OUTCOMES OF THE 18th SESSION OF THE SCIENTIFIC COMMITTEE

PREPARED BY: IOTC SECRETARIAT, 19 MAY 2016

PURPOSE

To inform participants at the 6th Working Party on Neritic Tunas (WPNT06) of the recommendations arising from the 18th Session of the IOTC Scientific Committee (SC) held from 23-27 November 2015, specifically relating to the work of the WPNT.

BACKGROUND

At the 18th Session of the SC, the SC noted and considered the recommendations made by the WPNT in 2015 that included requests to address the deficiencies in data collection, monitoring and reporting by CPCs, as well as to carry out targeted research on understanding stock structure of the neritic tuna species under the IOTC mandate.

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 WPNT05, the SC18 adopted a set of recommendations, provide at Appendix A of this paper.

The recommendations contained in Appendix A were provided to the Commission for consideration at its 20th Session held in May 2016. A separate paper, IOTC–2016–WPNT06–04 addresses the responses and actions of the Commission.

In addition, the SC18 reviewed and endorsed a Program of Work (2016–20) for the WPNT, including a revised stock assessment schedule, as detailed in Appendix B and Appendix C. A separate paper (IOTC–2016–WPNT06–08) 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 5th Session of the Working Party on Neritic Tunas (WPNT05)

NOTING that the catches of neritic tuna and tuna-like species under the IOTC mandate continue to be very important to most IOTC coastal states, the SC **AGREED** that neritic tunas should receive appropriate management resources and support from the IOTC (SC18 Report, para. 25).

The SC **NOTED** the intention from the Maldives to submit a draft proposal for the upcoming Commission meeting for implementing a strategic multi-year program of work for neritic tuna species under the IOTC mandate. The program of work will have as its main objective to support the ongoing scientific understanding of the stock status of neritic tuna species to enable the development of rigorous stock assessments and enhancement of coastal States' ability to implement the measures, thereby facilitating the management of fisheries targeting neritic tuna species in the Indian Ocean (SC18 Report, para. 26).

Capacity building workshop: Neritic tunas

The SC **AGREED** that capacitiy building activities can be considered successful in the short-term if the objectives of the activity have been met during the time in which support was provided. The assessment of whether longer-term

objectives have been met involves assessing whether the activities have been maintained beyond the lifetime of the activity which can be highly variable among recipient CPCs. In cases where there has been no continuation or follow-up on the work undertaken, then this is taken into consideration for future requests which are subsequently given lower priority. Therefore CPCs which actively continue to support and build on these activities are prioritised in future(SC18 Report, para. 27).

The SC **AGREED** that the continuation of stock assessment and indicator developing capacity building activities should continue to be supported by the Commission, via consultants and/or IOTC Secretariat staff, and that such activities should be closely evaluated(SC18 Report, para. 28).

The SC **AGREED** that data for Indian Ocean neritic tuna stocks needs to undergo a meta-analysis or hierarchical approach to analyse the data. This should be combined with capacity building activities in data poor stock assessment techniques(SC18 Report, para. 30).

The SC **THANKED** the IOTC-OFCF Project for its continued support to the enhancement of data collection and processing systems in developing countries of the IOTC and **ENCOURAGED** the OFCF to extend support into the future (SC18 Report, para. 31).

Data input for stock assessments

The SC **AGREED** on the importance of the further development of indices of abundance for future neritic tuna stock assessments, and that the development of standardised CPUE series is explored before the next assessment with the assistance of a consultant, as detailed in Table 1(SC18 Report, para. 32).

Table 1. Estimated budget required to hire a consultant to carry out stock assessments on tuna and tuna-like species under the IOTC mandate, sharks frequently caught by IOTC fisheries, and capacity building, in 2017 and 2018, noting that the 2016 budget has already been approved by the Commission.

Description	Unit price	Units required	2017 Total (US$)	2018 Total (US$)
WPNT				
CPUE workshops: CPUE standardisation from the neritic tuna fleets (Indonesia, I.R. Iran and India (3 total) (fees)	450	50	22,500	22,500
CPUE workshops: CPUE standardisation from the neritic tuna fleets (Indonesia, I.R. Iran and India (3 total) (travel)	5,000	3	15,000	15,000
Neritic tuna data poor stock assessment and capacity building (fees)	450	25	11,250	11,250
Neritic tuna data poor stock assessment and capacity building (travel)	5,000	1	5,000	5,000

Meeting participation fund

NOTING the various comments made by many of the developing CPCs in attendance at the meeting, that the IOTC MPF was crucial for the success of all IOTC Working Parties, and that the benefits are clearly being seen in terms of increased active engagement at each meeting by recipients, as well as the rapidly increasing quality of the scientific papers being submitted, however, the SC **REQUESTED** that the funding of national scientists from developing Contracting Parties to attend the WPNT be considered a higher priority (SC18 Report, para. 97).

