



**SCIENTIFIC COMMITTEE
FIFTEENTH REGULAR SESSION**

Pohnpei, Federated States of Micronesia
12 – 20 August 2019

PROVISIONAL ANNOTATED AGENDA

WCPFC-SC15-2019/03 (Rev.03-13August)

Changes in Theme Agenda [in track change](#)

AGENDA ITEM 1 OPENING OF THE MEETING

The meeting will open at 08:30 on Monday, 12 August 2019.

1.1 Welcome address

The Chair will welcome delegations of the WCPFC Members, Cooperating Non-members and Participating Territories (CCMs) and Observers to the Fifteenth Regular Session of the Scientific Committee (SC15).

A senior official from the FSM, the Commission Chair, the Executive Director, and the SC Chair will be invited to deliver an opening address if available.

1.2 Meeting arrangements

The Chair will outline procedural matters including the meeting schedule, administrative arrangements, and the list of theme conveners. In addition, SC15 will endorse the appointment of new conveners as required.

Chair	Ueta Jr. Faasili (2); ueta.faasili@maf.gov.ws
Vice Chair	<i>Vacant</i>
ST Theme	Ueta Jr. Faasili; ueta.faasili@maf.gov.ws (Temporary for SC15) (The current convener Valerie Post will be back to SC16)
SA Theme	Keith Bigelow: keith.bigelow@noaa.gov Hiroshi Minami(2); hminami@affrc.go.jp
MI Theme	Robert Campbell (10); robert.campbell@csiro.au
EB Theme	John Annala (5); john.annala@mpi.govt.nz Yonat Swimmer (1); yonat.swimmer@noaa.gov

(x): number of years of convenership

Deadline for the submission of papers

According to the decision made at SC2 and supported suggestions at SC15 (Paras 680 and 682, SC15 Summary Report), earlier submission of all meeting documents in advance of the deadline below will be highly encouraged:

- 8 July 2019: Titles and preliminary abstracts;
- 13 July 2019: Submission of Annual Report Part 1; and
- 25 July 2019: submission of full papers. All papers will be posted by 29 July, two weeks in advance of the SC15.

Authors who wish to submit any papers MUST refer to *Guidelines for submitting meeting papers* section in the SC15 Meeting Notice on SC15 website.

1.3 Issues arising from the Commission

SC15 will be briefed on issues arising from the previous meetings of the Commission and its subsidiary bodies.

1.4 Adoption of agenda

The Provisional Agenda for SC15 was posted on 14 May 2019 in accordance with Rule 1 of the Commission's Rules of Procedure. Any Member of the Commission, the Chairman, or the Executive Director may, at least 30 days before the date for the opening of the Regular Session request the inclusion of supplementary items in the Agenda. A request for the inclusion of a supplementary item in the Provisional Agenda shall be accompanied by a written explanation of the proposed supplementary item, which will be communicated to all CCMs and observers at least 20 days before the opening of the Session.

Other matters to be discussed under Agenda Item 12 may be proposed here.

1.5 Reporting arrangements

SC15 will develop a DRAFT Summary Report which will be adopted intersessionally with an Executive Summary. The Executive Summary will include a synopsis of stock status and management advice and implications, research plans, findings or conclusions on the stock status, reports and recommendations as directed by the Commission or at the initiative of the SC (Paragraph 2, Article 12 of the Convention). In accordance with the Rule 33 of the Commission's Rules of Procedure, the text of all decisions adopted by the SC15 will be distributed to all members, territories and observers within seven working days following the adoption of such decision.

The WCPFC Secretariat will hire a lead rapporteur to produce a draft summary report, and the theme conveners may arrange their own support rapporteurs as required.

1.6 Intersessional activities of the Scientific Committee

The Chair, with support from the Secretariat, will report on intersessional activities of the SC.

AGENDA ITEM 2 REVIEW OF FISHERIES

2.1 Overview of Western and Central Pacific Ocean (WCPO) fisheries

The Pacific Community – Oceanic Fisheries Programme (SPC-OFP) and the Pacific Islands Forum Fisheries Agency (FFA) will present an overview of the WCPO key fisheries, including billfish and trends in purse seine fishery capacity.

As recommended by SC14 (Para 119), *Analyses and Projections of Economic Conditions in WCPO Fisheries* will be presented under this Agenda. SC15 will be invited to provide supplementary information, ask questions and provide comments.

2.2 Overview of Eastern Pacific Ocean (EPO) fisheries

The Inter-American Tropical Tuna Commission (IATTC) will present an overview of the fisheries for highly migratory species in the EPO region. SC15 will be invited to provide supplementary information, ask questions and provide comments.

2.3 Annual Report – Part 1 from Members, Cooperating Non-Members, and Participating Territories

All CCMs shall submit Part 1 of the Annual Report (the amended template is available at <https://www.wcpfc.int/guidelines-procedures-and-regulations>; symbol: SC-01) to the Secretariat (BOTH sungkwon.soh@wcpfc.int and contact.ar@wcpfc.int) by 13 July 2019.

Submitted Part 1 reports are posted at the bottom of each WCPFC-SC website. It is assumed that all annual reports will have been read prior to the Session. This agenda item is an opportunity for questions and clarifications ONLY concerning these reports.

2.4 Reports from regional fisheries bodies and other organizations

Regional fisheries bodies and other intergovernmental or non-governmental organizations observing SC15 may make a brief presentation (3 minutes) on key issues relevant to the work of the SC. Such presentations need to be arranged with the Chair before the opening of the Session. The deadline is 29 July 2019 for the submission of such meeting documents from regional fisheries bodies and other intergovernmental or non-governmental organizations to the Secretariat (sungkwon.soh@wcpfc.int).

AGENDA ITEM 3 DATA AND STATISTICS THEME

3.1 Data gaps

3.1.1 Data gaps of the Commission

SPC-OFP will present the data gaps paper. SC15 will consider, comment, and where relevant, recommend actions on how to address any identified data gaps, including the differences in the coverage of longline observer data in the data holdings of the Commission and updates on potential use of cannery receipt data for the work of the WCPFC.

3.1.2 Species composition of purse-seine catches (Project 60)

SC15 will review the progress of Project 60 (Collection and evaluation of purse-seine species composition data) towards the two-year work plan agreed at SC14. In particular, SC15 will review proposed changes to the methodology currently used to estimate purse seine species compositions.

3.1.3 Project 90 (Better size data (length and weight) for scientific analyses)

The Commission endorsed a funding support to Project 90 for 2019 – 2021. SC15 will consider the progress of Project 90 and provide any comments or recommendations to the Commission.

3.1.4 Project 93 (Review of the Commission’s data needs and collection programmes).

SC15 will consider the progress of Project 93 and provide any comments or recommendations to the Commission.

3.2 Regional Observer Programme

SC15 will consider any issues related to ROP and provided recommendations to the Commission as needed.

3.3 Electronic Reporting and Electronic Monitoring

SC15 may review any updated findings or information E-reporting and E-monitoring issues.

3.4 Economic data

SC15 may consider issues relating to the development of guidelines for the voluntary provision of economic data by CCMs to the Commission including draft guidelines prepared by Fiji as noted at SC14 (Paragraph 118, SC14 Summary Report).

3.5 Comprehensive review of Commission reporting requirements

In adopting CMM 2018-07, the Commission committed to a multi-year workplan of tasks to enhance the Compliance Monitoring Scheme (CMS), with the aim of making it more efficient and effective by streamlining processes. The Secretariat is expected to provide an update to SC15 on the 2019 CMS-related future work task related to “a comprehensive review of all the Commission’s reporting requirements, with recommendations to remove duplicative reporting as well as ensure the Commission’s data and information needs are met”. SC15 will consider the report on progress and provide any comments or recommendations to the Commission.

AGENDA ITEM 4 STOCK ASSESSMENT THEME

4.0 Improvement of MULTIFAN-CL software

Work to improve the MULTIFAN-CL software is ongoing. SC15 may review any updates of the software and provide comments and/or recommendations as needed.

4.1 WCPO tunas

4.1.1 WCPO bigeye tuna (*Thunnus obesus*)

4.1.1.1 Research and information

- a. Project 94 (Workshop on yellowfin and bigeye tuna age and growth)

SC15 will review a workshop report on annual and daily ageing approaches between WCPFC and IATTC as an output of Project 94.

- b. Update of bigeye tuna stock assessment information

The last bigeye tuna stock assessment was conducted in 2017 and updated in 2018. SC15 will review information on indicators for WCPO bigeye tuna stock status.

Subject to final arrangement with Agenda 5.3.1, SC15 will review the likely outcomes of CMM 2018-01 for bigeye tuna as recommended in Paragraph 494 of the SC14 Summary Report.

494. As requested in the Harvest Strategy Work Plan, as updated by WCPFC14, SC14 reviewed information on the likely outcomes of the revised tropical tuna measure (CMM 2017-01) in relation to bigeye tuna (SC14-MI-WP-08a; detailed analysis of the projections of BET is provided in Section 4.1.1.2 of this report).

- *SC14 noted that outcomes are strongly influenced by the assumed future recruitment levels and the time period of the projections.*
- *SC14 recommended that the working paper be forwarded to WCPFC15.*
- *SC14 noted that projection analyses such as those detailed in the working paper should be presented in conjunction with the stock assessment results in future SC meetings.*

4.1.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Stock status and trends
- b. Management advice and implications

4.1.2 WCPO yellowfin tuna (*Thunnus albacares*)

4.1.2.1 Research and information

- a. Project 82 (Yellowfin tuna age and growth)

SC15 will review a project report for the provision of robust age and growth estimates for yellowfin tuna in the WCPO to inform future stock assessments and related analyses, and provide advice and recommendations as needed.

b. Update of yellowfin tuna stock assessment information

The last yellowfin tuna stock assessment was conducted in 2017. SC15 will review information on indicators for WCPO yellowfin tuna stock status.

