

PROGRESS MADE ON THE RECOMMENDATIONS AND REQUESTS OF WPB20 AND SC25

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PURPOSE

To provide participants at the 21st WPB with an update on the progress made in implementing those recommendations from the previous Working Party on Billfish (WPB) 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 20th Session of the WPB, 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 WPB was provided to the SC for its endorsement at its December 2022 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 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 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 25th 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 WPB21.

RECOMMENDATION

That the WPB **NOTE** the progress made in implementing the recommendations and requests of the 10th Session of the WPB 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 WPB20](#)

WPB 20.02	<p>Revision of the WPB Program of work (2023–2027)</p> <p>(para 148): The WPB RECOMMENDED that the SC consider and endorse the WPB Program of Work (2023–2027), as provided at Appendix XI.</p>		<p>Program of Work (2023–2027) and assessment schedule</p> <p>(para. 180) The SC NOTED the proposed Program of Work and priorities for the SC and each of the working parties and AGREED to a consolidated Program of Work as outlined in Appendix 35a-g and in accordance with the IOTC Strategic Science Plan 2020-2024. The Chairpersons and Vice-Chairpersons of each working party will ensure that the efforts of their respective working parties 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>	<p>Update: Completed</p>
WPB20.03	<p>Date and place of the 21st and 22nd Sessions of the Working Party on Billfish</p> <p>(para. 152) The WPB RECOMMENDED the SC consider early September as a preferred time period to hold the WPB21 in 2023. As usual it was also AGREED that this meeting should continue to be held back-to-back with the WPEB, with the WPEB taking place after the WPB in 2023.</p>		<p>Final Meeting schedule</p> <p>(para 190) The SC REQUESTED that the schedule of Working Party and Scientific Committee meetings for 2023 and 2024 provided at Appendix 37 be communicated by the IOTC SC Chairperson to the Commission for its endorsement.</p>	<p>Update: Completed</p> <p>The meeting schedule was adopted with the meeting to be held in September, back-to-back with the WPEB.</p>
WPB20.04	<p>Review of the draft, and adoption of the Report of the 20th Session of the Working Party on Billfish</p> <p>(para. 153): The WPB RECOMMENDED that the Scientific Committee consider the consolidated set of recommendations arising from WPB20, provided at Appendix XII, as well as the management advice provided in the draft resource stock status summary for each of the five billfish species under the IOTC mandate, and the combined Kobe plot for the five species assigned a stock status in 2022 (Fig. 4):</p> <ul style="list-style-type: none"> ○ Swordfish (<i>Xiphias gladius</i>) – Appendix VI ○ Black marlin (<i>Makaira indica</i>) – Appendix VII ○ Blue marlin (<i>Makaira nigricans</i>) – Appendix VIII ○ Striped marlin (<i>Tetrapturus audax</i>) – Appendix IX ○ Indo-Pacific sailfish (<i>Istiophorus platypterus</i>) – Appendix X 	<p>SC25.02</p> <p>(para. 162)</p>	<p>Billfish</p> <p>The SC RECOMMENDED that the Commission note the management advice developed for each billfish species under the IOTC mandate, as provided in the Executive Summary for each species, and the combined Kobe plot for the five species assigned a stock status in 2022 (Fig. 3):</p> <ul style="list-style-type: none"> ○ Swordfish (<i>Xiphias gladius</i>) – Appendix 12 ○ Black marlin (<i>Makaira indica</i>) – Appendix 13 ○ Blue marlin (<i>Makaira nigricans</i>) – Appendix 14 ○ Striped marlin (<i>Tetrapturus audax</i>) – Appendix 15 ○ Indo-Pacific sailfish (<i>Istiophorus platypterus</i>) – Appendix 16 	<p>Update: Completed</p>

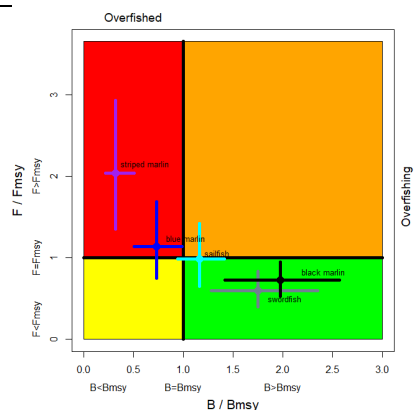


Fig. 4. Combined Kobe plot for swordfish (grey), indo-pacific sailfish (cyan), black marlin (black), blue marlin (blue) and striped marlin (purple) showing the 2018, 2019, 2020, 2021 and 2022 estimates of current stock size (SB or B, species assessment dependent) and current fishing mortality (F) in relation to optimal spawning stock size and optimal fishing mortality. Cross bars illustrate the range of uncertainty from the model runs.

