

**SCIENTIFIC COMMITTEE**

**FOURTEENTH REGULAR SESSION**

Busan, Republic of South Korea

8-16 August 2018

**PROVISIONAL THEME AGENDA**

**WCPFC-SC14-2018/03-Theme Agenda (Rev.05)**

**Revision NOTE**

1. EB “Theme session schedule of papers and presentations” – revised in this version
2. SA Theme Agenda is inserted.
3. One annotation para moved from Agenda 3.3.1 to 3.1.4: ST-IP-05 is changed to ST-WP-05
4. EB-theme documents updated
5. SC14-ST-WP-06 added
6. **DATA AND STATISTICS THEME**
	1. **Data gaps**
		1. **Data gaps of the Commission**

SPC-OFP will present the data gaps paper. SC14 will consider, comment, and where relevant, recommend actions on how to address any identified data gaps in the data holdings of the Commission, including Paragraphs 82 and 84 in SC13 Summary Report:

* Review of the importance and practicalities for including the provision of estimates of longline discards by number of individuals discarded/released in the “Scientific Data to be provided to the Commission”, with a definition for discards/releases (Paragraph 82); and
* An update on any enhancements to the WCPFC public domain data available on the Commission web site (Paragraph 84).

**Working Paper**

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| **ST-WP-01** | Williams P. Scientific data available to the Western and Central Pacific Fisheries Commission |

**Information Paper**

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| **ST-IP-01** | SPC-OFP Estimates of annual catches in the WCPFC Statistical Area |
| **ST-IP-02** | Williams P, I. Tuiloma and A. Panizza. Status of observer data management |
| **ST-IP-07** | Purse seine fishing activity in PNA waters |
| **ST-IP-06** | Tanangonan I et al. Group Seine Operations of Philippine Flagged Vessels in High Seas Pocket 1 (HSP1) |

* + 1. **Species composition of purse-seine catches**
1. SC14 will review the research progress of Project 60 (Collection and evaluation of purse-seine species composition data), including as appropriate annual estimates of purse seine catches based on full species adjustment using observer spill sampling data corrected for grab sample selection bias.
2. SC14 will also review other key findings and any proposed research plans related to purse seine species composition estimates, especially in relation to Paragraphs 99 in SC13 Summary Report:
3. *SC13 recommended that the Scientific Services Provider explore opportunities to undertake comprehensive comparisons of corrected grab sample based species compositions with accurate composition estimates from in-port sampling with other CCMs who hold the required data.*
4. For the species composition from other approaches, SC14 may review species composition estimation based on trials of electronic monitoring-based approaches undertaken in a separate project.
5. SC14 will note SPC-OFP’s work related to the inclusion of the original purse seine tuna species catch estimates provided by CCMs in the WCPFC Tuna Fishery Yearbook (Paragraph 101, SC13 Summary Report).

**Working Paper**

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| **ST-WP-02** | Peatman T, N. Smith, T. Park and S. Caillot. Better purse seine catch composition estimates: progress on the Project 60 work plan |

* + 1. **Potential use of cannery receipt data for the work of the WCPFC**

SC14 will continue to review the potential use of cannery receipt data for the work of the WCPFC.

**Information Paper**

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| **ST-IP-03** | Update on the use of cannery receipt data for the scientific work of the WCPFC |

* + 1. **Bycatch estimates of longline and purse seine**

SC14 will review a summary of longline fishery bycatch estimates at a regional scale, and provide recommendations on further work as needed. Updates of the 2017 purse seine estimates will also be considered.

SC14 will review the calculated annual coefficients of variation for the CPUE data of various taxa collected from longline observer data for 2013, 2014, 2015, 2016 and 2017.

**Working Paper**

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| **ST-WP-03** | Summary of longline fishery bycatch at a regional scale, 2003-2017 |

**Information Paper**

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| **ST-IP-04** | Summary of purse seine fishery bycatch at a regional scale, 2003-2017 |

* + 1. **Project 90 (Better size data (length and weight) for scientific analyses)**

SC13 recommended that the Scientific Services Provider be tasked with a project to design and co-ordinate the systematic collection of length:length, length:weight and weight:weight data on all species to better inform bycatch estimation (Paragraph102). At SC13, a project proposal was submitted and included in the indicative budget to start in 2019.

SC14 will consider a project to collect data to determine length-weight and weight-weight conversion factors (Project 90), and will review any additional information with the intent of starting this research in 2019.

SC14 will consider a project to cover both of these SC13 recommendations and will review any additional information with the intent of starting this research in 2019.

**Information Paper**

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| **ST-WP-05** | Requirements for enhancing conversion factor information  |

* 1. **FAD data management**

SC14 may consider any issues related to FAD data fields and FAD marking and monitoring and provide recommendations as needed for consideration by TCC and the Commission.

* 1. **Regional Observer Programme**
		1. **ROP longline coverage**

As agreed by WCPFC11 (Paragraphs 484-486, WCPFC11 Report), CCMs submitted their longline observer coverage in Annual Report Part 1 using their choice of coverage metric (Attachment L, WCPFC11 Report). SC14 may consider and comment on the compiled information on longline observer coverage and where necessary, provide recommendations to the Commission.

* + 1. **Review of ROP minimum standards data fields**

As requested by the Commission, SC14 will review any new proposals to revise the ROP Minimum Data Standard Data Fields, including tasks related to Paragraph 362 of the WCPFC14 Summary Report:

*363. WCPFC14 tasks SC14 to consider the recommendations of the recent Joint Analysis of Sea Turtle Mitigation Effectiveness workshops to modify the ROP Minimum Standard Data Fields with respect to improving the collection of data related to sea turtle interactions, taking into account capacity of observers and priority of data collection, and to recommend any modifications for the consideration of the ROP Coordinator, TCC14 and WCPFC15. SC may also consider possible modifications to operational level data requirements.*

* 1. **Electronic Reporting and Electronic Monitoring**

SC14 may review any updated findings or information from the EMandER WG Chair on science issues related to EMandER. SC14 will review the outcomes of the ERandEM WG which met immediately before SC14.

**Working Paper**

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| **ST-WP-06** | [Summary Report for the Third Electronic Reporting and Electronic Monitoring Working Group](https://www.wcpfc.int/node/31267) |

**Information Paper**

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| **ST-IP-08** | Tanangonan I et al. Electronic Logsheet Operation of Philippine Flagged Vessels in High Seas Pocket 1 |

* 1. **Economic data**

Noting the Commission’s decision below (Paragraph 369, WCPFC14 Summary Report), SC14 may review any updated information, including the outcomes of any intersessional work, related to the development of guidelines for the voluntary provision of economic data to the Commission by CCMs.

