



**SCIENTIFIC COMMITTEE
TWENTIETH REGULAR SESSION**

Manila, Philippines
14 – 21 August 2024

INTERSESSIONAL ACTIVITIES OF THE SCIENTIFIC COMMITTEE

WCPFC-SC20-2024/GN-IP-02

WCPFC Secretariat and SPC-OFP

I. Introduction

1. The purpose of this paper is to inform the Scientific Committee (SC) of the relevant science-related activities undertaken since SC19.

II. Summary Report of the 19th Regular Session of the Scientific Committee

2. The 19th Regular Session of the Scientific Committee was convened during 16 – 24 August 2023. This was the first in-person meeting since the COVID-19 pandemic. The Secretariat posted the Outcomes Document on the SC19 website on 4 September 2023 and intersessionally adopted the Summary Report, including the Executive Summary, on 28 November 2023.

III. Science Services from the SPC-OFP

3. In 2006, the Commission signed the first Memorandum of Understanding (MOU) with the Commission's Scientific Services Provider (SPC-OFP) to provide scientific and data management services. In December 2009, the Commission and the SPC agreed to revise the MOU to provide for a three-year arrangement as directed by the Commission. In 2019, the MOU was changed to the MOA (Memorandum of Agreement). The MOA is composed of two sections: 1) general scientific, financial, and administrative agreement, which will be updated every three years, and 2) Annex I of the MOA (*Agreement for the Annual Provision of Scientific Services to the Commission and Assistance to Members by the Pacific Community*) which will be updated each year to accommodate scientific services as requested by the Commission for each calendar year. The SPC and the WCPFC co-signed the 2024 scientific services in Annex 1 on 1 March 2024 (**Attachment A**).

4. The SPC-OFP produced or was involved in producing around [65] papers and reports for SC19, covering all four theme issues of the SC plenary agenda, steering committee meetings, online discussion forum topics, and provided *ad hoc* advice and support throughout the year. In addition, the SPC-OFP led or assisted with the following activities:

- Participated in TCC19 (20-26 September 2023) and WCPFC20 (4 – 8 December 2023), producing several additional key scientific papers and presentations for each meeting;
- In collaboration with the Australian National Centre for Ocean Resources and Security (ANCORS) of the University of Wollongong, and Shanghai Ocean University conducted an informal scientific

workshop on 29 – 30 April 2024 on South Pacific albacore: Science, Data, and Climate Change Workshop;

- Hosted the 18th Tuna Data Workshop in Noumea, New Caledonia (8 – 12 April 2024) to assist in the compilation of CCM’s tuna fishery data;
- Hosted the Pre-assessment Workshop in Noumea, New Caledonia (25-28 March 2024). The meeting focused on the 2024 stock assessments for the South Pacific albacore, Southwest Pacific striped marlin, WCPO silky shark (phase 2), and WCPO oceanic whitetip shark (phase 1). It also covered technical developments in Management Strategy Evaluation (MSE), specifically addressing challenges in MSE development and management procedures for South Pacific albacore. Other key topics included updates to the MULTIFAN-CL modeling framework, scoping studies for WCPFC Projects 123 (stock assessment software) and 122 (longline effort creep), development of a stock status and management advice template under Project 113b, and length-weight conversions under Project 90. Additionally, progress on the Close Kin Mark Recapture project for South Pacific albacore was discussed, along with advancements in age validation work and SPC’s enhanced capacity in fish aging using bomb radiocarbon techniques.
- Assisted the WPEA Tuna Data Review and Annual Tuna Catch Estimates Workshops hosted by the Project participating countries (Indonesia, Philippines and Vietnam);
- Updated regularly the tables on Annual Catch and Effort estimates (the “ACE tables” <https://www.wcpfc.int/ace-by-fleet>) to provide additional estimates to the Commission meetings;
- Delivered a fisheries data analysis/assessment training workshop and annual data review and catch estimates workshop in Vietnam (March 2024) under the WPEA project;
- Supported the 4th development of a revised WCPFC tropical tuna measure workshop held in Pohnpei FSM, 29-30th September, producing additional key scientific papers and presentations for the meeting;
- Supported the 6th virtual meeting of the WCPFC E-reporting and E-monitoring working group, 31st May 2024;
- Coordinated the PTPP Cruise Planning Advisory Committee meeting (30 January 2024) and the 18th PTPP Steering Committee meeting (1 August 2024) electronically and will be conducting the Pacific Tuna Tagging Project (PTTP); and
- Continued the Biological Sampling Programme and hosted the 6th WCPFC Pacific Marine Specimen Bank Steering Committee meeting electronically on 1 August 2024; and
- Conducted two online meetings with international stock assessment modelers and developer to discuss next generation tuna stock assessment model development (Project 123).

