WCPFC PACIFIC MARINE SPECIMEN BANK
STEERING COMMITTEE

ELECTRONIC MEETING
29th July 2025 (from 11:30-12:00 hours Pohnpei time (UTC+11 hours))

Report of the Pacific Marine Specimen Bank Steering Committee

WCPFC-SC21-2025/RP-P35b-02

PMSB Steering Committee

1. PRELIMINARIES

The 7th meeting of the Pacific Marine Specimen Bank Steering Committee was held via video conference through Microsoft Teams at 11.30 am - 12 pm, Noumea time, on 27th July 2025, in preparation for the 21st Regular Session of the WCPFC Scientific Committee (SC21).

A list of meeting participants is provided in Annex 1 of this report.

Background

The WCPFC Pacific Marine Specimen Bank (hereafter, PMSB) is a repository of biological samples from marine specimens collected from across the WCPO, and its ongoing operation is now funded by WCPFC through Project 35b. WCPFC established its PMSB so that national and international fisheries research institutes could access the collections needed to advance our understanding of the dynamics of tuna and related species in the WCPFC region (including analyses to estimate spatially- and temporally-explicit age, growth and reproductive parameters, and to investigate stock structure, for consideration within future stock assessments). In a broader ecosystem context, the collections are also used for trophic analyses, including diet studies, measurement of stable isotopes, mercury and other biochemical elements for exploring trophic structure and movement, in addition to taxonomic studies. The dedicated website of the PMSB is accessible at: https://www.spc.int/ofp/PacificSpecimenBank.

The objective of Project 35b is to maintain the PMSB, with particular emphasis on WCPO bigeye, yellowfin, albacore and skipjack tunas and swordfish, and, to facilitate transmission of samples to specified researchers with due cognizance of the WCPFC PMSB Access Protocols. SPC as the Scientific Services Provider (SSP) is tasked with maintaining and developing the PMSB, and through the biological sampling programme, expanding the inventory of samples held.

In 2018, it was agreed to run the process of PMSB reporting in a similar manner to the PTTP (Project 42) at SC15, with a brief report of the PMSB Steering Committee presented to the SC Plenary by its chair (i.e. this report). This serves to expedite the work of the Scientific Committee whilst giving adequate time to discuss details of the PMSB activities during the Steering Committee meeting.

1.1: Review and adoption of agenda

The provisional agenda for the PMSB Steering Committee meeting was adopted and is provided in Annex 2.

2. PMSB PROGRESS REPORT

Prior to the PMSB Steering Committee meeting, a progress report to SC21 on PMSB activities during 2024 (SC21-RP-35b-01) was finalised, posted on the SC21 website at https://meetings.wcpfc.int/node/26640 and made available to meeting participants. A presentation summarising the progress report was given at the meeting. Below we outline the key information presented to participants under Agenda item 2.

2.1: PMSB activities – Between 1 January 2024 and 31 December 2024, 112,535 new biological samples, taken from 49,128 fish, were added to PMSB holdings. The PMSB now houses 353,220 biological samples taken from 163,977 individual animal specimens.

2.2: Observer-based sampling – Since 2023, significant efforts were made by the SPC and the Fisheries Authorities in countries to revitalize the biological sampling programme by Fisheries observers. In particular, the development of new Letters of Agreement (LOAs) with national agencies and a strong focus on capacity building have already contributed to tangible improvements.

2.3: Port sampling – Since COVID19 pandemic, the number of fish sampled increased exponentially to reach 47,967 fish sampled in 2024. These achievements were possible thanks to our partnerships with NIWA, MRAG Asia Pacific Pty, Soltuna Cannery in the Solomon Islands, DR Fishing Ltd in Papua New Guinea, SOCSKARGEN Federation of Fisheries and Allied Industry Inc. / Bureau of Fisheries and Aquatic Resources (SFFAII/BFAR) in the Philippines, Westport Seafood in the USA and Territory Seafood in Canada

2.4: Training – During 2024, 43 observers, port samplers and fisheries officers undertook training in biological sample collection.

PIRFO Training material is now hosted on Moodle and each country has a platform that they can administer.

A debriefing checklist was developed and Standard Operating Procedures for trainers in delivering PIRFO biological sampling training is still under development.

Training data, including details of the training (date, location of training, trainer's name) and information on units completed by the trainees and associated scores, is now hosted on BioDaSys.

2.5: *OnShore* and *OLLO* apps – In 2024, 98% of the fish sampled by port-samplers were entered using OnShore and 51% of the fish sampled by observers at sea were entered using Ollo. SPC continue to generalise the use of biological sampling ER by developing a new application that allows the data collection of fish sampled on purse seiners and during scientific cruises. The objective in the next few years is to have data for all biological samples that are collected entered through these applications.

2.6: PMSB access and outputs – Several informal enquiries were around sample availability and access rights in the context of future collaborative projects.