IOTC species identification guides: Tuna and tuna-like species

NOTING the excellent work undertaken by the IOTC Secretariat and other experts to develop and finalise the cards for the *Identification of tuna and tuna-like species in the Indian Ocean fisheries*, the SC **REQUESTED** that the cards be translated, in priority order to the following languages, according to the proportion of total catches of neritic tuna species reported by country, and that the IOTC Secretariat utilise funds from both the IOTC budget, as well as external funding sources to translate and print in hard copy, the identification cards. Funds were approved by the Commission in the 2014 budget for this purpose, however the IOTC Secretariat indicated the funds are yet to be received from Members. Number in brackets represents the recent proportion of the total neritic tuna catch in the IOTC area of competence:

1) Bahasa-Indonesian (Indonesia 29%) and Malaysian (Malaysia 4%)

2) Persian (Farsi-I.R. Iran 20%) and Arabic (Oman 3%)

3) Hindi (India 18%) and Sinhala (Sri Lanka 5%)

4) Urdu (Pakistan 7%) (SC18 Report, para. 101).

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 SC18 report, and which can be downloaded from the IOTC website in English and French:

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

French: http://iotc.org/fr/science/comit%C3%A9-scientifique

These Executive Summaries are also available via the IOTC **Stock Status dashboard**:

www.iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc

RECOMMENDATION/S

That the WPNT:

1) **NOTE** paper IOTC–2016–WPNT06–03 which outlined the main outcomes of the 18th Session of the Scientific Committee (SC18), 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 18th Session of the Scientific Committee to the Commission, relevant to the Working Party on Neritic Tunas.
Appendix B: Program of work (2016–2020) for the IOTC Working Party on Neritic Tunas (WPNT).
Appendix C: Schedule of stock assessments for the WPNT (2016–20).

APPENDIX A

CONSOLIDATED SET OF RECOMMENDATIONS OF THE 18th SESSION OF THE SCIENTIFIC COMMITTEE (23-27 November 2015) TO THE COMMISSION RELEVANT TO THE WORKING PARTY ON NERITIC TUNAS

Extract of the Report of the 18th Session of the Scientific Committee

(IOTC–2015–SC18–R; Appendix XXXVII, PAGES 168-170)

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

Tuna and seerfish – Neritic species

SC18.03 (para. 124) The SC **RECOMMENDED** that the Commission note the management advice developed for each neritic tuna (and mackerel) 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 2015 (Fig. 6):

- Bullet tuna (*Auxis rochei*) – Appendix XVII
- Frigate tuna (*Auxis thazard*) – Appendix XVIII
- Kawakawa (*Euthynnus affinis*) – Appendix XIX
- Longtail tuna (*Thunnus tonggol*) – Appendix XX
- Indo-Pacific king mackerel (*Scomberomorus guttatus*) – Appendix XXI
- Narrow-barred Spanish mackerel (*Scomberomorus commerson*) – Appendix XXII

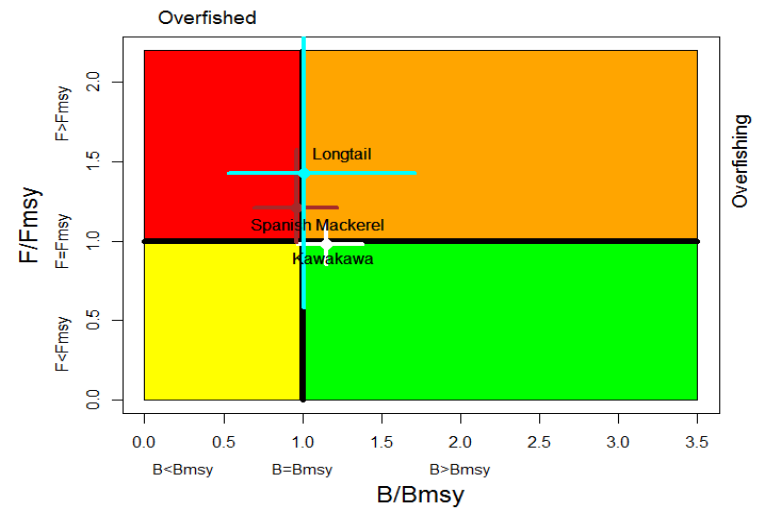

Fig. 6. Combined Kobe plot for kawakawa (white: 2015), longtail tuna (blue: 2015) and narrow-barred Spanish mackerel (brown: 2015), showing the estimates of current stock size (B) and current fishing mortality (F) in relation to interim target spawning stock size and interim target fishing mortality. Cross bars illustrate the range of uncertainty from the model runs.

