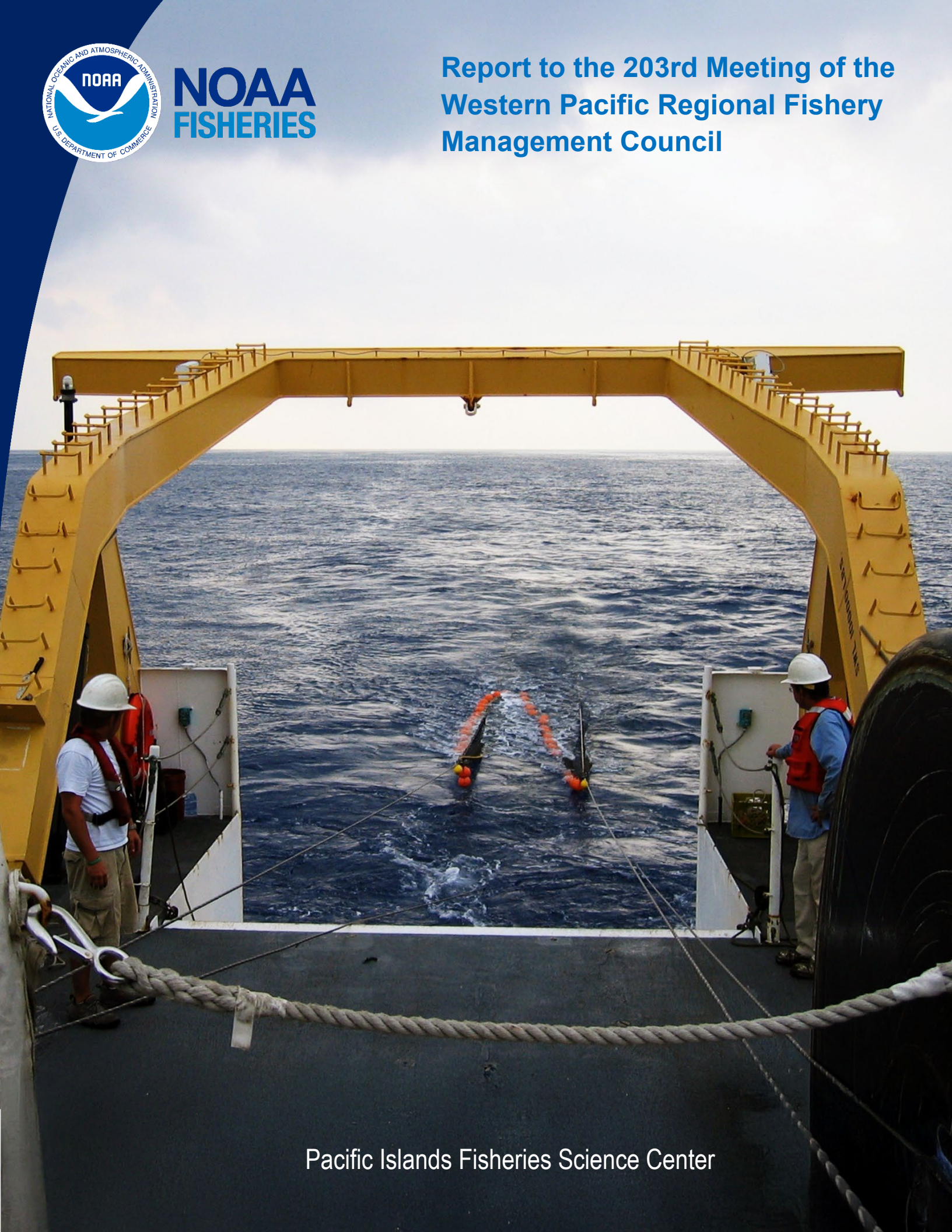
NOAA FISHERIES

Report to the 203rd Meeting of the Western Pacific Regional Fishery Management Council



Pacific Islands Fisheries Science Center

Report to the 203rd Meeting of the Western Pacific Regional Fishery Management Council

Pacific Islands Fisheries Science Center

Pacific Islands Fisheries Science Center
National Marine Fisheries Service
1845 Wasp Boulevard
Honolulu, HI 96818

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Cover Photo: Cobb trawl at work. Photo credit: NOAA Fisheries.