As of 31 December 2024, 14 projects are classified as 'pending' (i.e. work in progress) in accessing samples from the PMSB for WCPFC-related work, led by SPC and/or other national and international organisations (Table 3). Sixty-three projects utilising PMSB samples are 'completed'.

Seven papers linked either directly or indirectly to the PMSB, were submitted to SC20 in 2024 as Information Papers or Research Papers. A total of twelve other books, peer-reviewed journal articles, conference papers or popular articles associated with PMSB work were published in 2024. These are Allain et al. (2024), Anderson and Ruibal -2024), Andrews et al. (2024), Andrews and Macdonald (2024), Dahl et al. (2024), Barbin (2024), Barbin et al. (2024), Hardy et al. (2024), Machful et al. (2024a ; 2024b), Medieu et al. (2024a, 2024b) and Walker et al. (2024).

Initial contact was made with the National Focal Points of Samoa, Tonga, New Zealand, Fiji, the Cook Islands, and New Caledonia to introduce the CKMR project and broader PMSB activities, and to ensure that our work aligns with each country's vision for access and benefit-sharing of genetic data. The outreach will be extended to the remaining PICTs by the end of 2025.

2.7: Some 2024 highlights

- Close-Kin Mark-Recapture (CKMR) project – CKMR project is the most ambitious CKMR assessment in the literature to date, as it is projected to require sampling between 36,000 and 84,000 individuals over three years to achieve an absolute abundance estimate with 15% CV or less. Since sampling began in 2023, the PMSB has collected roughly 36,000 high quality genetic samples. Please see SC21-SA-WP-09 for a more thorough update on Project 100c.
  The CKMR sampling infrastructure (staff trained on a genetics-specific sampling method, shipment and logistics support, etc) has also allowed for the proposition of other genetic projects.
  The production of genetic information for tens of thousands of SP albacore from across the WCPO has prompted the design of a more formal genetic data housing plan as part of the PMSB, which until now has been managed ad hoc for small projects. At present, the expectation

is to build a space for permanent storage of all raw genetic sequencing data into an upcoming SPC-FAME-wide data hub

- TIPTOP project – Project's objectives were to provide knowledge on the bioaccumulation of persistent organic pollutants (POPs) such as pesticides, and on the presence of mercury, plastics and plastic additives in tuna from the south-west Pacific. The results show:

  -Tuna contamination by POPs exists but levels of contamination in tuna remain low → no health risk in relation to these substances
  -Stomachs of 6 out of 20 tuna contained plastic fragments or fibres >2mm
  -Two plastic additives in particular have been detected in tuna. There are no health standards for these substances
  -Mercury concentrations are higher in NC than in PNG (surprisingly in NC the values are higher in SKJ than in YFT). All the values measured are below the health threshold
  -Consumption of the two species of tuna provides a wide range of fatty acids, including omega-3s, which are beneficial to health.
- Laboratory construction in SPC Nouméa – Dry and wet labs extension in Nouméa are now operational and the taxonomy laboratory has been fully renovated. Altogether these cutting-edge facilities now measure 255 square meters and will be used for research and training purposes.

Steering Committee discussion on Agenda item 2

The Steering Committee found the TIPTOP project interesting, suggested that it should be brought to the attention of the SC and wondered whether these projects are approved by the WCPFC.

SPC clarified that Information Papers (IPs) have already been submitted during some SC meetings and that these are satellite projects connected to other WCPFC-approved projects. TIPTOP-related project on mercury was already submitted to SC20, but it could be resubmitted to SC22 as a Working Paper. A suggestion was made to include in the SC21 recommendations to the PMSB Steering Committee that a paper be presented at SC22 on isotope, mercury and other pollutant studies.

The Steering Committee replied that this option was worth considering and that the chairs of the relevant theme would be consulted.

3. WORK PLAN 2025-26

3.1 : General work plan

The PMSB work plan for the coming year was presented. Actions planned for 2025-26 include:

- Continue to update and improve training materials for biological sampling.
- Continue the development and enhancement of electronic recording ER apps and associated trainings.
- Continue the development of a WCPO-wide sampler network for the collection of tuna genetics samples.
- Continue the development of our Quality Management System to meet international standards.
- Development of the PMSB website to better highlight the use of the PMSB samples and associated outputs.
- Trial and implement a new, more systematic approach to biological sample collection.

4. ADMINISTRATIVE MATTERS

4.1: Budget – The annual cost of supporting the PMSB is USD 97,200 baselined in 2018, with an annual inflation adjustment agreed by the Commission in 2018 for out-years.

The Steering Committee was reminded that the approved budget for 2025 was USD 109,522, and the proposed budget for 2026 is USD 111,710, with indicative annual budgets for 2027 and 2028 are USD 113,945 and USD 116,223 respectively. This comprises 60% for PMSB coordination, information management and training for samplers, 23% for sampling fees and freight, and 17% for the additional storage facility in Brisbane.

