

## PROGRESS MADE ON THE RECOMMENDATIONS OF WPTT19

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### PURPOSE

To provide participants at the 19<sup>th</sup> WPTT with an update on the progress made in implementing those recommendations from the previous Working Party on Tropical Tunas (WPTT) 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 18<sup>th</sup> Session of the WPTT, 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 WPTT was provided to the SC for its endorsement at its December 2016 meeting.

### 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 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.

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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 WPTT18.

#### RECOMMENDATION

That the WPTT:

- 1) **NOTE** paper IOTC–2017–WPTT19–06 which detailed the progress made in implementing the recommendations of the WPTT18, and the requests of the 19<sup>th</sup> Session of the Scientific Committee (SC19), taking into consideration the recommendations from the SC and decisions of the Commission;
- 2) **AGREE** to consider and revise as necessary, the recommendations, and for these to be combined with any new recommendations arising from the WPTT19, noting that these will be provided to the SC for its endorsement.

#### APPENDICES

**Appendix I:** Progress made on the Recommendations and Requests of WPTT18

## APPENDIX I

### Progress made on the recommendations of WPTT18

WPTT18 Rec. No.		SC19 Rec. No.	Recommendation adopted by the SC18	Endorsed at S21	Commission response / suggestions for consideration at WPTT19
WPTT18.01 (para. 63)	<b>Review of the statistical data available for bigeye tuna</b> The WPTT <b>NOTED</b> that in the case of the Maldives and other coastal fisheries, juveniles of bigeye tuna often account for an appreciable amount of the total catch but are either not reported or assigned to an 'Other' species category and <b>RECOMMENDED</b> the IOTC Secretariat and Maldives collaborate to improve reliability of catches of bigeye tuna – particularly for historical catch series prior to the introduction of logbooks in 2010.	(Para. 87)	The SC <b>NOTED</b> that in the case of many coastal fisheries, juveniles of bigeye tuna often account for an appreciable amount of the total catch but are either not reported or assigned to an 'Other' species category. The SC <b>REQUESTED</b> the IOTC Secretariat and Maldives collaborate to improve reliability of catches of bigeye tuna – particularly for historical catch series prior to the introduction of logbooks in 2010.	N/A	<b>Update:</b> A Data Compliance and Support mission was conducted by the IOTC Secretariat in July to assist with the estimate of historical catches of tropical tunas and neritic tuna species. The IOTC Secretariat is currently liaising with Maldives to propose a revisions to the historical catches.
WPTT18.02 (para. 85)	<b>Collaborative study of tropical tuna CPUE from multiple Indian Ocean longline fleets</b> <b>NOTING</b> paragraph 84, the WPTT <b>RECOMMENDED</b> continued work on joint analysis of operational catch and effort data from multiple fleets, to further develop methods and to provide indices of abundance for IOTC stock assessments, and <b>NOTED</b> that ISSF would be willing to contribute support for future activities, with the aim of normalizing the process of joint analysis of the operational catch and effort data within the IOTC.	SC19.38 (Para. 127)	<b>Collaborative Longline CPUE</b> The SC <b>ACKNOWLEDGED</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 the current framework, but that plans should be developed to formalize the process within the IOTC in the near future.	N/A	<b>Update:</b> A joint-LL CPUE workshop was held earlier in 2017. The workshop paper is provided as info. Document for the WPTT-19 meeting, in addition to specific papers addressing developments in the joint LL CPUE since WPTT-18.
WPTT18.03 (para. 88)	<b>Bigeye tuna CPUE summary discussion</b> The WPTT <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.	SC19.25 (para. 93)	<b>Bigeye tuna CPUE summary discussion</b> 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.	N/A	<b>Update:</b> A joint-LL CPUE workshop was held earlier in 2017. The joint LL CPUE was extended in 2017 to include the Seychelles LL fleet. An update to be provided during WPTT-19.
WPTT18.04 (para. 165)	<b>Yellowfin tuna CPUE Summary discussion</b> The WPTT <b>RECOMMENDED</b> that efforts to develop abundance indicators using PS data should be continued. Given the difficulty of defining effort in PS fisheries, and the importance of obtaining an abundance index for skipjack, alternative methods such as those based on ratio methods and standardized species composition should also	(Para. 94)	<b>Yellowfin tuna CPUE Summary discussion</b> The SC <b>REQUESTED</b> that efforts to develop abundance indicators using purse seine data should be continued. Given the difficulty of defining effort in purse seine fisheries (particularly in FAD fisheries), and the importance of obtaining an abundance index for skipjack, alternative methods such as those based on ratio methods	N/A	<b>Update:</b> Nil.