On the 13th May, civil unrest erupted in New Caledonia. A state of emergency was declared on the 16th May, which was extended until the 28th May. However, the civil unrest continues and has been accompanied by a government-mandated nightly curfew. The unrest significantly impacted the operations of the SSP. The SSP team was fragmented, with members scattered across multiple time zones, and while travel to and from New Caledonia has now been re-established, it remains limited. With no warning, staff in Noumea were constrained to work from home for a long period, and when permitted to return to the office, the working day was limited by the curfew and for safety and security reasons. The unrest also impacted internet connectivity and SPC systems, which delayed data entry, data management, and scientific analyses. These challenges continue and have significantly impacted the SSP’s delivery to SC20. The SSP has endeavored to keep the WCPFC Secretariat, theme convenors, and members up to date with progress and challenges and to deliver planned analyses as much as possible.

IV. Progress of the SC Work Programme Activities

5. The WCPFC20 approved 2024 SC budget in **Attachment B**. SC work programmes conducted in 2023-2024 include, with Commission budgets in parenthesis:

- a) *Project 35b: WCPFC Pacific Marine Specimen Bank (\$ 107,373)*
The progress report of the Project 35b is posted on the SC20 website ([SC20-RP-P35b-01](#)). The WCPFC Pacific Marine Specimen Bank project has been continued since 2016, and the 6th Steering Committee meeting will be held electronically on **1 August 2023**. CCMs are invited to visit the PMSB website:
<https://www.spc.int/ofp/PacificSpecimenBank>.
- b) *Project 42: Pacific-wide tagging project (\$800,000)*
WCPFC20 endorsed the 2024-2026 PTPP Work Plan and allocated \$800,000 for 2024. The PTPP report ([SC20-RP-PTTP-01](#)) details activities from 2023-2024, including research voyages, tag recoveries, and seeding activities, while highlighting 2024 issues for the PTPP Steering Committee and outlining plans for 2024-2027. Funded since 2006 by various international entities, the PTPP focuses on collecting data on exploitation rates, movement, habitat utilization, and the impact of FADs on tuna behaviors. In 2023, the CP-16 tagging cruise deployed over 11,000 tags, with significant effort in biological sampling and marking fish for aging studies. Future plans include refurbishing key research vessels and increasing tag seeding efforts to improve reporting rates. The PTPP also emphasizes the importance of the Tag Recovery Network, aiming to enhance tag recovery processes and engagement with the fishing industry. The 18th Steering Committee meeting was held electronically on 1 August 2023, and its report is in [SC20-RP-PTTP-02](#).
- c) *Project 90: Fish weights/lengths for scientific analysis (\$20,000)*
Project 90 was originally a 3-year project (2019 – 2021), but WCPFC17 endorsed the extension to 57 months from January 2019 through September 2023, with an addition of \$75,000 for 2022. WCPFC20 further endorsed extending this project for another 2 years (2024 – 2025, with an annual budget of \$20,000). The outputs from the 2022-2023 work are in SC20-ST-IP-04.
- d) *Project 108: Silky Shark Stock Assessment in WCPO (USD100,000)*
This is the first case of the two-year phased approach to WCPFC shark assessments: the first phase in 2023 was data exploration and preliminary analyses. The second phase is to consider and account for the key areas of uncertainty and their influences on estimates of stock status and fishing impact/risk. The final project report is in [SC20-SA-WP-04](#).
- e) *Project 109: Training of Observers for Elasmobranch biological sampling (USD 25,000)*
WCPFC17 (2020) endorsed this observer training project, but its implementation was deferred due to the COVID-19 pandemic and travel restrictions. The project, which will be terminated by the end of 2024, aims to develop materials for observers and conduct training workshops for a core group of observers in elasmobranch biological sampling. It also seeks to train observers to collect elasmobranch biological material for age, growth, and reproduction studies. The request to carry over unused funds to 2022 was approved at WCPFC18. The progress report is detailed in [SC20-ST-IP-06](#).
- f) *Project 110 and 110a: Non-entangling and biodegradable FAD trials in the WCPO (Project 110: EU € 420,000, USA \$ 85,000, and ISSF \$ 20,000; Project 110a: EU: \$242,000, USA: \$29,000, ISSF: \$20,000)*

