



**SCIENTIFIC COMMITTEE
TWENTY-FIRST REGULAR SESSION**

Nuku'alofa, Tonga
13 – 21 August 2025

**ISSUES ARISING FROM THE COMMISSION
(from SC20 and WCPFC21)**

WCPFC-SC21-2025/GN-IP-01

WCPFC Secretariat and SPC-OFP

ISSUES ARISING FROM SC20 AND WCPFC21

("A." = Agenda)

Topic	SC20 Summary Report	WCPFC21 Summary Report	SC21
DATA AND STATISTICS THEME			
Operational data	<p>37. SC20 requested that SSP develop a subset of the key species, expected to be encountered by each gear type, to improve the evaluation of operational data reporting of key species, as reported in SC20-ST-IP-02 (e.g., Table 14). Currently, the coverage estimation assumes all key species in the "Scientific Data to be Provided by the Commission (SciData)" are encountered by all gear types and evaluates reporting coverage based on that assumption.</p> <p>38. SC20 requested that SSP develop a proposal to improve data submission workflows through the development of data submission standards and templates for consideration by SC21.</p>		A.3.1.3 SC21-ST-WP-03
Additional data field	74. SC20 again acknowledged the proposal for the addition of a new activity code for any day when a "transshipment at sea occurs" within the operational data submitted to the Commission (as described in SC20 ST-WP-08). SC20 recommended that this proposal be considered by TCC and the Commission.	Not supported	
CMM 2018-04	<p>Revisions to CMM 2018-04 (Sea turtle)</p> <p>75. SC20 noted the Commission tasking (WCPFC20 report, para. 753.e) to review the SciData requirements to capture turtle interactions requirements under CMM 2018-04, paragraphs 5.c. and 7.e. SC20 noted that some CCMs have different interpretations of the requirements to those paragraphs, specifically as to whether the paragraphs require reporting through submission of operational level data or in a summary form, and SC20 suggested TCC and the Commission consider clarifying the requirements of these paragraphs to resolve any ambiguity.</p> <p>76. Meanwhile, SC20 requested SSP to prepare a paper for SC21 on possible sea turtle data reporting requirements for vessels to record during fishing operations, for longline and purse seine vessels, to be incorporated in the annual reporting of Scientific Data to be provided</p>		A.3.1.6.1 SC21-ST-WP-05 SC21-ST-WP-06

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	to the Commission (SciData).		
FAD data fields	<p>77. SC20 requested that SSP identify what FAD information fields are anticipated to be used by SSP to support stock assessments and other scientific analyses. SSP indicated that the FAD data fields also relate to WCPFC work involving management and monitoring.</p> <p>78. SC20 recommended that SSP and the WCPFC Secretariat develop a paper for TCC20's and the FADMO-IWG's consideration, responding to the request to identify the needs for the FAD data fields for the work of the WCPFC (science, management and monitoring).</p>		A.3.1.6.2 SC21-ST-WP-07
Evaluation of PS fishing effort	88. SC20 requested that SSP conduct further work to better understand relationships between fishing behaviours and strategies, reporting requirements, and estimations of purse seine fishing effort.		A.3.2 Paper deferred to SC22
ER and EM		<p>477. The Commission tasked the ER and EM Working Group in 2025 to:</p> <ul style="list-style-type: none"> a) work closely with the ROP IWG to further review EM data requirements based on relevant CMM requirements not already covered in the ROP minimum data fields; b) develop advice on potential changes to the interim EM standards to improve harmonization across RFMOs; c) develop an assurance/audit process for EM standards based on the existing ROP audit model; d) initiate work on EM standards for carrier vessels conducting transshipment with longline vessels. e) develop advice on an amendment to the CMM 2022-05 Standards, specifications and procedures for the 	A.3.4 SC21-ST-WP-11 SC21-ST-WP-12