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Table of Contents

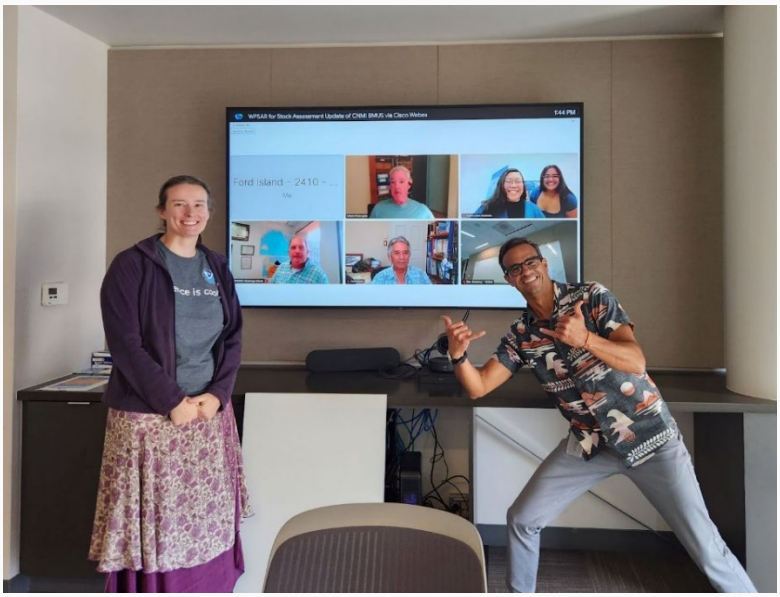
Executive Summary

The Pacific Islands Fisheries Science Center (PIFSC or Center) administers and conducts scientific research and monitoring programs that produce science to support the conservation and management of fisheries and living marine resources. This is achieved by conducting research on fisheries and ocean ecosystems and the communities that depend on them throughout the Pacific Islands region and by dedicating efforts to the recovery and conservation of protected species. The Center is organized into four major divisions: the Operations, Management, and Information Division (OMI); Fisheries Research and Monitoring Division (FRMD); Protected Species Division (PSD); and Ecosystem Sciences Division (ESD).

PIFSC continues to improve its science and operations through collaboration and integration across divisions and increased communication, cooperation, and coordination with partners and stakeholders. This report highlights research, projects, activities, and other events that are of direct interest to the Council including the Western Pacific Stock Assessment Review of the CNMI bottomfish complex, Marine Resource Education Program (MREP) Western Pacific Fisheries Science and Management Workshop, the annual SPC Pre-Assessment Workshop, restoration of Cobb trawl capabilities on NOAA Ship *Oscar Elton Sette,* and a list of our published research from this reporting period.

Western Pacific Stock Assessment Review: 2025 CNMI Bottomfish Complex

The Western Pacific Stock Assessment Review (WPSAR) of the 2025 Commonwealth of the Northern Mariana Islands Bottomfish Management Unit Species (BMUS) complex stock assessment update took place from April 2–3, 2025. The WPSAR resulted in a consensus that this assessment update is the best scientific information available for the Council to use for fisheries management decisions. The review panel was composed of members of the Western Pacific Fishery Management Council's Scientific and Statistical Committee, including Dr. Milani Chaloupka, who chaired the panel, Mr. David Itano, and Ms. Keena Leon Guerrero. Dr. Erin Bohaboy, Research Fish Biologist from the PIFSC FRMD Assessment and Research Branch, presented the draft assessment to the panel highlighting that the assessment update involves incorporation of additional years of data since the last benchmark assessment in 2019. The preliminary results of the assessment show that the CNMI BMUS stock is not overfished, and the fishery is not experiencing overfishing. The panel reviewed the assessment based on the SSC-endorsed Terms of Reference. The panel also provided several recommendations including improvements to the CPUE standardization methodology using single likelihood rather than a multiphase likelihood, deeper exploration of the species composition changes over time, effects of new technology and shark depredation to CPUE, and the possibility of running an archipelago-wide assessment. More details can be found in the panel reviewer's reports.

