Pacific Community
Communauté du Pacifique

SPC FAME

Fisheries, Aquaculture and Marine Ecosystems

ANNUAL REPORT 2024

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ABBREVIATIONS AND ACRONYMS

ACIAR	Australian Centre for International Agricultural Research
CI	Conservation International
CBFM	community-based fisheries management
CFAP	Coastal Fisheries and Aquaculture Programme (SPC FAME)
CSEPTA	Climate Science for Ensuring Pacific Tuna Access (project)
DFAT	Department of Foreign Affairs and Trade (Australia)
FAD	fish aggregating device
SPC FAME	Fisheries, Aquaculture and Marine Ecosystems (SPC)
FAO	Food and Agriculture Organization of the UN
FFA	Pacific Islands Forum Fisheries Agency
FFC	Pacific Islands Forum Fisheries Committee
GESI	gender equity and social inclusion
HoF	Heads of Fisheries meeting
MCS&E	monitoring, control, surveillance and enforcement
MFAT	Ministry of Foreign Affairs and Trade (New Zealand)
MFMRD	Ministry of Fisheries and Marine Resource Development (Kiribati)
OFP	Oceanic Fisheries Programme (SPC FAME)
PMSB	Pacific Marine Specimen Bank
PEUMP	Pacific-European Union Marine Partnership
PICTs	Pacific Island countries and territories
PFLP	Pacific Fisheries Leadership Programme
PRAS	Pacific Regional Aquaculture Strategy
RFMO	regional fisheries management organisation
RTMCFA	Regional Technical Meeting on Coastal Fisheries and Aquaculture
SCoFA	Sustainable Coastal Fisheries and Aquaculture for Pacific Livelihoods, Food and Economic Security
SDG	Sustainable Development Goal
SPC	Pacific Community
SSAP	Skipjack Survey and Assessment Programme
USAID	United States Agency for International Development
WCPFC	Western and Central Pacific Fisheries Commission

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Foreword

2024 came with both significant progress and unexpected crises, but we remained committed to SPC's goals and continuing to deliver for our members. In 2024, SPC demonstrated agility and resilience, drawing on the lessons learnt from COVID-19 to navigate major challenges. This report is a synthesis of SPC's existing results reporting on service delivery by its fisheries, aquaculture, and marine ecosystems capability.

One of the biggest tests we faced was the crisis in New Caledonia, which disrupted SPC operations and had significant impacts on our staff (noting that 90% of SPC FAME is based in Noumea). SPC prioritised the well-being and support of our people. Through adaptive problem-solving, remote engagement, and the dedication of the entire team, we successfully maintained critical service delivery, like continuing to provide key scientific advice to the Western Central Pacific Fisheries Commission. Our SPC values of *gida gaituvwa* (unity), *aroha* (care), and *enginkehlap* (generosity) were clearly demonstrated by our staff, supported by our donor partners and members, showcasing our resilience, adaptability, and dedication to the region we serve.

2024 was also a year of achievement and growth. We advanced key fisheries science initiatives, strengthened data management and electronic monitoring, enhanced policy development, and finalised the Pacific Regional Aquaculture Strategy. Our commitment to regional collaboration was evident in the outcomes of the 16th SPC Heads of Fisheries, the 7th Regional Technical Meeting on Coastal Fisheries and Aquaculture, the 4th Community-Based Fisheries Dialogue, and 5th Regional Fisheries Ministers Meeting.
At the 16th SPC Heads of Fisheries meeting, members endorsed priorities for enhancing climate resilience in fisheries, strengthening coastal fisheries science, and improving electronic monitoring systems. The meeting also highlighted the importance of data-driven decision-making and supported the integration of innovative technology in fisheries management.

The 5th Regional Fisheries Ministers Meeting highlighted the urgent need for increased resources to support coastal fisheries and aquaculture development. Ministers endorsed five more years of focus on scaling-up community-based fisheries management, emphasising the critical role of traditional knowledge and gender-inclusive approaches in fisheries governance. Their support for improving fisheries data quality and addressing climate change impacts underscored the region's commitment to sustainable fisheries management.