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		WCPFC RFV, noting this would be required to support implementation. 478. The Commission tasked SC22 and TCC22 in 2026 to recommend to WCPFC23 in 2026 any necessary changes to the interim EM Standards based on the work of the ER and EM IWG and any other relevant information.	
Cetacean interactions		669. The Commission tasked the SSP to provide information to SC21 to support development of advice to the Commission at WCPFC22 on appropriate requirements for effective reporting on cetacean interactions with tuna and associated species fisheries in the Convention area.	A.3.1.6.3 SC21-ST-WP-08
Joining FIRMS		793. The Commission tasked SC21 to assess the value of WCPFC joining the Fisheries and Resources Monitoring Systems (FIRMS) Partnership and report back to WCPFC22 in 2025.	A.3.5 SC21-ST-WP-13
STOCK ASSESSMENT THEME			
SWP MLS	<p>Stock assessment of Southwest Pacific striped marlin</p> <p>249. Noting the above, SC20 recommended that further work, including resolving the conflict between the size composition data and the CPUE indices, should be undertaken as part of a revision to the assessment for consideration at SC21.</p> <p>253. SC20 recommended that a revised assessment be presented at SC21 which includes presentation of the projection scenarios.</p> <p>254. SC20 recommended the WCPFC21 request a tractable set of projections, including, but not limited to the four scenarios proposed below:</p>	<p>207. The Commission requested that the SSP prepare for SC21 a tractable set of projections from the next South Pacific MLS stock assessment that represent the following scenarios:</p> <ul style="list-style-type: none"> a) Status quo scenario: Projection based on recent catch levels; b) Recovery scenario 1: Projection using catch levels that result to a median depletion of 20% by 2034; c) Recovery scenario 2: Projection using catch levels that result to a median 	<p>A.4.5.2 SC21-SA-WP-06 SC21-SA-WP-07 SC21-SA-IP-15</p> <p>Projection analyses deferred until SC21 has adopted an assessment.</p>

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	<ul style="list-style-type: none"> • Status quo scenario: Projection based on recent catch levels; • Recovery scenario 1: Catch levels that result to a median depletion of 20% within 10 years; • Recovery scenario 2 Catch levels that result to a median depletion of 30% within 10 years; and • Non-retention/live release scenario: Catch levels that reflect the likely outcomes under a management measure requiring the release of live animals or non-retention of all animals. 	<p>depletion of 30% by 2034;</p> <p>d) Recovery scenario 3: Projection using catch levels that result in a median depletion equal to SBMSY by 2034; and</p> <p>e) Non-retention/live release scenario: Projection using catch levels that reflect the likely outcomes under a management measure requiring release of live animals or on-retention of all animals</p>	
Collaboration with IATTC		466. The Commission tasked the Secretariat with engaging with the IATTC in discussions on supporting the SSP in accessing or collecting genetic samples of SP-ALB in the southern IATTC area.	<i>Initiated – both SPC and IATTC are processing their MOU for collaboration.</i>
Stock assessment software	<p>145. SC20 recommended that work on the project continue with the revised 2025 work plan listed in the updated project 123 TOR and requested that progress towards the aforementioned prioritized tasks be reported to SC21.</p> <p>146. For candidate transition approaches, SC20 recommended that information on the potential implication on the SC budget be included in the project report to SC21.</p>		A.4.1.2 SC21-SA-WP-01
Template for reporting stock assessment outcomes	<p>350. SC20 thanked the consultants for their work on Project 113b and agreed on the need for a standardized approach to reporting stock status and management advice from stock assessments for the work of the Commission and recommended it as a guideline.</p> <p>351. SC20 noted that the inconsistency in the current reporting of stock status and management advice, particularly regarding the communication of uncertainty, should be a significant concern for the Scientific Committee and its work.</p>	206. The Commission reviewed the template relating to Project 113b: “Develop Stock Status and Management Advice Template for Consistent Reporting of Stock Assessment Outcomes, Uncertainties and Risk” in Attachment 2 of the SC20 Summary Report, and advised that the status relative to MSY-based reference points be included within the standardized template if MSY-	A.4.2

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	<p>352. SC20 generally supported the recommendations for reporting stock status and management advice described in the SC20-SA-WP-10 as outlined below.</p> <ul style="list-style-type: none"> • Rename sections of the Stock Status and Management Advice report to better reflect the content, ensuring consistency in section structures. This includes clearly defining elements such as assessment methodology, uncertainties, catch estimates, and management quantities. • Use consistent language to describe uncertainties, including a summary of the main sources of uncertainty in the assessment and the associated degree of confidence • Use IPCC likelihood categories with corresponding probability statements. • Tabulate main sources of uncertainty in the assessment, including rationale, impact, and confidence level in a consistent manner across all stocks. • Provide a consistent and user-friendly interface for accessing stock assessment reports such as a web-based reporting app. <p>353. The report from the Informal Small Group (ISG-06) (Project 113b: <i>Develop Stock Status and Management Advice Template for Consistent Reporting of Stock Assessment Outcomes, Uncertainties and Risk</i>) is included in Attachment F. Based on the results of ISG-06, SC20 agreed that the proposed template be used as a guideline for providing such information to the SC21, noting that the decision to accept or request revisions to the report rests with the SC. A worked example using WCPO silky shark was provided to and approved by SC20. SC20 recommended the Commission review the template and advise, if necessary.</p>	<p>based reference points are able to be calculated given the modelling approach, and are considered to be useful (e.g., some data-limited assessment or risk-analysis type approaches), that the reference for overfished be corrected to LRP ($20\%SB_{F=0}$) instead of target, and that the reference for overfishing be revised to F_{MSY}. The Commission endorsed the template as a guideline for providing stock status and management advice.</p>	
SKJ stock assessment	<p>204. SC20 supported the need for more sampling to improve the understanding of the early life history of skipjack tuna in the Western Pacific Warm Pool. Such data will help not only to better understand recruitment patterns, but also to examine the effects of climate change by linking recruitment to warm pool spatio-temporal</p>		<p>A.4.3.1 SC21-SA-WP-02 SC21-SA-WP-03 SC21-SA-IP-03 SC21-SA-IP-04</p>

