



PROGRESS MADE ON THE RECOMMENDATIONS AND REQUESTS OF WPB15 AND SC20

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PURPOSE

To provide participants at the 16th 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 15th 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 November 2017 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^{th} Session adopted a set of reporting terminology SC16.07 (para. 23), which was subsequently endorsed by the Commission at its 18^{th} 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 <u>Appendix I</u> 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 19th 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 <u>Appendix I</u> for the consideration and potential endorsement by the WPB14.

RECOMMENDATION

That the WPB **NOTE** the progress made in implementing the recommendations and requests of the 14th 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 WPB15

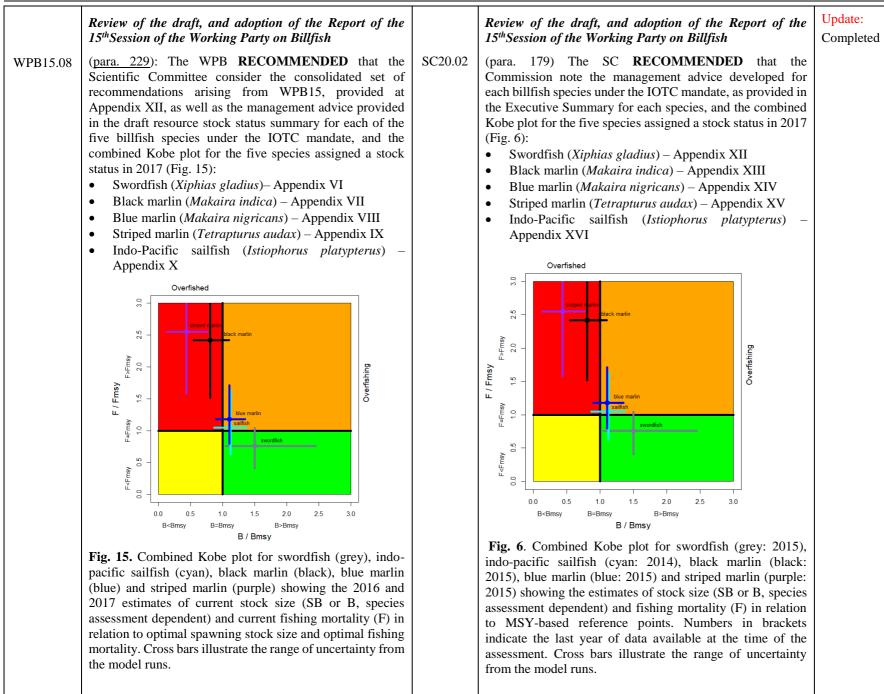
APPENDIX I

Progress made on the recommendations and requests of WPB15 and SC20

WPB15 Rec. No.	Recommendation from WPB15	SC20 Rec. No.	Recommendation adopted by the SC20	Progress/Comments
	IOTC Resolutions		IOTC Resolutions	
WPB14.01	(para. 9): NOTING the comments by the FAO Legal Counsel at the 20 th Session of the IOTC: "First, the Legal Counsel informed the Members that FAO fully acknowledged that the IOTC Agreement, negotiated between 1991 and 1993, and which came into force in 1996, should be modernized, in order to reflect recent developments in the Law of the Sea and modern trends in fisheries management". (S20 Para. 94 To be adopted) the WPB RECOMMENDED that on the next revision of the IOTC Agreement, short billed spearfish are included as an IOTC species.	SC20.16	(<u>para. 44</u>) The SC recalled its previous RECOMMENDATION that on the next revision of the IOTC Agreement, the shortbill spearfish (<i>Tetrapturus angustirostris</i>) be included as an IOTC species.	
	Billfish species identification		Billfish species identification	Update: [Ongoing]
WPB15.01	(<u>para. 17</u>): The WPB AGREED on the importance of the hard, waterproof copies of the IOTC species identification guides for observers and port samplers, and again RECOMMENDED that funds are allocated for further printing of the species ID guides for distribution to sports fishing clubs and recreational fisheries to improve the quality of data reported, and that additional funds be provided for the translation of these into the priority languages identified by the SC.	SC20 Para. 49	The SC AGREED on the importance of the hard, waterproof copies of the billfish IOTC species identification guides for observers and port samplers, and again RECOMMENDED that funds are allocated for further printing of the species ID guides for distribution to sports fishing clubs and recreational fisheries to improve the quality of data reported, and that additional funds be provided for the translation of these into the priority languages identified by the SC.	Funds from the IOTC regular budget and external sources have been obtained, however, printing has been delayed due the new requirement to process the document through the FAO publications approval system and the issue that has subsequently arisen on image ownership. To be discussed at the current WPB.
WPB15.02	Review of the statistical data available for billfish (<u>para. 35</u>): () the WPB RECOMMENDED that Indonesia and the IOTC Secretariat closely liaise in the future to ensure that the current estimation process of Indonesian catches is properly documented and improved - if needed - in order to ensure that only the best scientific estimates are made available to scientists.	SC20 Para. 45	Review of the statistical data available for billfish Due to on-going uncertainties with the reliability of catches reported by Indonesia, particularly in the case of swordfish, the SC REQUESTED that the IOTC Secretariat, in collaboration with Indonesia, review the current methods for estimating catches of billfish for Indonesia in the IOTC database and provide an update at the next meeting of the WPB.	Update: [Ongoing] Following discussions between the IOTC Secretariat and Indonesia, revisions to the catch estimates for fresh longline fleet (the primary gear accounting for catches of billfish by Indonesia) will be presented during the WPB meeting.