*369. The Commission accepted the Report of the SC virtual inter-sessional working group on the development of guidelines for the voluntary provision of economic data to the Commission by CCMs (WCPFC Circular 2017/87). The Commission agreed to the list of principles to inform the development of guidelines for the voluntary provision of economic data to the Commission by CCMs (Attachment S).*

**Working Paper**

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| **ST-WP-04** | FFA Analyses and projections of economic conditions in WCPO fisheries |

**DATA AND STATISTICS THEME PAPERS**

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| ***ST THEME – Working Papers*** |
| **ST-WP-01** | Williams P. Scientific data available to the Western and Central Pacific Fisheries Commission. |
| **ST-WP-02** | Peatman T, et al. Better purse seine catch composition estimates: progress on the Project 60 work plan |
| **ST-WP-03** | Peatman T. et al .Summary of longline fishery bycatch at a regional scale, 2003-2017. |
| **ST-WP-04** | Skirtun M., and C. Reid. Analyses and projections of economic conditions in WCPO fisheries. |
| ***THEME – Information Papers*** |
| **ST-IP-01** | SPC-OFP Estimates of annual catches in the WCPFC Statistical Area. |
| **ST-IP-02** | Williams P, I. Tuiloma and A. Panizza. Status of observer data management. |
| **ST-IP-03** | Williams P. Update on the use of cannery receipt data for the scientific work of the WCPFC. |
| **ST-IP-04** | Peatman T. et al. Summary of purse seine fishery bycatch at a regional scale, 2003-2017. Rev 1 |
| **ST-IP-05** | Williams P and N. Smith. Requirements for enhancing conversion factor information.  |
| **ST-IP-06** | Tanangonan I et al. Group Seine Operations of Philippine Flagged Vessels in High Seas Pocket 1 (HSP1). |
| **ST-IP-07** | Clark S. Purse seine fishing activity in PNA waters. |
| **ST-IP-08** | Tanangonan I et al. Pilot Test of MARLIN (Electronic Logsheet) Operation in High Seas Pocket 1 |

1. **STOCK ASSESSMENT THEME**
2. **Improvement of MULTIFAN-CL software**

Work to improve the MULTIFAN-CL software is ongoing. SC14 may review any updates of the software and provide comments and/or recommendations as needed.

***IP-02 will be referred to if needed.***

* 1. **WCPO tunas**
		1. **WCPO bigeye tuna (*Thunnus obesus*)**
			1. Research and information
		2. Project 81 (Further work on bigeye tuna age and growth)

SC14 will review further work on age and growth of bigeye tuna in the Pacific conducted by CSIRO (Australia).

**SA-WP-01** Update on age and growth of bigeye tuna in the WCPO: WCPFC Project 81

***IP-01, 04 will be referred to if needed.***

* + 1. Bigeye tuna stock assessment update

SC14 will review the results of the 2018 bigeye tuna stock assessment update; including enhancement of the bigeye tuna growth data set, the updated ‘new growth’ stock assessment models from the 2017 assessment, and spatial stratification of the assessment. SC14 will consider any future research, including budget implications, and provide recommendations to the Commission, as required.

**SA-WP-02** A compendium of fisheries indicators for tuna stocks

**SA-WP-03** Incorporation of updated growth information within the 2017 WCPO bigeye stock assessment grid, and examination of the sensitivity of estimates to alternative model spatial structures.

***IP-01 will be referred to if needed.***

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Stock status and trends
2. Management advice and implications
	* 1. **WCPO yellowfin tuna (*Thunnus albacares*)**
			1. Research and information
		2. Project 82 (Yellowfin tuna age and growth)

SC14 will review a preliminary analysis for yellowfin tuna aging and growth (Project 82) and provide advice, if any.

**SA-WP-13** Progress on yellowfin tuna age and growth in the WCPO WCPFC Project 82

* + 1. Update of yellowfin tuna stock assessment information

The last yellowfin tuna stock assessment was conducted in 2017. SC14 will review information on indicators for WCPO yellowfin tuna.

**SA-WP-02**  A compendium of fisheries indicators for tuna stocks

*IP-01 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **WCPO skipjack tuna (*Katsuwonus pelamis*)**
			1. Research and information
3. Update of skipjack tuna stock assessment information

The last skipjack tuna stock assessment was conducted in 2016. SC14 will review information on indicators for WCPO skipjack tuna.

**SA-WP-02**  A compendium of fisheries indicators for tuna stocks

**SA-WP-04** Improvements in skipjack (*Katsuwonus pelamis*) abundance index based on the fish size data from Japanese pole-and-line logbook (1972–2017). Rev 1.

*IP-05, 06 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **South Pacific albacore tuna (*Thunnus alalunga*)**
			1. Research and information
	1. South Pacific albacore tuna stock assessment

SC14 will review the results of the 2018 South Pacific albacore tuna stock assessment, any future research, including budget implications, and provide recommendations to the Commission, as required

**SA-WP-02**  A compendium of fisheries indicators for tuna stocks

**SA-WP-05** SPC-OFP Stock assessment of south Pacific albacore tuna in the WCPO

*IP-07 will be referred to if needed.*

* 1. 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.

SC14 may review the recent status and trends in the South Pacific albacore fishery and provide comments and/or recommendations as needed.

*IP-08 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	1. **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 bluefin[[1]](#footnote-1), northern albacore[[2]](#footnote-2) and the northern stock of swordfish[[3]](#footnote-3)’. 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 will be invited to brief SC14 on the activities of ISC since SC13, including the ISC’s 2018 stock assessments and future plans.

* + 1. **North Pacific albacore (*Thunnus alalunga*)**
			1. Research and information

The last North Pacific albacore stock assessment was conducted in 2017. SC14 may consider any updated information, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **Pacific bluefin tuna (*Thunnus orientalis*)**
			1. Research and information

The last Pacific bluefin tuna stock assessment was conducted in 2016. In 2018, ISC is scheduled to conduct an update of the 2016 stock assessment. SC14 will consider any updated information, if available.