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	<p>dynamics and productivity changes.</p> <p>205. SC20 recommended that due to the limited information on skipjack recruitment, outside of the assessment model estimates, the increasing trend in recruitment should be considered as an uncertainty in future skipjack assessments. One way to moderate recruitment trends in the stock assessment could be through adjustments to trends in CPUE abundance indices that could be related to effort creep.</p> <p>206. SC20 encouraged further work prior to the next Pre-Assessment Workshop (PAW) scheduled in 2025 to consider the uncertainty axis for the Japanese pole-and-line effort creep for the 2025 assessment. This should be further explored by conducting a MULTIFAN-CL modelling experiment using the 2022 diagnostic case that applies an incremental catchability adjustment to the long-term CPUE time series for the Japanese pole-and-line fishery and the free school purse seine; and compare the results of the modelling experiment with the plausible levels of effort creep suggested in the current study and SC20-SA-IP-19, and provide options for effort creep scenarios not only in the Japanese pole-and-line fisheries but also in the free school purse seine for consideration in the 2025 skipjack tuna assessment.</p>		<p>SC21-SA-IP-05 SC21-SA-IP-06 SC21-SA-IP-07 SC21-SA-IP-20</p>
CKMR	<p>364. SC20 noted the demonstrated capacity of sampling teams now established throughout the region to achieve the updated target of 36,000-84,000 tissue samples over a three-year period and recommended the SSP consider exploring the possibility of the inclusion of CKMR data in future stock assessments for South Pacific albacore, including the analysis of financial as well as human resource requirement.</p> <p>365. SC20 recommended continuing to dedicate all relevant resources for capacity building workshops to support the understanding of the CKMR work on South Pacific albacore.</p> <p>366. SC20 recommended the SSP consider undertaking follow-up studies on South Pacific albacore including those that:</p>		<p>A.4.7.1 SC21-SA-WP-09 SC21-SA-WP-10 SC21-SA-WP-14</p>

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	<ul style="list-style-type: none"> incorporate finer-scale, structured sampling across the WCPO and further east in the EPO; consider the implication of the possible existence of multiple stocks on the CKMR work. combine empirical and modelled data from a variety of sources where available; and explore intrinsic and environmental mechanisms that might have caused the observed population structure. 		
LL effort creep	372. SC20 recommended project 122a be given a no-cost extension to continue the scoping study on longline effort creep (project 122a), in conjunction with collaboration with other tRFMOs on longline CPUE standardization efforts, consistent with the CPUE projects detailed in the Tuna Research Plan.		A.4.7.2 SC21-SA-IP-16
MANAGEMENT ISSUES THEME			
CMM		290. The Commission tasked the SC and TCC to consider the issues of certain CCMs without baseline catch limit under paragraph 48 of CMM 2023-01 and provide advice to the Commission.	A.5.6 SC21-MI-IP-03
Skipjack HS	<p>436. SC20 noted that the Interim Skipjack Management Procedure (CMM 2022-01 Attachment G) calls for the review of the performance of the Management Procedure in 2025 and that WCPFC20 noted that a re-evaluation of the skipjack estimation method may need to be undertaken prior to the next implementation of the MP. SC20 recommended that the SSP evaluate the following potential approaches to modify the estimation method for the WCPO skipjack interim MP, using the current OM grid and HCR, to evaluate whether the performance of the MP would change if the EM were revised, and report back to SC21 on outcomes and recommendations:</p> <ol style="list-style-type: none"> Modification of tropical CPUE abundance indices in the existing estimation method along the lines of the approach taken using unassociated set purse seine CPUE data by the 2022 stock assessment. 	<p>WCPFC21-2024-32. <i>WCPFC Skipjack Tuna Monitoring Strategy Report</i></p> <p>356. The Commission adopted the SKJ Monitoring Strategy, as recommended by SC20 and TCC20, noting the review of the SKJ Monitoring Strategy which will take place in 2025, and encourages ongoing work to consider climate change impacts within the SKJ MP operating model grid (Attachment 15).</p>	<p>A.5.1.1 SC20-MI-WP-01 SC20-MI-WP-02 SC20-MI-WP-03 SC20-MI-IP-02</p>