Looking ahead, we remain committed to addressing emerging issues, particularly climate resilience in fisheries, innovation in fisheries science, strategic science assets, sustainable blue economies, digital transformation and expanding leadership development. As we move into 2025, our fundamental focus remains on ensuring that Pacific fisheries and aquaculture resources remain sustainable, equitable, and resilient for future generations.

I extend my deepest appreciation to our member governments, donor partners, and our dedicated staff for their unwavering commitment to delivering for the region. Together, we will continue to navigate *Te Wa* into the evolving landscape of Pacific fisheries, aquaculture and marine ecosystems with determination and *kaitiakitanga* (stewardship).

Neville Smith
Director SPC FAME

About SPC FAME

The Pacific Community (SPC) through the Fisheries, Aquaculture and Marine Ecosystems (SPC FAME) division has been generating scientific evidence, knowledge and innovation to support the sustainable management of regional and national fisheries and aquaculture resources for more than 60 years. Our overarching goal is to ensure that fisheries and aquaculture resources of the Pacific region are resilient, and managed sustainably for economic growth, food security, and cultural and environmental conservation.

SPC FAME's strategic direction is shaped by regional and sectoral fisheries and aquaculture convenings and frameworks. These strategic influences include the Regional Fisheries Ministers Meeting, the Heads of Fisheries (HoF) meeting, the Regional Technical Meeting on Coastal Fisheries and Aquaculture (RTMCFA), and the Community-based Fisheries Dialogue. SPC FAME's priorities are also guided by regional bodies like the Western and Central Pacific Fisheries Commission (WCPFC), the Pacific Islands Forum Fisheries Committee (FFC), Parties of the Nauru Agreement, the South Pacific Group and the Marine Sector Working Group, and by regional frameworks such as the Regional Roadmap for Sustainable Pacific Fisheries and the New Song for Coastal Fisheries. All SPC FAME priorities are aligned with or endorsed by high-level regional structures.

SPC FAME's work is supported by strong partnerships with member governments, regional organisations, donors, academic institutions, civil society, and other divisions within SPC. Our work is achieved through the support of various donors, partners, and SPC internal funding from member contributions.

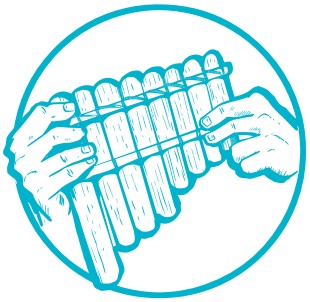
SPC FAME is structured around two programmes of work: the Coastal Fisheries and Aquaculture Programme (CFAP) and the Oceanic Fisheries Programme (OFP), with both supported by the Director's Office. SPC FAME's role is to serve our members' needs through generating scientific evidence, knowledge and innovation, enhancing capacity, and building trusted relationships to support sustainable management of regional and national fisheries and aquaculture resources.
SPC FAME is supporting SPC's mission to progress all Pacific people's rights and well-being through science and knowledge, guided by a deep understanding of Blue Pacific contexts and cultures. To achieve this mission, SPC FAME's 2022–2027 Business Plan outlines seven key objectives. This annual report is structured around these objectives, highlighting achievements during 2024.

Guided by the concept of *te wa* (the I-Kiribati word for canoe), we are journeying towards discovery and learning integrated with Pacific knowledge and empowered by trusting relationships and enduring partnerships that nurture openness and shared responsibilities for our blue ocean.

Fundamental to this journey are our SPC values. Through *Gida Gaituvwa* (Unity), we foster a spirit of togetherness across the Pacific, uniting diverse communities and partners in a shared commitment to sustainable fisheries and aquaculture. In our *Aroha* (Care), we show our dedication to safeguarding marine resources and supporting the well-being of Pacific communities, enabling responsible stewardship and mindful actions that protect both people and ecosystems. As part of *Kaitiakitanga* (Stewardship), we are dedicated to the responsible management and safeguarding of Pacific marine resources, ensuring their sustainability and resilience for current and future generations. Finally, in our *Enginkehlap* (Generosity), we are committed to collaboration with Pacific Island countries and territories (PICTs) that fosters sustainable fisheries, mutual support, resilience, and growth.

