SCIENTIFIC COMMITTEE
EIGHTEENTH REGULAR SESSION

Pohnpei, Federated States of Micronesia
10-18 August 2022

ISSUES ARISING FROM THE COMMISSION (SC17 and WCPFC18)

WCPFC-SC18-2022/GN-IP-05

WCPFC Secretariat and SPC-OFP

ISSUES ARISING FROM SC17 (Report paragraphs indicated below)		
Issues	**References**	**Outputs/Comments**
Data gaps	34. SC17 recommended the Scientific Services Provider (SSP) enhance the scientific data submission guidelines by preparing operational data field tables for longline, purse seine and pole and line operational data for SC18 review. 35. SC17 recommended publishing aggregated size data (data fields as listed in SC17-ST-WP-01, section 4.1) via the WCPFC Public Domain webpage, after CCMs have advised the SSP on which of their size data submissions should be excluded. In this regard, CCMs are requested to advise the SSP of the size data to be excluded before 31 December 2021, after which time the SSP will proceed to publish the WCPFC Public Domain size data based on this advice. 36. SC17 recommended that the SSP add a new annex to the data gaps paper to include a breakdown of the coverage levels for each operational data field by year and fleet.	34. SC18-ST-WP-01 35. Published on the website at: https://www.wcpfc.int/public-size-data 36. SC18-ST-WP-01
Potential use of cannery data	38. SC17 recommended the endorsement of the Draft Guidelines for the Voluntary Submission of Purse Seine Processor Data by CCMs to the Commission, and that the draft guidelines be forwarded to TCC17 and WCPFC18 for consideration. SC17 also recommended that TCC17 and WCPFC18 consider how to handle cannery data under the current WCPFC data rules, including updating the WCPFC data rules to include processor data as non-Public Domain (high risk classification) data.	38. Adopted and posted the *Guidelines* (Data-07) and updated the data *Rules and Procedures* (Data-02) at https://www.wcpfc.int/guidelines-procedures-and-regulations

Other commercial fisheries for bigeye, yellowfin and skipjack tuna	45. SC17 reviewed information provided by Indonesia and the Philippines to inform a Commission discussion on the application of paragraph 51 of CMM 2020-01. a) SC17 noted that paragraph 3 of CMM 2020-01 limits the measure to the high seas and EEZs, and based on the information presented recommended that paragraph 51 would not apply to the following fisheries which are restricted to territorial seas and archipelagic waters: i) Small-scale hook-and-line fisheries ii) Small-scale troll fisheries iii) Small-scale gillnet fisheries iv) Small-scale pole and line (funai – Indonesia) v) Pajeko (Indonesia mini-purse seine) vi) Bagnet, beach seine, artisanal longline and other artisanal gears with very minor tuna catch b) SC17 recommended that paragraph 51 of CMM 2020-01 applies to the following fisheries: i) Indonesia pole and line fishery fishing outside archipelagic waters and territorial seas for vessels >30 GT, and ii) The "large-fish" handline fishery in Indonesia and the Philippines fishing outside archipelagic waters and territorial seas for vessels >30 GT. c) SC17 recognized that sufficient data exist to determine a baseline and annual catches for the Indonesia pole-and-line fishery and the Philippines large-fish handline fishery d) SC17 recognized that insufficient data exist to derive a baseline for the Indonesia large-fish handline, and suggests that WCPFC consider developing a baseline using years where data are available. e) Although CMM 2020-01 is not applicable to archipelagic waters, SC17 encouraged Indonesia and the Philippines to provide data from fisheries that operate in those areas for scientific purposes.	45. WCPFC18 Report, para 144. *Noting potential issues with data availability, the Commission agreed that, at its regular session in 2022, it would agree a baseline period or limit for the Indonesia Large Fish Handline Fishery, based on the Indonesia proposal and advice from SC18 and TCC18.* SC18-ST-WP-02
Consideration of bycatch issues (SC17-ST-IP-06 and SC17-ST-IP-10)	57. SC17 recommended that Tables 6-9 on estimates of all purse seine bycatch (as presented in SC17-ST-IP-06) should be made publicly available in electronic format (EXCEL file on the WCPFC Public Domain Bycatch Data webpage) to facilitate extraction and use of data. 58. SC17 recommended that future analyses providing estimates of purse seine bycatch include estimates of marine mammal bycatch to the species level, where possible, to allow for additional monitoring of bycatch and bycatch rates of marine mammal species.	57. Bycatch estimates are available at https://www.wcpfc.int/bycatch-estimates 58. Estimates of marine mammal/cetacean interactions will be produced if requested as per SC17-ST-IP-10, noting that recent COVID-related impacts on observer coverage limit changes from the SC17 paper.
South Pacific albacore tuna (*Thunnus alalunga*)	128. SC17 recommended a recalibration of the interim TRP for review at WCPFC18 in accordance with the process agreed at WCPFC15 (WCPFC15 Summary Report, para 207). Further, SC17 recommended projections be undertaken to estimate the constant catch levels that would	128. WCPFC18-2021-17, SC18-MI-WP-04