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	<p>b. Further investigation of alternative stock assessment platforms and modelling approaches.</p> <p>437. SC20 recommended that the SSP provide the information presented in SC20-MI-WP-01 as well as outcomes from the discussions at SC20 to SMD for further discussion and consideration.</p> <p>438. SC20 further recommended that SC21 review the outputs from the re-evaluation and provide recommendations to WCPFC22 regarding the potential need to revise the current interim skipjack MP (CMM 2022-01).</p> <p>452. SC20 requested that the SSP conduct the following analyses related to the monitoring strategy for skipjack:</p> <ul style="list-style-type: none"> a. Evaluate whether changes in the FAD closure duration (as adopted in CMM 2023-01) will affect the performance of the interim MP; b. Representativeness and appropriateness of candidate CPUEs for use in MP. <p>453. SC20 recommended that in years when an assessment is not conducted, the monitoring strategy could be reviewed by SC and feedback provided through the Online Discussion Forum.</p>		
BET/YFT HS	<p>553. SC20 recommended that the SSP include the following updates to SC20-MI-WP-07 for presentation to the Commission:</p> <ul style="list-style-type: none"> a. Update tables 2-7 with the equivalent depletion levels for South Pacific albacore based on the 2024 South Pacific albacore stock assessment; b. Include additional columns in the evaluation of candidate TRPs for YFT and BET which provide the impact on vulnerable biomass within the tropical longline fishery and the southern longline fishery. <p>554. SC20 recommended that the SMD and Commission take into account the analysis contained in SC20-MI-WP-07 including the following when considering target reference points for bigeye and</p>	<p>WCPFC21-2024-31. <i>Analyses to Inform Discussions on Candidate Bigeye and Yellowfin Target Reference Points</i></p> <p>432. The Commission supported a “sequenced approach”, whereby the Commission first addresses the TRP for BET tuna and then evaluates its implications for achieving management outcomes for YFT.</p> <p>433. The Commission agreed to provide the following guidance on candidate BET tuna target reference points that will be further</p>	<p>A.5.1.3 SC20-MI-WP-05 SC20-MI-WP-06 SC20-MI-WP-07 SC21-MI-WP-08</p>

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	<p>yellowfin tuna:</p> <ul style="list-style-type: none"> a. Based on the 2023 stock assessment for yellowfin, the miscellaneous fisheries are estimated to account for approximately 37% of the impact on the spawning potential over the period 2016-2018 (see Table 5 of WCPFC20-2023-16), but recent catch for yellowfin is higher. b. Based on the analysis in SC20-MI-WP-07, the CMM 2023-01 objectives for yellowfin and bigeye tuna cannot both be met simultaneously – if precisely achieved for one stock, the other will be above or below that level. <p>555. SC20 recommended that an additional working paper be submitted to WCPFC21, which will include a re-evaluation of the candidate yellowfin and bigeye tuna TRPs using more recent fishing conditions for the domestic fisheries of Indonesia, Philippines, and Vietnam. The 2016-18 average catches are significantly lower than the recent fishing level, likely leading to a more optimistic projected stock status for yellowfin tuna. (Not for Annex 1)</p>	<p>evaluated through their incorporation into candidate management procedures for BET tuna. Candidate BET TRPs are specified as follows:</p> <ul style="list-style-type: none"> a) 2012-2015 average spawning biomass depletion (currently estimated at 34%SBF=0) b) 0.94 x 2012-2015 average spawning biomass depletion (currently estimated at 32%SBF=0) c) 1.06 x 2012-2015 average spawning biomass depletion (currently estimated at 36%SBF=0) <p>434. The Commission noted that these candidate TRPs may in future be specified as threshold targets for which associated probabilities of being 'at or above' would need to be specified.</p> <p>435. The Commission tasked the SSP to progress the development of a Management Procedure for BET using the agreed candidate TRP. These candidate TRPs should be built into candidate BET Management Procedures and their performance evaluated through Management Strategy Evaluation.</p> <p>436. The Commission tasked the SSP to examine alternative levels of fishing for BET in 'Region 2' (small scale fisheries in the far western tropical WCPO) fisheries to determine the sensitivity or robustness of candidate TRPs and to evaluate the TRPs using more recent fishing conditions.</p>	

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SWP-SWO HS		<p>458. The Commission agreed to develop a management strategy evaluation framework to evaluate candidate management procedures for Southwest Pacific swordfish and to consider developing a Harvest Strategy. This will commence following the 2025 stock assessment and be conducted in a transparent and inclusive manner.</p> <p>459. The Commission requested in accordance with the SC's Billfish Research Plan, Australia and the EU to develop a project scope and workplan for the consideration of SC21. That project shall be considered as a formal project of the Commission and shall be managed by the SSP and supervised by the SC. The research scope and workplan will include explicit consideration of the existence of bycatch and target fisheries with differing impacts on the stock and the need to consider the implications when developing a future Harvest Strategy for SPSWO, as well as the resources needed.</p> <p>460. The Commission noted that this should not distract from the critical work progressing the development of harvest strategies for key tuna stocks and is therefore not included in the indicative Harvest Strategy Workplan for key tuna stocks at this stage. The Commission noted that Australia and the EU are considering funding options to support this work of the Commission,</p>	A.5.5