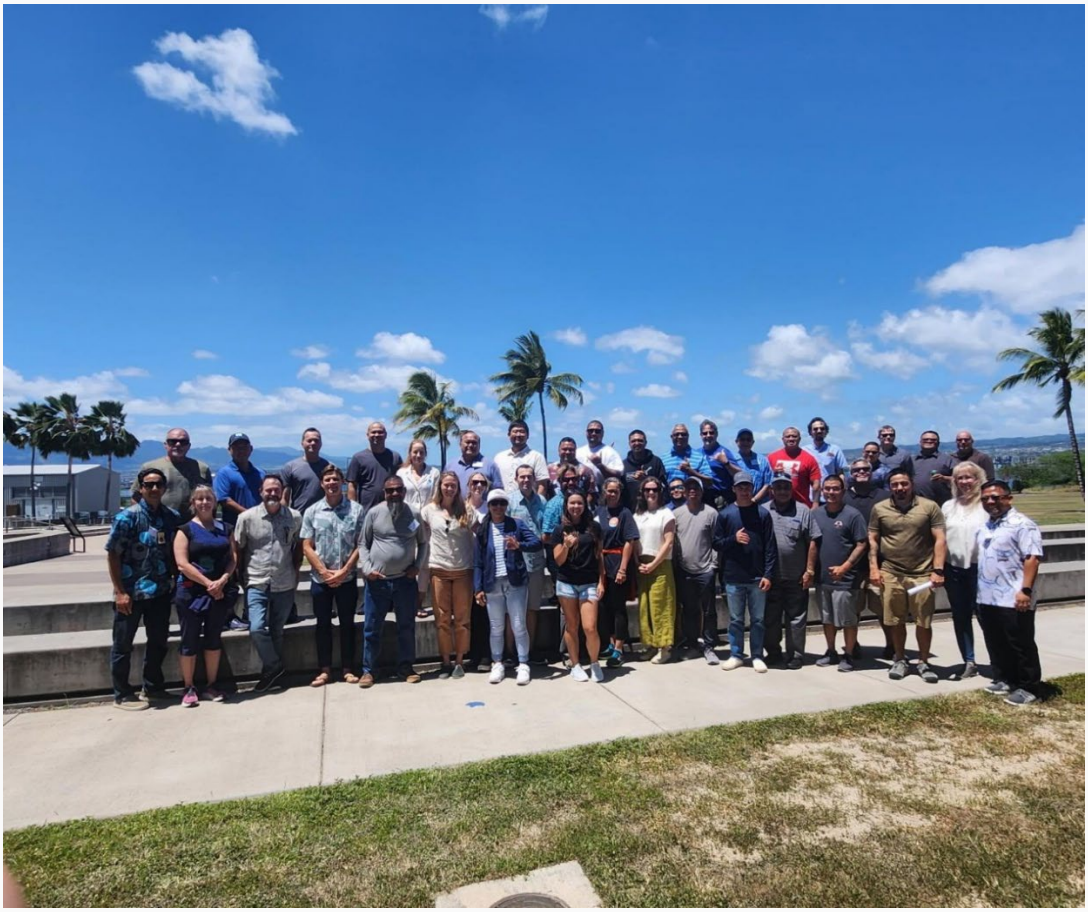


Dr. Erin Bohaboy and Dr. Felipe Carvalho with the WPSAR panel reviewers and WPSAR coordinating committee members (virtual) at the CNMI BMUS WPSAR.

Marine Resource Education Program (MREP) Western Pacific Fisheries Science and Management Workshop

The inaugural Pacific Islands Marine Resources Education Program was held in Honolulu on April 4–10, 2025, at the Ala Moana Hotel. The Pacific Islands MREP was funded through a cooperative agreement between NMFS and the Gulf of Maine Research Institute. The Pacific Islands MREP curriculum was developed by the fisher representatives from American Samoa, Guam, CNMI, and Hawai‘i with support from PIFSC, PIRO, and the Western Pacific Fishery Management Council. There were 54 individuals in attendance composed of fisher participants, presenters, moderators, and MREP staff.