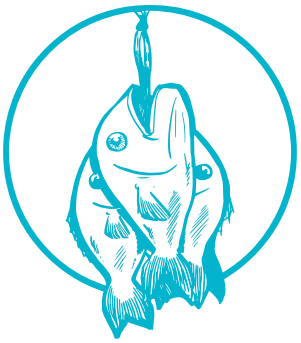
SPC ORGANISATIONAL VALUES

Aroha
Care



Gida Gaituvwa
Unity

Kaitiakitanga
Stewardship



Enginkehlap
Generosity

2024 SPC FAME DONORS

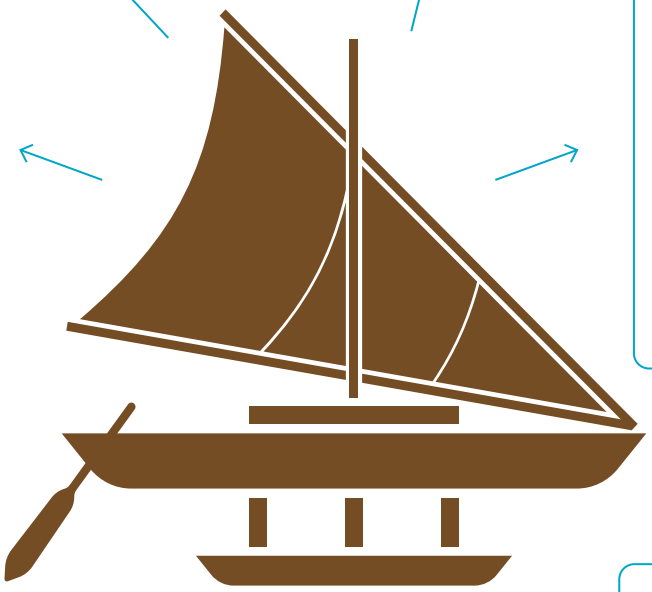
- **Australian Centre for International Agricultural Research (ACIAR)**
- **Australian Department of Foreign Affairs and Trade (DFAT)**
- **Conservation International (CI)**
- **European Union (EU)**
- **Food and Agriculture Organization of the UN (FAO)**
- **French Ministère des Armées**
- **Network of Aquaculture Centers in Asia-Pacific**
- **New Zealand Ministry of Foreign Affairs and Trade (MFAT)**
- **Pacific Islands Forum Fisheries Agency (FFA)**
- **Swedish International Development Cooperation Agency (Sida)**
- **World Bank Group**
- **Tri Marine Management Company**
- **United States Agency for International Development (USAID)**
- **United States Department of State – Bureau of Oceans and Environment and Scientific Affairs**
- **University of Wollongong**
- **Western and Central Pacific Fisheries Commission (WCPFC)**

Regional frameworks, policies, legislation and compliance

Te wa remains a traditional and sacred craft that requires careful planning guided by generational knowledge and specific skill sets that have been passed on from generations. It represents the regional frameworks, policies, legislation, and compliance measures that are developed and endorsed by members to provide regional guidance and direction.

Pacific knowledge integrated with science, innovation and research

The steering paddle (*te bweerua*) helps to move *te wa* forward and is essential for navigation: Pacific sailors are outstanding navigators. They interpreted the formation and colour of clouds to identify islands. Birds and species of fish would give an indication of distance to land. Star paths and ocean swells were used to navigate distances. At SPC FAME, we will use Pacific knowledge, integrated with science, innovation and research, to better inform our journey.



Our people

The sail (*te ie*), mostly made of mat woven by women, harnesses wind to propel *te wa* forward. It represents our people – resilient, adaptive, and equipped with skills and resources to move forward on this journey.

Data management and utilisation

Information about weather and ocean swells are critical to prepare and navigate *te wa*. It represents our ability to manage and provide up-to-date scientific data on fisheries and aquaculture.

Capacity and capability

The **hull** of *te wa* is the main body that carries people and provides storage. It symbolises our role as a provider of technical and scientific advice to our members by embracing emerging technologies, capacity and capability to guide the journey.

Resilience and sustainability

Te wa is made from vegetal components. They are carefully chosen to be flexible, resistant to humidity, sun-proof, shock-proof and able to stand the test of time. It represents our effort in supporting the fisheries and aquaculture sector in the region to be resilient, sustainable and responsible.