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		and as noted in the Billfish Research Plan, no funding for this work is sought in 2025.	
HS Workplan		464. The Commission adopted the updated Indicative Workplan for the Adoption of Harvest Strategies under CMM 2014-06 for 2025-2027 (Attachment 16).	A.5.1.5 SC21-MI-WP-10
SPA-TRP	<p>473. SC20 recognized that WCPFC20 adopted an interim TRP for South Pacific albacore, defined as 4% below the estimated average spawning potential depletion of the stock over the period 2017-2019 ($0.96 SB_{2017-2019}/SB_{F=0}$). SC20 recommended the Commission note that the biomass depletion associated with the adopted interim TRP has been re-estimated to be $50\%SB_{F=0}$ according to the 2024 SP-ALB stock assessment outcomes. This biomass depletion when the interim TRP was adopted by WCPFC20 was previously estimated at 47% based on the 2021 SP-ALB stock assessment</p> <p>474. SC20 recommended the SMD and the Commission consider results from the evaluation of a range of alternative candidate South Pacific albacore target reference points provided in SC20-MI-WP-03, in reviewing the interim TRP and other scenarios recommended by SC20.</p> <p>475. SC20 recommended that both catch numbers and weight be used for projections to inform the Commission discussion on reviewing the interim TRP for South Pacific albacore, noting that projections conducted in terms of weight are more consistent with the MP evaluations and management through, for example, a TAC. SC20 further recommended that SSP present trends in vulnerable biomass among specific WCPFC-CA longline fleets, and for WCPFC-CA catch levels to also be related to 2017-2019 levels.</p> <p>476. SC20 recommended including more scenarios for projections by fixing EPO catch at 2017-2019 levels and using multiple catch levels in the WCPFC-CA related to 2017-2019 levels.</p>	WCPFC21-2024-29. <i>Recalibration of the Adopted South Pacific Albacore Interim Target Reference Point and Review of WCPFC20 Requested Options</i>	A.5.1.2.1 SC21-MI-WP-04

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SPA-OM	<p>495. SC20 adopted the operating model (OM) reference set, together with the proposed robustness set (Table 2, SC20-MI-WP-04), for the evaluation of candidate South Pacific albacore MPs.</p> <p>496. SC20 noted there are concerns about the range of uncertainty covered by the current operating model set. SC20 recommended that future work to elaborate the OM sets be conducted through the monitoring strategy and could include:</p> <ul style="list-style-type: none"> a) development of scenarios for the impacts of climate change b) consideration of potential effects of effort creep and/or hyperstability in CPUE c) development of models that address uncertainties around stock structure to the robustness set. <p>497. SC20 recommended that simulations be conducted to explore the implications of assuming a single stock OM when there could be multiple stocks. If ongoing genetics work confirms the presence of multiple-stocks and the simulations indicate that the single-stock assumption made in the OMs is problematic, then exceptional circumstances should be considered and the OM sets should be revised to account for multiple reproductive stocks in the South Pacific.</p>		A.5.1.2.1 SC21-MI-WP-04
SPA-MP	<p>518. SC20 recommended that SSP focus primarily on the following two ASPM-derived estimators with a view to having a robust estimator, without obvious future data vulnerabilities:</p> <ul style="list-style-type: none"> a. A direct biomass depletion approach using mean $SB/SB_{F=0}$ of the last three years; and b. A ratio approach that uses Mean $SB/SB_{F=0}$ of the last three year (same as in a.) relative to 2017-2019. <p>519. SC20 noted that there was bias in estimation model performance at low predicted stock sizes. SC20 recommended that this bias be addressed through the design of the HCR and its significance or otherwise will be evaluated through evaluation of candidate MPs. Should the estimation model bias become problematic in the MP design context, then steps will need to be taken to address that issue.</p>	<p>WCPFC21-2024-30_Rev01. <i>Evaluation of Candidate Management Procedure for South Pacific Albacore_Rev01</i></p> <p>WCPFC21-2024-30a. <i>Supplementary Management Procedure Evaluations for South Pacific Albacore</i></p> <p>716. WCPFC21 agreed that CCMs will cooperate to develop a management procedure and implementing measure for SP-ALB during 2025, with a view to adopt both a management procedure and its implementing measure at WCPFC22, that</p>	A.5.1.2.1 SC21-MI-WP-04

