds to these activities in the future.

SC18.26 (para. 100) The SC **RECOMMENDED** that Commission further increases the IOTC Capacity Building budget line so that capacity building training on data analysis and applied stock assessment approaches,

with a priority being data poor approaches, can be carried out in 2016.

IOTC species identification guides: Marine mammal and Best practice guidelines for the safe release and handling of encircled cetaceans

- SC18.27 ([para. 102](#)) The SC **RECOMMENDED** that the Commission allocate funds in its 2016/2017 budget, to produce and print the IOTC best practice guidelines for the safe release and handling of encircled cetaceans. The guidelines could be incorporated into a set of IOTC cetacean identification cards: “*Cetacean identification for Indian Ocean fisheries*”.

IOTC Secretariat staffing

- SC18.28 ([para. 106](#)) **NOTING** the very heavy and constantly increasing workload on the IOTC Secretariat, and the current staffing capacity to respond to requests for assistance by countries, the SC strongly **RECOMMENDED** that at least three (3) additional staff (Science/Data) be hired to join the IOTC Secretariat to work on tasks including but not limited to 1) science and capacity building to improve understanding of IOTC processes; and 2) data quality/exchange improvement, to commence work by 1 January 2017. Funding for these new positions should come from both the IOTC regular budget and from external sources to reduce the direct financial burden on the IOTC membership.

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

- SC18.29 ([para. 107](#)) 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 VII](#).

Implementation of the Regional Observer Scheme

- SC18.30 ([para. 138](#)) **NOTING** that training of observers and crew is long-term and necessarily meticulous work that should be done in a recurrent way in order to optimise the efficiency of observers, the SC **RECOMMENDED** that the IOTC Secretariat increase its effort in training observers, including species identification. This would only be possible if the Commission were to increase staffing at the IOTC Secretariat and allocate specific funding for the Regional Observer Scheme implementation.

Resolution 11/04 On a regional observer scheme

- SC18.31 ([para. 145](#)) **NOTING** that the objective of the Regional Observer Scheme contained in Resolution 11/04, and the rules contained in Resolution 12/02 *On data confidentiality policy and procedures* makes no reference to the data collected not being used for compliance purposes, the SC **RECOMMENDED** that at the next revision of Resolution 11/04, it be clearly stated that the data collected within the Regional Observer Scheme shall not be used for compliance purposes.

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

- SC18.32 ([para. 151](#)) The SC **RECOMMENDED** that the Commission note the updates on progress regarding Resolution 09/01 *on the performance review follow-up*, as provided at [Appendix XXXIII](#).

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

Consultants

- SC18.33 ([para. 157](#)) **NOTING** the highly beneficial and relevant work done by IOTC stock assessment consultants in 2015 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. The draft budget provided in [Table 5](#), shall be incorporated into the overall IOTC Science budget for the consideration of the Commission.

Schedule of meetings for 2016 and 2017

- SC18.34 ([para. 160](#)) The SC **RECOMMENDED** that the Commission discuss the merits of moving the annual Scientific Committee meeting to February each year. This would allow the species working parties to be moved later in the year, thus ensuring that the most recent data is available for assessment purposes. If the Commission were to approve a February date, it may wish to fix its own meeting date in June each year, thus allowing sufficient consultation time between the Scientific Committee and the Commission meeting.

Review of publication deadlines for IOTC data summaries and other datasets for use by Working Parties

SC18.35 ([para. 165](#)) The SC **RECOMMENDED** that the reporting deadline for stock assessment inputs (index of abundance, catch reconstructions, size data, etc.) be 45 days prior to the meeting in which the species is to be assessed.

APPENDIX B
PROGRAM OF WORK (2016–2020) FOR THE SCIENTIFIC COMMITTEE AND ITS SUBSIDIARY BODIES

The SC **NOTED** the proposed Program of Work and priorities for each of the Working Parties and **AGREED** to a consolidated Program of Work as outlined in Appendix XXXIV. The Chairs and Vice-Chairs of each working party shall ensure that the efforts of their working party is 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-2015-SC18-R, Para. 153).