These projects will conduct trials of non-entangling and biodegradable drifting FADs in the WCPO. Project 110 is a 30-month project that started in 2021 and is expected to be completed in 2023, but this was extended to 2024 due to the COVID-19 pandemic. Additional funding to enhance WCPFC project 110 was made mainly from the EU and supported by the USA and the ISSF. Project 110a is to enhance Project 110 by deploying additional non-entangling and biodegradable FADs to increase the robustness of the results and related management and industry advice, extending to the end of 2025. The progress of this project is detailed in [SC20-EB-WP-03](#).

- g) *Project 113b: Further development of ensemble model approaches for presenting stock assessment uncertainty (USD 40,000)*

In consultation with assessment working groups and fisheries managers, this project developed a reporting template for stock status and management advice to make stock assessments reported to the WCPFC accountable to a consistent reporting framework. The report for this project is detailed in [SC20-SA-WP-10](#).

- h) *Project 114: Improved Coverage of Cannery Receipt Data for WCPFC Scientific Work (USD 60,000)*

This is a three-year project (from January 2023 through December 2025). Its overarching objective is to improve the coverage of cannery receipt data through collaboration with relevant port state CCM authorities. The progress report of this project is detailed in [SC20-ST-IP-05](#).

- i) *Project 115: Exploring Evidence and Mechanisms for a Long-term Increasing Trend in Recruitment of Skipjack Tuna in the Equatorial Pacific and the Development and Modelling of Defensible Effort Creep Scenarios (USD 20,000)*

This project aims to review and analyze relevant data and other information to explore the possibility, or otherwise, of an increasing trend in skipjack tuna recruitment in the equatorial Pacific since the late 1980s and to consider bottom-up, production-driven processes and top-down, predation-driven processes. It is also expected to develop plausible and defensible effort creep scenarios to apply to skipjack abundance indices, focusing on pole-and-line indices, and apply these in model runs of the 2022 skipjack diagnostic model. Noting the workloads of CCM partners, this project has been extended to be completed for SC20. The report of this project is in [SC20-SA-WP-06](#).

- j) *Project P120: Updated Reproductive Biology of Tropical Tunas (USD 44,000)*

This project was approved by WCPFC20 with a budget of USD 44,000 as the WCPFC co-finance contribution to access EUR 200,000 via the European Maritime, Fisheries and Aquaculture Fund related to this project with activities expected to commence in January 2024 with a final report to the SC scheduled in August 2026. The key objectives are to i) provide updated estimates on the reproductive biology of tropical tunas in the WCPO to improve WCPFC stock assessments and ii) establish baselines of reproductive potential for tropical tunas in the WCPO for monitoring the impacts of climate change. The progress report of this project is in [SC20-SA-IP-11](#).

- k) *Project P122: Scoping Study on Longline Effort Creep in the WCPO (USD 30,000)*

This project would undertake a comprehensive survey of the scientific literature (including the grey literature) to see how existing understanding of effort creep in fisheries could inform the analysis and development of scenarios of longline effort creep in the WCPO and whether approaches used elsewhere could be applied in the WCPO to improve local understanding of effort creep. The report of this project is in [SC20-SA-WP-05](#).

- l) *Project P123: Scoping the Next Generation of Tuna Stock Assessment Software (USD 50,000)*
This is a 3-year project (2024-2026). The overriding goal is to ensure WCPFC tuna stock assessments remain robust and provide the best available scientific information through the appropriate planning for a state-of-the-art successor to the MULTIFAN-CL assessment software. The progress report of this project is in [SC20-SA-WP-01](#).
- m) *WCPFC Project P124: Oceanic Whitetip Shark Stock Assessment in WCPO (USD 60,000)*
This is the first year of a 2-year project to undertake a stock assessment and risk analysis of oceanic whitetip shark in the western and central Pacific Ocean. The progress report of this project is in [SC20-SA-WP-11](#).