WPTT18 Rec. No.		SC19 Rec. No.	Recommendation adopted by the SC18	Endorsed at S21	Commission response / suggestions for consideration at WPTT19
	be considered.		and standardized species composition should also be considered.		
WPTT18.05 (para. 181)	<i>Stock Synthesis III (SS3) assessment of yellowfin tuna</i> <b>NOTING</b> the discussions on the tagging mixing period during previous WPTT meetings, related to the assessment of yellowfin and other tropical tuna stocks, the WPTT <b>RECOMMENDED</b> that additional work to be conducted to elucidate the most appropriate approach to tag modelling in IOTC stock assessments.	SC19.26 (para. 95)	<i>Stock Synthesis III (SS3) assessment of yellowfin tuna</i> <b>NOTING</b> the discussions on the tagging mixing period during previous WPTT meetings, related to the assessment of yellowfin and other tropical tuna stocks, the SC <b>RECOMMENDED</b> that additional work to be conducted to elucidate the most appropriate approach to tag modelling in IOTC stock assessments.	N/A	<b>Update:</b> A tag modelling project terms of reference have been proposed. The project is scheduled to begin in 2018 (subject to availability of funding).
WPTT18.06 (para. 191)	<i>Parameters for future analyses: Yellowfin tuna CPUE standardisation and stock assessments</i> The WPTT <b>RECOMMENDED</b> that development of the next stock assessment of yellowfin tuna should include a detailed review of the existing data sources (conducted by the stock assessment consultant, in collaboration with the IOTC Secretariat and main longline and purse seine fleets), including: i. Size frequency data: Evaluation of the reliability of length composition from the longline fisheries (including recent and historical data), review of anomalies in the (EU) PS length composition data, and the need for a thorough review of the size frequency data held by IOTC, in collaboration with the fleets involved, to improve the utilization of these data in tropical tuna stock assessments. ii. Collaborative longline CPUE: Further refinement of the procedures to standardize the composite longline logsheet data sets to develop the longline CPUE indices; iii. Tagging data: Comprehensive analysis of the tag release/recovery data set; iv. Alternative CPUE series: a review of the available data from the Indian tuna longline survey data.	SC19.27 (para. 96)	<i>Parameters for future analyses: Yellowfin tuna CPUE standardisation and stock assessments</i> The SC <b>RECOMMENDED</b> that development of the next stock assessment of yellowfin tuna should include a detailed review of the existing data sources (conducted by the stock assessment consultant, in collaboration with the IOTC Secretariat and main longline and purse seine fleets), including: i. Size frequency data: Evaluation of the reliability of length composition from the longline fisheries (including recent and historical data), review of issues with the use of the (EU) purse seine length composition data prior to 1991, and the need for a thorough review of the size frequency data held by IOTC, in collaboration with the fleets involved, to improve the utilization of these data in tropical tuna stock assessments. ii. Collaborative longline CPUE: Further refinement of the procedures to standardize the composite longline logsheet data sets to develop the longline CPUE indices; iii. Tagging data: Comprehensive analysis of the tag release/recovery data set; iv. Alternative CPUE series: a review of the available data from the Indian tuna longline survey data.	N/A	<b>Update:</b> Work has continued on the joint LL CPUE throughout 2017 (updates to be provided during WPTT-19).  Terms of reference have already been drafted for some of the priorities (i.e., size frequency data, and tag modelling), and funding is currently in the process of being confirmed, with work scheduled for 2018.
WPTT18.07	<i>Revision of the WPTT Program of Work (2017–2021)</i>	(paras.	<i>Program of Work (2017–2021) and assessment schedule</i>	N/A	<b>Update:</b> Nil.



