
OUTCOMES OF THE 25TH SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY IOTC SECRETARIAT, AUGUST 2023

PURPOSE

To inform participants at the 19th Working Party on Ecosystems and Bycatch (WPEB19) of the recommendations arising from the 25th Session of the IOTC Scientific Committee (SC) held from 5-9 December 2022, specifically relating to the work of the WPEB.

BACKGROUND

At the 25th Session of the SC, the SC noted and considered the recommendations made by the WPEB in 2022 that included recommendations to: support cooperation between CPCs on the development of regional plans of action for sharks and specifically a research plan for sharks with scalloped hammerhead as a priority species and prioritise funding to support such research and management activities; to endorse an update of the list of sharks, rays and ETP species included in Resolution 15/01; to discuss the proposed Letter of Intent between IOTC and IOSEA; to include hook-shielding devices as an additional option for seabird bycatch mitigation measures; and to endorse the proposed candidate ecoregions for the development of pilot projects to evaluate their utility and effectiveness.

Requests from WPEB in 2022 also included the request to address the deficiencies in data collection, monitoring and reporting by CPCs, particularly in relation to sharks and in gillnet fisheries as well as the collection of species-specific data on catch, biology, discards and trade. The SC also expressed support for the increasing scope of the work of the WPEB which in the past has focused mostly on sharks but is now increasing to include other taxa as well as climate and ecosystem issues.

The recommendations and requests on the deficiencies in data collection, monitoring and reporting by CPCs in relation to bycatch species will be discussed in paper IOTC-2022-WPEB19-07 and are therefore not presented in this paper.

Based on the recommendations arising from the WPEB18, the SC25 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 27th Session which was held in July 2023.

In addition, the SC25 reviewed and endorsed a Program of Work for the WPEB, including a revised assessment schedule, as detailed in **Appendix B**. A separate paper (IOTC-2023-WPEB19-09) will outline the review and development process for a Program of Work for the WPEB for the next four years (2024-2028).

DISCUSSION

In addition to the recommendations outlined in **Appendix A** and **Appendix B** the following extracts from the SC25 Report (IOTC-2022-SC25-R[E]) are provided here for the consideration and action of the WPEB19:

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-2022-SC25-06](#) 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-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** that there have been small revisions to the previous update on NPOAs in 2022 including the drafting of revisions of NPOAs by some CPCs and updates on the progress on the development of NPOAs by other CPCs.

Ecoregions

The SC **NOTED** the ongoing ecoregion process, including their purpose and potential benefits in providing more integrated regional advice. The SC **NOTED** that the next step in the process of the development of these ecoregions is to conduct a series of pilot projects to evaluate their utility and effectiveness as a tool to support regional ecosystem planning and prioritisation, incentivised ecosystem research and the development of integrated advice products for informing fisheries management decisions. The SC **NOTED** that there are two pilot projects currently planned – one which will focus on coastal regions and other focused on more oceanic regions which will provide an opportunity to compare the artisanal and industrial fisheries that tend to operate in each of these regions.

The SC **NOTED** that in the future these ecoregions might be considered for their potential to provide structured management advice focused on issues of particular importance to each of the regions and stock assessment advice would be incorporated into the overall advice alongside other information.

The SC **ENDORSED** the proposed refined candidate ecoregions and the development of the proposed pilot projects to evaluate their utility and effectiveness.

Data and research related issues

The SC **NOTED** a recommendation from the WPEB to revise the list of sharks, rays and Endangered, Threatened and Protected (ETP) species included in Appendix II of Resolution 15/01 to ensure that all species under broad categories such as hammerhead sharks (*Sphyrna* spp.) are reported separately by species. The SC **NOTED** that this could help to provide an incentive to improve catches of these species which may have historically been reported aggregated.

With a view to identifying mitigation measures to avoid or limit unwanted by-catches, the SC **NOTED** the need to improve the provision of data and information to describe the fishing gears and methods used by these artisanal fisheries.

The SC **NOTED** that a better technical understanding of fishing gears and methods, used in fisheries harvesting highly migratory stocks in the IOTC area, is needed to inform the WPEB recommendations. This knowledge will also assist the SC and Commission in their understanding of fishery interactions with bycatch species and to better facilitate consideration of management options to mitigate interactions for bycatch species for which that is needed. The SC suggested that particular consideration of this could be built into the work of the WPEB, through CPC contributions (fishing gears/methods descriptions for all areas and vessel types/sizes) and data summaries developed by the IOTC Secretariat.

RECALLING the request by the Commission to develop research plans for sharks, the SC **ENDORSED** the creation of a working group to work intersessionally to develop a series of research plans/program for sharks with scalloped hammerhead as a priority species.