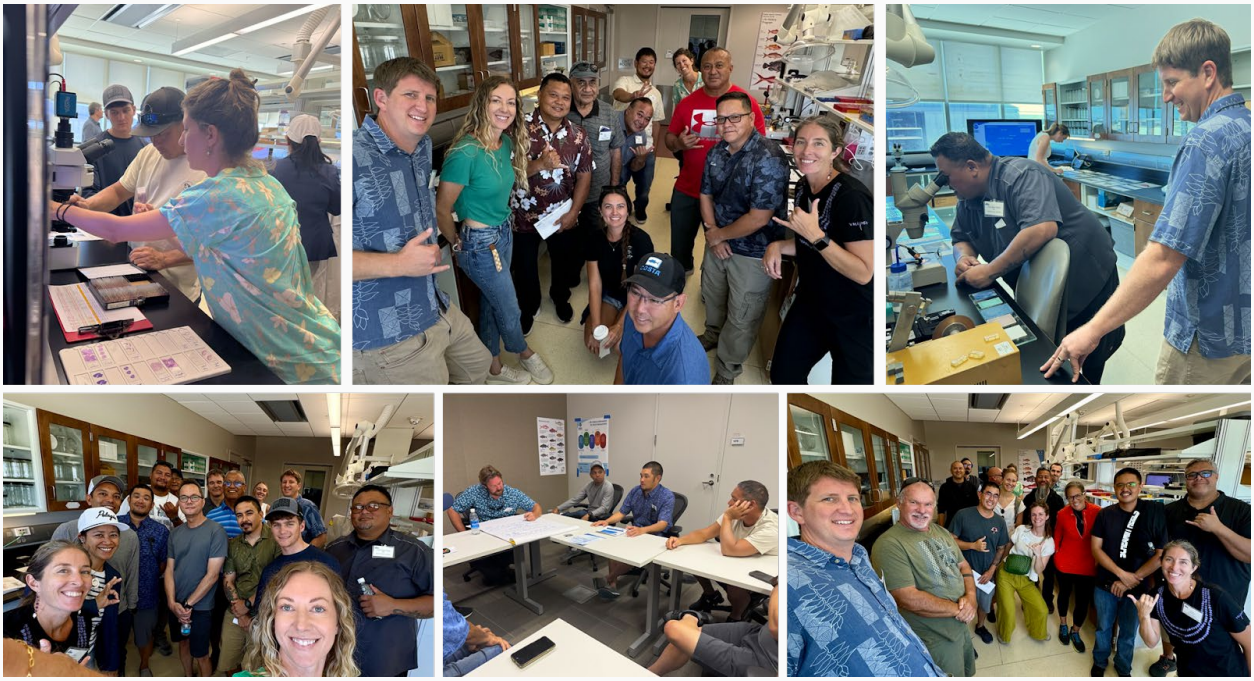
PIFSC and PIRO hosted a one-day session at the Inouye Regional Center on April 7, 2025. PIFSC Director, Dr. Charles Littnan, and PIRO Regional Administrator, Sarah Malloy, gave their welcome remarks and provided a brief overview and highlights of their respective offices. This was followed by plenary presentations by Ben Richards on data collection and importance of fishery-independent surveys, Ryan Rykaczewski on large-scale oceanography, and Jamison Gove on island-scale oceanography.



Pacific Islands Marine Resources Education Program participants at the NOAA Inouye Regional Center.

The participants were divided into small groups and divided into three stations: (1) Life History; (2) Knowledge Co-Production; and (3) Fishery-Independent Surveys. The Life History Program welcomed fishers and fishery managers into the life history lab as part of the MREP Workshop. The program led demonstrations on fish biosampling, otolith processing, and fish reproduction. The entire portfolio of the Life History Program was discussed, engaging fishers in the process and connecting fishers with life history scientists. Participants left with a greater understanding of the sampling processes, the data sources, and how these data are used in fisheries management. This engagement reinforced past relationships, built new relationships, and forged bridges between fishers and fisheries science.

The Knowledge Co-Production session emphasized the importance of capturing fisher knowledge and incorporating it in scientific products. Highlighting fishers' established experience helped strengthen the network between scientists and fishers after this session. The Fishery-Independent Survey imparted detailed information on the fishery-independent survey process and described ways to involve fishers to allow them to participate in cooperative research.



Highlights from the MREP Workshop field trip to the PIFSC. Clockwise from top left: Erin Reed giving a demonstration to participants (mainly fishers, from all jurisdictions) on reproductive biology and gonad histology; LHP and fisher selfie of group 1 (of 3); John Wiley giving a demonstration of reef fish otolith sectioning and ageing; LHP and fisher selfie of group 2 (of 3); Jamie Barlow in a listening session on incorporating fishers' knowledge into life history; and LHP and fisher selfie of group 3 (of 3).