V. Cooperation with other organizations

6. The Secretariat was represented at the following science-related meetings during the last 12 months:
- SPC Pre-Assessment Workshop, 25 – 28 March 2024, Noumea, New Caledonia;
 - Seventeenth Round of Informal Consultations of States Parties (ICSP-17) to the Fish Stocks Agreement, 15 - 17 May 2024, UN Headquarters in New York City;
 - 18th World Tuna Trade Conference and Exhibition 20-22 May 2024, Bangkok, Thailand;
 - The 24th ISC Plenary Meeting, 19 – 24 June 2024, Victoria, Canada;
 - Meeting between IATTC and WCPFC Secretariats, 25 July 2024, Online; and
 - WPEA Project-related workshops and meetings for data review, annual catch estimates, and other related meetings were conducted online and/or in person.

VI. Research Projects

Japanese Trust Fund Project

7. In 2024, the Japanese Government, through the Japan Trust Fund (JTF), gave a total budget of \$195,643.55¹, including WCPFC's 7.5% administration fee. Four project proposals were endorsed for 2024: South Pacific Group (SPG)², Samoa, Tonga, and Palau. The Steering Committee will review each project's progress at the margins of SC20. The JTF Status Report ([SC20-RP-JTF-01](#)) describes detailed progress.

West Pacific East Asia Project

8. The current WPEA-ITM Project, funded by the New Zealand government, continued to conduct key data collection activities in Indonesia, Philippines, and Vietnam. Details are described in the WPEA-ITM Project Update ([SC20-RP-WPEA-01](#)).

VII. Voluntary Contributions from Members and Observers

9. Members and Observers of the Commission have voluntarily provided funding support for the scientific work of the Commission. The European Union has made available to WCPFC in December [2023](#) round EUR 218,000 to fund *Project 110a: Additional Work on Trialling and Supporting Development of Non-entangling and Biodegradable FADs in the WCPO* and EUR 200,000 to fund *Project 120: Updated Reproductive Biology of Tropical Tunas*. The third 5-year programme of the Korean government to support the SPC's Pacific

¹ The USD 27,169.55 will be taken from the remaining Japan Trust Fund from previous years (Refer to WCPFC20-2023-FAC17-07).

² Cook Islands, Fiji, Niue, Samoa, Tonga, and Vanuatu

Tuna Tagging Project started in 2019, providing about USD 170,000 per year. Other members and observers such as New Zealand, USA IATTC, CSIRO, and ISSF also provided sufficient funds for Harvest Strategy work, Project 110, and other WCPFC science projects.

ANNEX 1

**Agreement for the Annual Provision of Scientific Services to the
Commission and Assistance to Members by the Pacific Community**

(Pursuant to Article 2 of MOA)

I. Period covered by this Agreement

This Agreement is for the period from 1 January to 31 December 2024 and will be reviewed annually and be extended by one calendar year.

II. Specific Services and Terms of Reference for the Provision of Scientific Services for 2024

The scientific services to be provided to the Commission by SPC's OFP during the period of this Agreement are as follows:

Activity	Description of Service	Specific Outputs	Timing	Performance ³
<i>Core SPC services</i>				
1. Data management, statistical analyses and related services				
i.	Data Management			
	1) Incorporate data provided by Members, Cooperating Non-Members and Participating Territories (CCMs) under the Commission's data provision policy into existing databases and facilitate access of Commission Secretariat staff to those data as appropriate.	<ul style="list-style-type: none"> • Databases updated and installed at WCPFC headquarters • Updated database query tools for regional databases available at WCPFC headquarters 	January-December	

³ To be completed by SPC and WCPFC in November each year and provided as a paper to the Regular Session of the WCPF Commission and its appropriate subsidiary bodies (e.g., FAC)

		<ul style="list-style-type: none"> • WCPFC staff training as required 		
	2) Produce a summary on the status of the provision of scientific data to the Commission.	<ul style="list-style-type: none"> • SC / TCC / WCPFC papers as required • Continued update of the WCPFC Scientific Data Catalogue 	Mid-July, mid-September and mid-November	
ii.	<i>Compilation of catch and effort estimates</i>			
	1) Compile estimates of annual catches by species, gear type and flag, as specified in the procedures for <i>Scientific Data to be Provided to the Commission</i> AND in support of the functions of the Commission and its subsidiary bodies.	SC papers	Mid-July	
	2) In relation to reporting of set start time, assist Flag CCMs with understanding and submitting information about the date/time standard that can be linked back to GMT/UTC, and urge relevant Flag CCMs to contact the SSP as soon as practicable should assistance be needed. (<i>paragraph 79-80, WCPFC20 Outcomes Document</i>)	SC papers		
	3) Recognizing the importance of catch and effort data related to short-billed spearfish and sailfish species, provide assistance on the necessary amendments to the <i>Scientific Data to be Provided to the Commission</i> (<i>paragraph 81, WCPFC20 Outcomes Document</i>)	SC papers		
	4) Estimates of annual catches by vessel flag, EEZ, archipelagic waters, and IATTC/WCPFC overlap area for use in determining the catch component of the Commission's assessed contributions	Catch table provided to the Commission Secretariat	Late-Sept	
	5) For catches for which estimates are not otherwise available, conduct statistical analyses to estimate catches, particularly regarding: <ul style="list-style-type: none"> a) purse-seine catches of bigeye, skipjack, and yellowfin tuna, b) discards of target tuna species, and c) provide updates of catch estimates of non-target species, including estimate uncertainties (e.g., CVs) of bycatch for the purse seine fishery, 	SC papers	Mid-July	