Working Party on Methods (WPM)

(Extracts from IOTC-2015-SC18-R: Appendix XXXIVH)

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	Priority ranking	Lead	Est. budget (potential source)	Timing				
					2016	2017	2018	2019	2020
1. Management Strategy Evaluation	1.1 Albacore	5	EU (JRC)						
	1.1.1 Implementation of initial set of simulation runs and results			\$25,000 (TBD)					
	1.1.2 Revision of Operating Models based on WPM and SC feedback, including possible robustness tests			\$25,000 (TBD)					
	1.1.3 Revision of Management Procedures and Indicators after presentation of initial set to MPD03 and Commission			\$30,000 (TBD)					
	1.1.4 Evaluation of new set of Management Procedures (if required)	\$?? (TBD)							
	1.2 Skipjack tuna	6	Maldives						
1.2.1 Implementation of initial set of simulation runs and results	\$?? (TBD)								

1.2.2	Revision of Operating Models based on WPM and SC feedback, including possible robustness tests			\$?? (TBD)					
1.2.3	Revision of Management Procedures and Indicators after presentation of initial set to MPD03			\$?? (TBD)					
1.2.4	Evaluation of new set of Management Procedures (if required)			\$?? (TBD)					
1.3	Bigeye tuna	2	Australia (CSIRO)	\$75,000 (IOC)					
1.3.1	Software tools for model conditioning and evaluation of MPs								
1.3.2	Demonstration of initial OMs and first set of candidate MPs								
1.3.3	Development of Bigeye OM based on new spatial structure				May				
1.3.4	Revision of Operating Models based on WPM and SC feedback, including possible robustness tests			\$?? (TBD)	Dec				
1.4	Yellowfin tuna	1	Australia (CSIRO)	\$75,000 (IOC)					
1.4.1	Software tools for model conditioning and evaluation of MPs								
1.4.2	Demonstration of initial OMs and first set of candidate MPs								
1.4.3	Revision of Operating Models based on WPM and SC feedback, including possible robustness tests				May				
1.4.4	Final Model with MP's			\$?? (TBD)	Dec				
1.5	Effective communication of Management Strategy Evaluation	3	Chair						
1.5.1	Exploration of tools for effective presentation of MSE results			Nil					
1.5.2	Implementation and adaptation of those tools for IOTC needs			\$8,000 (COI)					

1.6	Swordfish	4	TBD	\$?? (TBD)					
1.6.1	Initial OM								
1.6.2	Conditioning and OM set up								
1.6.3	Generic MP tests								
1.6.4	Final Model with MP's								
2.	Tier approach for providing stock status advice	2.1 Develop 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)	7	Consult.					
	2.1.1	Review of current practices and recommendation for the consideration at WPM07 and SC19.			\$10,000 (TBD)				

Note that Resolution 14/03 has certain hard deadlines and to achieve them this work needs to be completed. These are noted below.

From Resolution 14/03:

Para. 2 (Point 2): "These Science and Management Dialogue Workshops shall be held in 2015, 2016 and 2017, as needed, prior to the respective Commission Annual Sessions"

Para. 4: The effectiveness of the Science and Management Dialogue Workshops shall be reviewed no later than at the Annual Session of the Commission in 2018

APPENDIX C

SCHEDULE OF STOCK ASSESSMENTS FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2015–2019, AND FOR OTHER WORKING PARTY PRIORITIES

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2015–19, 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 XXXIX. (IOTC–2014–SC17–R, Para. 180)

*Extract of the Report of the 17th Session of the Scientific Committee
(IOTC–2014–SC17–R; Appendix XXXIX, PAGE 342)*

Species	2015	2016	2017	2018	2019
Working Party on Methods					
Management Strategy Evaluation	Extension of the MSE process to tropical tunas: ALB, SKJ. Commence work on YFT and BET	Complete work on ALB, SKJ, YFT and BET	TBD	TBD	TBD