4.1.2.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.1.3 WCPO skipjack tuna (*Katsuwonus pelamis*)

4.1.3.1 Research and information

a. Review of 2019 skipjack tuna stock assessment

SC15 will review the results of the 2019 skipjack tuna stock assessment, including CPUE analysis, retrospective analysis, methodology, etc.

SC15 will consider new findings, suggestions, and any future research needs including budget implications, and provide management recommendations to the Commission.

4.1.3.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.1.4 South Pacific albacore tuna (*Thunnus alalunga*)

4.1.4.1 Research and information

a. Update of South Pacific albacore tuna stock assessment information

The last SP albacore tuna stock assessment was conducted in 2018. SC15 will review information on indicators for WCPO SP albacore tuna stock status.

b. Trends in the South Pacific albacore longline and troll fisheries

Following the request by Te Vaka Moana at TCC7 (Paragraph 20, TCC7 Summary Report), the Secretariat prepared a paper WCPFC8-2011-IP/04 (South Pacific albacore fishery). Several CCMs at WCPFC8 asked that this type of reporting be continued (Paragraph 422). Other papers in early stage include WCPFC10-2013-IP02 and SC10-SA-WP-07.

SC15 may review the recent status and trends in the South Pacific albacore fishery and provide comments and/or recommendations as needed.

4.1.4.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.2 Northern stocks

Annex I of the Commission's Rules of Procedure defines 'northern stocks' to be 'stocks which occur mostly in the area north of 20° north parallel' and currently are 'northern Pacific bluefin¹, northern albacore² and the northern stock of swordfish³'. According to the MOU between WCPFC and ISC, the ISC's scientific information and advice will be presented at the annual meetings of the Scientific Committee.

The ISC Chair, or his designate, will be invited to brief SC15 on the activities of ISC since SC14, including the ISC's 2019 stock assessments and future plans.

4.2.1 North Pacific albacore (*Thunnus alalunga*)

4.2.2 Pacific bluefin tuna (*Thunnus orientalis*)

4.2.3 North Pacific swordfish (*Xiphias gladius*)

As there are no new information available to update stock status and management advice for northern stocks, previous information on stock status and management advice for these species will be maintained.

4.3 WCPO sharks

4.3.1 Oceanic whitetip shark (*Carcharhinus longimanus*)

4.3.1.1 Research and information

- a. Oceanic whitetip shark stock assessment

SC15 will review the 2019 oceanic whitetip shark stock assessment, and provide comments/recommendations to the Commission, as required.

- b. Project 92 (Testing the performance of alternative stock assessments approaches for oceanic whitetip shark)

SC15 will review the results of Project 92 (partially funded by ABNJ) and provide comments, guidelines or recommendations for future shark research.

4.3.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

¹ Pacific bluefin tuna

² North Pacific albacore

³ North Pacific swordfish

- a. Status and trends
- b. Management advice and implications

- 4.3.2 Silky shark (*Carcharhinus falciformis*)**
- 4.3.3 South Pacific blue shark (*Prionace glauca*)**
- 4.3.4 North Pacific blue shark (*Prionace glauca*)**
- 4.3.5 North Pacific shortfin mako (*Isurus oxyrinchus*)**
- 4.3.6 Pacific bigeye thresher shark (*Alopias superciliosus*)**
- 4.3.7 Porbeagle shark (*Lamna nasus*)**
- 4.3.8 whale shark (*Rhincodon typus*)**

As there are no new information available to update stock status and management advice for the seven shark species above, previous information on stock status and management advice for these species will be maintained.

However, SC15 will note that an ABNJ-funded research on *Southeast Pacific data preparation to support blue and shortfin mako assessments* (assigned as Project 96) is on-going for future stock assessments.

4.4 WCPO billfishes

4.4.1 South Pacific swordfish (*Xiphias gladius*)

4.4.1.1 Research and information

The last South Pacific swordfish stock assessment was conducted in 2017. SC15 will review any updated information or proposals to strengthen CMM 2009-03 (CMM for Swordfish) to improve management of the South Pacific swordfish, if available.

4.4.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.2 Southwest Pacific striped marlin (*Kajikia audax*)

4.4.2.1 Research and information

SC15 will review the results of the 2019 Southwest Pacific striped marlin stock assessment. SC15 will consider new findings, suggestions, and any future research needs including budget implications, and provide management recommendations to the Commission, including any advice for possible revision of CMM 2006-04 (CMM for striped marlin in the Southwest Pacific).

4.4.2.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.3 North Pacific striped marlin (*Kajikia audax*)

4.4.3.1 Research and information

SC15 will review the ISC's 2019 North Pacific striped marlin stock assessment, and provide comments/recommendations to the Commission, as required.

4.4.3.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.4 Pacific blue marlin (*Makaira nigricans*)

As there are no new information available to update stock status and management advice for Pacific blue marlin, previous information on stock status and management advice for this species will be maintained.

AGENDA ITEM 5 MANAGEMENT ISSUES THEME

5.1 Development of harvest strategy framework

5.1.1 Progress of the harvest strategy workplan

With reference to the revised work plan for the adoption of harvest strategies under CMM 2014-06 (Attachment I, WCPFC15 Summary Report), SC15 will note the changes made and the overall progress to date made in the development of harvest strategies covered by this workplan.

5.1.2 Target reference points

- a) Yellowfin and bigeye tuna

With reference to Attachment I of the WCPFC15 Summary Report, SC15 will review research on bigeye and yellowfin tuna target reference points, and provide advice on their potential target reference points.

- b) South Pacific albacore tuna

WCPFC15 agreed on SP albacore target reference points (Paragraphs 207 – 212):

207. *WCPFC15 agreed on an interim target reference point (TRP) for south Pacific albacore at 56 percent of spawning stock biomass in the absence of fishing (0.56 SBF=0)⁴ for the southern longline fishery as compared to 2013 levels.⁵ If a future stock assessment indicates that this interim TRP will not result in the desired longline CPUE,*

⁴ The method to be used in estimating the recent average spawning biomass in the absence of fishing shall be the same as that adopted by the Commission for the limit reference point, as described in paragraph 3 of CMM 2015-06.

⁵ The proxy for CPUE will be the southern longline vulnerable biomass as estimated within the stock assessment.

then the interim TRP will be revised in order to meet this objective. The TRP shall be reviewed every 3 years, consistent with the SP albacore assessment schedule.

208. The Commission shall amend or develop appropriate conservation and management measures to implement a harvest control rule, developed in accordance with CMM 2014-06, with the objective of maintaining the south Pacific albacore spawning stock biomass at the target level on average and according to the timeframes specified in paragraph 209.

209. In order to manage the required reduction in catches, the timeline for achieving the interim target reference point shall be no later than 20 years. The Science Service Provider is tasked with identifying a range of alternative catch pathways and timeframes that achieve this, for consideration in 2019.

210. In undertaking the assessment identified in paragraph 209 information from all fisheries will be included while noting that any management measures must take account of the impact of different gear types.

211. The Scientific Committee shall refer to the target reference point in its assessment of the status of the WCPO South Pacific albacore tuna stock and in reporting to the Commission on management advice and implications for this stock.

212. Considering that the distribution of the South Pacific albacore stock goes beyond the WCPFC Convention area and the management of this stock is responsibility of both WCPFC and IATTC, WCPFC15 requested the Scientific Services Provider to coordinate with the IATTC scientific staff with the view to consider including the entire South Pacific in future assessments.

As requested in Paragraph 209 above, SC15 will review a range of alternative catch pathways and timeframes that achieve the interim TRP and provide advice and/or recommendations to the Commission.

c) Skipjack tuna

The Commission adopted CMM 2015-06 (CMM on a TRP for WCPO Skipjack Tuna), which will be reviewed by the Commission no later than 2019 (Para 8, CMM 2015-06).

According to the harvest strategy work plan, SC15 will agree the new skipjack tuna stock assessment upon which a review of the skipjack TRP will be based. SC15 will provide advice to the SSP on the technical approach to review the performance of the skipjack TRP for the Commission to review the TRP.

5.1.3 Progress on the development of Harvest Control Rules and Management Strategy Evaluation (MSE)

The scientific services provider (SPC-OFP) will update SC15 on the progress of WCPFC's MSE development, focusing on MSE application to the following topics.

a) Review of harvest control rules for skipjack tuna

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on the performance of candidate harvest control rules for skipjack tuna.

b) Review of harvest control rules for South Pacific albacore

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on the performance of candidate harvest control rules for South Pacific albacore.

c) MSE for North Pacific albacore

SC15 will note the work undertaken by the ISC on management strategy evaluation for North Pacific albacore tuna.

d) Multi-species modeling framework

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on potential options to capture multi-species issues under the HS process.

5.1.4 Other matters

Science and management dialogue

Regarding the Science and Management Dialogue, the Commission agreed to hold a 6-day annual meeting in 2019 with additional time devoted for the Commission to discuss harvest strategies.

SC15 may consider any other matters related to the harvest strategy work, including the Science and Management Dialogue issues, and provide advice and/or recommendations to the Commission.

5.2 Limit reference points for WCPFC sharks

The final report of the Project 57 (LRPs for elasmobranchs within the WCPFC) is posted on the SC15 website. SC15 will be invited to consider and provide comments on the recommendations in this report.

5.3 Implementation of CMM 2018-01

5.3.1 Effectiveness of CMM 2018-01

SC15 will review the interim objectives for bigeye, skipjack, and yellowfin tuna set out in paragraphs 12 to 14 of the CMM 2018-01 and provide advice to the Commission for the possible revision of these objectives.

CMM 2018-01:

15. The Commission at its 2019 annual session shall review and revise the aims set out in paragraphs 12 to 14 in light of advice from the Scientific Committee.