**SA-WP-06** Stock Assessment of Pacific Bluefin Tuna (*Thunnus orientalis*) in the Pacific Ocean in 2018

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **North Pacific swordfish (*Xiphias gladius*)**
			1. Research and information

The last North Pacific swordfish stock assessment was conducted in 2014. SC14 will review the results of the ISC’s 2018 stock assessment, if available.

**SA-WP-07** Stock assessment for swordfish (*Xiphias gladius*) in the western and central north Pacific Ocean through 2016

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	1. **WCPO sharks**
		1. **Oceanic whitetip shark (*Carcharhinus longimanus*)**
			1. Research and information

The last oceanic whitetip shark stock assessment was conducted in 2012. SC14 may review any updated information and indicator analysis, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **Silky shark (*Carcharhinus falciformis*)**
			1. Research and information

The last silky shark stock assessment was conducted in 2013. SC14 will review a new silky shark assessment and provide recommendations as needed to the Commission.

**SA-WP-08** Pacific-wide Silky Shark (*Carcharhinus falciformis*) Stock Status Assessment

*IP-09 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **South Pacific blue shark (*Prionace glauca*)**
			1. Research and information

The last South Pacific blue sharkstock assessment was conducted in 2016. SC14 will review any updated information and indicator analysis, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **North Pacific blue shark (*Prionace glauca*)**
			1. Research and information

The last North Pacific blue shark stock assessment was conducted in 2017. SC14 will review any updated information and indicator analysis, if available.

Noting the Paragraph 378 of the WCPFC14 Summary Report, SC14 will review relevant papers to evaluate the North Pacific blue shark stock as a northern stock.

*378. The Commission agreed to task SC14 to prioritise determination of whether the North Pacific striped marlin and North Pacific blue shark are northern stocks and as applicable provide updated management advice and recommendations to WCPFC15. To support the SC’s consideration of these matters in 2018, the Scientific Services Provider (SPC-OFP) and ISC were requested to provide to SC14 papers that provide available information on the status of these stocks and the catch levels in their associated fisheries.*

**SA-WP-09** Indicators of the spatial distribution of blue shark (*Prionace glauca*) in the North Pacific.

*IP-13 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **North Pacific shortfin mako (*Isurus oxyrinchus*)**
			1. Research and information
	1. Review of 2018 North Pacific shortfin mako stock assessment

SC14 will review the ISC’s 2018 North Pacific shortfin mako stock assessment, and provide comments/recommendations to the Commission, as required.

**SA-WP-11** Stock Assessment of Shortfin Mako Shark in the North Pacific Ocean through 2016.

* + 1. **Pacific bigeye thresher shark (*Alopias superciliosus*)**
			1. Research and information

A Pacific-wide sustainability risk assessment of bigeye thresher shark was conducted in 2017, and a final report incorporating comments received at SC13 has been posted.

SC14 will review any updated information, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **Porbeagle shark (*Lamna nasus*)**
			1. Research and information

A Southern Hemisphere porbeagle shark stock status assessment was conducted in 2017 and a final report incorporating comments received at SC13 has been posted.

SC14 will review any updated information, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **whale shark ( *Rhincodon typus*)**
			1. Review of research and information

SC13 will review the results of the whale shark assessment conducted by the ABNJ Project, and provide comments/ recommendations to the Commission, as required.

**SA-WP-12** Risk to the Indo-Pacific whale shark (*Rhincodon typus*) population from interactions with Pacific purse seine fisheries.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	1. **WCPO billfishes**
		1. **South Pacific swordfish (*Xiphias gladius*)**
			1. Research and information

The last South Pacific swordfish stock assessment was conducted in 2017. SC14 will review any updated information, if available.

*IP-10 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **Southwest Pacific striped marlin (*Kajikia audax*)**
			1. Research and information

The last Southwest Pacific striped marlinstock assessment was conducted in 2011. SC14 may review updated information, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **North Pacific striped marlin (*Kajikia audax*)**
			1. Research and information

The last North Pacific striped marlin was conducted in 2015. SC14 will review updated information, if available.

SC14 will review relevant papers to evaluate the North Pacific striped marlin stock as a northern stock (Paragraph 378, WCPFC14 Summary Report).

*IP-11, 12 will be referred to if needed.*

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications
	* 1. **Pacific blue marlin (*Makaira nigricans*)**
			1. Research and information

The last Pacific blue marlinstock assessment was conducted in 2016. SC14 will review updated information, if available.

* + - 1. Provision of scientific information

SC14 will provide agreed text for the following:

1. Status and trends
2. Management advice and implications

**STOCK ASSESSMENT THEME PAPERS**

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| ***SA THEME – Working Papers*** |
| **SA-WP-01** | Farley J. et al. Update on age and growth of bigeye tuna in the WCPO: WCPFC Project 81 |
| **SA-WP-02** | Brouwer S. et al. A compendium of fisheries indicators for tuna stocks |
| **SA-WP-03** | Vincent M.T., G.M. Pilling and J. Hampton. Incorporation of updated growth information within the 2017 WCPO bigeye stock assessment grid, and examination of the sensitivity of estimates to alternative model spatial structures. |
| **SA-WP-04** | Kinoshita J. et al. Improvements in skipjack (*Katsuwonus pelamis*) abundance index based on the fish size data from Japanese pole-and-line logbook (1972–2017). Rev 1. |
| **SA-WP-05** | SPC-OFP Stock assessment of south Pacific albacore tuna in the WCPO |
| **SA-WP-06** | ISC PBT WG. Stock Assessment of Pacific Bluefin Tuna (*Thunnus orientalis*) in the Pacific Ocean in 2018 |
| **SA-WP-07** | ISC Billfish WG. Stock assessment for swordfish (*Xiphias gladius*) in the western and central north Pacific Ocean through 2016 |
| **SA-WP-08** | Common Oceans (ABNJ). Pacific-wide Silky Shark (*Carcharhinus falciformis*) Stock Status Assessment |
| **SA-WP-09** | Hampton J. Indicators of the spatial distribution of blue shark (*Prionace glauca*) in the North Pacific. |
| **SA-WP-10** | Document moved to SA-IP-13 |
| **SA-WP-11** | ISC Shark Working Group. Stock Assessment of Shortfin Mako Shark in the North Pacific Ocean through 2016. |
| **SA-WP-12** | Common Oceans (ABNJ). Risk to the Indo-Pacific whale shark (*Rhincodon typus*) population from interactions with Pacific purse seine fisheries. |
| **SA-WP-13** | Farley J. et al. Progress on yellowfin tuna age and growth in the WCPO WCPFC Project 82 |
| ***SA THEME – Information Papers*** |
| **SA-IP-01** | Pilling G. and S. Brouwer. Report from the SPC pre-assessment workshop, Noumea, April 2018. |
| **SA-IP-02** | Davies et al. Developments in the MULTIFAN-CL software 2017-2018. |
| **SA-IP-03** | **Placeholder** |
| **SA-IP-04** | Evans K et al. Connectivity of tuna and billfish species targeted by the Australian Eastern Tuna and Billfish Fishery with the broader Western Pacific Ocean. |
| **SA-IP-05** | Aoki Y. et al. Annual trend in migration rate of skipjack from spawning grounds to off Japan. |
| **SA-IP-06** | Kiyofuji H. et al. Overview and availability of Japanese pole-and-line ﬁsheriesdata between 1960 and 1971. |
| **SA-IP-07** | SPC-OFP Background analyses for the 2018 stock assessment of south Pacific albacore |
| **SA-IP-08** | SPC-OFP and WCPFC Secretariat. Trends in the South Pacific Albacore Longline and Troll Fisheries. |
| **SA-IP-08a** | SPC-OFP Excel: SPA Vessel Number Latitude Flag. |
| **SA-IP-08b** | SPC-OFP Excel: SPA Catch Proportion Latitude Flag. |
| **SA-IP-09** | Clarke S. Historical Catch Estimate Reconstruction for the Pacific Ocean based on Shark Fin Trade Data (1980-2016). |
| **SA-IP-10** | Takeuchi Y. et al. Testing MULTIFAN-CL functionality for multispecies/multisex assessments, using SW Pacific swordfish. |
| **SA-IP-11** | Piner K. and R. Conser. Estimation of the ratio of spawning biomass of striped marlin above 20°N in the Central and Western North Pacific Ocean using the Japanese Distant Water Longline Fleet and the 2007 Stock Assessment. |
| **SA-IP-12** | ISC Billfish Working Group: Stock assessment update for striped marlin (*Kajikia audax*) in the western and central North Pacific Ocean through 2013 (SC11-SA-WP-10).  |
| **SA-IP-13** | ISC Shark Working Group: Stock Assessment and Future Projections of Blue Shark in the North Pacific Ocean through 2015 (SC13-SA-WP-10). |

1. **MANAGEMENT ISSUES THEME**
	1. **DEVELOPMENT OF A HARVEST STRATEGY FRAMEWORK**
		1. **Progress on Harvest Strategy Workplan**

With reference to Attachment L (Work plan for the adoption of harvest strategies under CMM 2014-06) in the WCPFC14 Summary Report, SC14 may review the overall progress of the harvest strategy workplan in supporting science aspect.

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

* + 1. **Target Reference Points**

Yellowfin and Bigeye Tuna

With reference to Paragraph 188 and Attachment L (see above) in the WCPFC14 Summary Report, SC14 shall dedicate sufficient time to develop advice for WCPFC15 on candidate target reference points for bigeye and yellowfin tuna.

**MI-WP-01:** Minimum TRPs for YFT consistent with alternative LRP risk levels.

South Pacific Albacore Tuna

SC14 will consider the Commission’s decision related to the adoption of target reference points (Paragraph 188, WCPFC14 Summary Report), and will provide appropriate advice and recommendations to the Commission.

*188. The Commission agreed to prioritise the development and adoption of a Target Reference Point for South Pacific albacore through the following actions:*

1. *All CCMs with an interest in the Southern albacore fishery jointly commit to review available scientific and economic information to inform their position about appropriate goals for the fishery and corresponding candidate target reference points;*
2. *Regardless of the results of the 2018 stock assessment and the management advice from SC14 to WCPFC15, SC14 shall dedicate sufficient time in the Management Issues Theme to develop advice for WCPFC15 on candidate target reference points*
3. *CCMs will work together in advance of WCPFC15 to develop TRP proposals; and*
4. *WCPFC15 shall adopt a Target Reference Point for South Pacific albacore.*
	* 1. **Performance indicators, monitoring strategies and harvest control rules**

With reference to the harvest strategy workplan (Attachment L above), SC14 will provide advice on the performance of candidate harvest control rules for South Pacific albacore and skipjack tuna.

SC14 will consider Paragraph 265 of the WCPFC14 Summary Report, and will provide appropriate advice and recommendations to the Commission.

*265. Also in support of the development of a Roadmap for South Pacific albacore, the Commission also agreed to task:*

* 1. *SC14 to provide WCPFC15 with advice on technical aspects of the South Pacific albacore harvest strategy including, for example, a consideration of scientific elements of candidate harvest control rules, and potential components of the management procedure (e.g. the use of CPUE (vulnerable biomass) indices to inform on stock status);*
	2. *TCC14 to evaluate monitoring and reporting gaps in the South Pacific albacore fishery, as well as SIDS and Participating Territories implementation considerations; and*
	3. *SC14 and TCC14, based on their evaluations, will provide any appropriate advice or recommendations to WCPFC15 with respect to informing the development of the Roadmap for improving South Pacific albacore management.*

**MI-WP-02:** Technical aspects of a potential South Pacific albacore harvest strategy.

* + 1. **Management Strategy Evaluation (MSE)**

The scientific services provider (SPC-OFP) will update SC14 on the progress of WCPFC’s MSE development, focusing on MSE application to skipjack tuna

**MI-IP-02:** Technical developments in the MSE modelling framework.

**MI-IP-03:** Generating pseudo data in MULTIFAN-CL.

**MI-WP-03:** Selecting and conditioning operating models for WCPO skipjack.

**MI-WP-04:** Performance indicators for comparing management procedures using the MSE modelling framework.

**MI-WP-05:** Recent advances in the development of the harvest strategy approach for WCPO tuna stocks and fisheries: management consequences and key decisions.

* + 1. **Other Matters**

Science and management dialogue

As noted in Paragraph 215, WCPFC14 Summary Report, below, SC14 may consider the terms of reference for the Science and Management Dialogue meeting and provide recommendations to the Commission as needed.