Building trust, partnership, and regional coordination

The **outrigger float** (*te rama*) links to the **cross beams** (*te kiaro moti*) that balance and steady the canoe and keep the hull upright. It represents our relationship with our members, partners, donors and stakeholders. The relationship is built on trust, mutual respect and sharing and collaboration. The steadiness rendered provides us with the confidence and support to navigate known and unknown challenges.

1

DELIVERY OF SPC FAME PRIORITIES IN 2024

2024 marked significant progress and unexpected challenges for SPC FAME. In May 2024, shortly after the successful delivery of the 16th Heads of Fisheries (HoF16) meeting, a crisis erupted in New Caledonia, causing widespread civil unrest and disruption. This deeply impacted SPC staff and posed a significant challenge to operations. Despite this, SPC cared for staff, while demonstrating unwavering commitment to service delivery and our goal of supporting sustainable fisheries and aquaculture in the region.

At the outset of 2024, SPC FAME identified annual priorities, endorsed at the HoF16 meeting, aimed at advancing its mission and responding to the evolving needs of its members. These annual priorities and emerging work areas align with the long-term strategic directions outlined in the SPC Strategic Plan 2022–2031 and the SPC FAME Business Plan 2022–2027. A summary of key achievements against these results is presented below.

2024 PRIORITIES	KEY ACHIEVEMENTS
Providing access to critical information and knowledge	• Developed and curated 466 knowledge products, including technical papers, scientific reports, and communication materials • Published 305 social media posts, generating 557,430 impressions • Launched Echoes of Oceania to underpin CMFM regionally
Strengthening data collection and management	• Streamlined the calculation of annual catch estimates • Forum Fisheries Committee adoption of regional electronic monitoring data standards • Progressed the merger of Ikasavea and Tails data collection apps
Conducting scientific research	• Led research on climate change impacts on fisheries including establishing close kin mark-recapture sampling programme • Conducted tuna stock assessment for South Pacific albacore • Published 17 peer-reviewed papers in leading scientific journals
Building regional research infrastructure	• Expanded the Pacific Marine Specimen Bank lab facilities, collecting 52,671 biological samples (a 247% increase from 2023) • Progressed the development of the Pacific research vessel
Supporting sustainable food systems	• Finalised the Pacific Regional Aquaculture Strategy • Contributed to the Regional Framework on Aquatic Biosecurity
Identifying livelihood opportunities	• Supported six PICTs in developing alternative livelihood projects • Coordinating the implementation of the Scaling up Community-Based Fisheries Management Framework
Building capacity in fisheries and aquaculture	• Conducted 83 trainings reaching 1430 Pacific Islanders (30% female, 70% male) • Six participants completed the Pacific Island Fisheries Professionals Program (2 female, 4 male) • Peer exchanges to support coastal fisheries monitoring and social science
Enhancing strategic oversight and operational efficiency	• Enhanced budget tracking, monthly updates and projections • Review and development of Member Request Tracking system • Convened high-level regional meetings, including the HoF16 where 100% of participants surveyed (n = 47) agreed that they gained new knowledge from the meeting

Success story

Science spawns wealth – SPC's tuna tagging legacy

CONTEXT

Tuna is big business in the Pacific. The access fees from tuna fisheries (approximately USD 515 million in 2021) directly support the development aspirations of PICTs. Key to this prosperity is good fisheries science that enables the sustainable management of this vital industry. One of the central sources of data and information for this science is SPC's tuna tagging efforts delivered in partnership with PICT governments, onboard observers, and local communities across the region.

CHANGE PROCESS

SPC's tuna tagging programme has a long history in the region, beginning with the Skipjack Survey and Assessment Programme (SSAP) which ran from 1977 to 1981. SSAP measured for the first time the size of the western and central Pacific Ocean skipjack tuna stock and in so doing, laid the foundations for what has become a USD 81 billion regional fishing industry. Today, this legacy is continued by SPC's Pacific Tuna Tagging Programme and ongoing investment in stock assessment science.

With approximately USD 4 million of donor funding from WorldFish, Australia, France, Japan, New Zealand, the United Kingdom and the United States of America, the ground-breaking SSAP tagged 157,456 skipjack and other tuna. The recaptured tags and their associated data greatly expanded the world's knowledge of skipjack and other tuna species. SSAP quantified not only the size of the skipjack resource (around 3 million tonnes) but its dynamic nature and ability to withstand fishing pressure.