The SC **NOTED** the evidence indicating the increased operation of squid fisheries in the high seas of the Indian Ocean, and particularly in fishing grounds which overlap with areas where tuna purse seine fleets operate, **NOTING** that this overlap results in bycatch of tuna and tuna-like species in the squid fishery. However, as these fisheries are not managed by IOTC, data on these catches of tuna and tuna-like species are not provided to the IOTC. Therefore, the SC **RECOMMENDED** that the Commission request that the CPCs report all catches of tuna to the IOTC regardless of the target species of the fishery. The SC further **REQUESTED** that the Commission seek more information on this fishery from the CPCs.

Other Matters

The SC **NOTED** the potential for using artificial lights (a visual deterrent) in gillnet fisheries as a potential bycatch mitigation device and the need to test this further via LED trials, which could also determine if such lights might attract unwanted bycatch. However, the SC **NOTED** that Resolution 16/07 prohibits fishing vessels and other vessels including support, supply and auxiliary vessels to use, install or operate surface or submerged artificial lights for the purpose of aggregating tuna and tuna-like species. However, the SC **NOTED** that it is not clear if this also applies to gillnets. Therefore, the SC **RECOMMENDED** that the Commission provide clarification on whether Resolution 16/07 also applies to gillnet fisheries and/or to scientific studies as the current wording is somewhat ambiguous.

The SC **NOTED** the evidence provided to the WPEB on the effectiveness of hook-shielding devices in reducing seabird bycatch mortality in pelagic longlines and further **NOTED** that the WCPFC included the hook-shielding devices in 2018 as an option to mitigate longline seabird bycatch. The SC **ACKNOWLEDGED** the potential operational difficulties and costs of utilising these devices as well as the potential limited number of manufacturers. However, based on the scientific evidence (supported by the ACAP guidelines) the SC **RECOMMENDED** that the Commission consider including hook-shielding devices as an additional option for seabird bycatch mitigation measures in Resolution 12/06. The SC **NOTED** that this had previously been recommended as a stand-alone measure in 2016 for the proposed revision of 12/06 (IOTC-2016-SC19-R para. 69).

The SC **NOTED** paper [IOTC-2022-SC25-INF01](#) on a draft Cooperation agreement between the IOTC and the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA).

The SC **ACKNOWLEDGED** the proposed Cooperation Agreement between the IOSEA Marine Turtle MOU and IOTC and **NOTED** that this Agreement is based on the language used in the Agreement between IOTC and ACAP which has been accepted by the Commission. The SC **NOTED** this will facilitate better exchange of scientific information and data on sea turtles and their fishery interactions relevant to future commission discussions and decisions on this issue. The SC **RECOMMENDED** that the proposed Agreement is presented at the Commission for further consideration.

APPENDICES

[Appendix A:](#) Consolidated set of recommendations of the 25th 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 (2024-2028)

APPENDIX ACONSOLIDATED SET OF RECOMMENDATIONS OF THE 24th SESSION OF THE SCIENTIFIC COMMITTEE
TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON ECOSYSTEMS AND BYCATCH*Extract of the Report of the 25th Session of the Scientific Committee**(IOTC-2022-SC25-R[E]; Appendix 38, Page 261)***Sharks**

SC25.04 (para. 163) 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

SC25.05 (para. 164) 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

SC25.06 (para. 165) 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

SC25.07 (para. 166) 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

SC25.13 (para. 62) The SC **NOTED** the evidence indicating the increased operation of squid fisheries in the high seas of the Indian Ocean, and particularly in fishing grounds which overlap with areas where tuna purse seine fleets operate, **NOTING** that this overlap results in bycatch of tuna and tuna-like species in the squid fishery. However, as these fisheries are not managed by IOTC, data on these catches of tuna and tuna-like species are not provided to the IOTC. Therefore, the SC **RECOMMENDED** that the Commission request that the CPCs report all catches of tuna to the IOTC regardless of the target species of the fishery. The SC further **REQUESTED** that the Commission seek more information on this fishery from the CPCs.

SC25.14 (para. 63) The SC **NOTED** the evidence provided to the WPEB on the effectiveness of hook-shielding devices in reducing seabird bycatch mortality in pelagic longlines and further **NOTED** that the WCPFC included the hook-shielding devices in 2018 as an option to mitigate longline seabird bycatch. The SC **ACKNOWLEDGED** the potential operational difficulties and costs of utilising these devices as well as the potential limited number of manufacturers. However, based on the scientific evidence (supported by the ACAP guidelines) the SC **RECOMMENDED** that the Commission consider including hook-shielding devices as an additional option for seabird bycatch mitigation measures in Resolution 12/06. The SC **NOTED** that this had previously been recommended as a stand-alone measure in 2016 for the proposed revision of 12/06 (IOTC-2016-SC19-R para. 69).