	<p>noting the challenges of reduced observer coverage through the Covid period (Refer to Note 1 and 2 below):</p> <p><u>Note 1:</u> <i>SC14 recommended that the Scientific Services Provider continue the work on purse seine and longline bycatch estimates and provide updates every 2-3 years. (Paragraph 83, SC14 summary report).</i></p> <p>Previous papers provided include:</p> <ul style="list-style-type: none"> • <i>PS bycatch estimates: SC14-ST-IP-04 and SC17-ST-IP-06</i> • <i>LL bycatch estimates: SC14-ST-WP-03, SC16-ST-IP-11 and SC19-ST-WP-02</i> <p>The purse seine bycatch update is due in 2024 under a 3-year cycle.</p> <p><u>Note 2:</u> Future papers consider the following SC17 recommendation in Para 58 in the SC17 Summary Report:</p> <p><i>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.</i></p> <p>Estimates of marine mammal/cetacean interactions can be produced if requested (ref: SC17-ST-IP-10, SC19-EB-WP-10).</p>			
	<p>6) To facilitate CCM's data submission for efficient stock assessments,</p> <ol style="list-style-type: none"> a) the data manager at the SSP liaise and consult with CCMs about the possibility of bringing forward the data submission deadline for fleets, especially historical data updates; b) the Secretariat and SSP explore options for the WCPFC website to include a portal for CCMs to enter/edit/manage their ACE data submissions, and c) the SSP develop guidelines for standardised structure/file layouts for Annual Catch Estimates and aggregate catch/effort data that can be used by CCMs to submit these data. 	SC papers		
iii.	Data dissemination			

	1) Produce and publish on the Commission's website the <i>Tuna Fishery Yearbook</i> , containing annual catch estimates by gear type, flag and species.	Yearbook published on WCPFC website	Dec	
	2) Disseminate public domain catch, effort and size data on the <u>Commission's website</u> at agreed level of resolution, enhancing where possible, while ensuring that the WCPFC rules for public domain data are applied.	Update WCPFC public domain webpage	Jan-Dec	
	3) Continue to produce the <i>Overview of Tuna Fisheries in the WCPO, including Economic Conditions</i> paper and include summaries of northern stocks in the WCPFC Convention Area; and more information on the "other" fisheries (Para 38, SC15 Summary Report).	SC paper	Mid-July	
	4) Generate the Annual Catch and Effort (ACE) tables based on the latest data, publish the ACE Tables on the <u>relevant WCPFC webpages</u> according to the agreed schedule.	Update WCPFC ACE Tables webpage	Mid-July, mid-September and November	
	5) Generate and disseminate the latest version of the <u>WCPFC public domain bycatch data</u> , including data defined in the Bycatch Data Exchange Protocol on the WCPFC public domain webpage.	Update WCPFC BDEP and public domain bycatch webpages	November	
	6) Update and disseminate the WCPFC Data Catalogue via the <u>WCPFC Data Catalogue webpage</u> .	Update WCPFC Data Catalogue webpage	November	
iv.	<i>Technical / policy advice</i>			
	1) Provide <i>ad-hoc</i> advice on science and data-related implications of relevant MCS activities, including, but not limited to: transshipment, the regional observer programme, port sampling, VMS, port state measures, catch documentation schemes, the implementation of e-reporting and e-monitoring (ER and EM), etc.	Advice provided on request	Jan - Dec	
	2) Provide advice and tasks as needed on data-related procedures of the Commission, e.g., <i>Rules and Procedures for the Protection, Access to and Dissemination of Non-Public Domain Data and Information Compiled by the Commission, and Scientific Data to be Provided to the Commission</i> ".	Advice provided on request	Jan - Dec	
	3) Provide support to coordination and collaboration on data-related matters between the ISC and WCPFC, including specific tables that show provisions of	Advice provided on request	Jan-Dec	

