OUTCOMES OF THE 27th SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY: IOTC SECRETARIAT, JUNE 2025

PURPOSE

To inform participants at the 15th Working Party on Neritic Tunas (WPNT15) of the recommendations arising from the 27th Session of the IOTC Scientific Committee (SC) held from 2 – 6 December 2024, specifically relating to the work of the WPNT.

BACKGROUND

At the 27th Session of the SC, the SC noted and considered the recommendations made by the WPNT in 2024 that included:

- urging all coastal CPCs to attend future WPNT meetings;
- the amendment of the IOTC data reporting requirements relating to aligning the spatial resolution of size frequency data with geo-referenced catch and effort data;
- encouraging CPCs to evaluate the socio-economic status of their neritic fisheries;
- encouraging collaboration between CPCs to carry out stock identification using genetic techniques to better understand the stock structure of neritic species;
- requests for CPCs to improve data collection and reporting of length composition data

These requests were made in order to be able to properly assess the stock status of these species.

IOTC code	English name	Scientific name
LOT	Longtail tuna	*Thunnus tonggol*
FRI	Frigate tuna	*Auxis thazard*
BLT	Bullet tuna	*Auxis rochei*
KAW	Kawakawa	*Euthynnus affinis*
COM	Narrow-barred Spanish mackerel	*Scomberomorus commerson*
GUT	Indo-Pacific king mackerel	*Scomberomorus guttatus*

Based on the recommendations arising from the WPNT14, the SC27 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 29th Session which was held in April 2025.

In addition, the SC27 reviewed and endorsed a Program of Work (2025–29) for the WPNT, including a revised stock assessment schedule, as detailed in Appendix B and Appendix C. A separate paper (IOTC–2025–WPNT15–08) will outline the review and development process for a Program of Work for the WPNT for the next five years.

DISCUSSION

In addition to the recommendations outlined in Appendix A, Appendix B and Appendix C, the SC made several other comments relevant to the WPNT, which participants are asked to consider:

Report of the 14th Session of the Working Party on Neritic Tunas (WPNT14)

(para. 37) The SC **NOTED** the report of the 14th Session of the Working Party on Neritic Tunas (IOTC–2024–WPNT14–R), including the consolidated list of recommendations provided as an appendix to the report. The meeting was attended by 47 participants (cf. 35 in 2023). Six participants received funding through the MPF.

(para. 38) The SC **NOTED** that no scientists from Pakistan have attended the WPNT meeting in recent years despite the fact that they have large catches of these species and therefore **ENCOURAGED** scientists from this and other CPCs with significant neritic catches to attend these meetings in the future and **REQUESTED** these CPCs to provide scientific papers providing information on the neritic tuna fisheries in these CPCs.

(para. 39) The SC **NOTED** that assessments were conducted in 2024 for bullet tuna, frigate tuna and Indo-Pacific king mackerel using catch only methods which are used to provide management advice, as well as length-based and spawning potential ratio (SPR) methods which are used to verify the results of the catch-only model.

(para. 40) The SC **NOTED** that length frequency data are important for length-based and SPR methods. However, the SC further **NOTED** that the prevalent models are not able to deal with dome shaped selectivities, and it is best to only include size data from representative fisheries, rather than from all fisheries in the region. The SC **NOTED** that size data from purse seine fleets were not included in these assessments due to the small-sized fish caught in this fishery which would have caused a dome shaped selectivity, however the SC **NOTED** that purse seines take a relatively small proportion of the catch of these species.

(para. 41)The SC **NOTED** that recent genetic studies have suggested that there is more stock structure found for neritic tuna species (than for tropical tunas) with numerous potential separate stocks within the Indian Ocean. However, the SC **NOTED** that the assessments conducted for these species are still based on the assumption of a single stock across the region. The SC **SUGGESTED** that it would be a good idea to explore the sensitivity of future stock assessments to different stock structures, using information gathered from previous genetic studies, particularly for less data-poor species. The SC **NOTED** that more traditional genetic studies investigating stock structure tend to use an evolutionary time scale which is not particularly suitable for these stock assessments, so therefore **SUGGESTED** that more CKMR type techniques which provide information on connectivity on a generational timescale should be applied. The SC **NOTED** an offer from Australia to present information on CKMR techniques at the next WPNT meeting, and **NOTED** that a study that investigated the stock structure of Spanish mackerel would be particularly relevant.

(para. 42) The SC **NOTED** that the WPNT will not be conducting stock assessments in 2025 so there will be time to consider alternative techniques and stock structure considerations for the specification of future assessments.

(para. 43) The SC **ENCOURAGED** CPCs to collaborate to carry out stock identification by the application of genetic techniques such as Close Kin Mark Recapture (CKMR) to better understand the structure of all neritic stocks for improved management plans.