	achieve that TRP on average over the long-term. SC17 recommended that these analyses be provided to WCPFC18 to guide its consideration of reductions in longline fishing mortality that will be required to return the vulnerable biomass to the 2013 +8% level as agreed. 134. As with the previous South Pacific albacore assessment, the fishery dependent CPUE-based indices of abundance lacked contrast to inform population responses to increased fishing pressure. This continues to be a significant concern for the reliability of estimates of population size. The CPUE analysis has been a major focus of preparatory work for this and previous assessments, and despite the attempts of various scientists, application of new approaches including attempts at splitting time series and testing various covariates, the CPUE continues to lack contrast. It is recommended that alternative fishery independent estimates of population size be explored, especially the genetic method of Close-Kin Mark-Recapture (CKMR).	134. An on-going EU-funded Project 100c (*Preparing western and central Pacific tuna fisheries for application of close-kin-mark-recapture (CKMR) methods to resolve key stock assessment uncertainties*) with a duration of 3 years, 2022-2024. This work is awaiting arrival of the EU funding.
Southwest Pacific blue shark (*Prionace glauca*)	170. SC17 recommended improving the manner in which the grid was selected before approving the results for providing management advice and proposed developing objective criteria for evaluating the plausibility of the grid. It was suggested that an attempt be made to use diagnostic tests as criteria for determining the final grid of results to inform management advice and uncertainty in the assessment. The performance of each model would be assessed against the following four criteria. 1) Model convergence and stability: the analysis should assess the final gradient (the final gradient should be relatively small; <1e4), and check that the Hessian matrix is definite. Apply the jitter procedure to verify the stability of the model to evaluate whether the model has converged to a global solution rather than a local minimum. 2) Goodness-of-fit: evaluate whether residuals patterns of the CPUE and length-frequency distributions were normally distributed or/and had temporal trends. 3) Model consistency: retrospective analysis to check the consistency of model estimates, for example, the invariance in SB and F as the model is updated with new data in retrospect. 4) Prediction skill: hindcasting analysis could be done to evaluate the model prediction skill of the CPUE. When conducting hindcasting, a model is fitted to the first part of a time series and then projected over the period omitted in the original fit. Prediction skill can then be evaluated by comparing the predictions from the projection with the observations. 171. SC17 recommended that: 1) increased effort be made to re-construct catch histories for sharks (and other bycatch species) from a range of sources;	170-171. SC18-SA-WP-03