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WPB15.03 WPB15.04	New information on sport fisheries (para. 62): The WPB NOTED that the pilot project is still ongoing and will be completed by October 2017, and RECOMMENDED that results and outcomes of its first phase be evaluated by the SC prior to the possible implementation of a second phase. (para. 63): Eventually, following the positive evaluation by the SC, the WPB RECOMMENDED future development of a network of country focal points for the distribution of data forms, the collection of the anonymized data and its submission to the IOTC Secretariat.	SC20 Para. 46 SC20 Para. 47 and 48	 New information on sport fisheries The SC noted paper IOTC-2017-SC20-INF04 describing the outcomes of a pilot project to collect catch-and-effort and size data from sports fisheries in four countries of the western Indian Ocean, The SC Acknowledged the importance of reporting data on sports/recreational fishing to the IOTC, which is a mandatory data reporting requirement of Resolution 15/02, but noted that IOTC Secretariat resources dedicated to supporting data capacity building for this fishery should be apportioned relative to the importance of catches of sports fishing in the Indian Ocean, which contributes to less than 1% of the total catches of IOTC species. The SC AGREED on the importance in supporting improvements in the data collection and reporting of sports fishing data to the IOTC, within the context of capacity building within national fisheries institutions, but that a full evaluation of the outcomes of the pilot project (which concluded in September 2017) are required before further resources are considered for follow-up activities. 	Update: A prototype data collection and reporting tool was finalized in 2017 and introduced to stakeholders from four countries in the SWIO (Kenya, Seychelles, Mauritius and La Reunion). Progress within each of the project countries has been variable, and highly dependent on the availability of resources to collect and process the sports and recreational fisheries data. For example, Kenya is including sports fisheries data collection and reporting within their integrated database (using a logbook format that matches the one proposed by IOTC). Mauritius is also ready to implement the logbook and database, subject to available personnel resources. An update to the implementation of the data forms in Kenya will also be provided during the WPB meeting, by the African Billfish Foundation.
WPB15.05	Swordfish: Grid-rNTP model (para. 108): The WPB NOTED that the uncertainty regarding the regional rescaling factor is difficult to fully evaluate in a single stock assessment, and RECOMMENDED that this is more formally addressed using a structured approach within a Management Strategy Evaluation framework.	SC20 Para. 56	<i>Swordfish: Grid-rNTP model and MSE</i> The SC noted that the current grid of OM runs already includes alternative scaling procedures, but their effect on the results is still to be explored. The SC AGREED that this should be more formally addressed using a structured approach within a Management Strategy Evaluation framework	Update: The operating model for the Management Strategy Evaluation for Swordfish has adopted an uncertainty grid which explicitly considered three alternative options of regional scaling factors for the longline CPUE: by area, by biomass, and/or by catch. The preliminary results for the first iteration of the OM runs were presented to TCMP02.

	Revision of the WPB Program of work (2018–2022)		Program of Work (2017–2021)	Update:
WPB15-06	(<u>para. 216</u>): The WPB RECOMMENDED that future work continues on the marlins stock assessment in order to improve current models and other approaches such as delay-difference or age-structured production models are explored. Therefore the WPB AGREED that its plan of work be intersessionally amended for the consideration of the SC and a consultant be hired to further explore the data and models.	SC20 Para. 59	The SC REQUESTED that future work continues on the stock assessment of marlins in order to improve current models and that other approaches, such as delay-difference or age-structured production models, are also explored.	Completed
WPB15-07	(<u>para. 217</u>): The WPB RECOMMENDED that the SC consider and endorse the WPB Program of Work (2018–2022), as provided at Appendix XI.			



