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## OUTCOMES OF THE 22<sup>ND</sup> SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY IOTC SECRETARIAT, 20 JULY 2020

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### PURPOSE

To inform participants at the 16<sup>th</sup> Working Party on Ecosystems and Bycatch (WPEB16) of the recommendations arising from the 22<sup>nd</sup> Session of the IOTC Scientific Committee (SC) held from 2-6 December 2019, specifically relating to the work of the WPEB

### BACKGROUND

At the 22<sup>nd</sup> Session of the SC, the SC noted and considered the recommendations made by the WPEB in 2019 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-2020-WPEB15-07 and are therefore not presented in this paper.

Based on the recommendations arising from the WPEB15, the SC22 adopted a set of recommendations, provided in [Appendix A](#) of this paper. The recommendations contained in [Appendix A](#) will be provided to the Commission for consideration at its 24<sup>th</sup> Session to be held in November 2020

In addition, the SC22 reviewed and endorsed a Program of Work for the WPEB, including a revised assessment schedule, as detailed in [Error! Reference source not found.](#) A separate paper (IOTC-2020-WPEB16-10) 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 [Error! Reference source not found.](#) the following extracts from the SC22 Report (IOTC-2019-SC22-R[E]) are provided here for the consideration and action of the WPEB15:

The SC **NOTED** that information on bycatch from FAD fisheries is only partially available for the major industrial fleets but that it can be extracted from regular ROS data submissions. The SC further **NOTED** that several papers by industry and national scientists have been presented during recent IOTC working parties, including documents analyzing a number of mitigation techniques to reduce the impact of FAD sets on bycatch species. The SC **RECALLED** that these documents are available on the specific IOTC web page of the meeting concerned.

The SC **NOTED** that the tables presented in Appendix VII of the WPEB report which provide information on the status of the ROS may no longer be fully up-to-date. The SC **ENCOURAGED** all CPCs that have submitted ROS data to the IOTC Secretariat to verify that the information contained within corresponds to what available at national level

The SC **ACKNOWLEDGED** that due to the general lack of catch data, size-frequency data and standardized CPUE series for silky shark, an assessment for this species was not able to be carried out in 2019.

## IOTC-2020-WPEB16-03

The SC **REITERATED** the importance of having detailed information on climate indicators disseminated through the IOTC website as publicly available datasets, and **ACKNOWLEDGED** that the scoping study requested by the SC21 to create the platform for these data could not be conducted due to unforeseeable circumstances. Given this, the SC **REITERATED** its request to the Secretariat that this activity be implemented as soon as possible.

### ***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–2019–SC22–06 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.

### ***Resolution 17/05 and the conservation of sharks in IOTC fisheries***

The SC **ENDORSED** the advice of the WPEB regarding the need to improve data collection and reporting for shark species. To this end, the SC **RECOMMENDED** that several initiatives be implemented, including: (i) holding regional workshops to improve shark species identification, shark data sampling and collection (fisheries and biological) and IOTC data reporting requirements; (ii) data mining to fill historical data gaps; (iii) developing alternative tools to improve species identification (e.g. genetic analyses, machine learning, and artificial intelligence).

### ***Progress towards Ecosystem Based Fisheries Management (EBFM) in IOTC – Preliminary Ecosystem Report Cards***

The SC **NOTED** that progress has been made on addressing EAF in IOTC fisheries. In addition to a dedicated workshop prior to the WPEB meeting to define EcoRegions, several ecosystem report cards were presented to the WPEB. The SC further **NOTED** that ecosystem models have a potential to contribute to the development of EAF, although data limitations in the IOTC to validate the models may be problematic. Nevertheless, as this expertise is not readily available in the IOTC community, the SC **ENCOURAGED** further participation of external modelling experts to future sessions of the WPEB.

## **APPENDICES**

**[Appendix A:](#)** Consolidated set of recommendations of the 22<sup>nd</sup> Session of the Scientific Committee to the Commission, relevant to the Working Party on Ecosystems and Bycatch.