For further development of provisions to manage the catch of bigeye, yellowfin, and skipjack tunas from other commercial fisheries other than purse seine and longline, SC15 will provide advice to the Commission on which fisheries should be included and what information is needed to develop appropriate management measures for those fisheries (Para 50, CMM 2018-01).

5.3.2 Management issues related to FADs

a) FAD tracking

SC15 will review the updated FAD tracking analysis implemented within the PNA FAD tracking programme and recommend any mechanisms to facilitate further analyses as needed.

b) Acoustic FAD analysis

SC15 will review a preliminary FAD acoustic data analysis and provide comments and/or recommendations for further research.

AGENDA ITEM 6 ECOSYSTEM AND BYCATCH MITIGATION THEME

6.1 Ecosystem effects of fishing

6.1.1 FAD impacts

6.1.1.1 Research on non-entangling FADs

WCPFC15 adopted Paragraphs 19 – 22 of the CMM 2018-01 related to non-entangling FADs (annexed below). SC15 will review any research results, if available, on the use of non-entangling material and biodegradable material on FADs, and provide specific recommendations to the Commission as appropriate:

Non-entangling FADs

19. *To reduce the risk of entanglement of sharks, sea turtles or any other species, as from 1st January 2020, CCMs shall ensure that the design and construction of any FAD to be deployed in, or that drifts into, the WCPFC Convention Area shall comply with the following specifications:*

- *The floating or raft part (flat or rolled structure) of the FAD can be covered or not. To the extent possible the use of mesh net should be avoided. If the FAD is covered with mesh net, it must have a stretched mesh size less than 7 cm (2.5 inches) and the mesh net must be well wrapped around the whole raft so that there is no netting hanging below the FAD when it is deployed.*
- *The design of the underwater or hanging part (tail) of the FAD should avoid the use of mesh net. If mesh net is used, it must have a stretched mesh size of less than 7 cm (2.5 inches) or tied tightly in bundles or “sausages” with enough weight at the end to keep the netting taut_down in the water column. Alternatively, a single weighted panel (less than 7 cm (2.5 inches) stretched mesh size net or solid sheet such as canvas or nylon) can be used.*

20. *To reduce the amount of synthetic marine debris, the use of natural or biodegradable materials for FADs should be promoted. The use of non-plastic and biodegradable materials in the construction of FADs is encouraged.*

21. *The Scientific Committee shall continue to review research results on the use of non- entangling material and biodegradable material on FADs, and shall provide specific recommendations to the Commission as appropriate.*

22. *The Commission at its 2020 annual session, based on specific guidelines defined by the FAD Management Options Intersessional Working Group and advice from SC16 and TCC16 shall consider the adoption of measures on the implementation of non-entangling and/or biodegradable material on FADs.*

6.1.1.2 Joint Tuna RFMO FAD Working Group Meeting

The Inter-American Tropical Tuna Commission (IATTC) organized and convened the second meeting of the Joint Tuna RFMOs FAD Working Group, which was held in San Diego, California, USA from 8 to 10 May 2019.

The results of the working group meeting will be briefed, and SC15 may provide any comments or recommendations on future actions or plans to the Commission.

6.2 Sharks

6.2.1 Review of conservation and management measures for sharks

Currently, there are five shark-related CMMs:

CMM 2010-07 (CMM for Sharks)

CMM 2011-04 (CMM for oceanic whitetip shark)

CMM 2012-04 (CMM for protection of whale sharks from purse seine fishing operations)

CMM 2013-08 (CMM for silky sharks)

CMM 2014-05 (CMM for sharks)

SC15 will review relevant paragraphs of each shark CMMs above, and provide comments or recommendations as required to the Commission.

6.2.2 Safe release guidelines

So far, the Commission has adopted the following three guidelines for safe release:

- 1) Guidelines for the Safe Release of Encircled Whale Sharks (2015)
- 2) Best Handling Practices for the Safe Release of Manta and Mobulids (2017)
- 3) Best Handling Practices for the Safe Release of Sharks (Other than Whale Sharks and Mantas/Mobulids) (2018)

SC15 will consider any further scientific research related to the effectiveness of the release methods, and other proposals to refine guidelines for the safe release of sharks and rays, as agreed by Paragraph 331 in the WCPFC14 Summary Report:

331. The Commission agreed to task SC14 to develop proposed guidelines for safe release of rays and sharks and taking into account existing standards or guidelines adopted on other fora. The Commission agreed that priority should be given to the development of guidelines for safe release of silky shark and oceanic whitetip sharks.

6.2.3 Progress of Shark Research Plan

SC15 will review the progress of the Shark Research Plan and update the information in Attachment H of the SC14 Summary Report, as needed, including progress and results related to the following researches, and provide recommendations, as appropriate, to the Commission.

- a. Project 91 – A study on Operational Planning for Shark Biological Data Improvement;
- b. Shark post-release mortality tagging study (assigned as Project 95)
- c. Update of Shark Research Plan

6.3 Seabirds

6.3.1 Review of seabird researches

SC15 may review any new information from seabird mitigation researches as appropriate for recommendations to the Commission.

SC14 reviewed preliminary results of Project 68 (Estimation of seabird mortality across the WCPO Convention Area). SC15 will review the final report of Project 68 and provide comments and recommendations to the Commission as needed.

6.3.2 Review of CMM 2018-03 (CMM to mitigate the impact of fishing for highly migratory fish stocks on seabirds)

According to Paragraphs 9 and 10 of the CMM 2018-03, SC15 will review any information derived from CCM's seabird mitigation research submitted to the Secretariat.

6.4 Sea turtles

6.4.1 Review of sea turtle researches

SC15 may review any new information from sea turtle mitigation researches as appropriate for recommendations to the Commission.

SC15 may also consider further analyses to evaluate the impacts of various mitigation measures on fisheries operations in the WCPO and on populations of sea turtle species, if available.

6.4.2 Review of CMM 2008-03

WCPFC15 adopted a revised CMM of Conservation and Management of Sea Turtles (CMM 2018-04), which will take effect on 1 January 2020, and shall replace CMM 2008-03.

SC15 will review any further scientific aspects of additional or new mitigation measures for sea turtles related to Paragraphs 7, 8, 9 and 12 of the CMM 2008-03 and provide findings and recommendations as appropriate to the Commission.

6.5 Bycatch management

SC15 will review any update related to bycatch management, including Bycatch Management Information System (BMIS), any feedback on the bycatch management site at www.wcpfc.int/bycatch-management or www.bmis-bycatch.org and Bycatch Data Exchange Protocol (BDEP) within the BMIS.

6.6 Other issues

SC15 will consider other papers that are not related to any specific items on the existing agenda but are useful to the work of the Commission.

6.6.1 Review of relevant reports from other tRFMOs

SC15 may review relevant reports from other tRFMOs.

AGENDA ITEM 7 OTHER RESEARCH PROJECTS

7.1 West Pacific East Asia Project

SC15 will note the progress of the 2nd phase GEF-funded *Sustainable Management of Highly Migratory Fish Stocks in the West Pacific and East Asian Seas (WPEA-SM)* Project and the New Zealand funded *WPEA Improved Tuna Monitoring Project (WPEA-ITM)*.

7.2 Pacific Tuna Tagging Project

SC15 will review the progress of the Pacific Tuna Tagging Project (Project 42) and the results of its Eleventh PTTP Steering Committee Meeting.

7.3 ABNJ (Common Oceans) Tuna Project-Shark and Bycatch Components

SC15 will note the progress of the ABNJ (Common Oceans) Tuna Project-Shark and Bycatch Components, including future work plan.

7.4 WCPFC Tissue Bank (Project 35b)

The duration of the tissue bank project will be from 1 January 2018 to 31 December 2020. Subject to continued funding as per the indicative budget, the results of the First Steering Committee Meeting will be reported to SC15 (Paragraph 663, SC14 Summary Report):

663. The Scientific Committee ... recommended (that) the Scientific Committee agreed to run the process of WCPFC Tuna Tissue Bank (P35b) reporting in a similar manner to the PTTP (P42) at SC15.

In addition, the development and implementation of a multi-level login to the web portal may be introduced as needed.

7.5 Other Projects

SC15 may consider any other projects funded through voluntary contributions of the WCPFC CCMs.

AGENDA ITEM 8 COOPERATION WITH OTHER ORGANISATIONS

SC15 will review the status of cooperation with other organizations and provide further recommendations if any for the Commission's consideration.

AGENDA ITEM 9 SPECIAL REQUIREMENTS OF DEVELOPING STATES AND PARTICIPATING TERRITORIES

SC15 will consider intersessional activities for the capacity building in science of developing States and participating territories, including those supported by the Commission's Special Requirements Fund and Japan Trust Fund (JTF).

The results of JTF Steering Committee meeting will be briefed.

AGENDA ITEM 10 FUTURE WORK PROGRAM AND BUDGET

10.1 Development of the 2020 work programme and budget, and projection of 2021-2022 provisional work programme and indicative budget

SC15 will develop the 2020 SC work programme and budget and provisional work programme and indicative budget for 2020-2021 for the Commission's endorsement. To draft the 2020 work programme, all conveners and relevant agencies will submit proposals and SC Chair will coordinate an informal small group for discussion.

SC15 will note a recommendation from the Finance and Administration Committee to the Commission (Para 71, FAC9 Summary Report) that "*WCPFC12 task SC with carefully considering proposed scientific projects in the context of the indicative budget agreed for the coming year.*"

AGENDA ITEM 11 ADMINISTRATIVE MATTERS

11.1 Future operation of the Scientific Committee

SC15 will consider proposals for the efficient operation of the Scientific Committee, including streamlining of the agenda, rapporteuring, process of theme sessions, etc.

At SC14, New Zealand agreed to develop a proposal on future operations of the Scientific Committee for consideration by SC15.

11.2 Election of Officers of the Scientific Committee

SC15 will consider continuation of the SC Chair's 2nd term and nominations for the SC Vice-Chair and confirm theme conveners as required.