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

Report of the 5th Session of the Working Party on Neritic Tunas (WPNT05)

SC18.09 (para. 29) The SC **RECOMMENDED** that a workshop is organised by the IOTC Secretariat in collaboration with WWF-Pakistan to analyse the datasets collaboratively using a meta-analysis based approach. WWF Pakistan have offered to provide support specifically for the north western Indian Ocean countries but additional funding will be needed for the participation of other CPCs. This workshop would also include training for people in data poor assessment approaches, as well as possibly focus on basic data for assessments, like CPUE and how to standardise such data.

SC18.10 (para. 33) **NOTING** the current stock status of several neritic tunas and the continued increase in catch and effort, the SC **RECOMMENDED** that a precautionary approach to the management of neritic tunas is taken by the Commission.

Summary discussion of matters common to Working Parties

Meeting participation fund

SC18.24 (para. 98) The SC **RECOMMENDED** 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.

Capacity building activities

SC18.25 (para. 99) The SC **AGREED** that, while external funding is helping the work of the Commission, funds allocated by the Commission to capacity building are still too low, considering the range of issues identified by the SC and its Working Parties, and **RECOMMENDED** that the Commission consider allocating more funds to these activities in the future.

SC18.26 (para. 100) The SC **RECOMMENDED** that Commission further increases the IOTC Capacity Building budget line so that capacity building training on data analysis and applied stock assessment approaches, with a priority being data poor approaches, can be carried out in 2016.

IOTC species identification guides: Marine mammal and Best practice guidelines for the safe release and handling of encircled cetaceans

SC18.27 (para. 102) The SC **RECOMMENDED** that the Commission allocate funds in its 2016/2017 budget, to produce and print the IOTC best practice guidelines for the safe release and handling of encircled cetaceans. The guidelines could be incorporated into a set of IOTC cetacean identification cards: "*Cetacean identification for Indian Ocean fisheries*".

IOTC Secretariat staffing

SC18.28 (para. 106) **NOTING** the very heavy and constantly increasing workload on the IOTC Secretariat, and the current staffing capacity to respond to requests for assistance by countries, the SC strongly **RECOMMENDED** that at least three (3) additional staff (Science/Data) be hired to join the IOTC Secretariat to work on tasks including but not limited to 1) science and capacity building to improve understanding of IOTC processes; and 2) data quality/exchange improvement, to commence work by 1 January 2017. Funding for these new postions should come from both the IOTC regular budget and from external sources to reduce the direct financial burden on the IOTC membership.

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

SC18.29 (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 VII.

Implementation of the Regional Observer Scheme

SC18.30 (para. 138) **NOTING** that training of observers and crew is long-term and necessarily meticulous work that should be done in a recurrent way in order to optimise the efficiency of observers, the SC **RECOMMENDED** that the IOTC Secretariat increases its effort in training observers, including species identification. This would only be possible if the Commission were to increase staffing at the IOTC Secretariat and allocate specific funding for the Regional Observer Scheme implementation.

Resolution 11/04 On a regional observer scheme

SC18.31 (para. 145) **NOTING** that the objective of the Regional Observer Scheme contained in Resolution 11/04, and the rules contained in Resolution 12/02 *On data confidentiality policy and procedures* makes no reference to the data collected not being used for compliance purposes, the SC **RECOMMENDED** that at the next revision of Resolution 11/04, it be clearly stated that the data collected within the Regional Observer Scheme shall not be used for compliance purposes.

Progress on the Implementation of the Recommendations of the Performance Review Panel

SC18.32 (para. 151) The SC **RECOMMENDED** that the Commission note the updates on progress regarding Resolution 09/01 *on the performance review follow–up*, as provided at Appendix XXXIII.

Program of work and schedule of Working Party and Scientific Committee meetings

Consultants

SC18.33 (para. 157) **NOTING** the highly beneficial and relevant work done by IOTC stock assessment consultants in 2015 and 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. The draft budget provided in Table 5, shall be incorporated into the overall IOTC Science budget for the consideration of the Commission.

Schedule of meetings for 2016 and 2017

SC18.34 (para. 160) The SC **RECOMMENDED** that the Commission discuss the merits of moving the annual Scientific Committee meeting to February each year. This would allow the species working parties to be moved later in the year, thus ensuring that the most recent data is available for assessment purposes. If the Commission were to approve a February date, it may wish to fix its own meeting date in June each year, thus allowing sufficient consultation time between the Scientific Committee and the Commission meeting.

Review of publication deadlines for IOTC data summaries and other datasets for use by Working Parties

SC18.35 (para. 165) The SC **RECOMMENDED** that the reporting deadline for stock assessment inputs (index of abundance, catch reconstructions, size data, etc.) be 45 days prior to the meeting in which the species is to be assessed.