**[Error! Reference source not found.:](#)** Schedule of stock assessment for the WPEB (2020-2024)

## APPENDIX A

### CONSOLIDATED SET OF RECOMMENDATIONS OF THE 22<sup>ND</sup> SESSION OF THE SCIENTIFIC COMMITTEE TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON ECOSYSTEMS AND BYCATCH

*Extract of the Report of the 22<sup>nd</sup> Session of the Scientific Committee*

*(IOTC-2019-SC22-R[E]; Appendix 38, Page 201)*

#### **Sharks**

- SC22.04 (para. 121) 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**

- SC22.05 (para. 122) 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**

- SC22.06 (para. 123) 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**

- SC22.07 (para. 124) 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***

- SC22.13 (para. 54) 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.

***Resolution 17/05 and the conservation of sharks in IOTC fisheries***

- SC22.14 (para. 55) The SC **ENDORSED** the advice of the WPEB regarding the need to improve data collection and reporting for shark species. To this end, the SC **RECOMMENDED** that several initiatives be implemented, including: (i) holding regional workshops to improve shark species identification, shark data sampling and collection (fisheries and biological) and IOTC data reporting requirements; (ii) data mining to fill historical data gaps; (iii) developing alternative tools to improve species identification (e.g. genetic analyses, machine learning, and artificial intelligence).

***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***

- SC22.18 (para. 104) 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***

- SC22.19 (para. 105) 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***

- SC22.20 (para. 106) 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***

SC22.21 (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 7](#).

***IMPLEMENTATION OF THE REGIONAL OBSERVER SCHEME***

SC22.22 (para. 127) The SC **ACKNOWLEDGED** that estimation of ROS coverage for the purse seine fleets is adversely impacted by the lack of uniformity in reporting effort data to the IOTC Secretariat, and **AGREED** that this information, which is particularly useful to assess the performance of Resolution 11/04, should be further standardized. As such, the SC **RECOMMENDED** that all purse seine fleets reporting effort as fishing hours or fishing days begin to submit this information as 'number of sets' instead, in particular when fulfilling the reporting requirements of Resolution 15/02.

***PROGRESS ON THE IMPLEMENTATION OF THE RECOMMENDATIONS OF THE PERFORMANCE REVIEW PANEL***

SC22.23 (para. 133) The SC **RECOMMENDED** that the Commission note the updates on progress regarding Resolution 16/03, as provided at [Appendix 33](#).

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

SC22.24 (para. 150) 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 22<sup>ND</sup> SESSION OF THE SCIENTIFIC COMMITTEE***

SC22.25 (para. 160) The SC **RECOMMENDED** that the Commission consider the consolidated set of recommendations arising from SC22, provided at [Appendix 38](#). scientific observers, both on board and port, still do not have smart phone technology/hardware access and need to have hard copies on board.

**APPENDIX B**
**ASSESSMENT SCHEDULE FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2020-2024**

*Extract of the Report of the 22<sup>nd</sup> Session of the Scientific Committee*

*(IOTC-2019-SC22-R; Appendix 36, Page 197)*

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2020–24, 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-2019-SC22-R, Para. 148).

<b>Working Party on Ecosystems and Bycatch</b>					
<b>Species</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
Blue shark	Data preparation	Full assessment	-	-	-
Oceanic whitetip shark	Indicator analysis	-	-	-	Data preparation
Scalloped hammerhead	-	-	Assessment*	-	-
Shortfin mako shark	Full assessment	-	-	Data preparation	Full assessment
Silky shark	-	Assessment*;	-	-	Assessment*;
Bigeye thresher shark	-	-	-	Assessment*	-
Pelagic thresher shark	-	-	-	Assessment*	-
Porbeagle shark	-	-	-	Assessment*	-
Mobulid Rays	Interactions/ Indicators				Interactions/ Indicators
Marine turtles	Review of mitigation measures in Res. 12/04	-	-	Indicators	-

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

\*Method to be determined; 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 the submission and review by the WP of the fishery data as well as biological parameters for the upcoming stock assessment.