*215. The Commission agreed to reprioritise as needed the annual agenda of the Commission and Scientific Committee to allow sufficient additional time for consideration of harvest strategy issues. In addition, WCPFC recognised that there may also be a need for a dedicated science/management dialogue.*

**MI-WP-06:** Draft Terms of Reference for a WCPFC Science-Management Dialogue meeting.

* 1. **LIMIT REFERENCE POINTS FOR SHARKS**
		1. **Identifying appropriate limit reference points for elasmobranchs for the WCPFC**

The Commission endorsed SC’s request of USD 25,000 for the development of limit reference points for elasmobranchs but no further process was made because of insufficient funding support compared to the scope of the work. Recently, ABNJ Project funded additional USD 30,000 to implement this project properly.

SC14 may provide comments on the consultancy report if there has been sufficient time to complete the project

**MI-WP-07**: Identifying appropriate reference points for elasmobranchs within the WCPFC.

* 1. **IMPLEMENTATION OF CMM-2016-01**
		1. **Effectiveness of CMM-2017-01**

SC14 will review the likely outcomes of CMM 2017-01 for bigeye tuna.

SC14 will review the bigeye catch limits specified in Table 3 in 2018 and 2019 based on the updated stock assessment and provide recommendations to the Commission (Para 40, CMM 2017-01).

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, SC14 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 2017-01).

**MI-WP-08:** Evaluation of CMM2017-01 for bigeye tuna.

**MI-IP-04:** Catch and Effort tables on tropical tuna CMMs.

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

* + 1. **Management Issues Related to FADs**

FAD Tracking

SC14 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-09:** Report on analyses of the 2016-2018 PNA FAD tracking programme.

FAD Management (FAD Limit per Vessel)

The Commission established a maximum number of drifting FADs per purse seine vessel deployed at sea, at any one time, and requested to review whether the number of FADs deployed as set out in paragraphs 23 and 24 of the CMM 2017-01 (below) is appropriate. SC14 may review any updates in this regard for future FAD management.

(Paragraphs 23-24, CMM 2017-01)

*23. A flag CCM shall ensure that each of its purse seine vessels shall have deployed at sea, at any one time, no more than 350 drifting Fish Aggregating Devices (FADs) with activated instrumented buoys. An instrumented buoy is defined as a buoy with a clearly marked reference number allowing its identification and equipped with a satellite tracking system to monitor its position. The buoy shall be activated exclusively on board the vessel. A flag CCM shall ensure that its vessels operating in the waters of a coastal State comply with the laws of that coastal State relating to FAD management, including FAD tracking.*

*24. The Commission at its 2018 annual session, based on consideration in the FAD Management Options Intersessional Working Group, shall review whether the number of FADs deployed as set out in paragraph 23 is appropriate.*

FAD Management Options IWG is scheduled to be held on Wednesday, 3 October 2018 in Majuro, Republic of Marshall Islands. Mr Bradley Philips (FSM) will chair the meeting.

**MI-WP-10:** Estimates of the number of FADs active and FAD deployments per vessel in the WCPO.

**PAPERS FOR MANAGEMENT ISSUES THEME**

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| ***MI THEME – Working Papers*** |
| **MI-WP-01** | Minimum TRPs for YFT consistent with alternative LRP risk levels |
| **MI-WP-02** | Technical aspects of a potential South Pacific albacore harvest strategy |
| **MI-WP-03** | Selecting and conditioning operating models for WCPO skipjack |
| **MI-WP-04** | Performance indicators for comparing management procedures using the MSE modelling framework |
| **MI-WP-05** | Recent advances in the development of the harvest strategy approach for WCPO tuna stocks and fisheries: management consequences and key decisions |
| **MI-WP-06** | Draft Terms of Reference for a WCPFC Science-Management Dialogue meeting |
| **MI-WP-07** | Identifying appropriate reference points for elasmobranchs within the WCPFC |
| **MI-WP-08** | Evaluation of CMM2017-01 for bigeye tuna |
| **MI-WP-09** | Report on analyses of the 2016-2018 PNA FAD tracking programme |
| **MI-WP-10** | Estimates of the number of FADs active and FAD deployments per vessel in the WCPO |
| ***MI THEME – Information Papers*** |
| **MI-IP-01** | Work plan for the adoption of harvest strategies under CMM 2014-06 |
| **MI-IP-02** | Technical developments in the MSE modelling framework |
| **MI-IP-03** | Generating pseudo data in MULTIFAN-CL |
| **MI-IP-04** | Catch and Effort tables on tropical tuna CMMs |
| **MI-IP-05** | Muller et al., Updating indicators of effort creep in the WCPO purse seine fishery |

1. **ECOSYSTEM AND BYCATCH MITIGATION THEME**
	1. **Ecosystem effects of fishing**
		1. **SEAPODYM**

SC14 will consider updates to the SEAPODYM modelling framework (Project 62), review recent model runs and provide comments and/or recommendations on SEAPODYM, including the process and methodology of the modelling framework if needed.

**Working Papers**

|  |  |
| --- | --- |
| **EB-WP-01** | Projecting impact of climate change on tuna under RPCC8.5 (Project 62) |

* + 1. **Ecosystem indicators**

SC14 may consider any updated fishery and environmental impacts on ecosystem if available, though it is planned to be considered further at SC15.

* + 1. **FAD impacts**
			1. **Research on non-entangling FADs**

SC14 will review any non-entangling and biodegradable material on FADs, and provide specific recommendations to the Commission (Paragraph 19-22, CMM 2017-01), specifically focusing on Paragraph 21 of the CMM:

*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.*

**Information Papers**

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| **EB-IP-01** | Evaluation of FAD construction materials in the WCPO |
| **EB-IP-07** | FAO. 2018. Stakeholder Views on Methods to Identify Ownership and Track the Position of Drifting Fish Aggregating Devices Used by Tuna Purse Seine Fisheries with Reference to FAO's Draft Guidelines on the Marking of Fishing Gear. FAO Fisheries Circular 1163. FAO of the United Nations, Rome. |

* + - 1. **FAD Research Plan**

SC14 will review any updates on the FAD Research Plan, if available, and any updated priority researches, and provide recommendations to the Commission as needed.

* 1. **Sharks**
		1. **Development of a Comprehensive Shark and Ray CMM**

WCPFC14 established an IWG-Sharks to progress the development of a Draft Comprehensive Shark and Ray CMM based on terms of reference (Attachment Q, WCPFC14 Summary Report). SC14 will review the draft measure developed by the IWG-Sharks and provide recommendations to the Commission.