WPTT18 Rec. No.		SC19 Rec. No.	Recommendation adopted by the SC18	Endorsed at S21	Commission response / suggestions for consideration at WPTT19
(para 201)	The WPTT <b>RECOMMENDED</b> that the SC consider and endorse the WPTT Program of Work (2017–2021), as provided at <a href="#">Appendix IX</a> .	169-170)	<p>The SC <b>NOTED</b> paper IOTC–2016–SC19–09 which provided the Scientific Committee (SC) with a proposed Program of Work for each of its Working Parties (WP), including prioritisation of the elements requested by each WP.</p> <p>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 <a href="#">Appendix XXXIVa-g</a>. 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.</p>		
WPTT18.09 (para. 212)	<p><b>Review of the draft, and adoption of the Report of the 18<sup>th</sup> Session of the WPTT</b></p> <p>The WPTT <b>RECOMMENDED</b> that the Scientific Committee consider the consolidated set of recommendations arising from WPTT18, provided at <a href="#">Appendix X</a>, as well as the management advice provided in the draft resource stock status summary for each of the three tropical tuna species under the IOTC mandate, and the combined Kobe plot for the three species assigned a stock status in 2016 (Fig. 15):</p> <ul style="list-style-type: none"> <li>o Bigeye tuna (<i>Thunnus obesus</i>) – <a href="#">Appendix VI</a></li> <li>o Skipjack tuna (<i>Katsuwonus pelamis</i>) – <a href="#">Appendix VII</a></li> <li>o Yellowfin tuna (<i>Thunnus albacares</i>) – <a href="#">Appendix VIII</a></li> </ul>	SC19.01 (para. 142)	<p><b>Tuna – Highly migratory species</b></p> <p>The SC <b>RECOMMENDED</b> that the Commission note the management advice developed for each tropical and temperate tuna species as provided in the Executive Summary for each species, and the combined Kobe plot for the three species assigned a stock status in 2016 (Fig. 4):</p> <ul style="list-style-type: none"> <li>o Albacore (<i>Thunnus alalunga</i>) – <a href="#">Appendix VIII</a></li> <li>o Bigeye tuna (<i>Thunnus obesus</i>) – <a href="#">Appendix IX</a></li> <li>o Skipjack tuna (<i>Katsuwonus pelamis</i>) – <a href="#">Appendix X</a></li> <li>o Yellowfin tuna (<i>Thunnus albacares</i>) – <a href="#">Appendix XI</a></li> </ul>	(Para. 22)	<b>Update:</b> The Commission noted the status summaries (2011-2015) for species of tuna and tuna-like species under the IOTC mandate, as well as other species impacted by IOTC fisheries (Appendix 6) and considered the recommendations made by the SC19 in its 2016 report (IOTC–2016–SC19–R, Appendix XXXVII) that related specifically to the Commission. The Commission <b>ENDORSED</b> the list of recommendations as its own.

WPTT17 Report	WPTT17 REQUESTS	Update/Progress
Para. 14	<p><b>Review of the statistical data available for tropical</b></p> <p>The WPTT <b>NOTED</b> the main tropical tuna data issues that are considered to negatively affect</p>	<b>Update:</b> [Ongoing – CPCs to provide updates during the WPTT-19 meeting]