SC25.15 (para. 64) The SC **NOTED** the potential for using artificial lights (a visual deterrent) in gillnet fisheries as a potential bycatch mitigation device and the need to test this further via LED trials, which could also determine if such lights might attract unwanted bycatch. However, the SC **NOTED** that Resolution 16/07 prohibits Fishing vessels and other vessels including support, supply and auxiliary vessels to use, install or operate surface or submerged artificial lights for the purpose of aggregating tuna and tuna-like species. However, the SC **NOTED** that it is not clear if this also applies to gillnets. Therefore, the SC **RECOMMENDED** that the Commission provide clarification on whether Resolution 16/07 also applies to gillnet fisheries and/or to scientific studies as the current wording is somewhat ambiguous.

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

SC25.16 (para. 68) 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.

Other matters

SC25.17 (para. 73) The SC **ACKNOWLEDGED** the proposed Cooperation Agreement between the IOSEA Marine Turtle MOU and IOTC and **NOTED** that this Agreement is based on the language used in the Agreement between IOTC and ACAP which has been accepted by the Commission. The SC **NOTED** this will facilitate better exchange of scientific information and data on sea turtles and their fishery interactions relevant to future commission discussions and decisions on this issue. The SC **RECOMMENDED** that the proposed Agreement is presented at the Commission for further consideration.

NATIONAL REPORTS FROM CPCs

SC25.08 (para. 30) The SC **RECOMMENDED** that the Compliance Committee and Commission note the lack of compliance by 5 Contracting Parties (Members) that did not submit a National Report to the Scientific Committee in 2022, **NOTING** that the Commission agreed that the submission of the annual reports to the Scientific Committee is mandatory.

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**

SC25.29 (para. 151) Given the importance of external independent review for working party meetings, the SC **RECOMMENDED** the Commission continue to allocate sufficient budget for invited scientific experts to be regularly invited to scientific working party meetings.

Meeting participation fund

SC25.30 (para. 153) 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

SC25.31 (para. 154) 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 CPC scientific observers, both on board and at port, need to have hard copies.

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

SC25.32 (para. 156) **ACKNOWLEDGING** the need to have officers with sufficient experience and capability to serve as Chairs and Vice-chairs of the SC Working Parties and Working Groups, the SC **RECOMMENDED** that the Commission revise the current Rules of Procedure (if necessary) to allow Chairs to serve an additional year or years beyond two terms if no suitable candidates are available to replace them once their terms are completed

SC25.33 (para. 157) 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

SC25.34 (para. 172) The SC **RECOMMENDED** that the Commission **ENDORSE** the mandatory reporting of geo-referenced effort data as number of sets/operations for longline and surface fisheries (according to the definitions in Res 15/02) to complement the current requirements of Res. 15/02, in order for the Secretariat to accurately and independently calculate the ROS coverage in agreement with the provisions of Res. 22/04.

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

SC25.35 (para. 186) 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.

Data preparatory meetings and Hybrid meetings

SC25.36 (para. 188) **ACKNOWLEDGING** that holding data preparatory meetings prior to stock assessments is considered to be best practice and noting that since 2019 data preparatory meetings were successfully held for the WPTmT, WPTT and WPEB, the SC **AGREED** to continue the practice of having data preparatory meetings prior to stock assessment meetings for the major IOTC species. The SC **RECOMMENDED** that data preparatory meetings continue to be held virtually so as not to increase the travel and costs required for the already full IOTC timetable of meetings.

SC25.37 (para. 189) The SC **NOTED** the utility of facilitating both in-person and virtual participation at future meetings to ensure increased participation and reduce the logistical costs for many CPCs. As such, the SC **RECOMMENDED** that future working party and Scientific Committee meetings are held in a hybrid format.

REVIEW OF THE DRAFT, AND ADOPTION OF THE REPORT OF THE 25TH SESSION OF THE SCIENTIFIC COMMITTEE

SC25.38 (para. 192) The SC **RECOMMENDED** that the Commission consider the consolidated set of recommendations arising from SC25, provided at [Appendix 38](#).

APPENDIX B**ASSESSMENT SCHEDULE FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2023-2027***Extract of the Report of the 25th Session of the Scientific Committee**(IOTC-2022-SC25-R; Appendix 36, Page 257)*

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2023–27, 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-2022-SC25-R[E], Para. 185).

Working Party on Ecosystems and Bycatch					
Species	2023	2024	2025	2026	2027
Blue shark	-	-	Data preparatory meeting Full assessment	-	-
Oceanic whitetip shark	-	Data preparation	Indicator analysis	-	Data preparation
Scalloped hammerhead	Workplan to be developed	-	-	-	-
Shortfin mako shark	-	Data preparatory meeting Full assessment	-	-	Data preparatory meeting 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	Indicators	-	Indicators	-	-
Seabirds	-	Development of draft workplan	-	Review of mitigation measures in Res. 12/06	-
Marine Mammals	-	-	Review of mitigation measures	-	-
Ecosystem Based Fisheries Management (EBFM) approaches		Ecoregions pilot study			
Series of multi-taxa bycatch mitigation workshops	Focus: gillnets	Focus: gillnets	Focus: tbd	Focus: tbd	Focus:tbd

* 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.