11.3 Next meeting

At SC14, Samoa offered to host SC16 in 2020. Members are invited to confirm a time and venue for SC16 in 2019, and to propose a time and venue for SC17 in 2021.

AGENDA ITEM 12 OTHER MATTERS

SC15 will consider any other issues that are raised under Agenda Item 1.4.

AGENDA ITEM 13 ADOPTION OF THE SUMMARY REPORT OF THE FIFTEENTH REGULAR SESSION OF THE SCIENTIFIC COMMITTEE

SC15 will adopt recommendations of the Fifteenth Regular Session of the Scientific Committee. The SC15 Summary Report will be adopted after the meeting.

AGENDA ITEM 14 CLOSE OF MEETING

The meeting will close at 17:00 on 20 August 2019.



**SCIENTIFIC COMMITTEE
FIFTEENTH REGULAR SESSION**

Pohnpei, Federated States of Micronesia
12 – 20 August 2019

PROVISIONAL THEME AGENDA

WCPFC-SC15-2019/03-Theme Agenda (Rev.02-31July)

AGENDA ITEM 3 DATA AND STATISTICS THEME

3.1 Data gaps

3.1.1 Data gaps of the Commission

SPC-OFP will present the data gaps paper. SC15 will consider, comment, and where relevant, recommend actions on how to address any identified data gaps, including the differences in the coverage of longline observer data in the data holdings of the Commission and updates on potential use of cannery receipt data for the work of the WCPFC.

ST-WP-01	Williams P. Scientific data available to the Western and Central Pacific Fisheries Commission
ST-IP-01	SPC-OFP Estimates of annual catches in the WCPFC Statistical Area
ST-IP-02	Williams P, et al. Status of observer data management
ST-IP-03	Williams, P. Cannery data summary
ST-IP-04	Clark, Sangaalofa. Purse Seine Fishing Activity in PNA Waters
ST-IP-05	Isidro C. Tanangonan, Marlo B. Demo-os, Jeric S. Jara, Alma C. Dickson and Rafael V. Ramiscal. Group Seine Operations of Philippine Flagged Vessels in High Seas Pocket 1 (HSP1)
ST-IP-06	Philippines. Progress of MARLIN (Electronic Logsheet) Operation in the High Seas Pocket 1 (to be submitted/posted)

3.1.2 Species composition of purse-seine catches (Project 60)

SC15 will review the progress of Project 60 (Collection and evaluation of purse-seine species composition data) towards the two-year work plan agreed at SC14. In particular, SC15 will review proposed changes to the methodology currently used to estimate purse seine species compositions.

ST-WP-02	Peatman, T. and Smith N. Improving purse seine catch composition estimates: Project 60
ST-WP-07	Itano, D., C. Heberer and M. Owens. Comparing and contrasting EM derived purse seine fishery data with human observer, onboard sampling and other data sources in support of Project 60 Improving purse seine catch composition estimates: Project 60

3.1.3 Project 90 (Better size data (length and weight) for scientific analyses)

The Commission endorsed a funding support to Project 90 for 2019 – 2021. SC15 will consider the progress of Project 90 and provide any comments or recommendations to the Commission.

ST-WP-03	SPC-OFP. Project 90 Update : Better data on fish weights and lengths for scientific analyses
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3.1.4 Project 93 (Review of the Commission’s data needs and collection programmes).

SC15 will consider the progress of Project 93 and provide any comments or recommendations to the Commission.

ST-WP-04	FFA, PNAO, SPC and WCPFC Secretariat. Report on Project 93 (data collection review)
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3.2 Regional Observer Programme

SC15 will consider any issues related to ROP and provided recommendations to the Commission as needed.

3.3 Electronic Reporting and Electronic Monitoring

SC15 may review any updated findings or information E-reporting and E-monitoring issues.

3.4 Economic data

SC15 may consider issues relating to the development of guidelines for the voluntary provision of economic data by CCMs to the Commission including draft guidelines prepared by Fiji as noted at SC14 (Paragraph 118, SC14 Summary Report).

ST-WP-05	FFA. Development of Guidelines for the Voluntary Submission of Economic Data to the Commission by CCMs
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3.5 Comprehensive review of Commission reporting requirements

In adopting CMM 2018-07, the Commission committed to a multi-year workplan of tasks to enhance the Compliance Monitoring Scheme (CMS), with the aim of making it more efficient and effective by streamlining processes. The Secretariat is expected to provide an update to SC15 on the 2019 CMS-related future work task related to “a comprehensive review of all the Commission’s reporting requirements, with recommendations to remove duplicative reporting as well as ensure

the Commission's data and information needs are met". SC15 will consider the report on progress and provide any comments or recommendations to the Commission.

ST-WP-06	Secretariat. Discussion paper on the comprehensive review of reporting requirements and addressing duplicative reporting task – A TCC Workplan 2019 – 2021 project related to the WCPFC Compliance Monitoring Scheme
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DATA AND STATISTICS THEME PAPERS

<i>ST THEME – Working Papers</i>		
ST-WP-01	Williams, P. Scientific data available to the Western and Central Pacific Fisheries Commission	3.1.1
ST-WP-02	Peatman, T., S. Fukofuka, T. Park, P. Williams, J. Hampton. and N. Smith. Better purse seine catch composition estimates: progress on the Project 60 work plan	3.1.2
ST-WP-03	SPC-OFP. Project 90 Update : Better data on fish weights and lengths for scientific analyses	3.1.3
ST-WP-04	FFA, PNAO, SPC and WCPFC Secretariat. Report on Project 93 (data collection review)	3.1.4
ST-WP-05	Fiji and FFA. Guidelines for the Voluntary Submission of Economic Data by CCMs to the Commission	3.4
ST-WP-06	WCPFC Secretariat. Streamlining WCPFC reporting requirements – discussion paper	3.4
ST-WP-07	Itano, D., Heberer, C. and Owens, M. Comparing and contrasting EM derived purse seine fishery data with human observer, onboard sampling and other data sources in support of Project 60	3.1.2
<i>ST THEME – Information Papers</i>		
ST-IP-01	SPC-OFP. Estimates of annual catches in the WCPFC statistical area	3.1
ST-IP-02	Williams, P. Status of observer data management	3.2
ST-IP-03	Williams, P. Cannery data summary	3.1
ST-IP-04	Sangaalofa Clark. Purse seine fishing activities in PNA waters	3.1.1

AGENDA ITEM 4 STOCK ASSESSMENT THEME

4.0 Improvement of MULTIFAN-CL software

Work to improve the MULTIFAN-CL software is ongoing. SC15 may review any updates of the software and provide comments and/or recommendations as needed.

SA-IP-02 Developments in the MULTIFAN-CL software 2018-2019

4.1 WCPO tunas

SA-IP-01 Report from the SPC Pre-assessment Workshop, Noumea, April 2019

SA-IP-03 Stock structure considerations

SA-IP-13 Connectivity of tuna and billfish species targeted by the Australian Eastern Tuna and Billfish Fishery with the broader Western Pacific Ocean

SA-IP-15 Population Structure and Connectivity of Tropical Tuna Species across the Indo-Pacific Ocean Region

4.1.1 WCPO bigeye tuna (*Thunnus obesus*)

4.1.1.1 Research and information

- a. Project 94 (Workshop on yellowfin and bigeye tuna age and growth)

SC15 will review a workshop report on annual and daily ageing approaches between WCPFC and IATTC as an output of Project 94.

SA-WP-02 Project 94 - Workshop on yellowfin and bigeye age and growth

SA-IP-19 Report of the Workshop on Age and Growth of Bigeye and Yellowfin Tunas in the Pacific Ocean

- b. Update of bigeye tuna stock assessment information

The last bigeye tuna stock assessment was conducted in 2017 and updated in 2018. SC15 will review information on indicators for WCPO bigeye tuna stock status.

Subject to final arrangement with Agenda 5.3.1, SC15 will review the likely outcomes of CMM 2018-01 for bigeye tuna as recommended in Paragraph 494 of the SC14 Summary Report.

494. As requested in the Harvest Strategy Work Plan, as updated by WCPFC14, SC14 reviewed information on the likely outcomes of the revised tropical tuna measure (CMM 2017-01) in relation to bigeye tuna (SC14-MI-WP-08a; detailed analysis of the projections of BET is provided in Section 4.1.1.2 of this report).

- *SC14 noted that outcomes are strongly influenced by the assumed future recruitment levels and the time period of the projections.*
- *SC14 recommended that the working paper be forwarded to WCPFC15.*
- *SC14 noted that projection analyses such as those detailed in the working paper should be presented in conjunction with the stock assessment results in future SC meetings.*

SA-WP-01 A compendium of fisheries indicators for tuna stocks

4.1.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Stock status and trends
- b. Management advice and implications

4.1.2 WCPO yellowfin tuna (*Thunnus albacares*)

4.1.2.1 Research and information

- a. Project 82 (Yellowfin tuna age and growth)

SC15 will review a project report for the provision of robust age and growth estimates for yellowfin tuna in the WCPO to inform future stock assessments and related analyses, and provide advice and recommendations as needed.

SA-WP-03 Analysis of age and growth of yellowfin tuna in the Pacific: Project 82

- b. Update of yellowfin tuna stock assessment information

The last yellowfin tuna stock assessment was conducted in 2017. SC15 will review information on indicators for WCPO yellowfin tuna stock status.

SA-WP-01 A compendium of fisheries indicators for tuna stocks

4.1.2.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.1.3 WCPO skipjack tuna (*Katsuwonus pelamis*)

4.1.3.1 Research and information

- a. Review of 2019 skipjack tuna stock assessment

SC15 will review the results of the 2019 skipjack tuna stock assessment, including CPUE analysis, retrospective analysis, methodology, etc.

SC15 will consider new findings, suggestions, and any future research needs including budget implications, and provide management recommendations to the Commission.