Since the initial SSAP, SPC's tuna tagging programme has evolved from a series of periodic projects to an ongoing, regionally sponsored initiative funded by the WCPFC and South Korea, as well as other partners. As of 2024, SPC has tagged close to 800,000 tuna across the region. The information generated by this tagging fuels the scientific research and advice which SPC provides to fisheries managers both directly and through the WCPFC. In the next evolution of this initiative, SPC is commissioning a Pacific fisheries science vessel, which will ensure that this important work can continue whilst also providing a platform for oceanographic research in partnership with the Pacific Community Centre for Oceanic Science. The research vessel is currently supported by DFAT, MFAT and USAID.

RESULTS AND IMPACT

Since its inception, the tuna tagging programme has had a far-reaching impact on SPC, fisheries, and the Pacific Islands region. In 1977, SPC was a small organisation with no previous experience undertaking such ambitious applied scientific research. To deliver this work, SPC invested in the physical and human capital needed, including acquiring its first computer. The knowledge and expertise of SSAP founder Dr Bob Kearney and other staff who worked on early tagging efforts (Barney Smith and Dr Tony Lewis) inspired the next generation of scientists and leaders in the fisheries sector, including the current manager of the tuna tagging programme.

The data and knowledge from SSAP supported advice that fishing activity could increase dramatically without threatening the sustainability of key tuna stocks. Since 1977, the initial USD 4 million investment in the SSAP has contributed to approximately USD 80.75 billion worth of skipjack catch value (based on FFA data using a conservative 3% potential investment rate). Revenue from fishery access fees flows straight to PICT governments who direct this funding as they see fit, towards their development priorities. In 2021 alone, PICTs received approximately USD 515 million through this revenue stream (Benefish Study 4). Figure 1 shows how the growth in fishing activity post-SSAP has far exceeded comparative growth rates in other fishing regions whilst, currently, no target tuna species is at threat of overfishing within the region.

Lastly, the work of the tuna tagging programme has also contributed to the generation of new scientific knowledge of the biology of skipjack and other species. To date, tuna tagging data have contributed to 97 reports and papers on stock assessments.

LESSONS LEARNED

Science spawns wealth

Long-term investment in science can have transformative economic impact for the region. The growth of the skipjack tuna fishery following the SSAP is a testament to this. SPC members have continued to support investment to ensure that as catches grow, skipjack tuna is not overfished. The ongoing efforts of SPC's tuna tagging programme enable both PICTs and foreign fishers to continue developing the industry with confidence.

Continuous monitoring is essential

The dynamic nature of tuna fisheries requires ongoing tagging efforts. Although the SSAP was key to unlocking the Pacific's tuna resources, one-off projects every few years do not provide the consistent data needed for accurate stock assessments and ongoing sustainable management.