	SC20.19	(<u>para. 58</u>) The SC noted that catches for Black Marlin, Blue Marlin, and Striped Marlin have increased in 2016 (and 2015) from the average level of 2009-2014 as observed in Appendix VIa. The catch in 2016 for Blue marlin was 3,510 t higher (27 % larger) than the average 2009-2014, 4,286 t larger (32 %) for Black marlin and 1,398 (36 %) for Striped marlin. Considering the status of these stocks the SC urgently RECOMMENDED that measures are agreed to recover the status of the stock of the three marlin species covered by Resolution 15/05 as per the management advice given in the Executive Summaries	
5	SC20.18	<i>Swordfish stock assessment and MSE</i> (<u>para. 55</u>) The SC noted that the next step of the swordfish MSE is to finalize the OM and present the results to the TCMP02 within the current resource constraints (e.g., staff time and travelling). NOTING that the Commission considers the development of an MSE for swordfish to be a high priority activity, the SC RECOMMENDED that this is reflected in the 2019 budget of the Commission.	Update: A consultancy budget of USD5,000 was allocated to this activity by the Commission (IOTC-2018-SCAF15- 07).

WPB15 Report	WPB15 REQUESTS	Update/Progress
Para. 18	Billfish species identification The WPB REQUESTED that final copies of the species identification guides translated in Portuguese by WWF-Mozambique and in Sinhalese / Tamil by NARA are submitted to the IOTC Secretariat for printing.	Update: Species ID guides in Portuguese are currently under final review and will shortly be ready for typesetting and printing (see comments above regarding printing). Translations in Sinhalese/Tamil are yet to be received by the IOTC Secretariat
Para. 21	Sports fisheries	
	At the same time the WPB ACKNOWLEDGED the involvement of multiple stakeholders in the process of regulating the sector, and REQUESTED that proper initiatives are put in place to create and / or increase awareness on this topic.	
Para. 23	Stock structure project	
	At the same time the WPB ENCOURAGED interested countries to confirm their participation to the project and REQUESTED that they liaise with the leading	

	scientists and institutions to further define the extent of their contribution and involvement in the project	
Para. 24	<i>I.R.Iran billfish fishery</i> The WPB ACKNOWLEDGED that while catch data is provided according to the format specified in Resolution 15/02, there still are difficulties in providing monthly effort breakdown and therefore REQUESTED that I.R. Iran continues to closely work with the IOTC Secretariat to make every possible effort to improve the assessment of the areas and times fished by its fishery	Update: Following a successful data compliance and support mission by the IOTC Secretariat in November 2017, I.R. Iran has submitted in 2018 catch-and-effort data disaggregated by month and area for the first time, including data for 2015-2017 that is currently being analysed by the IOTC Secretariat. Data for previous years is also expected to be submitted in due course and the IOTC Secretariat is continues to work closely with Iranian colleagues to ensure that future data is submitted according to the requirements of Resolution 15/02 and incorporated into the IOTC database.
Para. 26	African Billfish Foundation	
	The WPB ACKNOWLEDGED the evidence of known quality issues related to the African Billfish Foundation tag data, and REQUESTED that a full assessment of the information be performed before this could effectively be used and disseminated to a broader audience.	
Para. 27	Nominal and standardized CPUE indices - swordfish	
	The WPB NOTED that Reunion (EU, France) had not provided the requested Swordfish CPUE series in time for the meeting, and REQUESTED Reunion (EU, France) to share the missing information in time for the next Swordfish stock assessment.	
Para. 31	Review of the statistical data available for billfish 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, which are provided in Appendix V, and REQUESTED that the CPCs listed in the Appendix, make efforts to remedy to the identified data issues and report back to the WPB at its next meeting	Update: The IOTC Secretariat to provide an update during the WPB meeting, including revisions to the billfish catches for Comoros, fresh longline catches for Indonesia, submission of catch-and-effort for I.R. Iran, and changes to the species composition reported by Taiwan, China.
Para. 36	The WPB ACKNOWLEDGED that there still are remarkable differences in the size- frequency distributions of Striped marlin caught and reported by the longline fisheries of Japan and Taiwan and therefore REQUESTED that further analysis are performed to analyse the reason for these discrepancies and ensure that the available data could effectively be used for stock assessment purposes.	Update: The IOTC Secretariat will be conducting a project in 2019 examining the potential inconsistencies in size frequency data reported by the distant water longline fleets, mostly in the context of tropical tunas, but could also in principle be extended to include billfish as well.
Para. 37	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, which are provided in Appendix V, and REQUESTED that the CPCs listed in the Appendix, make efforts to remedy to the identified data issues and report back to the WPB at its next meeting	Update: See para 31 above
Para. 41	<i>I.R. Iran billfish fishery</i> The WPB NOTED an important increase of billfish landings between 2012 and 2016 and therefore REQUESTED I.R. Iran to verify the data collection procedures used to	Update: Ongoing. Improvements in the submission of catch-and-effort and size frequency data by I.R. Iran following a data compliance and support mission by the IOTC Secretariat in late-2017 may help to better understand the spatial and temporal trends in billfish landings.