SA-WP-04 Simulation analysis of pole and line CPUE standardization approaches for skipjack tuna in the WCPO

SA-WP-14 Standardized catch per unit effort (CPUE) of skipjack tuna of the Japanese pole-and-line fisheries in the WCPO from 1972 to 2018

SA-WP-10 Reproductive traits of female skipjack tuna *Katsuwonus pelamis* in the western central Pacific Ocean (WCPO)

SA-WP-12 Evaluation of changes in model settings focusing on the reproductive parameter in the reference case model of the 2016 skipjack stock assessment

SA-WP-11 A conceptual model of skipjack tuna in the western and central Pacific Ocean (WCPO) for the spatial structure configuration

SA-WP-05 Stock assessment of skipjack tuna in the WCPO

SA-IP-04 Background analyses for the 2019 stock assessment of skipjack tuna

SA-IP-05 Standardized CPUE for skipjack tuna *Katsuwonus pelamis* from the Papua New Guinea archipelagic purse seine fishery

SA-IP-06 Tag seeding analysis

SA-IP-08 Relative abundance of skipjack for the purse seine fishery operating in the Philippines Moro Gulf (Region 12) and High Seas Pocket #1

SA-IP-09 Fisheries structures for the 2019 stock assessment of skipjack tuna

SA-IP-10 Impacts of distribution of adult skipjack in tropical areas on the abundance of recruited juveniles in the water around Japan inferred from the framework of Individual Based Model with Dynamic Energy Budget Model.

SA-IP-11 Quarterly catch data of skipjack caught by coastal troll and coastal pole-and-line fisheries in the Japanese coastal waters

SA-IP-12 Overview of historical skipjack length and weight data collected by the Japanese pole-and-line fisheries both of commercial and Research vessel (R/V) from 1953 to 2017

4.1.3.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.1.4 South Pacific albacore tuna (*Thunnus alalunga*)

4.1.4.1 Research and information

- a. Update of South Pacific albacore tuna stock assessment information

The last SP albacore tuna stock assessment was conducted in 2018. SC15 will review information on indicators for WCPO SP albacore tuna stock status.

- b. Trends in the South Pacific albacore longline and troll fisheries

Following the request by Te Vaka Moana at TCC7 (Paragraph 20, TCC7 Summary Report), the Secretariat prepared a paper WCPFC8-2011-IP/04 (South Pacific albacore fishery). Several CCMs at WCPFC8 asked that this type of reporting be continued (Paragraph 422). Other papers in early stage include WCPFC10-2013-IP02 and SC10-SA-WP-07.

SC15 may review the recent status and trends in the South Pacific albacore fishery and provide comments and/or recommendations as needed.

There will be one (1) presentation based on both SA-WP-01 & SA-WP-08

- SA-WP-01** A compendium of fisheries indicators for tuna stocks
- SA-WP-08** Recent trends in the south Pacific albacore fishery
- SA-WP-08a** Excel: SPA vessel number latitude flag
- SA-WP-08b** Excel: SPA catch proportion latitude flag

4.1.4.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.2 Northern stocks

Annex I of the Commission's Rules of Procedure defines 'northern stocks' to be 'stocks which occur mostly in the area north of 20° north parallel' and currently are 'northern Pacific bluefin¹, northern albacore² and the northern stock of swordfish³'. According to the MOU between WCPFC and ISC, the ISC's scientific information and advice will be presented at the annual meetings of the Scientific Committee.

The ISC Chair, or his designate, will be invited to brief SC15 on the activities of ISC since SC14, including the ISC's 2019 stock assessments and future plans.

4.2.1 North Pacific albacore (*Thunnus alalunga*)

4.2.2 Pacific bluefin tuna (*Thunnus orientalis*)

SA-IP-20 Report of the Pacific Bluefin Tuna Working Group Intersessional Workshop (ISC19 – ANNEX 08)

4.2.3 North Pacific swordfish (*Xiphias gladius*)

As there are no new information available to update stock status and management advice for northern stocks, previous information on stock status and management advice for these species will be maintained.

4.3 WCPO sharks

4.3.1 Oceanic whitetip shark (*Carcharhinus longimanus*)

4.3.1.1 Research and information

- a. Oceanic whitetip shark stock assessment

SC15 will review the 2019 oceanic whitetip shark stock assessment, and provide comments/recommendations to the Commission, as required.

SA-WP-06 Stock assessment of WCPO oceanic whitetip shark

SA-IP-17 Background analyses for the 2019 WCPO oceanic whitetip shark stock assessment

¹ Pacific bluefin tuna

² North Pacific albacore

³ North Pacific swordfish

- b. Project 92 (Testing the performance of alternative stock assessments approaches for oceanic whitetip shark)

SC15 will review the results of Project 92 (partially funded by ABNJ) and provide comments, guidelines or recommendations for future shark research.

SA-WP-13 Oceanic whitetip alternative assessment methods

4.3.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.3.2 Silky shark (*Carcharhinus falciformis*)

4.3.3 South Pacific blue shark (*Prionace glauca*)

SA-IP-14 Data preparation for Southeast Pacific blue and shortfin mako sharks

4.3.4 North Pacific blue shark (*Prionace glauca*)

4.3.5 North Pacific shortfin mako (*Isurus oxyrinchus*)

4.3.6 Pacific bigeye thresher shark (*Alopias superciliosus*)

4.3.7 Porbeagle shark (*Lamna nasus*)

4.3.8 whale shark (*Rhincodon typus*)

As there are no new information available to update stock status and management advice for the seven shark species above, previous information on stock status and management advice for these species will be maintained.

However, SC15 will note that an ABNJ-funded research on *Southeast Pacific data preparation to support blue and shortfin mako assessments* (assigned as Project 96) is on-going for future stock assessments.

4.4 WCPO billfishes

4.4.1 South Pacific swordfish (*Xiphias gladius*)

4.4.1.1 Research and information

The last South Pacific swordfish stock assessment was conducted in 2017. SC15 will review any updated information or proposals to strengthen CMM 2009-03 (CMM for Swordfish) to improve management of the South Pacific swordfish, if available.

4.4.1.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.2 Southwest Pacific striped marlin (*Kajikia audax*)

4.4.2.1 Research and information

SC15 will review the results of the 2019 Southwest Pacific striped marlin stock assessment. SC15 will consider new findings, suggestions, and any future research needs including budget implications, and provide management recommendations to the Commission, including any advice for possible revision of CMM 2006-04 (CMM for striped marlin in the Southwest Pacific).

SA-WP-07 Stock assessment of SW Pacific striped marlin in the WCPO

SA-IP-07 Background analyses for the 2019 stock assessment of SW Pacific striped marlin

SA-IP-16 Characterisation and catch per unit effort of striped marlin in New Zealand

SA-IP-18 Preliminary ageing of striped marlin in the southwest Pacific using otoliths

4.4.2.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.3 North Pacific striped marlin (*Kajikia audax*)

4.4.3.1 Research and information

SC15 will review the ISC's 2019 North Pacific striped marlin stock assessment, and provide comments/recommendations to the Commission, as required.

SA-WP-09 Stock Assessment Report for Striped Marlin (*Kajikia audax*) in the Western and Central North Pacific Ocean through 2017

4.4.3.2 Provision of scientific information

SC15 will provide agreed text for the following:

- a. Status and trends
- b. Management advice and implications

4.4.4 Pacific blue marlin (*Makaira nigricans*)

As there are no new information available to update stock status and management advice for Pacific blue marlin, previous information on stock status and management advice for this species will be maintained.

STOCK ASSESSMENT THEME PAPER

SA-WP-01	Brouwer, S. and G. Pilling. A compendium of fisheries indicators for tuna stocks	4.1.1.1b, 4.1.2.1b, 4.1.3.1a, 4.1.4.1a
SA-WP-02	Farley, J., Krusic-Golub, K., Clear, N., Eveson, P., Smith, N. and Hampton, P. Project 94: Workshop on yellowfin and bigeye age and growth	4.1.1.1a
SA-WP-03	Farley, J., Krusic-Golub, K., Clear, N., Eveson, P., Roupsard, F., Sanchez, C. and Smith, N. Progress on yellowfin tuna age and growth in the WCPO (Project 82)	4.1.2.1
SA-WP-04	Ducharme Barth, N., Vincent, M., Pilling, G. and Hampton, J. Simulation analysis of pole and line CPUE standardization approaches for skipjack tuna in the WCPO	4.1.3.1
SA-WP-05	Vincent, M., G. Pilling and J. Hampton. Stock assessment of skipjack tuna in the western and central Pacific Ocean	4.1.3.1
SA-WP-06	Tremblay-Boyer, L., Carvalho, F., Neubauer, P. and Pilling, G. Stock assessment for oceanic whitetip shark in the Western and Central Pacific Ocean	4.3.1.1
SA-WP-07	Ducharme Barth, N., Pilling, G. and Hampton, J. Stock assessment of SW Pacific striped marlin in the WCPO	4.4.2.1
SA-WP-08	Brouwer, S. Recent trends in the south Pacific albacore fishery	4.1.4.1b
SA-WP-08a	Excel: SPA vessel number latitude flag	4.1.4.1b
SA-WP-08b	Excel: SPA catch proportion latitude flag	4.1.4.1b
SA-WP-09	ISC. Stock Assessment Report for Striped Marlin (<i>Kajikia audax</i>) in the Western and Central North Pacific Ocean through 2017	4.4.3.1
SA-WP-10	Ohashi, S., Aoki, Y., Tanaka, F., Fujioka, K., Aoki, A. and Kiyofuji, H. Reproductive traits of female skipjack tuna <i>Katsuwonus pelamis</i> in the western central Pacific Ocean (WCPO)	4.1.3.1
SA-WP-11	Kiyofuji, H., Aoki, Y., Kinoshita, J., Ohashi, S. and Fujioka, K. A conceptual model of skipjack tuna in the Western and Central Pacific Ocean (WCPO) for the spatial structure configuration	4.1.3.1
SA-WP-12	Aoki, Y., Ohashi, S. and Kiyofuji, H. Evaluation of changes in model settings focusing on the maturity schedule in the reference case model of the 2016 skipjack stock assessment	4.1.3.1
SA-WP-13	Neubauer, P., Richard, Y. and Tremblay-Boyer, L. Alternative Assessment Methods for Oceanic Whitetip Shark	4.3.1.1b
SA-WP-14	Kinoshita, J., Aoki, Y., Ducharme-Barth, N. and Kiyofuji, H. Standardized catch per unit effort (CPUE) of skipjack tuna of the Japanese pole-and-line fisheries in the WCPO from 1972 to 2018	4.1.3.1
SA THEME – Information Papers		
SA-IP-01	Pilling, G. and Brouwer, S. Report from the SPC pre-assessment workshop, Noumea, April 2019.	4.1
SA-IP-02	Davies, N., Fournier, D., Takeuchi, Y., Bouyé, F. and Hampton, J. Developments in the MULTIFAN-CL software 2018-2019	4.0
SA-IP-03	MacDonald, J., Moore, B. and Smith, N. Stock structure considerations for Pacific Ocean tunas	4.1
SA-IP-04	M. Vincent, Y. Aoki, H. Kiyofuji, J. Hampton and G. Pilling Background analyses for the 2019 stock assessment of skipjack tuna	4.1.3.1