	2) dynamic/non-equilibrium reference points, such as SBF=0 be investigated for shark stock status, as they may be more appropriate for fisheries with uncertain early exploitation history and strong environmental influences; 3) additional tagging be carried out using satellite tags in a range of locations, especially known nursery grounds in South-East Australia and New Zealand, as well as high seas areas to the north and east of New Zealand, where catch-rates are high; 4) additional growth studies from a range of locations be undertaken to help build a better understanding of typical growth, as well as regional growth differences; 5) genetic/genomic studies be undertaken to augment the tagging work to help resolve these stock/sub-stock structure patterns; 6) aggregated data for key sharks are submitted as by ocean area not simply as WCPO and, where possible, these data should be retrospectively corrected; and 7) observers (or the vessel) should record number of shark lines deployed per set or the number of floats with shark lines.	
SWP swordfish (*Xiphias gladius*)	227. SC17 recommended that a number of additional projection runs be explored alongside the WCPFC16 requested projections to be presented for consideration at WCPFC18: 1) No change to recent catch and effort levels. 2) 10% and 20%reduction in total swordfish catch.	227. WCPFC18-2021-20
Bigeye and yellowfin tuna TRP analyses	264. SC17 recommended forwarding this working paper to the Commission for its deliberations on target reference points for bigeye and yellowfin tuna and that the results be taken into account at the next Tropical Tuna Workshop. 265. SC17 noted that South Pacific albacore had not been included in the TRP evaluations and asked the Scientific Services Provider (SSP) to update this report to include South Pacific albacore in future evaluations.	264. WCPFC18-2021-11 265. WCPFC18-2021-15 and SC18-MI-IP-04
Skipjack tuna TRP analyses	278. SC17 recommended forwarding this working paper (SC17-MI-WP-02), and any updates, to the Commission and that the results be taken into account at the next Tropical Tuna Measure Workshop (TTMW2).	228. WCPFC18-2021-10 and SC18-MI-IP-09
Review of the overall harvest strategy work	294. SC17 endorsed the work outlined in SC17-MI-WP-03 and to progress the Harvest Strategy Workplan recommends that the Commission take note of this work and provide advice on the following issues: • Definition of fisheries and fishery controls within the harvest strategy. • Procedures for identifying, selecting, and implementing the 'best' management procedure.	294. Covered at SMD01 meeting. See also SC18-MI-IP-03

Skipjack MSE framework	310. To progress the development of harvest strategies for skipjack, SC17 recommends that the Commission take note of the analyses outlined in SC17-MI-WP-04 and requests the Commission to provide advice on the following issues: • Multispecies impacts on other tropical tuna related harvest strategies; • Definition of fisheries and fishery controls within the harvest strategy; • Input into candidate MP designs; • Feedback on presentational approaches to enhance decision making; • Procedures for selecting the 'best performing' MP.	310. Covered at SMD01 meeting. See also SC18-MI-WP-02, SC18-MI-WP-06 and SC18-MI-WP-07
Mixed fisheries	321. SC17 recommends that the Commission take note of the progress on the development of a mixed fishery MSE framework and provide advice on the issues listed in the previous paragraph.	321. Covered at SMD01 meeting. See also SC18-MI-WP-06, SC18-MI-WP-07 and SC18-MI-IP-05
LRPs for elasmobranchs	349. SC17 recommended that the Commission take note of the work and recommendations outlined in SC17-MI-WP-07 together with the conclusions reached by SC17 and the need for further work as noted above.	349. Covered in SC18 Agenda Item 4.2.1
Review of potential mitigation measures to reduce fishing-related mortality on silky and oceanic whitetip sharks	378. SC17 recommends that the Project 101 be continued with the following modifications: • Relevant CCMs should consider authorizing the release of their non-ROP longline data (facilitated through SPC) for this study, specifically to provide more complete gear configurations by flag, or collaborating to conduct such an analysis for their flagged vessels, and allow analyses similar to Caneco et al. (2014) to estimate factors affecting shark catchability and condition on longline retrieval to be conducted using a more complete dataset; • Conduct the Monte Carlo analyses with inputs on catchability, condition on longline retrieval and gear configurations by flag; • Conduct updated projections with inputs on the impact of banning shark lines and wire leaders or both and estimates of the probability of post release mortalities of silky and oceanic whitetip sharks (as based on Hutchinson et al. 2021 or other new information); Additionally, results of the analyses should be shared to CCMs that made contributions to those analyses for their review and comments in advance of SC18.	378. SC18-EB-WP-02
Best handling practices for the release of cetaceans	388. SC17 recommends the Draft Best Handling Practices for the Safe Handling and Release of Cetaceans be forwarded to TCC17 and WCPFC18 for consideration.	388. WCPFC18 Report Para.292: *The Commission adopted the Best Practice Guidelines for the Safe Handling and Release of Cetaceans (Attachment N)*