(WCPFC14 Summary Report)

*332. The Commission agreed to form an intersessional working group to develop a draft comprehensive shark CMM for discussion at WCPFC15 (IWG-Sharks). The IWG-Sharks will primarily work virtually and will be formed through the issuance of a Circular from the WCPFC Secretariat inviting all parties to nominate representatives to participate in the activities of the group. The IWG-Sharks will be chaired by Japan. Terms of reference for the IWG-Sharks are attached at* ***Attachment Q****.*

*333. WCPFC14 agreed that the first phase of work will begin with the IWG Chair codifying WCPFC’s existing shark measures, taking into account comprehensiveness, and distributing this draft to participants by the end of February 2018. The IWG Chair will request that comments on the codified draft, as well as contributions on new elements, from IWG-Sharks participants be received by the end of March 2018. The IWG Chair will then compile these comments on the codified draft and new elements into a revised draft, requesting technical advice as necessary, and circulate it to IWG-Sharks participants on a timeline to be determined by the IWG Chair, giving due consideration to the timelines for SC14 and TCC14.*

**Working Papers**

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| **EB-WP-05** | Anon. Development of a Comprehensive Shark and Ray CMM |

* + 1. **Review of conservation and management measures for sharks**

Subject to proposal(s) available under Agenda 6.2.1, SC14 will review relevant paragraphs of each shark CMM below, and provide comments or recommendations as required to the Commission.

* + - 1. **CMM 2010-07 (CMM for Sharks)**

SC14 will review any updated information and research outputs related with the CMM for Sharks, especially related with Paragraphs 8 and 13 with reference to data provision, fin to carcass ratios, and the need for a revised or new CMM.

* + - 1. **CMM 2011-04 (CMM for oceanic whitetip shark)**

According to Paragraph 5 of the CMM, SC14 will review a detailed proposal, if submitted, for any biological sampling from oceanic whitetip sharks that are dead within longline or purse seine fisheries in the WCPO.

* + - 1. **CMM 2012-04 (CMM for protection of whale sharks from purse seine fishing operations)**

SC14 may consider additional mitigation measures based on CCMs’ reports through Annual Report Part 1 on any instances in which whale sharks have been encircled by the purse seine nets of their flagged vessels.

* + - 1. **CMM 2013-08 (CMM for silky sharks)**

According to Paragraph 5 of the CMM, SC14 will review a detailed proposal, if submitted, for any biological sampling from silky sharks that are dead within longline or purse seine fisheries in the WCPO.

**Information Papers**

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| **EB-IP-04** | Kraft D. W. et al. Pacific stock structure of the Silky shark (*Carcharhinus falciformis*) resolved with next generation sequencing |

* + - 1. **CMM 2014-05 (CMM for sharks)**

Paragraph 2 of this CMM stipulates that CCMs targeting sharks in association with WCPFC longline fisheries must develop a management plan, including specific authorizations to fish and a TAC or other measure to limit the catch of shark to acceptable levels.

* + 1. **Safe release guidelines**

The Commission has adopted [*Guidelines for the Safe Release of Encircled Whale Sharks*](https://www.wcpfc.int/doc/sc-10/guidelines-safe-release-encircled-animals-including-whale-sharks)and *Best Handling Practices for the Safe Release of Manta and Mobulids*.

SC14 will develop guidelines for safe release of rays and sharks, taking into account existing standards or guidelines adopted on other fora. WCPFC14 agreed that priority should be given to the development of *Guidelines for Safe Release of Silky Shark and Oceanic Whitetip Sharks* (Paragraph 331, WCPFC14 Summary Report)*.*

**Information Papers**

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| **EB-IP-03** | Clarke S. Draft safe release guidelines for sharks and rays |

* + 1. **Progress of Shark Research Plan**

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

* + 1. Operational Planning for Shark Biological Data Improvement (SRP Project Sheet Number 5, Attachment I, SC13 Summary Report);
		2. Project 78 (Review of shark data and modelling framework to support stock assessments); and
		3. WCPFC shark post-release mortality tagging studies

**Working Papers**

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| --- | --- |
| **EB-WP-02** | Rice J. Review of shark data and modelling framework to support stock assessments (Project 78 final report) |
| **EB-WP-04** | Progress on the WCPFC stock assessments and shark research plan (summary table) |

**Information Papers**

|  |  |
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| **EB-IP-02** | An update on short fin mako and silky shark post-release mortality experiments |

* 1. **Seabirds**
		1. **Review of seabird researches**

SC14 will review the progress of Project 68 (*Estimation of seabird mortality across the WCPO Convention Area*) and provide comments/recommendations as needed.

SC14 may review a report on the Workshop on WCPFC Bycatch Mitigation Problem-solving, 28-30 May 2018 in Nouméa, New Caledonia (Commission Circular No.: 2018/19,see also 6.4 below).

**Working Papers**

|  |  |
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| **EB-WP-03** | A short note on the development of WCPFC seabird bycatch estimates for Project 68 |
| **EB-WP-15** | Wolfaardt et. al. The development of ACAP seabird bycatch indicators, data needs, methodological approaches and reporting requirements |
| **EB-WP-09** | Ochi D. et al. Preliminary assessment of the risk to albatrosses from longline fishing |
| **EB-WP-11** | Debski I. et al. Update on bycatch risks to seabirds in the Western Pacific |
| **EB-WP-12** | ABNJ Tuna Project: Workshop on WCPFC Bycatch Mitigation Problem-Solving |
| **EB-WP-14** | ACAP. The conservation status and priorities for albatrosses and large petrels distributed in the WCPFC area |

**Information Papers**

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| **EB-IP-05** | Abraham E et al. Update on the seabird component of the Common Oceans Tuna Project – Seabird Bycatch Assessment Workshop |

* + 1. **Review of CMM 2017-03**

SC14 will review the available research on hook shielding devices and advise WCPFC15 if they are effective options for seabird bycatch mitigation in WCPFC fisheries and whether to incorporate them in the seabird CMM as additional mitigation options (Paragraph 347, WCPFC14 Summary Report).

According to Paragraphs 5 and 6 of the CMM 2017-03, SC14 will review any information derived from CCM’s seabird mitigation research submitted to the Secretariat. Where necessary, an updated suite of mitigation measures, specifications for mitigation measures, or recommendations for areas of application will then be provided to the Commission for its consideration and review as appropriate.