	operational level catch and effort data for the North Pacific region from all CCMs.			
2. Stock assessment and related analytical services				
v.	Target species stock assessments and auxiliary analyses			
	1) Undertake full assessment for South Pacific albacore tuna (South Pacific-wide) and Southwest Pacific striped marlin in 2024 to be presented at SC20 with due considerations for South Pacific albacore on recommendations in paragraph 301 of SC19 Summary Report and paragraph 31 of WCPFC20 Outcomes Document.	SC papers	Mid-July	
	2) Undertake analyses of catch and effort data, including operational-level data where possible, to construct indices of abundance for target and non-target species; and any additional research on biological parameters, to support stock assessments.	SC paper(s)	Mid-July	
	3) Make available stock assessment data, model settings and results files.	Link to input files, model settings, and output files posted on SPC-FAME website, and link on WCPFC website	Dec	
	4) Indicator papers for bigeye, yellowfin, skipjack tuna and South Pacific albacore for those years when a stock assessment is not conducted, with explanatory details for the figures and a brief interpretation of the trends.	SC paper	Mid-July	
	5) Trends paper for south Pacific albacore longline and troll fisheries.	SC paper	Mid-July	
	6) Develop and consolidate work on Multifan-CL, including work addressing the Yellowfin Peer Review recommendations.	SC papers as required	Mid-July	
	7) Continue working on improving the workflow and systems for efficient repeatability of stock assessments and supporting analyses.	SC papers as required	Mid-July	
	8) Continue working on assessment diagnostics based upon SC19 discussions	SC papers as required	Mid-July	
vi.	Model development and refinement			

	1) Refinement or development of stock assessment models, as appropriate, and refinement of models for CPUE standardization, model ensemble approaches, and harvest strategy framework.	SC paper(s) as required	Mid-July	
3. Management analyses and CMM performance monitoring				
vii.	<i>Conservation and Management Measure performance monitoring</i>			
	<p>1) According to Paragraph 52, review CMM 2023-01 (<i>CMM for bigeye, yellowfin and skipjack tuna in the WCPO</i>) annually and provide advice as needed to the SC20 to ensure that the various provisions are having the intended effect.</p> <p>2) Provide any additional technical advice as needed related to the options for a baseline of the Indonesia’s “large-fish” handline fishery under Paragraph 48 of the CMM 2023-01.</p>	SC / TCC/ WCPFC papers, and tables or figures as required	Mid-July, mid-September and mid-November	
viii.	<i>Development of Harvest Strategy Framework</i>			
	<p>A. <u><i>Revised Indicative Harvest Strategy Work Plan</i></u> The Commission adopted an updated <i>Indicative Work Plan for the Adoption of Harvest Strategies under CMM 2014-06</i> at WCPFC20 (Attachment 4, WCPFC20 Outcomes Document). Activities specified in the updated work plan are noted in relevant sections below.</p>			
	<p>B. <u><i>South Pacific albacore management procedure and monitoring strategy</i></u> 1) Review the WCPFC20-adopted interim target reference point (iTRP) for South Pacific albacore following the 2024 stock assessment and provide advice as needed to the Commission for any amendment of the iTRP by the Commission (paragraph 32, WCPFC20 Outcomes Document).</p> <p>Noting the following is funded by NZ under the ‘Pacific Tuna MSE’ project: 2) Conduct the following analyses tasked by the Commission (paragraph 33, WCPFC20 Outcomes Document): a) Evaluations of some selected candidate management procedures for South Pacific albacore where the output of the harvest control rule is total allowable effort and alternatively where the output of the same or similar harvest control rule is total allowable catch;</p>	SC / TCC / WCPFC papers	Mid-July	