SA-IP-05	Vidal, T., G. Pilling, L. Tremblay-Boyer, and T. Usu. Standardized CPUE for skipjack tuna <i>Katsuwonus pelamis</i> from the Papua New Guinea archipelagic purse seine fishery	4.1.3.1
SA-IP-06	T. Peatman, J. Scutt Phillips, F. Rounsard, C. Sanchez, B. Leroy, N. Smith. Analysis of tag seeding data and reporting rates	4.1.3.1
SA-IP-07	Ducharme-Barth, N. and Pilling, G. Background analyses for the 2019 stock assessment of SW Pacific striped marlin	4.4.2.1
SA-IP-08	Bigelow, K., Garvilles, E., Bayate, D. and Cecilio, A. Relative abundance of skipjack tuna for the purse seine fishery operating in the Philippines Moro Gulf (Region 12) and High Seas Pocket #1	4.1.3.1
SA-IP-09	Vincent, M., Ducharme-Barth, N. and McKechnie, S. Summary of fisheries structures for the 2019 stock assessment of skipjack tuna in the western and central Pacific Ocean	4.1.3.1
SA-IP-10	Aoki, Y., Masujima, M. and Kiyofuji, H. Impacts of distribution of adult skipjack in tropical areas on the abundance of recruited juveniles in the water around Japan inferred from the framework of Individual Based Model with Dynamic Energy Budget Model	4.1.3.1
SA-IP-11	Fujioka, K. and Kiyofuji, H. Quarterly catch data of skipjack caught by coastal troll and coastal pole-and-line fisheries in the Japanese coastal waters	4.1.3.1
SA-IP-12	Kiyofuji, H., Ohashi, S., Kinoshita, J. and Aoki, Y. Overview of historical skipjack length and weight data collected by the Japanese pole-and-line fisheries and Research vessel (R/V) from 1953 to 2017	4.1.3.1
SA-IP-13	Evans, K., Grewe, P., Foster, S., Gunaseker., R. and Lansdell, M. Connectivity of tuna and billfish species targeted by the Australian Eastern Tuna and Billfish Fishery with the broader Western Pacific Ocean	4.1
SA-IP-14	Quiroz, J., Hoyle, S. Data preparation for Southeast Pacific blue and shortfin mako sharks	4.3.3
SA-IP-15	P.M. Grewe, Wudianto, C.H. Proctor, M.S. Adam, A.R. Jauhary, K. Schafer, D. Itano, K. Evans, A. Killian, S. Foster, T. Gosselin, P. Feutry, J. Aulich, R. Gunasekera, M. Lansdell and C.R. Davies. Population Structure and Connectivity of Tropical Tuna Species across the Indo-Pacific Ocean Region.	4.1
SA-IP-16	J. C. Holdsworth, T. H. Kendrick and M. Domeier. Characterisation of New Zealand striped marlin fisheries	4.4.2.1
SA-IP-17	Tremblay-Boyer, L. and Neubauer, P. Historical catch reconstruction and CPUE standardization for the stock assessment of oceanic whitetip shark in the Western and Central Pacific Ocean	4.3.1.1
SA-IP-18	Farley, J. Preliminary ageing of striped marlin in the southwest Pacific using otoliths	4.4.2.1
SA-IP-19	IATTC. Report of the Workshop on Age and Growth of Bigeye and Yellowfin Tunas in the Pacific Ocean.	4.1.1.1a
SA-IP-20	ISC. Report of the Pacific Bluefin Tuna Working Group Intersessional Workshop (ISC19 – ANNEX 08)	4.2.2

AGENDA ITEM 5 MANAGEMENT ISSUES THEME

5.1 DEVELOPMENT OF A HARVEST STRATEGY FRAMEWORK

5.1.1 Progress on Harvest Strategy Workplan

With reference to the revised work plan for the adoption of harvest strategies under CMM 2014-06 (Attachment I, WCPFC15 Summary Report), SC15 will note the changes made and the overall progress to date made in the development of harvest strategies covered by this workplan.

MI-IP-01: Work plan for the adoption of harvest strategies under CMM 2014-06.

5.1.2 Target Reference Points

a) Yellowfin and Bigeye Tuna

With reference to Attachment I of the WCPFC15 Summary Report, SC15 will review research on bigeye and yellowfin tuna target reference points and provide advice on their potential Target Reference Points.

MI-WP-01: Minimum Target Reference Points for WCPO yellowfin and bigeye tuna consistent with alternative LRP risk levels, and multispecies implications.

b) South Pacific Albacore Tuna

WCPFC15 agreed on SP albacore target reference points (Paragraphs 207 – 212):

207. *WCPFC15 agreed on an interim target reference point (TRP) for south Pacific albacore at 56 percent of spawning stock biomass in the absence of fishing (0.56 SBF=0)⁴ for the southern longline fishery as compared to 2013 levels.⁵ If a future stock assessment indicates that this interim TRP will not result in the desired longline CPUE, then the interim TRP will be revised in order to meet this objective. The TRP shall be reviewed every 3 years, consistent with the SP albacore assessment schedule.*
208. *The Commission shall amend or develop appropriate conservation and management measures to implement a harvest control rule, developed in accordance with CMM 2014-06, with the objective of maintaining the south Pacific albacore spawning stock biomass at the target level on average and according to the timeframes specified in paragraph 209.*
209. *In order to manage the required reduction in catches, the timeline for achieving the interim target reference point shall be no later than 20 years. The Science Service Provider is tasked with identifying a range of alternative catch pathways and timeframes that achieve this, for consideration in 2019.*
210. *In undertaking the assessment identified in paragraph 209 information from all fisheries will be included while noting that any management measures must take account of the impact of different gear types.*
211. *The Scientific Committee shall refer to the target reference point in its assessment of the status of the WCPO South Pacific albacore tuna stock and in reporting to the Commission on management advice and implications for this stock.*

⁴ The method to be used in estimating the recent average spawning biomass in the absence of fishing shall be the same as that adopted by the Commission for the limit reference point, as described in paragraph 3 of CMM 2015-06.

⁵ The proxy for CPUE will be the southern longline vulnerable biomass as estimated within the stock assessment.

212. *Considering that the distribution of the South Pacific albacore stock goes beyond the WCPFC Convention area and the management of this stock is responsibility of both WCPFC and IATTC, WCPFC15 requested the Scientific Services Provider to coordinate with the IATTC scientific staff with the view to consider including the entire South Pacific in future assessments.*

As requested in Paragraph 209 above, SC15 will review a range of alternative catch pathways and timeframes that achieve the interim TRP and provide advice and/or recommendations to the Commission.

MI-WP-02: Alternative trajectories to achieve the South Pacific albacore interim TRP.

c) Skipjack Tuna

The Commission adopted CMM 2015-06 (CMM on a TRP for WCPO Skipjack Tuna), which will be reviewed by the Commission no later than 2019 (Para 8, CMM 2015-06).

According to the harvest strategy work plan, SC15 will agree the new skipjack tuna stock assessment upon which a review of the skipjack TRP will be based. SC15 will provide advice to the SSP on the technical approach to review the performance of the skipjack TRP for the Commission to review the TRP.

MI-IP-09: Current and projected stock status of skipjack tuna to inform consideration of Target Reference Points.

5.1.3 Progress on the development of Harvest Control Rules and Management Strategy Evaluation (MSE)

The scientific services provider (SPC-OFP) will update SC15 on the progress of WCPFC's MSE development, focusing on MSE application to the following topics.

MI-IP-03: Report of the Second Expert Consultation Workshop on Management Strategy Evaluation

a) Review of harvest control rules for skipjack tuna

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on the performance of candidate harvest control rules for skipjack tuna.

MI-IP-02: The WCPO skipjack MSE modelling framework.

MI-WP-05: Results of initial evaluations of management procedures for skipjack.

MI-WP-06: Considering uncertainty when testing and monitoring WCPFC harvest strategies.

MI-WP-09: Harvest strategy engagement tools.

b) Review of harvest control rules for South Pacific albacore

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on the performance of candidate harvest control rules for South Pacific albacore.

MI-WP-07: CPUE analysis for South Pacific albacore.

MI-WP-03: Performance indicators for comparing management procedures for South Pacific albacore using MSE modelling framework.

MI-WP-08: South Pacific albacore management strategy evaluation framework.

c) MSE for North Pacific albacore

SC15 will note the work undertaken by the ISC on management strategy evaluation for North Pacific albacore tuna.