	389. SC17 further recommends that the Commission develop graphics to be included with the Best Handling Practices for the Safe Handling and Release of Cetaceans for consideration at WCPFC19.	389. SC18-EB-IP-12
Seabird mitigation measures	393. SC17 recommends that Commission CCMs with small-scale longline vessels (< 24m) operating north of 23° North provide the SC with information, such as the results of scientific research or EM-based commercial vessel survey, as well as the specific mitigation measures used by those vessels and the associated seabird interaction rates for each mitigation measure, if available, including streamer-less tori lines, and that SC18 review such information, to make findings and recommendations with respect to the effectiveness of the streamer-less tori line designs to inform the Commission's review under CMM 2015-03 (and its successor measures).	393. SC18-EB-WP-04
SPC – 2022 scientific services	410. SC17 agreed that the Commission's 2022 scientific services from SPC would comprise (i) the skipjack stock assessment; (ii) the YFT peer review and additional analyses; and (iii) continuing work to develop the new ensemble approach. Other additional priority work areas beyond the current agreed 2021 scientific services were identified for the remainder of 2021, including the requested stock projections for Southwest Pacific swordfish, and requested analyses related to the South Pacific albacore TRP and implications of the work presented in SC17-MI-WP-01 (Updated WCPO bigeye and yellowfin TRP evaluations) for that stock.	410. (i) SC18-SA-WP-01, (ii) SC18-SA-IP-08, SC18-SA-IP-09 (iii) SC18-SA-WP-03 • Swordfish projections: WCPFC18-2021-20, SC18-MI-IP-07 • SP albacore TRP: WCPFC18-2021-17, SC18-MI-WP-04 • Updated bigeye and yellowfin TRP evaluations: WCPFC18-2021-11, SC18-MI-IP-04

ISSUES/INFORMATION ARISING FROM WCPFC18
(Report paragraphs indicated below)

Issues	References	Outputs/Comments
TRP for skipjack	101. The Commission noted the importance of agreeing on TRP for skipjack and agreed to progress this work in 2022.	101. Covered in SC18 agenda item 4.1.1.1 (Skipjack tuna TRP analyses)
TRP for bigeye and yellowfin	108. The Commission noted the importance of agreeing on TRP for bigeye and yellowfin and agreed to progress this work in 2022.	108. Covered in SC18 agenda item 4.1.3.1 (Bigeye and yellowfin tuna TRP analyses)
MPs for skipjack	111. The Commission agreed to defer consideration of management procedures for skipjack until 2022.	111. Covered in SC18 agenda item 4.1.1.3 (Skipjack management procedure and evaluations)
New CMM for tropical tunas	144. Noting potential issues with data availability, the Commission agreed that, at its regular session in 2022, it would agree a baseline period or limit for the Indonesia Large Fish Handline Fishery, based on the Indonesia proposal and advice from SC18 and TCC18.	144. Covered in SC18 agenda item 2.2 (Other commercial fisheries for bigeye, yellowfin and skipjack tuna)
NP striped marlin	243. The Commission agreed that the rebuilding target for North Pacific striped marlin shall be based on the dynamic SSB_0 and requests the ISC to derive the appropriate time frame for calculating the dynamic SSB_0 by conducting a change point analysis on the recruitment time series to identify the appropriate time window, scaling the time frame based on the	243. Partially covers in SC18 agenda item 3.3.1 (North Pacific striped marlin (*Kajikia audax*)) SC18-SA-WP-07

	relative difference in mean generation times between tunas and striped marlin, or another appropriate methodology.	
Science-Management Dialogue	271. The Commission agreed to have the first Science-Management Dialogue, on a trial basis, back-to-back with SC18 in 2022. 272. The Commission supported the following proposed areas of focus for the first Science Management Dialogue, while noting that the agenda would also take into account views of CCMs: (i) General capacity building to support confident and full participation of all CCMs in decision making on harvest strategies. (ii) The current state of skipjack and South Pacific albacore management strategy evaluation frameworks and candidate management procedures. (iii) Update and capacity building on the mixed fishery (multispecies) approach. (iv) Two items from SC17 MI-WP-03 which are: • the definition of fisheries and fishery controls within the harvest strategy; • procedures for identifying, selecting and implementing the 'best performing' management procedure. (v) Determining how Commission decision-making can best be supported by the SC and the Scientific Services Provider. Developing a 'pathway' for supporting decision making on management procedures that fulfils the information and training needs for making informed decisions that balance different management objectives. (vi) Planning issues, including: Schedule and focus for future dialogue meetings; updates to the Harvest Strategy Workplan; and alignment of parallel processes (e.g. allocation) required to support implementation of harvest strategies.	271. SMD01 meeting dates: 19, 21 August 2022 (https://meetings.wcpfc.int/meetings/smd01) 272. Reflected in the SMD01 agenda