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	<p>520. SC20 recommended that SSP conduct a Management Strategy Evaluation of a range of candidate MPs, using updated estimators together with HCR and maximum change metarule specifications similar to those presented at SC19 (SC19-MI-WP-06).</p> <p>521. SC20 recommended that SSP, in addition to running projections assuming a single baseline for all fisheries within the Management Procedure evaluations, explore the potential implications of using different reference periods for different fisheries and gears within the MP.</p> <p>522. SC20 recommended that EPO catches be assumed to remain constant at recent levels but with an exploration of a case where the EPO is subject to MP controls (in a similar way to SC20-MI-WP-03).</p> <p>523. SC20 noted that it was desirable to constrain the number of candidate MPs evaluated for consideration and recommended that steps be taken to manage this, including using one-off variations from a base-case scenario, rather than a full factorial grid of options.</p> <p>524. SC20 recommended that, to the extent possible, the results of the above candidate MP evaluations be provided to the SMD and the Commission for their consideration or decision.</p>	<p>will replace CMM 2015-02.</p>	
SPA Management WS		<p>712. The Commission noted the importance and need for a dedicated SP-ALB management workshop (SPAM-WS) to expedite the progress of implementation on the Indicative Workplan for the Adoption of Harvest Strategies under CMM 2022-03.</p> <p>713. The Commission agreed to hold SP-ALB management workshops in 2025 focused on: a) SP-ALB management procedures.</p>	<p>1st SPAM-WS is scheduled on 11 – 12 September 2025</p>

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		<p>b) SP-ALB management arrangement for implementing the management procedure. c) Consider mixed fishery issues, including ensuring compatibility between the BET and SPALB management procedures.</p> <p>714. The Commission agreed that the SPAM-WS would be co-chaired by the SC Chair and the IWG SPA Chair.</p> <p>715. The Commission agreed that SPAM-WS would be held online between SC21 and TCC21, with dates to be determined by the Co-chairs (Pohnpei time) in consultation with the Secretariat and members</p> <p>716. WCPFC21 agreed that CCMs will cooperate to develop a management procedure and implementing measure for SP-ALB during 2025, with a view to adopt both a management procedure and its implementing measure at WCPFC22, that will replace CMM 2015-02.</p>	
Establishment of a SPAJWG		<p>735. The Commission agreed in principle to the establishment of a JWG for SP Albacore and endorsed the framework in WCPFC21-2024-DP14b as a guide for progressing the development.</p> <p>736. The Commission requested the WCPFC Chair to engage with the IATTC Chair in early 2025 on the establishment of a JWG for SP Albacore, with the objective of establishing an informal initial meeting of the JWG in the first half of 2025 and adopting the Terms of Reference by</p>	<p>The 1st informal meeting (SPAJWG-INF01) was conducted on 20 May, and the 2nd meeting (SPAJWG-INF-02) on 1 Aug 2025</p>

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		<p>WCPFC22 in 2025.</p> <p>737. The Commission requested the Chair to cooperate with the United States and others in developing the terms of reference.</p> <p>738. The Commission tasks the Secretariat to provide support to the WCPFC Chair in developing the workplan and timeline for the JWG for SP Albacore, and to keep members and stakeholders informed of developments.</p>	
ECOSYSTEM AND BYCATCH MITIGATION THEME			
Climate change	<p>593. SC20 noted the SSP's progress towards implementing the SC19-endorsed Ecosystem and Climate Indicators Work Plan.</p> <p>594. SC20 noted the delay in the first expert workshop due to travel disruptions associated with the 2024 civil disturbances in New Caledonia.</p> <p>595. SC20 noted plans for the SSP to work with the WCPFC Secretariat to prepare for a November 2024 Climate Indicators Expert Workshop, which will include experts in physical and fisheries oceanography, climate and ecosystem science, ocean climate service providers, as well as WCPFC members with a background in climate and ecosystem science.</p> <p>612. SC20 noted the introduction of a Draft Climate Change Work Plan to guide the Commission's efforts to address climate change impacts on WCPFC fisheries and a Draft Terms of Reference for a climate change risk assessment of active CMMs. SC20 acknowledged the work and consultative approach of co-leads on the Work Plan.</p> <p>613. SC20 recommended that, in the further development of the draft</p>	<p>346. The Commission adopted the WCPFC Climate Change Workplan 2024 - 2027 which describes the tasks to be taken by the Commission and its subsidiary bodies to address climate change impacts on WCPFC fisheries in the Convention Area (Attachment 13).</p> <p>347. The Commission adopted the Terms of Reference for a CMM Climate Change Vulnerability Assessment which defines the Scope, Objectives, Rationale, Methodology, Timing, and Resources of the Assessment (Attachment 14).</p> <p>348. The Commission agreed to include the following CMMs in the assessment in 2025 and 2026:</p> <p>2025: CMM 2024-07 (cetaceans); CMM 2019-05 (mobulid rays); CMM 2024-05</p>	<p>A.6.1.2 SC21-EB-WP-01 SC21-EB-IP-01</p>