MI-IP-10: Report for the first North Pacific albacore management strategy evaluation.

d) Multi-species modeling framework

With reference to the harvest strategy workplan (Attachment I of the WCPFC15 Summary Report), SC15 will review and provide advice on potential options to capture multi-species issues under the HS process.

MI-WP-04: Mixed fishery and multispecies issues in harvest strategy evaluations.

5.1.4 Other Matters

Science and management dialogue

Regarding the Science and Management Dialogue, the Commission agreed to hold a 6-day annual meeting in 2019 with additional time devoted for the Commission to discuss harvest strategies.

SC15 may consider any other matters related to the harvest strategy work, including the Science and Management Dialogue issues, and provide advice and/or recommendations to the Commission.

MI-WP-14: State of play of the MSE process across tuna RFMOs

MI-IP-07: Improving communication: the key to more effective MSE processes

MI-IP-08: Terms of reference for science-management dialogue.

[MI-IP-11: Harvest strategies for tropical tuna in archipelagic waters of Indonesia: update.](#)

5.2 LIMIT REFERENCE POINTS FOR SHARKS

The final report of the Project 57 (LRPs for elasmobranchs within the WCPFC) is posted on the SC15 website. SC15 will be invited to consider and provide comments on the recommendations in this report.

MI-IP-04: Identifying appropriate reference points for elasmobranchs within the WCPFC.

5.1 IMPLEMENTATION OF CMM-2018-01

5.1.1 Effectiveness of CMM-2018-01

SC15 will review the interim objectives for bigeye, skipjack, and yellowfin tuna set out in paragraphs 12 to 14 of the CMM 2018-01 and provide advice to the Commission for the possible revision of these objectives.

CMM 2018-01:

15. *The Commission at its 2019 annual session shall review and revise the aims set out in paragraphs 12 to 14 in light of advice from the Scientific Committee.*

For further development of provisions to manage the catch of bigeye, yellowfin, and skipjack tunas from other commercial fisheries other than purse seine and longline, SC15 will provide advice to the Commission on which fisheries should be included and what information is needed to develop appropriate management measures for those fisheries (Para 50, CMM 2018-01).

MI-WP-11: Evaluation of CMM 2018-01 for tropical tuna.

MI-IP-05: Evaluation of effort creep indicators in the WCPO purse seine fishery.

MI-IP-06: Catch and effort tables on tropical tuna CMMs.

5.1.2 Management Issues Related to FADs

a) FAD Tracking

SC15 will review the updated FAD tracking analysis implemented within the PNA FAD tracking programme and recommend any mechanisms to facilitate further analyses as needed.

MI-WP-12: Report on analyses of the 2016-2018 PNA FAD tracking programme.

b) Acoustic FAD Analysis

SC15 will review a preliminary FAD acoustic data analysis and provide comments and/or recommendations for further research.

MI-WP-13: Report on preliminary analyses of FAD acoustic data.

MANAGEMENT ISSUES THEME PAPERS

<i>MI THEME – Working Papers</i>		
Paper No	Agenda	Title
MI-WP-01	5.1.2a	Pilling, G., Scott, F and Hampton, J. Minimum Target Reference Points for WCPO yellowfin and bigeye tuna consistent with alternative LRP risk levels, and multispecies implications
MI-WP-02	5.1.2b	Pilling, G. Alternative trajectories to achieve the South Pacific albacore interim TRP
MI-WP-03	5.1.3b	N. Yao, F. Scott, R. Scott, G. M. Pilling and J. Hampton. Performance indicators for comparing management procedures for South Pacific albacore using the MSE modelling framework
MI-WP-04	5.1.3d	Scott, F., R. Scott, N. Yao, G. Pilling and J. Hampton. Mixed fishery and multi-species issues in harvest strategy evaluations
MI-WP-05	5.1.3a	Scott, R., F. Scott, N. Yao, G. Pilling and J. Hampton. Results of Initial Evaluations of Management Procedures for Skipjack
MI-WP-06	5.1.3a	Scott, F., R. Scott, N. Yao, G. Pilling and J. Hampton. Considering Uncertainty When Testing and Monitoring WCPFC Harvest Strategies
MI-WP-07	5.1.3b	N. Yao, R. Scott, F. Scott, G. M. Pilling and J. Hampton. CPUE analysis for South Pacific albacore

MI-WP-08	5.1.3b	R. Scott, N. Yao, F. Scott and G. Pilling. South Pacific albacore management strategy evaluation framework
MI-WP-09	5.1.3a	F. Scott ¹ , R. Scott, N. Yao, G. Pilling and J. Hampton Harvest strategy engagement tools
MI-WP-10	5.1.3d	(Combined with MI-WP-04)
MI-WP-11	5.3.1	Pilling, G., Williams, P. and Hampton, J. Evaluation of CMM 2018-01 for tropical tuna
MI-WP-12	5.3.2a	Escalle, L., Muller, B., Scutt-Phillips, J., Brouwer, S., Pilling, G. and the PNA Office Report on analyses of the 2016/2019 PNA FAD tracking programme
MI-WP-13	5.3.2b	Escalle, L., Vanden Heuvel, B., Clarke, R., Brouwer, S. and Pilling, G. Report on preliminary analyses of FAD acoustic data
MI-WP-14	5.1.4	Wakeford, R., Merino, G., Apostolaki, P., Skerritt, D. and Davies, T. State of play of the MSE process across tuna RFMOs.
<i>MI THEME – Information Papers</i>		
Paper No	Agenda	Title
MI-IP-01	5.1.1	WCPFC15. Workplan for the adoption of harvest strategies under CMM 2014-06
MI-IP-02	5.1.3a	Scott, R., F. Scott, N. Yao, G. Pilling, J. Hampton and N. Davies The WCPO Skipjack MSE Modeling Framework
MI-IP-03	5.1.3	F. Scott, R. Scott, N. Yao, R. Hillary, T. Kitakado, N. Davies, G. Pilling and J. Hampton Report of the Second Expert Consultation Workshop on Management Strategy Evaluation
MI-IP-04	5.2	Zhou, S., Deng, R., Hoyle, S. and Dunn, M. Identifying appropriate reference points for elasmobranchs within the WCPFC
MI-IP-05	5.3.1	Vidal, T., Muller, B., Pilling, G. and the PNAO. Evaluation of effort creep indicators in the WCPO purse seine fishery
MI-IP-06	5.3.1	Williams, P. Catch and effort tables on tropical tuna CMMs
MI-IP-07	5.1.4	Miller, S., Anganuzzi, A., Butterworth, D., Davies, C., Donovan, G., Nickson, A., Rademeyer, R. and Restrepo, V. Improving communication: the key to more effective MSE processes
MI-IP-08	5.1.4	Secretariat. Terms of reference for science-management dialogue
MI-IP-09	5.1.2c	SPC-OFP. Current and projected stock status of skipjack tuna to inform consideration of Target Reference Points
MI-IP-10	5.1.3c	ISC. Report for the first North Pacific albacore management strategy evaluation.
<u>MI-IP-11</u>	<u>5.1.4</u>	<u>Indonesia. Harvest strategies for tropical tuna in archipelagic waters of Indonesia: update</u>

AGENDA ITEM 6 ECOSYSTEM AND BYCATCH MITIGATION THEME

6.1.1 FAD impacts

6.1.1.1 Research on non-entangling FADs

WCPFC15 adopted Paragraphs 19 – 22 of the CMM 2018-01 related to non-entangling FADs (annexed below). SC15 will review any research results, if available, on the use of non-entangling material and biodegradable material on FADs, and provide specific recommendations to the Commission as appropriate:

Non-entangling FADs

19. *To reduce the risk of entanglement of sharks, sea turtles or any other species, as from 1st January 2020, CCMs shall ensure that the design and construction of any FAD to be deployed in, or that drifts into, the WCPFC Convention Area shall comply with the following specifications:*

- *The floating or raft part (flat or rolled structure) of the FAD can be covered or not. To the extent possible the use of mesh net should be avoided. If the FAD is covered with mesh net, it must have a stretched mesh size less than 7 cm (2.5 inches) and the mesh net must be well wrapped around the whole raft so that there is no netting hanging below the FAD when it is deployed.*
- *The design of the underwater or hanging part (tail) of the FAD should avoid the use of mesh net. If mesh net is used, it must have a stretched mesh size of less than 7 cm (2.5 inches) or tied tightly in bundles or “sausages” with enough weight at the end to keep the netting taut down in the water column. Alternatively, a single weighted panel (less than 7 cm (2.5 inches) stretched mesh size net or solid sheet such as canvas or nylon) can be used.*

20. *To reduce the amount of synthetic marine debris, the use of natural or biodegradable materials for FADs should be promoted. The use of non-plastic and biodegradable materials in the construction of FADs is encouraged.*

21. *The Scientific Committee shall continue to review research results on the use of non-entangling material and biodegradable material on FADs, and shall provide specific recommendations to the Commission as appropriate.*

22. *The Commission at its 2020 annual session, based on specific guidelines defined by the FAD Management Options Intersessional Working Group and advice from SC16 and TCC16 shall consider the adoption of measures on the implementation of non-entangling and/or biodegradable material on FADs.*

EB-WP-11	Zudaire, I. et al. Preliminary results of the BIOFAD Project: Testing designs and identifying options to mitigate impacts of drifting fish aggregation devices on the ecosystem
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6.1.1.2 Joint Tuna RFMO FAD Working Group Meeting

The Inter-American Tropical Tuna Commission (IATTC) organized and convened the second meeting of the Joint Tuna RFMOs FAD Working Group, which was held in San Diego, California, USA from 8 to 10 May 2019.

The results of the working group meeting will be briefed, and SC15 may provide any comments or recommendations on future actions or plans to the Commission.