(para. 44) **NOTING** that there has been considerable recent advancement and emphasis on the length-based approach, which can estimate stock status and serve as a valuable monitoring tool for various fisheries, the SC thus **ENCOURAGED** the continued exploration and utilization of both methods. The SC **RECOMMENDED** that the Commission urge CPCs to collect more representative length composition data for the effective assessment of these species, with a particular focus on frigate and bullet tuna for which the stock status is still unknown. The SC further **RECOMMENDED** that the Commission urge CPCs to summarize the size data from their sampling programs for the next WPNT meeting.

Executive summaries for neritic tuna species

The SC also adopted revised Executive Summaries for each of the neritic tuna species that can be found as appendices to the SC27 report, and which can be downloaded from the IOTC website in English and French:

English: http://iotc.org/science/scientific-committee

French: https://iotc.org/fr/science/comité-scientifique

RECOMMENDATION/S

That the WPNT:

1) **NOTE** paper IOTC–2025–WPNT15–03 which outlined the main outcomes of the 27th Session of the Scientific Committee (SC26), specifically related to the work of the WPNT.
2) **CONSIDER** how best to progress these issues at the present meeting.

APPENDICES

Appendix A: Consolidated set of recommendations of the 27th Session of the Scientific Committee to the Commission, relevant to the Working Party on Neritic Tunas.

Appendix B: Schedule of stock assessments for the WPNT (2025–29).

APPENDIX A

CONSOLIDATED SET OF RECOMMENDATIONS OF THE 27th SESSION OF THE SCIENTIFIC COMMITTEE (2-6 December 2024) TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON NERITIC TUNAS

Extract of the Report of the 27th Session of the Scientific Committee

(IOTC–2024–SC27–R[E]; Appendix 39, Page 215)

STATUS OF TUNA AND TUNA-LIKE RESOURCES IN THE INDIAN OCEAN

Tuna and seerfish – Neritic species

SC27.02 (para. 177) The SC **RECOMMENDED** that the Commission note the management advice developed for each neritic tuna (andseerfish) species under the IOTC mandate, as provided in the Executive Summary for each species, and the combined Kobe plot for the three species assigned a stock status in 2024 (Fig. 2):

Bullet tuna (*Auxis rochei*) – Appendix 12

Frigate tuna (*Auxis thazard*) – Appendix 13

Kawakawa (*Euthynnus affinis*) – Appendix 14

Longtail tuna (*Thunnus tonggol*) – Appendix 15

Indo-Pacific king mackerel (*Scomberomorus guttatus*) – Appendix 16

Narrow-barred Spanish mackerel (*Scomberomorus commerson*) – Appendix 17

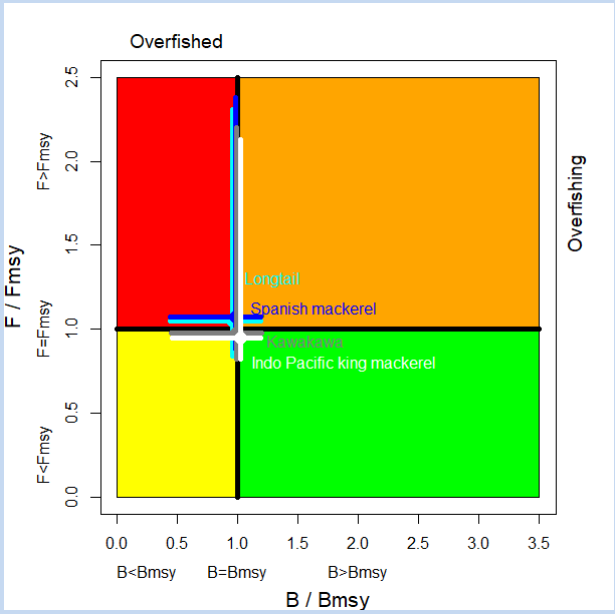

Fig. 3. Combined Kobe plot for longtail tuna (cyan), narrow-barred Spanish mackerel (blue), kawakawa (grey) (all for 2021 with assessment conducted in 2023) and Indo-Pacific king mackerel (2022 with assessment conducted in 2024 (white)), showing the estimates of stock size (B) and current fishing mortality (F) in relation to optimal biomass and optimal fishing mortality. Cross bars illustrate the range of uncertainty from the model runs. Given unresolved uncertainty in the assessment, status for bullet tuna, frigate tuna and Narrow-barred Spanish mackerel should be interpreted with caution.

SC27.09 (para. 44) **NOTING** that there has been considerable recent advancement and emphasis on the length-based approach, which can estimate stock status and serve as a valuable monitoring tool for various fisheries, the SC thus **ENCOURAGED** the continued exploration and utilization of both methods. The SC **RECOMMENDED** that the Commission urge CPCs to collect more representative length composition data for the effective assessment of these species, with a particular focus on frigate and bullet tuna for which the stock status is still unknown. The SC further **RECOMMENDED** that the Commission urge CPCs to summarize the size data from their sampling programs for the next WPNT meeting.