	the quality of the statistics available at the IOTC Secretariat, by type of dataset and fishery, which are provided in <u>Appendix V</u> , and <b>REQUESTED</b> that the CPCs listed in the Appendix, make efforts to remedy the data issues identified and to report back to the WPTT at its next meeting.	
Para. 17	<p><b><i>Climate and oceanographic conditions</i></b></p> <p>The WPTT <b>NOTED</b> the introduction of additional environmental variables such as vertical current shear which is likely to affect the depths reached by hooks for deep longline sets, and <b>REQUESTED</b> that the current shear be calculated over the entire depth range of the longline gear, potentially 0-400 m by 20 m.</p>	<b>Update:</b> Updated paper to be presented at WPTT-19.
Para. 30	<p><b><i>Thailand tuna fisheries</i></b></p> <p>The WPTT <b>NOTED</b> discrepancies between the fishing effort maps and species composition produced in the paper and catch-and-effort data which were provided by Thailand to the Secretariat, and <b>REQUESTED</b> that the IOTC Secretariat liaise to resolve the discrepancies identified.</p>	<b>Update:</b> Nil.
Para. 33	<p><b><i>Characteristics of Indonesia's aFAD tuna fisheries</i></b></p> <p>The WPTT <b>NOTED</b> that size frequency data from FADs has been collected by the ACIAR-funded project, but has not yet been submitted to the Secretariat, and <b>REQUESTED</b> that size data from FADs be reported to the IOTC, especially since the fish captured are the smallest across all fisheries in the Indian Ocean and have significant value in assessments as an indicator of recruitment.</p>	<b>Update:</b> Indonesia to provide an update.
Para. 39-40	<p><b><i>Catch, Effort, and eCOsystem impacts of FAD fishing research project (CECOFAD)</i></b></p> <p>The WPTT <b>NOTED</b> that the project assessed the impact of time area closures for FAD fishing on target and bycatch species, and <b>REQUESTED</b> the authors to further work to analyse the potential application to other areas for presenting in future WPTT meetings.</p> <p>The WPTT <b>REQUESTED</b> the authors to present the FAD terminology developed in this project to the upcoming WPDCS meeting, in order to harmonize the terminology used by other tRFMOs.</p>	<b>Update:</b> No update.
Para. 48-51	<p><b><i>Note on the size frequencies of the YFT &amp; BET catches by PS used in the SS3 model</i></b></p> <p>The WPTT <b>NOTED</b> paper IOTC-2016-WPTT18-INFO1 which provided a discussion of the size frequency data reported to the IOTC Secretariat by the European purse seine fleet, and input files prepared by the IOTC Secretariat for the SS3 model.</p> <p>The WPTT <b>ACKNOWLEDGED</b> that while the anomalies in the purse seine size data do not likely affect the outcomes of the assessment model, the WPTT <b>REQUESTED</b> that all three types of size data (i.e., raw samples, weighted and extrapolated size data) be submitted to the IOTC Secretariat by the EU to resolve the current anomalies in the size data to be included in future assessments.</p> <p>The WPTT <b>ACKNOWLEDGED</b> that the large amount of size data available for the EU purse seine fleet is considered to be the most reliable source of size frequency data available in the IOTC database and <b>REQUESTED</b> that these data are analysed in more detail to investigate</p>	<p><b>Update:</b> EU-France to provide an update on the PS size data during WPTT-19. To date, the original raw samples have not been provided to the IOTC Secretariat.</p> <p>A dedicated project examining potential bias in the distant water LL fleet is also planned for 2018 (subject to confirmation of funding).</p>

	<p>the source of variation (e.g., by area and time) and updated accordingly when providing inputs for future tropical tuna stock assessments – particularly in the case of yellowfin tuna and bigeye tuna.</p> <p>The WPTT also <b>NOTED</b> that there was concern regarding the high degree of variation in the length composition data available from the longline fisheries. The differences in length composition amongst fleets and over time periods (historical and recent) may indicate biases in the collection of these data from some fleets, changes in fishing operation, and/or high levels of sampling error (related to low sample sizes) and <b>REQUESTED</b> a thorough review of the longline length frequency data held by IOTC is required to improve the utilization of these data in the tropical tuna stock assessments.</p>	
Para. 52-54	<p><b>Proposals for improved figures in the tropical tunas statistical summaries</b></p> <p>The WPTT <b>NOTED</b> paper IOTC-2016-WPTT18-33 which detailed proposals for alternative figures in the tropical tunas statistical summaries.</p> <p>The WPTT <b>NOTED</b> that expanding the current set of information presented in the figures of the tropical tuna statistical appendices would be useful, and <b>REQUESTED</b> that proposed changes to the figures be discussed at the next session of the WPDCS and to be considered by the SC prior to inclusion into the supplementary information appended to the executive summaries.</p> <p>The WPTT <b>REQUESTED</b> the IOTC Secretariat to explore possible options for the development of an online interface to allow users to generate figures using the publically disseminated dataset of the IOTC.</p>	<p><b>Update:</b> A paper has been submitted to WPTT-19 for discussion (IOTC-2017-WPTT19-23).</p>
Para. 55-57	<p><b>Pakistan gillnet fisheries targeting tropical tunas</b></p> <p>The WPTT <b>NOTED</b> paper IOTC-2016-WPTT18-INF03 which provides an overview of the status of gillnet fisheries in Pakistan targeting tropical tunas.</p> <p>The WPTT <b>NOTED</b> the large differences in catches estimated by the Pakistan Ministry of Ports and Shipping and the (substantially higher) catches estimates by the WWF funded Observer Program, and <b>REQUESTED</b> that Pakistan, WWF and the IOTC Secretariat collaborate in order to understand the reason for the discrepancies, and in addition explore ways to improve data collection and reporting of data to the IOTC over the longer term.</p> <p>The WPTT also <b>REQUESTED</b> that Observer data collected by WWF funded Observers, is made available to the IOTC Secretariat by formal submission of the by the Pakistan Ministry of Ports and Shipping.</p>	<p><b>Update:</b> A brief appraisal of the WWF funding observer data was conducted earlier in 2017, which is currently stored in hard-copy format only. The IOTC Secretariat is currently liaising with Pakistan regarding possible assistance with the electronic input and submission on the data using the IOTC Secretariat's new Electronic ROS tool.</p> <p>The IOTC Secretariat is also in contact with WWF and Pakistan Ministry of Fisheries and will be actively working with both organizations to understand and resolve discrepancies in the revised catch data recently submitted to IOTC.</p>
Para. 59	<p><b>Review of the statistical data available for bigeye tuna</b></p> <p>The WPTT <b>REQUESTED</b> that Pakistan, WWF, and the IOTC Secretariat collaborate to understand and reconcile differences between recent catches reported by the Pakistan Ministry of Ports and Shipping, sampling conducted by WWF, and historical data reported by Pakistan, and for the IOTC Secretariat to provide an update to the next WPTT meeting – particularly in relation to revision of catches of bigeye tuna and yellowfin tuna for the driftnet fishery.</p>	<p><b>Update:</b> The IOTC Secretariat is also in contact with WWF and Pakistan Ministry of Fisheries and will be actively working with both organizations to understand and resolve discrepancies in the revised catch data recently submitted to IOTC.</p>
Para. 62	<p><b>NOTING</b> the on-going issue regarding the accuracy of total catch estimates related to the capture and identification of juvenile bigeye tuna (due to difficulties of species identification),</p>	