FRMD staff presented at Ala Moana on April 8–9, 2025, on specific topics. Marlowe Sabater provided a hands-on role-playing activity where small groups of fishers fished for M&Ms using chopsticks and spoons simulating fisheries with different CPUE, and data were collected in three fishing runs. Data were transcribed and the group reviewed the results. Marlowe also presented on “Bridging Fishers, Science, and Management” that described the process of each step from data generated by fishing activities to data collection, data analysis, assessment development, peer-review, handing off the scientific product to fishery managers, and finally to fishery regulations. It provided a seamless flow from available information to becoming best scientific information available. Marc Nadon presented on the stock assessment process. There was great interest in this topic and fishers were eager to help bolster the information used in assessments.

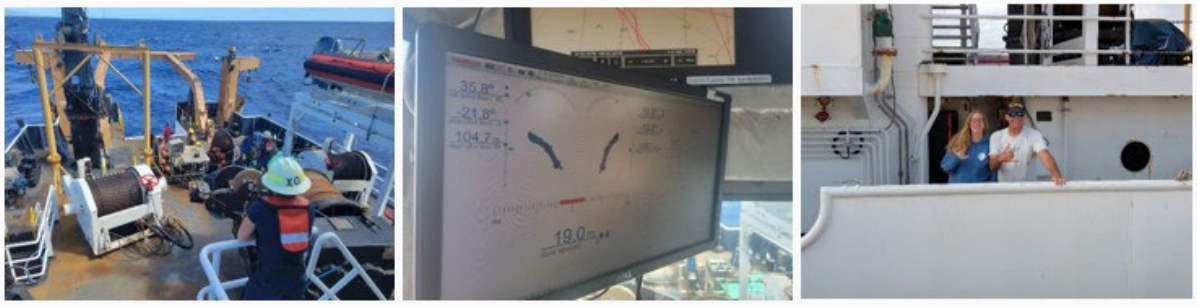
Increasing Collaboration with SPC: Annual Pre-Assessment Workshop

Staff from PIFSC Assessment and Research Branch, including Felipe Carvalho, Nicholas Ducharme-Barth, and Michelle Sculley participated in the 2025 Pre-Assessment Workshop (PAW), hosted by the Pacific Community (SPC) in Noumea, New Caledonia, from April 7–11, 2025. The hybrid event convened technical experts to inform upcoming stock assessments of skipjack tuna, oceanic whitetip shark, southwest Pacific swordfish, and a revised assessment of southwest Pacific striped marlin.

Nicholas Ducharme-Barth co-led technical discussions on ensemble modeling and presented a Shiny application designed to compare outputs across Stock Synthesis models. Nicholas also supported the integration of open science principles into SPC's workflows, sharing strategies for enhancing transparency and reproducibility. He collaborated with SPC staff to establish a Transparent Assessment Framework (TAF) repository and explored the use of artificial intelligence to streamline workflows. Ducharme-Barth also engaged in the tuna longline CPUE steering committee and discussed the upcoming southwest Pacific swordfish assessment and the Oceanic Population Age-Length Simulation Model (OPAL) framework for next generation tuna models. Carvalho and Sculley supported scientific discussions on workshop topics. Assessments planned and discussed at the workshop will be submitted to the Scientific Committee of the Western and Central Pacific Fisheries Commission for review.

Restoration of Cobb Trawl Capabilities on NOAA Ship *Oscar Elton Sette* Advances Pelagic Ecosystem Research

In March 2025, PIFSC successfully redeployed the Cobb trawl system aboard the NOAA Ship *Oscar Elton Sette*, marking the first functional use of the dual-warp trawl in over eight years. Mechanical issues and a cycle of troubleshooting, repairing, and testing had stymied use of the large net. This achievement directly supports Priority Focus Area 3 (PF3) of the WPRFMC Five-Year Research Priorities by enabling improved assessments of the distribution, life history, and spawning activity of pelagic management unit species. In comparison to smaller, single-warp nets that have a mouth opening of up to two meters, the larger (15-meter) net opening and faster towing speed of the Cobb trawl allows for more effective sampling of micronektonic prey, including fishes and squids that are prey for pelagic species and cetaceans, thereby addressing key data gaps in ecosystem dynamics. The renewed capability also contributes to PF5 by advancing Ecosystem-Based Fisheries Management, helping to gather data on ecosystem composition that can be integrated with other biological and environmental data in modeling frameworks that inform sustainable and dynamic management approaches.



Successful deployment and recovery of the PIFSC Cobb trawl aboard the Sette*, new acoustic information that displays the performance of the net while deployed, and ESD scientists Dr. Johanna Wren and Dr. Joe O'Malley (Chief Scientist) upon their return to dock.*

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