	<p>b) Evaluation of a range of alternative candidate South Pacific albacore target reference points between $SB/SB_{F=0} = 0.42-0.56$ (long-term average $SB/SB_{F=0}$ WCPF-CA, or preferably equivalent levels defined in terms of reference period) that will be considered in the context of the review of the adopted iTRP.</p> <p>3) Develop the reference set of the Operating Models (Table 1 of SC19-MI-WP-04) to allow the continued progress and evaluation of candidate Management Procedures for South Pacific albacore for adoption by SC20, noting the ongoing investigations that might require a reconditioning of the reference set ahead of SC20, and the potential for other changes in light of the 2024 SPA stock assessment.</p> <p>4) Provide relevant elements to be considered for the monitoring strategy of candidate South Pacific albacore MPs.</p>			
	<p>C. <u>Skipjack management procedure and monitoring strategy</u></p> <p>1) Noting that data to monitor performance of the skipjack MP will not be available in first year of the MP implementation, commence undertaking a re-evaluation of the skipjack estimation method prior to the next implementation of the management procedure and provide any preliminary progress as required.</p> <p>2) Continue working on the development of skipjack monitoring strategy for adoption at WCPFC21, using the information in Attachment B of WCPFC20-2023-14 as a reference.</p>	SC / TCC / WCPFC papers	Mid-July	
	<p>D. <u>Bigeye and Yellowfin Tuna and Mixed Fishery Framework</u></p> <p>1) Conduct analyses required to support decision-making on TRPs for bigeye and yellowfin tuna for the Commission’s agreement in 2024.</p> <p>2) Continue development of the mixed fishery MSE framework to support SC advice on performance of candidate management procedures.</p>	SC / TCC / WCPFC papers	Mid-July	
	<p>E. <u>Science-Management Dialogue (Virtual meeting, 10-12 September 2024)</u></p> <p>1) Provide technical assistance for the conduct of a Science-Management Dialogue in 2024 (SMD-02) and for the development of SMD-02 agenda, focusing on (<i>paragraph 36, WCPFC20 Outcomes Document</i>):</p> <p>a) South Pacific albacore management procedures (including review of the iTRP);</p> <p>b) Development of bigeye and yellowfin tuna TRPs;</p>	SMD-02 papers	Late August	

	<p>c) Issues pertaining to the application of the skipjack tuna management procedure, and</p> <p>d) Harvest strategies capacity building for CCMs (SPC-facilitated).</p> <ul style="list-style-type: none"> • Provide capacity building activities including education materials and capacity building workshops to build understanding by CCMs of harvest strategy development, functioning and implications to enable their participation in the process of harvest strategy development, decision making and implementation. <p>2) Provide technical assistance to areas of cooperation with IATTC to enhance cross-RFMO coordination in the development of the management strategy evaluation and management procedures for South Pacific albacore.</p>			
ix.	Ecosystem and Climate Indicators <i>(paragraphs 18-26, WCPFC20 Outcomes Document)</i>			
	<p>1) The Ecosystem and Climate Indicator Report Card is updated and presented annually to the Commission and its subsidiary bodies.</p> <p>2) Provide a draft proposal on the scope and feasibility of undertaking an assessment of active CMMs and to determine specific CMM provisions that may be susceptible to be impacted by climate change, and present the findings to SC20, TCC20 and WCPFC21. The proposal will include, but not be limited to:</p> <ul style="list-style-type: none"> i. how to capture potential effects of climate change on WCPFC fisheries and fish stocks. ii. mechanisms to test the robustness of existing and candidate management procedures under plausible climate change scenarios within the MSE framework. 	SC / TCC / WCPFC papers		
x.	<i>Analyses to support development of Conservation and Management Measures</i>			
	1) Evaluate the potential impacts of existing, new or revised management measures, and the results of which may be suggested to the Commission and/or meetings of its subsidiary bodies as requested.	SC / TCC / WCPFC papers and <i>ad hoc</i> advice, as required	Jan - Dec	
	2) Provide data and advice regarding the revision of CMMs as requested.	SC / TCC / WCPFC papers as required	Jan - Dec	

4. Other advisory and technical services				
xi.	Other advisory and technical services			
	1) Provide support to continue Intersessional Working Groups for 2024, including the SP Albacore Roadmap IWG, noting SPA small working group outcomes (Attachment 18, draft WCPFC20 Summary Report), and the FAD Management Options IWG including review of the effectiveness of paragraph 22 of CMM 2021-01 and other FAD related issues tasked by the Commission.	SC paper	Mid-July	
5. Oversight of WCPFC-funded or supported projects				
xii.	1) Oversight of the Commission supported projects (as of January 2024) and appropriate reporting on each as per individual contracts: <ul style="list-style-type: none"> • Project 35b: Maintenance of the WCPFC Pacific Marine Specimen Bank • Project 42: Pacific Tuna Tagging Program • Project 60: Purse seine species composition • Project 90: Fish weights/lengths for scientific analysis • Project 100c: Application of CKMR • Project 108: Silky shark stock assessment in the WCPO • Project 109: Training observers for elasmobranch biological sampling • Project 110: Non-entangling and biodegradable FADs • Project 114: Improved coverage of cannery receipt data • Project 115: Recruitment of skipjack tuna in the equatorial pacific • Project 117: Tuna biological sampling • Project 118: Billfish biological sampling • Project 119: Additional work on trialling and supporting development of non-entangling and biodegradable FADs • Project 120: Updated reproductive biology of tropical tunas • Project 122: Scoping study on longline effort creep in the WCPO • Project 123: Scoping the next generation of tuna stock assessment software • Project 124: Oceanic whitetip shark stock assessment in WCPO 			