	the WPTT <b>REQUESTED</b> that CPCs catching large numbers of juvenile tuna improve the enumeration and classification of this species.	
Para. 83	<p><b><i>Collaborative study of tropical tuna CPUE from multiple Indian Ocean longline fleets</i></b></p> <p>The WPTT <b>NOTED</b> that these CPUE analyses cannot account for all of the factors that cause catchability changes, as demonstrated by the 1979 Japanese anomaly that does not appear to be explainable by an abundance change. Additionally there were several hundred different analyses, and it may not be appropriate to assume that there is a uniquely preferable series. Accordingly, the WPTT <b>REQUESTED</b> advice from the authors about using multiple CPUE series to capture the plausible relative abundance uncertainties for the stock assessment, and particularly for the MSE process.</p>	<b>Update:</b> The authors to provide an update during WPTT-19.
Para. 91	<p><b><i>Stock assessments - bigeye</i></b></p> <p>The WPTT <b>NOTED</b> that results from several assessment models were presented, and it was not clear how to synthesize the results of the range of models. Some of the models' analyses were much more detailed than others and used more of the available data. As some of the models were very similar and did not seem to provide significantly new insight from each other, the WPTT <b>REQUESTED</b> the WPM to provide guidance on the most appropriate models to use in the future, and how to provide advice when multiple models are presented.</p>	<b>Update:</b> WPM Chair to provide an update.
Para. 154	<p><b><i>Assessment of yellowfin tuna caught by artisanal fishers in Kenya between 2013 and 2016</i></b></p> <p>The WPTT <b>NOTED</b> that Kenya is in the process of implementing a new data collection system based on a Catch Assessment Survey, which is producing some differences in the total catch between the two systems and <b>REQUESTED</b> the IOTC Secretariat provide assistance in reconciling the discrepancies between the two data collection systems.</p>	<b>Update:</b> Ongoing. The IOTC Secretariat has conducted two missions to Kenya in 2017 to provide assistance with the evaluation of the results of Kenya's Catch Assessment survey and appraisal of the sampling methodology. Results of the Catch Assessment Survey are currently being finalized.
Para. 199	<p><b><i>Revision of the WPTT Program of Work (2017-2021)</i></b></p> <p>The WPTT <b>REQUESTED</b> that the Chairperson and Vice-Chairperson of the WPTT, in consultation with the IOTC Secretariat, develop Terms of Reference (TOR) to for each of the high priority projects that are yet to be funded, for circulation to potential funding sources.</p>	<b>Update:</b> In progress.