To fully deliver the PMSB, SPC supplements the WCPFC budget through additional funding sources by approximately USD 120,000.

The summary of the completion of activities (as per the WCPFC agreement with the SSP for Project 35b activities) and the summary of the milestones and budget for 2024 activities are provided as Annex 3 to this report.

4.2: Recommendations to SC21 – The PMSB Steering Committee endorsed the SC21 recommendations specified in SC21-RP-P35b-01_rev1:

- Continue to support initiatives to increase rates of biological sampling, especially by fisheries observers at sea, noting that this contribution is essential to the ongoing success of the WCPFC's work.
- Incorporate the identified budget into the 2026 budget and the 2027-28 indicative budgets, as development of the WCPFC PMSB is intended to be ongoing and is considered essential.
- Endorse that the work plan in Section 5 of this report should be pursued by the scientific services provider, in addition to standard duties associated with maintenance and operation of the WCPFC PMSB in 2025-26.
- Endorse that a Working Paper should be presented at SC22 on isotope, mercury, and other pollutant studies.

Steering Committee discussion on Agenda item 4

The Steering Committee pointed out an error in the budget dates.

SPC replied that the presentation and SC report would be updated accordingly.

5. ADOPTION OF REPORT

This draft report was sent to meeting participants 2 weeks prior to the 7th PMSB Steering Committee meeting. Comments were invited from registered participants up until 17:00 Pohnpei time (UTC 6:00) on 01 August 2025, following which a final endorsed version was posted on the SC21 website (i.e. this report). Please direct any comments and suggestions to Francois Roupsard (francoisr@spc.int) at SPC.

Annex 1 – Attendee list of the 2025 PTTP/PMSB Steering Committee

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Annex 2 – Adopted agenda of the 2025 PMSB Steering Committee.

WCPFC PACIFIC MARINE SPECIMEN BANK
STEERING COMMITTEE

ELECTRONIC MEETING
29th July 2025, from 10:30-11:00 hours Pohnpei time (UTC+11 hours)

AGENDA

WCPFC-SC21-2025/02

1. PRELIMINARIES

1.1 Review and adoption of agenda

2. PMSB PROGRESS REPORT

2.1 PMSB Activities (WCPFC-SC21-2025/RP-P35b-01)
2.2 Observer-based sampling
2.3 Port sampling
2.4 Training
2.5 *OnShore* and *Ollo* apps
2.6 PMSB access and outputs
2.7 Some 2024 highlights

3. WORK PLAN 2025

3.1 General work plan

4. ADMINISTRATIVE MATTERS

4.1 Budget
4.2 Recommendations to SC21

5. ADOPTION OF REPORT

Annex 3 – Summarised PMSB activities and achievements for 2024.

2024 SCOPE OF WORK	ACHIEVEMENT	REFERENCE
Maintain and develop: • the public SPC webpage; • a web-accessed database holding non-public data; • a relational database that catalogues the samples to include fishery/sampling metadata; and • the Brisbane (CSIRO) storage site.	See www.spc.int/ofp/PacificSpecimenBank ER systems for observers and port samplers upgraded to include biological sampling.	Section 2.3 and 2.4 SC21-RP-P35b-01rev1
Tissue sample utilisation and a record of outcomes/outputs will also be detailed in the relational database	See www.spc.int/ofp/PacificSpecimenBank and section 3 in SC21-RP-P35b-01rev1	SC21-RP-P35b-01rev1
Subject to approval by the WCPFC Executive Director: • metadata will be made available to institutions or organizations responsible for providing scientific advice in fisheries through the web-accessible component of the database, and subsequently, and • SPC-OFP will facilitate the transmission of requested samples to specified researchers/organisations, and the return of unused and/or processed samples to the relevant storage facility.	See section 3.4 and Table 4 SC21-RP-P35b-01rev1	SC21-RP-P35b-01rev1
As agreed at SC20RP-P35b-03, the Scientific Services Provider will: • support initiatives to increase rates of observer biological sampling; • complete the Work Plan 2024-2025 in WCPFC-SC20-2023/RP-P35b-02.	New LOAs developments so sampling at sea is expected to increase in 2025. Port sampling increased and reached a record year. Workplan completed.	SC21-RP-P35b-01rev1
OUTPUTS AND SCHEDULE		
2024 progress report to the WCPFC Secretariat.	https://meetings.wcpfc.int/node/26640	SC21-RP-P35b-01rev1
Conduct of the annual WCPFC PMSB Steering Committee meeting on 2024 activities.	https://meetings.wcpfc.int/node/26641	SC21-RP-P35b-01rev1
Steering Committee meeting report, including WCPFC PMSB work plan for the following year.	https://meetings.wcpfc.int/node/26641	SC21-RP-P35b-01rev1
Submission of an annual project final report to the WCPFC Secretariat by 31 December 2025.	Due December 2025	