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## OUTCOMES OF THE 23<sup>RD</sup> SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY IOTC SECRETARIAT, AUGUST 2021

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### PURPOSE

To inform participants at the 17<sup>th</sup> Working Party on Ecosystems and Bycatch (WPEB17) of the recommendations arising from the 23<sup>rd</sup> Session of the IOTC Scientific Committee (SC) held from 7-11 December 2020, specifically relating to the work of the WPEB

### BACKGROUND

At the 23<sup>rd</sup> Session of the SC, the SC noted and considered the recommendations made by the WPEB in 2020 that included requests to address the deficiencies in data collection, monitoring and reporting by CPCs, particularly in relation to sharks as well as the collection of species-specific data on catch, biology, discards and trade.

The recommendations on the deficiencies in data collection, monitoring and reporting by CPCs in relation to bycatch species will be discussed in paper IOTC–2021–WPEB17(AS)–07 and are therefore not presented in this paper.

Based on the recommendations arising from the WPEB16, the SC23 adopted a set of recommendations, provided in [Appendix A](#) of this paper. The recommendations contained in [Appendix A](#) were provided to the Commission for consideration at its 24<sup>th</sup> Session which was held in December 2020.

In addition, the SC23 reviewed and endorsed a Program of Work for the WPEB, including a revised assessment schedule, as detailed in [Appendix B](#) **Error! Reference source not found.**. A separate paper (IOTC–2021–WPEB17–09) will outline the review and development process for a Program of Work for the WPEB for the next five years (2021–2025).

### DISCUSSION

In addition to the recommendations outlined in [Appendix A](#) and [Appendix B](#) **Error! Reference source not found.**, the following extracts from the SC23 Report (IOTC-2020-SC23-R[E]) are provided here for the consideration and action of the WPEB17:

***Status of development and implementation of national plans of action for seabirds and sharks, and implementation of the FAO guidelines to reduce marine turtle mortality in fishing operations***

The SC **NOTED** paper IOTC–2020–SC23–06 which provided the SC with the opportunity to update and comment on the current status of development and implementation of national plans of action for seabirds and sharks, and implementation of the FAO guidelines to reduce marine turtle mortality in fishing operations, by each IOTC CPC.

The SC **RECOMMENDED** that the Commission note the current status of development and implementation of National Plans of Action (NPOAs) for sharks and seabirds, and the implementation of the FAO guidelines to reduce marine turtle mortality in fishing operations, by each CPC as provided in [Appendix 5](#), recalling that the IPOA-Seabirds and IPOA-Sharks were adopted by the FAO in 1999 and 2000, respectively, and recommended the development of NPOAs.

The SC **RECALLED** the request from WPEB15 in 2019 for the Secretariat to provide links in the NPOA portal on the IOTC website (<http://iotc.org/science/status-of-national-plans-of-action-and-fao>

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[guidelines](#)) to the actual plan documents. The SC **NOTED** that work is being done to collect these documents from CPCs and thanked those who had already submitted them.

The SC **REQUESTED** that CPCs submit their NPOA to Secretariat for upload onto the NPOA portal.

The SC **NOTED** small revisions to the previous update on NPOAs in 2019 including the revision of a NPOA sharks by Thailand for the period 2020-24 and a revision to the South African NPOA seabirds.

The SC **NOTED** a statement from Thailand on their National Plan of Action (NPOA) for sharks which has been submitted to the Secretariat and that Thailand do not yet have NPOA for seabirds and turtles and questioned whether these must be developed when no interactions are thought to occur with these species. The SC **CLARIFIED** that the requirements for NPOAs should be discussed during WPEB when there is more time to discuss these issues on a case by case basis.

### ***Shortfin mako shark stock assessment***

The SC **NOTED** that in 2020, a stock assessment was completed for shortfin mako using a JABBA model but that it was not possible to provide scientific advice based on this assessment due to a number of reasons including: issues with model misspecification; the low credibility of nominal catch data; the selection of biological parameters used in the model; and the inability of the aggregated biomass dynamic model to reconcile the significant time delay (around 8 years) between fishing and the effect on future recruitment.