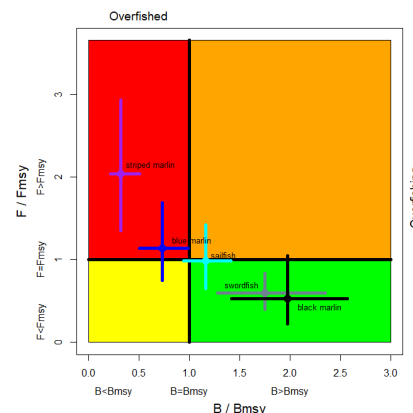


Fig. 3. Combined Kobe plot for swordfish (2018 with assessment conducted in 2020, grey), Indo-Pacific sailfish (2019 with assessment conducted in 2022, cyan), black marlin (2019 with assessment conducted in 2021, black), blue marlin (2020 with assessment conducted in 2022, blue) and striped marlin (2019 with assessment conducted in 2021, purple) showing the estimates of current stock size (SB or B, species assessment dependent) and current fishing mortality (F) in relation to optimal stock size and optimal fishing mortality. Cross bars illustrate the range of uncertainty from the model runs. Given unresolved uncertainty in the assessment, status for black marlin is uncertain.

WPB20 Report	WPB20 REQUESTS	Update/Progress
Para. 15	The WPB REQUESTED that the IOTC Secretariat continue to annually prepare a paper on the progress of the recommendations arising from the previous WPB, incorporating the final recommendations adopted by the Scientific Committee and endorsed by the Commission.	Update: Completed (IOTC-2023-WPB21-06).
Para. 19	In light of this, the WPB REQUESTED the IOTC scientific community to consistently refer to the officially accepted scientific names of all billfish species of interest to the IOTC in line with the international standards set up by reference institutions such as ITIS, GBIF, ASFIS, and FISHBASE.	Update: Ongoing. Scientists to note this request
Para. 40	Finally, the WPB NOTED the main billfish data issues, by type of dataset and fishery, that are considered to negatively affect the quality of the statistics available at the IOTC Secretariat (provided in Appendix V) and REQUESTED that the CPCs listed in the Appendix make efforts to remedy the identified data issues – with support from the IOTC Secretariat, when required – and report back to the WPB at its next meeting.	Update: Ongoing. CPCs to provide feedback at the WPB21

Para. 44	The WPB NOTED that SFA is still developing the practical aspects of this sampling programme, which will either be carried out through direct collaboration with fishermen or by employing technicians at the landing sites, and REQUESTED SFA to report back to this same Working Party about any future development in this regard.	Ongoing: SFA to report back at WPB21
Para. 88	The WPB ADOPTED the management advice developed for blue marlin, as provided in the draft status summary and REQUESTED that the IOTC Secretariat update the draft stock status summary with the latest 2020 interaction data to be provided to the SC as part of the draft Executive Summary, for its consideration: <ul style="list-style-type: none"> Blue marlin (<i>Makaira nigricans</i>) – Appendix VII 	Update: Completed
Para. 103	The WPB ADOPTED the management advice developed for I.P. Sailfish, as provided in the draft status summary and REQUESTED that the IOTC Secretariat update the draft stock status summary with the latest 2020 interaction data to be provided to the SC as part of the draft Executive Summary, for its consideration: <ul style="list-style-type: none"> I.P. Sailfish (<i>Istiophorus platypterus</i>) – Appendix VII 	Update: Completed
Para. 108	The WPB NOTED unexpected effects and interactions (e.g. longitude with individual size) on swordfish at-haulback mortality. The WPB SUGGESTED that these effects may result from collinearity with other variables and REQUESTED that the authors further investigate the collinearity between variables.	Ongoing: Authors to provide feedback on this suggestion in the future.
Para. 116	The WPB further NOTED that the Secretariat has contacted various scientists requesting them to share tagging data with the Secretariat, and the WPB ENCOURAGED CPCs to provide tagging data (or at least metadata) with the Secretariat. The WPB ACKNOWLEDGED that the exchange format needs to be discussed and agreed upon but REQUESTED that the Secretariat develop a regional database for tagging data.	Ongoing: The Secretariat has collated several satellite tagging data from the International Game Fish Association (IGFA), Stanford University, Ifremer and IRD, and is in contact with Marine Megafauna to add more tags to an IOTC repository. Work has started to build on the R shiny application developed by Ifremer to visualize and access the metadata and data. Overview of the data and work to be presented at WPB21. The Secretariat is reaching out to interested parties to develop the regional database.
Para. 119	NOTING the limited range for the steepness (below 0.8) tested by the authors, the WPB REQUESTED that steepness values between 0.6 and 0.9 be investigated as has been done for swordfish in other oceans. The WPB further ACKNOWLEDGED that values between 0.7 and 0.9 are usually applied for tuna species but NOTED that as billfishes are considered to be less productive than tuna species, a lower value of 0.6 would be appropriate to capture this aspect of their biology. The WPB REQUESTED that the WPM further investigate and provide advice on this issue.	Ongoing: The WPM was unable to address this request in 2022.
Para. 126	The WPB NOTED that for the last cycle, mandatory statistical data has not yet been provided by Pakistan and REQUESTED Pakistan to submit the data as earliest possible.	Ongoing: Total retained catch data from Pakistani fisheries for the statistical year 2021 were reported to the Secretariat in late March 2022. No-georeferenced catch, effort, and size-frequency data have been reported for that year. PAK to provide feedback at WPB21.
Para. 138	The WPB REQUESTED that training videos be developed as an output of the work, and NOTED the importance of these materials for future tagging activities.	Ongoing: Authors to provide feedback on training video development in the future.