GENERAL RECOMMENDATIONS TO THE COMMISSION, TO SPECIFIC CPCs AND/OR OTHER BODIES

SUMMARY DISCUSSION OF MATTERS COMMON TO WORKING PARTIES (CAPACITY BUILDING ACTIVITIES – STOCK ASSESSMENT COURSE; CONNECTING SCIENCE AND MANAGEMENT, ETC.)

National Reports from CPCs

SC27.08 (para. 34) The SC **RECOMMENDED** that the Compliance Committee and Commission note the lack of compliance by 3 Contracting Parties (Members) that did not submit a National Report to the Scientific Committee in 2024, **NOTING** that the Commission agreed that the submission of the annual reports to the Scientific Committee is mandatory**.**

Invited Expert(s) at the WP meetings

SC27.25 (para. 159) 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.

IOTC species identification guides: Tuna and tuna-like species

SC27.26 (para. 165) 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

SC27.27 (para. 170) 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

SC27.29 (para. 199) **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

SC27.30 (para. 201) **ACKNOWLEDGING** that holding data preparatory meetings prior to stock assessments is considered to be best practice (as identified by the yellowfin stock assessment external reviewer, the WPTT and the WPDCS) 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 in addition to stock assessment meetings for the major IOTC species. The SC **RECOMMENDED** that data preparatory meetings could continue to be held virtually so as not to increase the travel and costs required for the already full IOTC timetable of meetings.

SC27.31 (para. 202) The SC **NOTED** that there had been a few teething problems holding meetings in a hybrid format in 2023 and 2024, especially related to the costs associated with the audio-visual equipment required, as well as the issues associated with ensuring the equipment was suitable to ensure full participation of both those in person as well as those connecting virtually. However, the SC **AGREED** on 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 and observers. As such, the SC **RECOMMENDED** that future Scientific Committee meetings continue to be held in a hybrid format, as well as working parties if possible. The SC further **RECOMMENDED** that all presentations at these meetings be made in person to ensure the aforementioned issues did not adversely affect the quality of the advice being provided.

SC27.32 (para. 203) The SC **NOTED** all IOTC working party meetings this year (except the WPDCS and WPSE) were held in Seychelles, as there were no offers to host them. The SC meeting was originally planned in

Seychelles but this was not possible due to unavailability of the venue. There has been an increasing reluctance for CPCs to offer to host IOTC scientific working party and SC meetings. This reluctance may be due to budget constraints, as well as the logistical burdens of Hybrid meetings. The SC **NOTED** that there has been a number of issues when hosting meetings in Seychelles (e.g., high cost). The SC **RECOMMENDED** this issue be discussed at the Commission in order to find a way forward.

IOTC Scientific Strategic Research Plan

SC27.33 (para. 208) The SC **AGREED** that the draft updated IOTC Strategic Science Plan 2025–2029 will be distributed to Heads of Delegation from each CPC for comment during early 2025. Thereafter comments will be collated and consolidated and another version sent to CPCs for final review. Pending agreement of CPCs, and noting that the IOTC Strategic Science Plan would be a dynamic document that would change over time, the SC **RECOMMENDED** that the revised draft of the IOTC Strategic Science Plan 2025–2029 be tabled at the Commission meeting in 2025.

APPENDIX B

ASSESSMENT SCHEDULE FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2025–2029

Extract of the Report of the 27th Session of the Scientific Committee

(IOTC–2024–SC27–R; Appendix 37, Page 211)

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2025–29, 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 37 (IOTC–2024–SC27–R, Para. 198).

Working Party on Neritic Tunas					
Species	**2025****	**2026***	**2027***	**2028**	**2029***
Bullet tuna	Data preparation	Data preparation	**Assessment**	Data preparation	Data preparation
Frigate tuna	Data preparation	Data preparation	**Assessment**	Data preparation	Data preparation
Indo-Pacific king mackerel	Data preparation	Data preparation	**Assessment**	Data preparation	Data preparation
Kawakawa	Data preparation	**Assessment**	Data preparation	Data preparation	**Assessment**
Longtail tuna	Data preparation	**Assessment**	Data preparation	Data preparation	**Assessment**
Narrow-barred Spanish mackerel	Data preparation	**Assessment**	Data preparation	Data preparation	**Assessment**

* Including data-limited stock assessment methods.

** Including species-specific catches, CPUE, biological information and size distribution as well as identification of data gaps and discussion of improvements to the assessments (stock structure); one day may be reserved for capacity building activities.

Note: the assessment schedule may be changed dependent on the annual review of fishery indicators, or SC and Commission requests