The SC **NOTED** that one of the four CPUE series which were made available for the assessment was found to be significantly different to the others and so this series provided by Japan was not included in the model. The SC **CLARIFIED** that this CPUE series is thought to differ from the other CPUE series submitted due to spatial differences in the catches and **NOTED** that there is no standardised CPUE which covers the entire Indian Ocean. The SC **NOTED** that it is difficult to understand the quality of different CPUE series' and that further work on this is required in order to better understand their quality level.

### ***Other Matters***

The SC **NOTED** the intent of the WPEB to liaise with the International Whaling Commission (IWC) on matters relating to cetacean bycatch in the Indian Ocean including the introduction of a sub-Working Group which will be dedicated to discussing cetaceans to better understand the levels of bycatch in the Indian Ocean, potential mitigation measures and methods for overcoming data deficiencies.

The SC **NOTED** a request from Japan for the omission of data for Japan prior to 1992 in assessments as these are not data officially submitted by Japan. The SC further **NOTED** that Japan is currently working to estimate catches at a species level for these years and will submit these to the Secretariat when available. The SC **REQUESTED** Japan to prioritise data for blue shark and silky shark to be used in assessments next year.

## **APPENDICES**

**[Appendix A:](#)** Consolidated set of recommendations of the 23<sup>rd</sup> Session of the Scientific Committee to the Commission, relevant to the Working Party on Ecosystems and Bycatch.

**[Appendix B:](#)** Schedule of stock assessment for the WPEB (2021-2025)

**APPENDIX A**CONSOLIDATED SET OF RECOMMENDATIONS OF THE 23<sup>rd</sup> SESSION OF THE SCIENTIFIC COMMITTEE  
TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON ECOSYSTEMS AND BYCATCH*Extract of the Report of the 23<sup>rd</sup> Session of the Scientific Committee**(IOTC-2020-SC23-R[E]; Appendix 38, Page 209)***Sharks**

- SC23.04 (para. 134) The SC **RECOMMENDED** that the Commission note the management advice developed for a subset of shark species commonly caught in IOTC fisheries for tuna and tuna-like species:
- Blue shark (*Prionace glauca*) – [Appendix 23](#)
  - Oceanic whitetip shark (*Carcharhinus longimanus*) – [Appendix 24](#)
  - Scalloped hammerhead shark (*Sphyrna lewini*) – [Appendix 25](#)
  - Shortfin mako shark (*Isurus oxyrinchus*) – [Appendix 26](#)
  - Silky shark (*Carcharhinus falciformis*) – [Appendix 27](#)
  - Bigeye thresher shark (*Alopias superciliosus*) – [Appendix 28](#)
  - Pelagic thresher shark (*Alopias pelagicus*) – [Appendix 29](#)

**Marine turtles**

- SC23.05 (para. 135) The SC **RECOMMENDED** that the Commission note the management advice developed for marine turtles, as provided in the Executive Summary encompassing all six species found in the Indian Ocean:
- Marine turtles – [Appendix 30](#)

**Seabirds**

- SC23.06 (para. 136) The SC **RECOMMENDED** that the Commission note the management advice developed for seabirds, as provided in the Executive Summary encompassing all species commonly interacting with IOTC fisheries for tuna and tuna-like species:
- Seabirds – [Appendix 31](#)

**Marine Mammals**

- SC23.07 (para. 137) The SC **RECOMMENDED** that the Commission note the management advice developed for cetaceans, as provided in the newly developed Executive Summary encompassing all species commonly interacting with IOTC fisheries for tuna and tuna-like species:
- Cetaceans – [Appendix 32](#)