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	<p>Climate Change Work Plan, an indication of the status of SC tasks and whether there are ongoing projects or activities that need to commence, along with the resources required, is added in a column, as well as details of expected outcomes and how these will inform the Commission's decision-making process. This task will require support from the WCPFC Secretariat and an extension of the work plan to 2027.</p> <p>614. SC20 noted the uncertainties regarding data availability, the complexity and length of the CMM susceptibility assessment, and the resources available to the Secretariat, SSP, and Commission Subsidiary Bodies to undertake this work.</p> <p>615. SC20 encouraged future discussions at the SC and TCC to clarify expected outcomes, resourcing requirements, and the value of this work in informing the Commission.</p> <p>616. SC20 requested that the TORs in Attachment B in SC20-EB-WP-02 be further refined, including by incorporating indigenous and traditional knowledge as a valuable source of information.</p>	<p>(sharks); CMM 2017-04 (marine pollution); CMM 2024-06 (NP MLS)</p> <p>2026: CMM 2023-01 (tropical tunas); CMM 2018-04 (sea turtles); CMM 2018-03 (seabirds); CMM 2018-06 (Record of Fishing Vessels)</p>	
SEAPODYM		465. The Commission tasked the SSP with providing an update to SC21 on its progress in addressing issues raised by the 2019 SEAPODYM review.	A.6.1.3 SC21-EB-WP-02
Non-entangling and biodegradable FADs	<p>632. SC20 supported the ongoing research activities undertaken by SPC, ISSF, and industry partners, under WCPFC Project 110, 110a, and NOAA, and noted that complete results are expected to be available by SC22.</p> <p>633. SC20 noted that 430 non-entangling and biodegradable jelly-FADs were constructed (and 286 deployed). It noted that drift speed, tuna aggregation patterns, and tuna catch was similar between non-entangling and biodegradable FADs and conventional FADs, in the Project 110 and other EPO trials. At the same time, further standardization of data may be warranted given the preference of the fishers for traditional FADs over jelly-FADs.</p>		A.6.2.1 SC21-EB-WP-03 SC21-EB-WP-04

Topic	SC20 Summary Report	WCPFC21 Summary Report	SC21
	<p>634. SC20 recommended that more research be conducted on designs and materials available for non-entangling and biodegradable FADs.</p> <p>635. SC20 encouraged fishing fleets to join experimental trials on biodegradable FADs and to share results at future SCs, including information regarding interactions with Species of Special Interest (SSI).</p> <p>636. SC20 noted that FADs become stranded on the shores of Pacific Island Countries and Territories, and that options for on-land and at-sea recovery programmes, including FAD Watch, be discussed at future SCs.</p>		
FADMO-IWG	<p>641. SC20 noted the priority tasks for the FADMO-IWG are technical, complex and interconnected and SC20 further supported the suggestion of the FADMO-IWG on physical meeting of the FADMO-IWG in 2025 back-to-back with TCC to reduce meeting cost.</p> <p>642. SC20 suggested prioritizing work on</p> <ul style="list-style-type: none"> i) requirements for the transmission of satellite buoy data; ii) developing a WCPFC FAD logbook; and iii) FAD recovery program/strategies. <p>643. SC20 requested the FADMO-IWG to further discuss issues related to</p> <ul style="list-style-type: none"> i) buoy deactivation scenarios; ii) submission deadline for historical data gaps on FAD buoy data transmission; iii) harmonization with the existing IATTC logbook and PNA logbook; and iv) incentivizing the use of biodegradable FADs. 	<p>90. The Commission tasked the FAD Management Options IWG and TCC21 to consider clarifying the ambiguity around the existing participatory rights text as to which types of vessels should be allowed to engage in FAD-related activities and provide recommendations to WCPFC22.</p> <p>519. The Commission endorsed the FAD Management Options IWG Workplan for 2024-2026 (Attachment 19).</p>	<p>A.6.2.2 SC21-EB-WP-04 SC21-EB-WP-05 SC21-EB-IP-05 SC21-EB-IP-06</p> <p>A.6.2.3 SC21-EB-WP-06</p>
CMM 2024-05 (Sharks)	<p>651. SC20 agreed that SC shall continue to review the impact of fishing gear on non-retained sharks, including oceanic whitetip shark (OCS) and silky shark (FAL), inside and outside of the area between 20°N and 20°S, and provide advice on potential mitigation measures that would benefit such shark species.</p>		<p>A.6.5 SC21-EB-WP-09 SC21-EB-WP-11 SC21-ST-WP-09 SC21-EB-IP-12</p>