APPENDIX B

RESEARCH RECOMMENDATIONS AND PRIORITIES

Extract of the Report of the 18th Session of the Scientific Committee

(IOTC–2015–SC18–R; Appendix XXXIV, PAGE 136)

The SC **NOTED** the proposed Program of Work and priorities for the Scientific Committee and each of the Working Parties and **AGREED** to a consolidated Program of Work as outlined in Appendix XXXIV. The Chairpersons and Vice-Chairpersons of each working party shall ensure that the efforts of their working party are focused on the core areas contained within the appendix, taking into account any new research priorities identified by the Commission at its next Session.

The SC **REQUESTED** that during all future 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.

Table 1. Priority topics for obtaining the information necessary to develop stock status indicators for neritic tuna in the Indian Ocean

	Topic	Sub-topic and project	Priority	Est. budget and/or potential source	Timing				
					2016	2017	2018	2019	2020
1.	Stock structure (connectivity)	Genetic research to determine the connectivity of neritic tunas throughout their distributions	High (1)	1.3 m Euro: European Union					
		➢ Determine the degree of shared stocks for all neritic tunas under the IOTC mandate in the Indian Ocean, so as to better equip the SC in providing management advice based on unit stocks delineated by geographic distribution and connectivity. ➢ Genetic research to determine the connectivity of neritic tunas throughout their distributions: Table 2b should be used as a starting point for research project development to delineate potential stock structure for neritic tunas in the Indian Ocean. ➢ The IOTC Secretariat to coordinate a review of the available literature on neritic tuna stock structure across the Indian Ocean to assess the data already available such as the location of spawning grounds to identify potential sub-stocks.		TBD					
2.	Biological information (parameters for stock assessment)	Age and growth research; Age-at-Maturity	High (2)	CPCs directly					
		➢ Quantitative biological studies are necessary for all neritic tunas throughout their range to determine key biological parameters including age-at-maturity and fecundity-at-age/length relationships, age-length keys, age and growth, which will be fed into future stock assessments.							
3.	CPUE standardisation	Develop standardised CPUE series for the main fisheries for longtail, kawakawa and Spanish mackerel in the Indian Ocean, with the aim of developing CPUE series for stock assessment purposes.	High (4)	CPUE Workshop (TBD)					
		➢ Longtail tuna. Priority fleets: Iran (gillnet), Indonesia (line and		CPCs					

		gillnet), Malaysia (purse seine), Pakistan, Oman and India (all gillnet).		directly					
		➢ Spanish mackerel. Priority fleets: Gillnet fisheries of Indonesia, India, Iran and Oman.		CPCs directly					
		➢ Kawakawa. Priority fleets: Indonesia (purse seine/ line), India (gillnet), Iran (gillnet) and Pakistan (gillnet).		CPCs directly					
		➢ Indo-Pacific king mackerel. Priority fleets: Gillnet fisheries of India, Indonesia and Iran.		CPCs directly					
4.	Stock assessment / Stock indicators	Develop and compare multiple assessment approaches to determine stock status for longtail tuna, kawakawa and Spanish mackerel (SS3, ASPIC etc). ➢ The Weight-of-Evidence approach should be used to determine stock status, by building layers of partial evidence, such as CPUE indices combined with catch data, life-history parameters and yield-per recruit metrics, as well as the use of data poor assessment approaches. ➢ The following data should be collated and made available for collaborative analysis: 1) catch and effort by species and gear by landing site; 2) operational data: stratify this by vessel, month, and year for the development as an indicator of CPUE over time; and 3) operational data: collate other information on fishing techniques (i.e. area fished, gear specifics, depth, environmental condition (near shore, open ocean, etc.) and vessel size (length/horsepower).	High (3)	IOTC Regular Budget					

APPENDIX C
ASSESSMENT SCHEDULE FOR IOTC SPECIES AND SPECIES OF INTEREST FROM 2016–2020

Extract of the Report of the 18th Session of the Scientific Committee

(IOTC–2015–SC18–R; Appendix XXXV, PAGE 167)

The SC **ADOPTED** a revised assessment schedule, ecological risk assessment and other core projects for 2016–20, 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 XXXV (IOTC–2015–SC18–R, Para. 155).

Species	**2016**	**2017**	**2018**	**2019**	**2020**
Working Party on Neritic Tunas					
Bullet tuna	Indicators	Indicators	Data-poor assessment	Indicators	Data-poor assessment
Frigate tuna	Indicators	Indicators	Data-poor assessment	Indicators	Data-poor assessment
Indo-Pacific king mackerel	Indicators	Indicators	**Full assessment***	Indicators	Data-poor assessment
Kawakawa	Indicators	Data-poor assessment	**Full assessment***	Data-poor assessment	Indicators
Longtail tuna	**Full assessment***	Data-poor assessment	Indicators	**Full assessment***	Indicators
Narrow-barred Spanish mackerel	Data-poor assessment	**Full assessment***	Indicators	Data-poor assessment	**Full assessment***