**GENERAL RECOMMENDATIONS TO THE COMMISSION, TO SPECIFIC CPC'S AND/OR OTHER BODIES*****Status of development and implementation of national plans of action for seabirds and sharks, and implementation of the FAO guidelines to reduce marine turtle mortality in fishing operations***

- SC23.10 (para. 59) The SC **RECOMMENDED** that the Commission note the current status of development and implementation of National Plans of Action (NPOAs) for sharks and seabirds, and the implementation of the FAO guidelines to reduce marine turtle mortality in fishing operations, by each CPC as provided in Appendix 5, recalling that the IPOA-Seabirds and IPOA-Sharks were adopted by the FAO in 1999 and 2000, respectively, and recommended the development of NPOAs.

***SUMMARY DISCUSSION OF MATTERS COMMON TO WORKING PARTIES (CAPACITY BUILDING ACTIVITIES – STOCK ASSESSMENT COURSE; CONNECTING SCIENCE AND MANAGEMENT, ETC.)******Invited Expert(s) at the WP meetings***

- SC23.15 (para. 114) Given the importance of external independent review for working party meetings, the SC **RECOMMENDED** the Commission continues to allocate sufficient budget for invited scientific experts to be regularly invited to scientific working party meetings.

***Meeting participation fund***

- SC23.16 (para. 116) 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***

- SC23.17 (para. 117) 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.

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

- SC23.18 (para. 118) 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 7](#).

***PROGRAM OF WORK AND SCHEDULE OF WORKING PARTY AND SCIENTIFIC COMMITTEE MEETINGS******Consultants***



SC23.19 (para. 163) Noting the highly beneficial and relevant work done by IOTC stock assessment consultants 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.

***REVIEW OF THE DRAFT, AND ADOPTION OF THE REPORT OF THE 23<sup>RD</sup> SESSION OF THE SCIENTIFIC COMMITTEE***

SC23.20 (para. 168) The SC **RECOMMENDED** that the Commission consider the consolidated set of recommendations arising from SC23, provided at [Appendix 38](#).

**APPENDIX B**

**ASSESSMENT SCHEDULE FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2021-2025**

*Extract of the Report of the 23<sup>rd</sup> Session of the Scientific Committee*

*(IOTC-2020-SC23-R; Appendix 36, Page 204)*

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2021–25, 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 36. (IOTC-2020-SC23-R[E], Para. 161).

<b>Working Party on Ecosystems and Bycatch</b>					
<b>Species</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Blue shark	Data preparatory meeting Full assessment	-	-	-	Data preparatory meeting Full assessment
Oceanic whitetip shark	-	Indicator analysis	-	Data preparation	Indicator analysis
Scalloped hammerhead	-	Assessment*	-	-	-
Shortfin mako shark	-	-	-	Data preparation Full assessment	-
Silky shark	Data preparatory meeting Assessment*;	-	-	Assessment*;	-
Bigeye thresher shark	-	Assessment*	-	-	-
Pelagic thresher shark	-	Assessment*	-	-	-
Porbeagle shark	-	-	Assessment*	-	-
Mobulid Rays	-	-	-	Interactions/ Indicators	-
Marine turtles	-	-	Indicators	-	-

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Seabirds	–	Review of mitigation measures in Res. 12/06	–	–	–
Marine Mammals	Review of mitigation measures in Res. 12/13/04	–	–	–	Review of mitigation measures
Ecosystem Based Fisheries Management (EBFM) approaches	ongoing	ongoing	ongoing	ongoing	ongoing

\* Including data poor stock assessment methods; Note: the assessment schedule may be changed dependent on the annual review of fishery indicators, or SC and Commission requests.

**NOTE:** (i) the “indicator analysis” is a simple analysis to provide guidance on the stock status based on fishery data such as CPUE, catch, and size frequency data ;(ii) the “full stock assessment” is an assessment to provide the stock status and fishing pressure based on a stock assessment model such as stock synthesis or production model; (iii) the “data preparatory” is a the submission and review by the WP of the fishery data as well as biological parameters for the upcoming stock assessment.