EB-WP-13	IATTC. Report of the 2nd meeting of the Joint Tuna RFMOs Working Group on FADs
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6.2 Sharks

6.2.1 Review of conservation and management measures for sharks

Currently, there are five shark-related CMMs:

CMM 2010-07 (CMM for Sharks)

CMM 2011-04 (CMM for oceanic whitetip shark)

CMM 2012-04 (CMM for protection of whale sharks from purse seine fishing operations)

CMM 2013-08 (CMM for silky sharks)

CMM 2014-05 (CMM for sharks)

SC15 will review relevant paragraphs of each shark CMMs above, and provide comments or recommendations as required to the Commission.

6.2.2 Safe release guidelines

So far, the Commission has adopted the following three guidelines for safe release:

- 1) Guidelines for the Safe Release of Encircled Whale Sharks (2015)
- 2) Best Handling Practices for the Safe Release of Manta and Mobulids (2017)
- 3) Best Handling Practices for the Safe Release of Sharks (Other than Whale Sharks and Mantas/Mobulids) (2018)

SC15 will consider any further scientific research related to the effectiveness of the release methods, and other proposals to refine guidelines for the safe release of sharks and rays, as agreed by Paragraph 331 in the WCPFC14 Summary Report:

331. The Commission agreed to task SC14 to develop proposed guidelines for safe release of rays and sharks and taking into account existing standards or guidelines adopted on other fora. The Commission agreed that priority should be given to the development of guidelines for safe release of silky shark and oceanic whitetip sharks.

EB-WP-04	Hutchinson, M., Bigelow, K., and Carvalho, F. Quantifying post release mortality rates of sharks discarded in Pacific tuna longline fisheries and identifying best handling practices
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EB-IP-02	Justel-Rubio, A., Swimmer, Y., and Hutchinson, M. Graphics for Best Handling Practices for the Safe Release of Sharks
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6.2.3 Progress of Shark Research Plan

SC15 will review the progress of the Shark Research Plan and update the information in Attachment H of the SC14 Summary Report, as needed, including progress and results related to the following researches, and provide recommendations, as appropriate, to the Commission.

- a. Project 91 – A study on Operational Planning for Shark Biological Data Improvement;
- b. Shark post-release mortality tagging study (assigned as Project 95)

c. Update of Shark Research Plan

EB-WP-01	Common Oceans (ABNJ) Tuna Project. Joint analysis of shark post-release mortality tagging results (Project 95)
EB-WP-02	Brouwer, S. Progress on the WPCFC stock assessments and shark research plan (summary table)

EB-IP-04	Chin, A. and C. Simpfendorfer. Operational Planning for Shark Biological Data Improvement	
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6.3 Seabirds

6.3.1 Review of seabird researches

SC15 may review any new information from seabird mitigation researches as appropriate for recommendations to the Commission.

SC14 reviewed preliminary results of Project 68 (Estimation of seabird mortality across the WCPO Convention Area). SC15 will review the final report of Project 68 and provide comments and recommendations to the Commission as needed.

EB-WP-03	T. Peatman, E. Abraham, D. Ochi, D. Webber and N. Smith. Project 68: Estimation of seabird mortality across the WCPFC Convention Area
EB-WP-06	Katumata, N. , Okamoto, K., Oshima, K. and Ochi, D. Research update about an effective design of tori-line for Japanese small-scale fleet in the North Pacific
EB-WP-07	Birdlife International. Report of the Final Global Seabird Bycatch Assessment Workshop
EB-WP-10	Debski, I., and Ayrton, H. Safe handling and release guidelines for seabirds

EB-IP-03	ACAP. ACAP advice for reducing the impact of pelagic longline fishing operations on seabirds
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6.3.2 Review of CMM 2018-03 (CMM to mitigate the impact of fishing for highly migratory fish stocks on seabirds)

According to Paragraphs 9 and 10 of the CMM 2018-03, SC15 will review any information derived from CCM's seabird mitigation research submitted to the Secretariat.

6.4 Sea turtles

6.4.1 Review of sea turtle researches

SC15 may review any new information from sea turtle mitigation researches as appropriate for recommendations to the Commission.

SC15 may also consider further analyses to evaluate the impacts of various mitigation measures on fisheries operations in the WCPO and on populations of sea turtle species, if available.

6.4.2 Review of CMM 2008-03

WCPFC15 adopted a revised CMM of Conservation and Management of Sea Turtles (CMM 2018-04), which will take effect on 1 January 2020, and shall replace CMM 2008-03.

SC15 will review any further scientific aspects of additional or new mitigation measures for sea turtles related to Paragraphs 7, 8, 9 and 12 of the CMM 2008-03 and provide findings and recommendations as appropriate to the Commission.

6.5 Bycatch management

SC15 will review any update related to bycatch management, including Bycatch Management Information System (BMIS), any feedback on the bycatch management site at www.wcpfc.int/bycatch-management or www.bmis-bycatch.org and [Bycatch Data Exchange Protocol \(BDEP\)](#) within the BMIS.

EB-IP-01	Smith, N., Caillot, S. and Peatman, T. The Bycatch Management Information System (BMIS): developments and future BMIS
EB-IP-05	Swimmer, Y. IATTC Bycatch Working Group Report

6.6 Other issues

SC15 will consider other papers that are not related to any specific items on the existing agenda but are useful to the work of the Commission.

EB-WP-05	Kiyofuji, H., Ohashi, S., Aoki, Y., Masujima, M., Tanaka, F., Fujioka, K., Okazaki, M., Aoki, A. and Satoh, K., Fayakun, S., Priatna, A., Taufik, M. Overview of recent research cruises in the WCPO and Indonesian archipelagic water by the R/V Shunyo-Maru of NRIFSF
EB-WP-08	Scutt Phillips et al. WCPO Electronic tagging for the mitigation of bigeye and yellowfin tuna juveniles by purse seine fisheries
EB-WP-12	Juan-Jorda, M.J. Selecting ecosystem indicators for fisheries targeting highly migratory species, an EU project to advance the operationalization of the EAFM in ICCAT and IOTC

6.6.1 Review of relevant reports from other tRFMOs

SC15 may review relevant reports from other tRFMOs.

ECOSYSTEM AND BYCATCH MITIGATION THEME PAPERS

<i>EB THEME – Working Papers</i>		
EB-WP-01	Common Oceans (ABNJ) Tuna Project. Report of the Workshop on Joint Analysis of Shark Post-Release Mortality Tagging Results	6.2.3.b
EB-WP-02	Brouwer, S. Progress on the WPCFC stock assessments and shark research plan (summary table)	6.2.3
EB-WP-03	T. Peatman, E. Abraham, D. Ochi, D. Webber and N. Smith. Project 68: Estimation of seabird mortality across the WCPFC Convention Area	6.3.1
EB-WP-04	Hutchinson, M., Bigelow, K., and Carvalho, F. Quantifying post release mortality rates of shark bycatch in Pacific tuna longline fisheries and identifying handling practices to improve survivorship	6.2.2

EB-WP-05	Kiyofuji, H., Ohashi, S., Aoki, Y., Masujima, M., Tanaka, F., Fujioka, K., Okazaki, M., Aoki, A., Satoh, K., Fayakun, S., Priatna, A. and Taufik, M. Overview of recent research cruises in the WCPO and Indonesian archipelagic water by the R/V Shunyo-Maru of NRIFSF	6.6
EB-WP-06	Katumata, N., Okamoto, K., Oshima, K. and Ochi, D. Research update about the effective design of tori-line for Japanese small-scale fleet in the North Pacific	6.3.1
EB-WP-07	Birdlife International. Report of the Final Global Seabird Bycatch Assessment Workshop	6.3.1
EB-WP-08	Scutt Phillips, J., Leroy, B., Peatman, T., Escalle, L. and Smith, N. Electronic tagging for the mitigation of bigeye and yellowfin tuna juveniles by purse seine fisheries	6.6
EB-WP-09	(Re-numbered as SC15-EB-IP-04)	
EB-WP-10	Debski, I., and Ayrton, H. Safe handling and release guidelines for seabirds.	6.3.1
EB-WP-11	Zudaire, I., Tolotti, M., Murua, J., Capello, M., Andrés, M., Cabezas, O., Krug, I., Grande, M., Arregui, I., Uranga, J. Goñi, N., Ferarios, J., Ruiz, J., Baidai, Y., Ramos, M., Báez, J., Abascal, F., Moreno, G., Santiago, J., Dagorn, L., Arrizabalaga, H. and Murua, H. Preliminary results of the BIOFAD Project: Testing designs and identify options to mitigate impacts of drifting fish aggregation devices non the ecosystem	6.1.1.1
EB-WP-12	Juan-Jorda, M., Murua, H., Apostolaki, P., Lynam, C., Rodriguez, A., Barrionuevo, J., Abascal, F., Coelho, R., Todorovic, S., Billet, N., Uyarra, M., Andonegi, E. and Lopez, J. Selecting ecosystem indicators for fisheries targeting highly migratory species: An EU project to advance the operationalization of the EAFM in ICCAT and IOTC	6.6
EB-WP-13	Joint t-RFMO FAD Working Group. Report of the 2nd Meeting of the Joint Tuna RFMOs Working Group on FADs	6.1.1.2
<i>EB THEME – Information Papers</i>		
EB-IP-01	Smith, N., Caillot, S. and Peatman, T. The Bycatch Management Information System (BMIS): developments and future BMIS	6.5
EB-IP-02	Justel-Rubio, A., Swimmer, Y. and Hutchinson, M. Graphics for Best Handling Practices for the Safe Release of Sharks	6.2.2
EB-IP-03	ACAP. ACAP advice for reducing the impact of pelagic longline fishing operations on seabirds	6.3.1
EB-IP-04	Chin, A. and C. Simpfendorfer. Operational Planning for Shark Biological Data Improvement	6.2.3
EB-IP-05	Swimmer, Y. IATTC Bycatch Working Group Report	6.6.1