	2) Provide a “provisional” list of the SPC-OFP documents for SC20 to the WCPFC Secretariat (Science Manager) as early as possible but no later than by 30 April 2024 for the finalization of the SC20 provisional agenda.			
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III. Financial Support to be provided by the Commission

The financial support to be provided by the Commission to SPC’s OFP for the services outlined above is as follows:

Item	Cost basis	USD
Data management, stock assessment, and other advisory and technical services	Costs based on SPC costs of scientific staff positions, administration costs, travel to SC, TCC and WCPFC annual sessions, and computer support.	1,000,734
Providing essential computer support and software development for stock assessment ⁴		180,204
SPC’s additional stock assessment scientist		165,000
Total Commission funding		1,345,938

IV. Schedule for Payments and Bank Details for Payment

The schedule of payments shall be as follows:

28 February 2024 (or before)	USD 336,486
30 April 2024 (or before)	USD 336,484
30 June 2024 (or before)	USD 336,484
30 September 2024 (or before)	USD 336,484

Name of Bank	Banque de Nouvelle-Caledonie
Address	25 av Henri Lafleur Victoire, Noumea, New Caledonia
Account name	La Communauté du Pacifique - USD
Account Number (IBAN/Swift code)	IBAN : FR76 1488 9000 8181 7160 0101 206 Swift Code: CEPANCNM

⁴ Terms of reference for this resourcing includes, but is not limited to:

- Further enhancement of MULTIFAN-CL and its use in stock assessment to implement SC recommendations
- Maintain and further develop the MULTIFAN-CL website to facilitate access to software and support
- Continue to implement a formal framework for management of MULTIFAN-CL code updates, testing new developments, training, and updating the users’ guide

Rhea Moss-Christian
Executive Director, WCPFC

Date: _____ February 2024

Paula Vivili
Deputy Director General (Science and Capability), SPC

Date: _____ February 2024

WCPFC20 approved SC19 Budget (December 2023)

ANNEX 1 (continued)		<i>Approved budget 2024</i>	<i>Indicative budget 2025</i>	<i>Indicative budget 2026</i>
Part 2 - Science and Technical & Compliance				
Programme Section 2 (Item 2)				
Sub-item 2.1	Scientific Services (SPC)	1,000,734	1,020,749	1,041,164
Sub-item 2.2	<i>Scientific Research</i>			
	Additional Resourcing SPC	180,204	183,808	187,484
	SPC 1st additional stock assessment scientist	165,000	168,300	171,666
	P35b Pacific Marine Specimen Bank	107,373	109,520	111,711
	P42 Pacific Tuna Tagging Project	800,000	875,000	950,000
	P68 Estimation of Seabird Mortality	0	0	30,000
	P90 Fish Lengths/Weights Conversion Analyses	20,000	20,000	0
	P108 WCPO silky shark assessment	100,000	0	0
	P113b Template for stock status/manag. advice	40,000	0	0
	P114 Improved cannery receipt data	60,000	35,000	0
	P120 (P19X5) Updated reproductive biol. of trop. tunas	44,000	0	0
	P121 (P19X6) Ecosystem and Climate Indicators	0	20,000	15,000
	P122 (P19X7) Scoping study on longline effort creep	30,000	0	0
	P123 (P19X8) Scoping next generation of assess. software	50,000	50,000	50,000
	P19X9 Manta/mobulid/whale shark assessment	0	56,000	0
	P124 (P19X10) Oceanic whitetip assessment	60,000	60,000	0
	P19X11 Sampling strategy for shark bio data	0	40,000	45,000
Total, sub-item 2.2		1,656,577	1,617,628	1,560,861