	calculate the deployed fishing effort in order to better understand the temporal trend in landings and CPUE.	
Para. 43	The WPB REQUESTED that I.R. Iran provides gillnet effort (number of days) broken down by boat capacity and by province and month, NOTING that the work on gathering proper geo-referenced data is still ongoing.	Update: During the recent data compliance and support mission I.R. Iran confirmed that the requested information is at their availability and could potentially be extracted (with the addition of boat capacity information) using similar procedures to those applied for the extraction of monthly catch-and-effort.
Para. 46	Sri Lanka billfish fishery	
	ACKNOWLEDGING that there might be potential misidentification issues between some of the marlin species (in particular blue marlin and black marlin) the WPB REQUESTED Sri-Lanka to set up a protocol at port landings to verify the validity of specific catches reported in logbooks.	
Para. 47	The WPB NOTED that the implementation of electronic logbooks on multi-days Sri- Lanka vessels operating within the EEZ was in progress and REQUESTED the IOTC Secretariat to evaluate the possibility of adopting the same systematic approach for other fleets and fisheries in the region.	Update: Pending: Sri Lanka confirmed the possibility of sharing the source code of their electronic logbook systems with the IOTC Secretariat, for an assessment of its potential adoption as a regional tool for semi-industrial fisheries. The issue should be discussed again during the WPB and / or WPDCS in November 2018.
Para. 50	Malaysian billfish fishery	
	As no observers are currently used in the tuna longline fleet (comprising 5 to 10 vessels) while some are active in the domestic purse seine fishery, the WPB ACKNOWLEDGED Malaysia's intention to be part of the pilot scheme for the Regional Observer Programme and REQUESTED Malaysia to further coordinate with the IOTC Secretariat.	
Para. 72	Review new information on swordfish biology, stock structure, fisheries and associated environmental data	
	Therefore, the WPB REQUESTED that a growth study be conducted on Indian Ocean swordfish and NOTED that about 300 otoliths had already been collected from the South Western Indian Ocean during the IOSSS project.	
Para. 109	Grid-rNTP model	
	For this reason, the WPB also REQUESTED that CPUE standardisation should continue to be improved to develop more robust regional weighting estimates.	
Para. 142	Development of management advice for swordfish and update of swordfish Executive Summary for the consideration of the Scientific Committee Therefore, the WPB REQUESTED CPCs to put efforts into combining CPUEs by area at the scale of the Indian Ocean, in order to avoid conflicting information between CPUEs	Update: The development of a joint-CPUE for swordfish (and other billfish) was recommended by the WPM in 2017. Funding for the work is still to be confirmed, as well as inclusion of the work in the WPM/WPB Program of Work. To be discussed further during the WPB meeting in terms of future priorities.
Para. 145	The WPB REQUESTED that the IOTC Secretariat update the draft stock status summary for swordfish with the latest 2015 catch data, and for the summary to be provided to the SC as part of the draft Executive Summary for its consideration:	Update: Completed.
	Swordfish (<i>Xiphias gladius</i>) – Appendix VI	