**Working Papers**

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| --- | --- |
| **EB-WP-07** | Katsumata N. et al. Trials of extension of horizontal aerial extent of tori-line for the Japanese small longliners operating in the Northwest Pacific Ocean |
| **EB-WP-10** | Debski I, et al, Hook-shielding devices to mitigate seabird bycatch: review of effectiveness |
| **EB-WP-13** | ACAP. ACAP advice for reducing the impact of pelagic longline fishing operations on seabirds |

* 1. **Sea turtles**
		1. **Review of sea turtle researches**

SC14 may review a report on the Workshop on WCPFC Bycatch Mitigation Problem-solving, 28-30 May 2018 in Nouméa, New Caledonia (Commission Circular No.: 2018/19,see also 6.3 above).

* + 1. **Review of CMM 2008-03**

SC14 notes Paragraph 362 of the WCPFC14 Summary Report and will take an appropriate action:

*362. The Commission tasks SC14 and TCC14 to evaluate the expected effects of several potential sea turtle management scenarios, including, but not limited to, ones in which vessels in all longline fisheries in the Convention Area are required to: (1) use either large circle hooks or whole finfish for bait; (2) use large circle hooks and whole finfish for bait; or (3) use any other combination of mitigation methods identified by the SC as being potentially effective. The SC may consider a range of specifications for large circle hooks. SC’s evaluation should focus on expected effects on sea turtle interactions and mortalities and on target and bycatch species catch rates. TCC’s evaluation should focus on implementation and compliance implications, as well as SIDS implementation considerations. Based on the evaluations, SC14 and TCC14 will provide any appropriate advice or recommendations to WCPFC15 with respect to improving CMM 2008-03.*

SC14 will review scientific aspects of the CMM 2008-03 (Conservation and management of sea turtles), and any other information related to additional or new mitigation measures for sea turtles.

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**Information Papers**

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| **EB-IP-06** | Swimmer Y. and C. Barceló. Blue shark and swordfish catch rates in Hawaii’s shallow-set longline fishery: Comparisons before and after regulations to reduce sea turtle bycatch.  |
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* 1. **Bycatch management**

SC14 will review any update on Bycatch Management Information System (BMIS), if available, including any feedback on the new site at [www.wcpfc.int/bycatch-management](file:///E%3A%5C01%20Main%5C01%20WCPFC%5C02%20SC%5CSC%2014%20-%202018%20-%20Busan%5C1_Agenda%20development%20and%20issues%5Cwww.wcpfc.int%5Cbycatch-management) or [www.bmis-bycatch.org](http://www.bmis-bycatch.org) and any future developments for BMIS (including the incorporation of Bycatch Data Exchange Protocol (BDEP) within the BMIS).

**Information Papers**

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| **EB-IP-10** | Ongoing development of the Bycatch Management Information System (BMIS) and future work including integrating regional bycatch data summaries |

* 1. **Other issues**

SC14 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.

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**ECOSYSTEM AND BYCATCH MITIGATION THEME PAPERS**

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| ***EB THEME – Working Papers*** |
| **EB-WP-01** | Senina I. et al. Impact of climate change on tropical Pacific tuna and their fisheries in Pacific Islands waters and high seas areas. |
| **EB-WP-02** | Rice J. Report for Project 78: Analysis of Observer and Logbook Data Pertaining to Key Shark Species in the Western and Central Pacific Ocean. |
| **EB-WP-03** | Peatman T. and N. Smith. A short note on the development of WCPFC seabird bycatch estimates for Project 68. |
| **EB-WP-04** | WCPFC Secretariat, SPC-OFP, ABNJ and ISC. Progress on the WCPFC stock assessments and shark research plan (summary table). |
| **EB-WP-05** | 4th Draft Consolidated Text for the Conservation and Management Measures for Sharks (for review by SC14) |
| **EB-WP-06** | Bigelow, K. and Y. Swimmer. Comparison of catch rates for target and non-target species by circle hook size captured in the Hawaii and American Samoa tuna longline fisheries DRAFT |
| **EB-WP-07** | **Document moved to EB-IP-13** |
| **EB-WP-08** | Okamoto K. et al. Review of studies on catch rates of commercial and bycatch species by hook type using in pelagic tuna longline fisheries |
| **EB-WP-09** | Ochi D. et al. Preliminary assessment of the risk to albatrosses from longline fishing |
| **EB-WP-10** | Debski I, K. Clements and F. Hjorvarsdottir. Hook-shielding devices to mitigate seabird bycatch: review of effectiveness. Rev 1. |
| **EB-WP-11** | Debski I. et al. Update on bycatch risks to seabirds in the Western Pacific. Rev 1 |
| **EB-WP-12** | ABNJ Tuna Project: Workshop on WCPFC Bycatch Mitigation Problem-Solving |
| **EB-WP-13** | ACAP. ACAP advice for reducing the impact of pelagic longline fishing operations on seabirds |
| **EB-WP-14** | ACAP. The conservation status and priorities for albatrosses and large petrels distributed in the WCPFC area |
| **EB-WP-15** | Wolfaardt et. al. The development of ACAP seabird bycatch indicators, data needs, methodological approaches and reporting requirements |
| **EB-WP-16** | Draft FAD MO IWG3 Guidelines for Biodegradable and Non-Entangling FADs V2 |
| ***EB THEME – Information Papers*** |
| **EB-IP-01** | Escalle L, S. Brouwer and G. Pilling. evaluation of FAD construction materials in the WCPO |
| **EB-IP-02** | Lyon W. et al. An update on Western and Central Pacific Fisheries Commission shortfin mako and silky shark post-release mortality tagging studies |
| **EB-IP-03** | Common Oceans (ABNJ). Safe release guidelines for sharks and rays |
| **EB-IP-04** | Kraft D.W. M. Hutchinson and B. Bowen. Pacific stock structure of the Silky shark (*Carcharhinus falciformis*) resolved with next generation sequencing |
| **EB-IP-05** | Abraham E. et al. Update on the seabird component of the Common Oceans Tuna Project – Seabird Bycatch Assessment Workshop |
| **EB-IP-06** | Swimmer Y. and C. Barceló. Blue shark and swordfish catch rates in Hawaii’s shallow-set longline fishery: Comparisons before and after regulations to reduce sea turtle bycatch. |
| **EB-IP-07** | Gilman E et al. FAO. 2018. Stakeholder Views on Methods to Identify Ownership and Track the Position of Drifting Fish Aggregating Devices Used by Tuna Purse Seine Fisheries with Reference to FAO's Draft Guidelines on the Marking of Fishing Gear. FAO Fisheries Circular 1163. Food and Agriculture Organization of the United Nations, Rome. |
| **EB-IP-08** | Gilman, E., M. Chaloupka and M. Musyl. Effects of pelagic longline hook size on species- and size-selectivity and survival. Reviews in Fish Biology and Fisheries 28: 417-433. |
| **EB-IP-09** | Gilman, E., P. Suuronen and M. Chaloupka. Discards by global tuna fisheries. Marine Ecology Progress Series  582: 231-252. |
| **EB-IP-10** | Fitzsimmons L. et al. Bycatch Management Information System (BMIS): redevelopment update. |
| **EB-IP-11** | Park T, S. Fukofuka, L. Bell, S. Clarke and N. Smith. An update on development of new identification materials and enhanced training to observers to support better identification of sharks and rays in observer data. |
| **EB-IP-12** | Japan: 2017 Implementation report of the Management Plan for Longline Fisheries Targeting Sharks |
| **EB-IP-13** | Katsumata N. et al. Trials of extension of horizontal aerial extent of tori-line for the Japanese small longliners operating in the Northwest Pacific Ocean |