Topic	SC20 Summary Report	WCPFC21 Summary Report	SC21
	<p>652. SC20 noted that the EU (Spanish) fleet has a shallow-set longline fishery that targets swordfish, particularly in the south of 20°S area. SC20 recommended that interaction data from the EU fleet should be included when reviewing the impact of fishing gear on non-retained sharks.</p> <p>653. SC20 recommended using the estimation procedures of Peatman and Nicol (2020, 2023) to stratify catches of OCS and FAL to the north of 20°N, 20°N-20°S and south 20°S for comparison with estimates from nominal CPUE presented in SC20-EB-WP-05. SC20 agreed that this alternative estimation procedure would provide catches in areas in order to assess requirements for additional spatial management measures.</p> <p>654. If an analysis of impact is desired for a latitudinal extension of CMM 2022-04, this may:</p> <ul style="list-style-type: none"> • Use the anticipated 2025 OCS assessment and the variety of structural hypotheses; and • Update the projections (Rice et al. 2021, Bigelow et al. 2022) to assess the impacts and future fishing mortality on recovery timelines, using catches from 20°N-20°S with mitigation (CMM 2022-04) and catches from the north of 20°N and south 20°S with and without mitigation. 		<p>SC21-EB-IP-13 SC21-EB-IP-14</p>
CMM 2018-03 (seabirds)	<p>675. SC20 noted the summary of the informal intersessional review process of CMM-2018-03 in SC20-EB-WP-06, highlighting:</p> <ul style="list-style-type: none"> • The relatively high effectiveness of combining tori lines, branch line weighting, and night setting. • The high effectiveness of hook-shielding devices as a stand-alone seabird bycatch mitigation option. • The effectiveness of underwater bait setters (which set hooks at a predetermined depth) as a stand-alone seabird bycatch mitigation option. • The limited evidence for the effectiveness of deep-setting line shooters, blue-dyed bait, and offal discharge management. 	<p>552. The Commission tasks:</p> <ol style="list-style-type: none"> a) New Zealand to lead a review of the seabird measure. b) SC21 and TCC21 to provide advice on the supporting material provided by CCMs and the SSP. c) WCPFC22 to consider the proposal provided by New Zealand, as well as advice from SC21 and TCC21. 	<p>A.6.4 SC21-EB-WP-07 SC21-EB-WP-08 SC21-EB-IP-08 SC21-EB-IP-09 SC21-EB-IP-10 SC21-EB-IP-17</p>

Topic	SC20 Summary Report	WCPFC21 Summary Report	SC21
	<ul style="list-style-type: none"> The effectiveness of branch line weighting may be improved through modification of the current specifications in CMM 2018-03. <p>676. Some CCMs supported, but other CCMs expressed concern about the suggested recommendations 1-16 in paper SC20-EB-WP-06 for the revision of CMM 2018-03.</p> <p>677. SC20 highlighted the importance of technical, practical, and human safety considerations for the implementation of bycatch mitigation methods. SC20 noted the Commission could make special considerations for fisheries that demonstrate low interaction rates.</p> <p>678. SC20 recommended that TCC20 further consider the suggested recommendations in SC20-EB-WP-06 in terms of technical, practical, and safety aspects and TCC20 provides advice to the Commission to improve the effectiveness of CMM 2018-03.</p>		
Cetacean		668. The Commission agreed that the Secretariat, in coordination with the Scientific Committee and the SSP, make available to CCMs a cetacean identification guide to improve species identification skills of captains and crew in the WCPO.	A.6.6 SC21-EB-WP-10
Deep seabed mining	711. SC20 recommended that the Commission task the Secretariat to engage with a broad range of stakeholders to gain awareness and understanding of deep seabed mining activities and their potential direct or indirect impact on tuna fisheries in the WCPFC Convention Area.	794. The Commission tasked the Secretariat, as recommended by SC20, to engage with a broad range of stakeholders to gain awareness and understanding of deep seabed mining activities and their potential direct or indirect impact on tuna fisheries in the WCPFC Convention Area.	A.6.7 SC21-EB-IP-15
GENERAL			

Topic	SC20 Summary Report	WCPFC21 Summary Report	SC21
SC paper submission via website		208. The Commission tasked the Secretariat, in consultation with SC Chair and theme convenors, to develop the process to submit all papers and project proposals through the WCPFC website to further streamline the submission process and allow for greater organization and tracking of submissions, for implementation in advance of SC21.	Scientific Committee Document Submission
International cooperation		795. The Commission tasked the Secretariat with maintaining engagement with international ocean conservation initiatives, including the Preparatory Conference for the Agreement on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction, and to report back to the Commission on a regular basis on international developments which may impact on WCPFC and its activities.	<i>Ongoing engagement of the Secretariat</i>