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Para. 155	Taiwan,China longline CPUE	
	The WPB NOTED that the weighting for the final CPUE was carried out by area	
	size (NE, NW, SE, SW) and REQUESTED the exploration of other types of	
	weights, such as catches or effort.	
Para. 157	For this reason, the WPB AGREED to use the original area weighting in the final	
	models. The WPB REQUESTED that, in the future, the proportion of zeros in the data are provided by year and region.	
	CPUE Summary discussion	
Para. 173	-	
	NOTING that the Taiwanese series covers a longer time period, the WPB considered the gillnet CPUE much more uncertain and REQUESTED that this	
	should not be used in current stock assessments.	
Para. 180	Striped marlin: Summary of stock assessment models in 2017	
1 ala. 100	The WPB AGREED that there was not enough time at the meeting to explore the	
	sensitivity of the model to this assumption. Furthermore, the WPB REQUESTED	
	that some length information be collected from these fleets to allow an appropriate	
	selectivity to be used in the model in the future	
Para. 193	The WPB NOTED the conflicts among CPUE and catch series are a critical issue	
	for the reliability of stock assessment results conducted using such simple production models and REQUESTED that future studies investigate the source of	
	these conflicts among CPUE and catch series.	
Para. 201	Selection of stock status indicators for marlins	
	The WPB ADOPTED the management advice developed for each marlin species as	
	provided in the draft resource stock status summaries and REQUESTED that the	
	IOTC Secretariat update the draft stock status summaries for each marlin species	
	with the latest 2016 catch data and for the summaries to be provided to the Scientific Committee as part of the draft Executive Summary, for its consideration:	
	 Black marlin (Makaira indica) – Appendix VII 	
	 Blue marlin (Makaira nigricans) – Appendix VII Blue marlin (Makaira nigricans) – Appendix VIII 	
	Striped marlin (Tetrapturus audax) – Appendix IX	
Para. 204	Development of management advice for sailfish and update of sailfish species Executive Summaries for the consideration of the Scientific Committee	
	The WPB ADOPTED the management advice developed for Indo-Pacific sailfish	
	(Istiophorus platypterus), as provided in the draft resource stock status summary	
	and REQUESTED that the IOTC Secretariat update the draft stock status summary	
	for Indo-Pacific sailfish with the latest 2016 catch data, and for the summary to be	
	provided to the Scientific Committee as part of the draft Executive Summary, for its consideration:	
	Indo-Pacific sailfish (<i>Istiophorus platypterus</i>) – Appendix X	
	- indo-i acine samisii (isuophorus piurypierus) – Appendix A	

Para. 207	Development of options for alternative management measures (including closures) for billfish in the IOTC area of competence The WPB ACKNOWLEDGED the difficulties in finding a proper agreement among CPCs with respect to quota allocation criteria, that would otherwise represent a potentially effective and alternative output control measure. For this reason, the WPB REQUESTED to keep this agenda item open until WPB16 and beyond, ACKNOWLEDGING that alternative and practical measures should be explored in the near future.	
Para. 209	Revision of the WPB Program of work (2018–2022) The WPB RECALLED that the SC, at its 18th Session, made the following request to its working parties: "The SC REQUESTED that during the 2016 Working Party meetings, each group not only develop a Draft Program of Work for the next five years containing low, medium and high priority projects, but that all High Priority projects are ranked. The intention is that the SC would then be able to review the rankings and develop a consolidated list of the highest priority projects to meet the needs of the Commission. Where possible, budget estimates should be determined, as well as the identification of potential funding sources." (SC18. Para 154).	
Para. 210	NOTING that the first phase of the sports fishery project has come to the expected end, the WPB REQUESTED that the final project report be evaluated by the next Scientific Committee prior to taking further actions for the identification of additional funding sources to support a potential second phase of the project.	Update: The IOTC Secretariat presented to the WPDCS and SC in 2017 the final report of the IOTC sports fishery pilot project. The discussions concluded that while the tools developed by the project have the potential to improve the knowledge and quality of the information collected for billfish species, consideration also needs to be taken between the importance of catches from sports/recreational fisheries and future costs of data collection and resources required for implementation of the tools before committing to a second phase of the project.
Para. 211	Also, the WPB ACKNOWLEDGED that a number of swordfish otoliths has already been (and is currently being) collected and therefore REQUESTED the identification of potential funding sources to further support additional analysis and scientific studies for stock assessment purposes	
Para. 212	ACKNOWLEDGING the importance of correct species identification to improve the quality of data submitted to the IOTC Secretariat, the WPB REQUESTED to further discuss the potential development of identification guides for dressed billfish, and the completion of preliminary studies on this same matter.	
Para. 214	The WPB NOTED the importance, for a correct implementation of the ROS pilot project, that CPCs coordinate with the IOTC Secretariat and REQUESTED interested CPCs to take proper action on this matter.	