**EB Theme session schedule of papers and presentations**

**EB theme session 1 – Thursday, 9 August - 1330 – 1500**

**6.2 SHARKS**

**PRESENTATIONS**

|  |  |
| --- | --- |
| **EB-WP-05** | Anon. Development of a Comprehensive Shark and Ray CMM |
| **EB-WP-04** | Progress on the WCPFC stock assessments and shark research plan (summary table) |
| **EB-WP-02** | Rice J. Review of shark data and modelling framework to support stock assessments (Project 78 final report) |
| **EB-IP-03** | Clarke S. Draft safe release guidelines for sharks and rays |

**INFORMATION PAPERS**

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| --- | --- |
| **EB-IP-02** | An update on short fin mako and silky shark post-release mortality experiments |
| **EB-IP-04** | Kraft D. W. et al. Pacific stock structure of the Silky shark (Carcharhinus falciformis) resolved with next generation sequencing |
| **EB-IP-11** | T. Park, S. Fukofuka, L. Bell, and N. Smith. An update on development of observer training materials and training to support the designation of manta and mobulids as WCPFC key species |
| **EB-IP-12** | Japan:2017 Implementation report of the Management Plan for Longline Fisheries Targeting Sharks |

**EB theme session 2 – Thursday, 9 August - 1530 – 1730**

**6.3 SEABIRDS – mitigation methods**

**PRESENTATIONS**

|  |  |
| --- | --- |
| **EB-WP-12** | ABNJ Tuna Project: Workshop on WCPFC Bycatch Mitigation Problem-Solving |
| **EB-WP-10** | Debski I, et al, Hook-shielding devices to mitigate seabird bycatch: review of effectiveness |
| **EB-WP-13** | ACAP advice for reducing the impact of pelagic longline fishing operations on seabirds |
| **EB-WP-03** | A short note on the development of WCPFC seabird bycatch estimates for Project 68 – can be held over to Session 3 |

**INFORMATION PAPERS**

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| --- | --- |
| **EB-IP-13** | Katsumata N. et al. Trials of extension of horizontal aerial extent of tori-line for the Japanese small longliners operating in the Northwest Pacific Ocean |

**EB theme session 3 – Monday, 13 August - 1530 – 1730**

**6.3 SEABIRDS – risk assessment**

**PERSENTATIONS**

|  |  |
| --- | --- |
| **EB-WP-09** | Ochi D. et al. Preliminary assessment of the risk to albatrosses from longline fishing |
| **EB-WP-11** | Debski I. et al. Update on bycatch risks to seabirds in the Western Pacific |
| **EB-WP-15** | Wolfaardt et. al. The development of ACAP seabird bycatch indicators, data needs, methodological approaches and reporting requirements |
| **EB-WP-14** | ACAP The conservation status and priorities for albatrosses and large petrels distributed in the WCPFC area |

**INFORMATION PAPERS**

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| **EB-IP-05** | Abraham E et al. Update on the seabird component of the Common Oceans Tuna Project – Seabird Bycatch Assessment Workshop |

**EB theme session 4 – TUESDAY, 14 August - 1530 – 1730**

**6.4 SEA TURTLES, 6.1 SEAPODYM AND FADS, 6.6 OTHER ISSUES**

**PRESENTATIONS**

|  |  |
| --- | --- |
| **EB-WP-01** | Projecting impact of climate change on tuna under RPCC8.5 (Project 62) |
| **EB-WP-06** | Bigelow, K. and Y. Swimmer. Comparison of catch rates for target and non-target species by circle hook size captured in the Hawaii and American Samoa tuna longline fisheries |
| **EB-WP-08** | Okamoto K. et al. Review of studies on catch rates of commercial and bycatch species by hook type using in pelagic tuna longline fisheries |
| **EB-WP-16** | Draft FAD MO IWG3 Guidelines for Biodegradable and Non-Entangling FADs V2 |

**INFORMATION PAPERS**

|  |  |
| --- | --- |
| **EB-IP-01** | Evaluation of FAD construction materials in the WCPO |
| **EB-IP-07** | FAO. 2018. Stakeholder Views on Methods to Identify Ownership and Track the Position of Drifting Fish Aggregating Devices Used by Tuna Purse Seine Fisheries with Reference to FAO's Draft Guidelines on the Marking of Fishing Gear. FAO Fisheries Circular 1163. Food and Agriculture Organization of the United Nations, Rome. |
| **EB-IP-06** | Swimmer Y. and C. Barceló. Blue shark and swordfish catch rates in Hawaii’s shallow-set longline fishery: Comparisons before and after regulations to reduce sea turtle bycatch.  |
| **EB-IP-08** | Gilman, E., Chaloupka, M., Musyl, M. 2018. Effects of pelagic longline hook size on species- and size-selectivity and survival. Reviews in Fish Biology and Fisheries 28: 417-433. |
| **EB-IP-09** | Gilman, E., Suuronen, P., Chaloupka, M. 2017. Discards by global tuna fisheries. Marine Ecology Progress Series  582: 231-252. |
| **EB-IP-10** | Ongoing development of the Bycatch Management Information System (BMIS) and future work including integrating regional bycatch data summaries |
|  |  |

1. Pacific bluefin tuna [↑](#footnote-ref-1)
2. North Pacific albacore [↑](#footnote-ref-2)
3. North Pacific swordfish [↑](#footnote-ref-3)