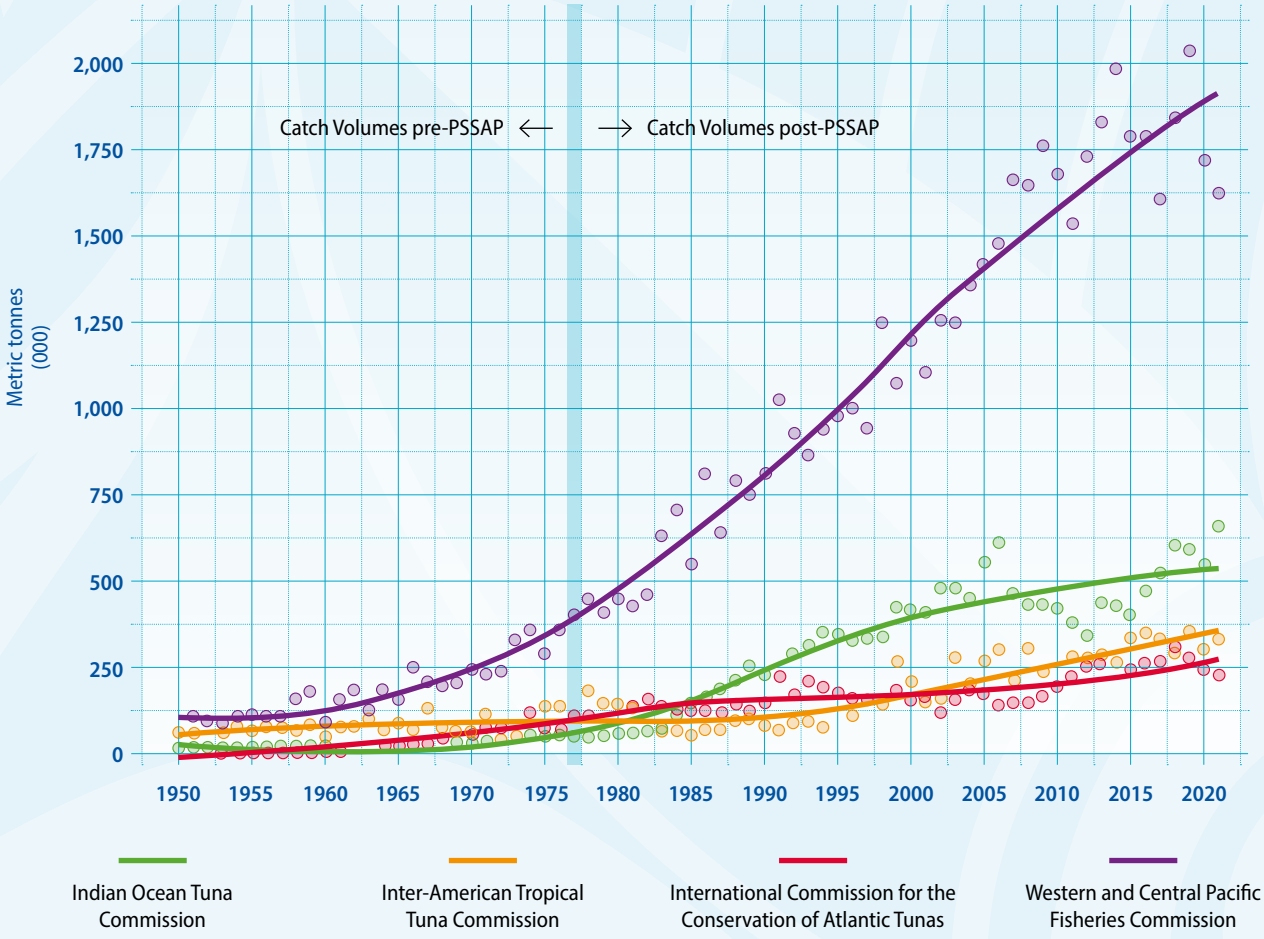
Patience is needed to do big things

Logistically, tuna tagging across the region is an immensely complex and challenging exercise. The many moving parts take time to navigate, whether it is seeking permission from local communities to access their bait fishing grounds, clearing customs and immigration at port, or even just catching fish aboard the vessel itself. In a wider sense, it has taken time to see the impact of the initial SSAP; as one of the original seed funders the Rockefeller Foundation (through WorldFish) wrote in 1980:

"It might be noted that had this grant been evaluated shortly following its termination […], few if any of the above comments concerning its success could have been made. Seed grants need time to grow."

Rockefeller Foundation, September 29, 1980

Figure 1 **Global annual skipjack tuna catch volumes.**



A tuna tagging trip in Solomon Islands in 2022.

The team behind the SSAP. From left to right: Barney Smith, Tony Lewis and Bob Kearney (founder of the SSAP) at a meeting in Cronulla in 1973, whilst all three were working for the PNG Department of Agriculture, Stock and Fisheries. (Image: Barney Smith collection)

TUNA TAGGING TIMELINE IN THE PACIFIC

2023 — PMSB reaches over 200,000 biological samples, becoming a major resource for stock assessment and environmental research.

2022 — Management Procedure for Skipjack Tuna adopted under WCPFC CMM 2022–01. Management Procedures are a key component of harvest strategies that determine how much fishing can take place given the status of a stock based on pre-agreed rules.

2021 — At the 13th Heads of Fisheries meeting, SPC members endorse the development of a science research vessel for the Pacific to continue fisheries and ocean science efforts including tuna tagging work.

2021 — Publication of "Pathways to sustaining tuna-dependent Pacific Island economies during climate change" in *Nature Sustainability*, detailing the projected impacts of climate-induced tuna migration on Pacific economies. Tuna tagging data informs the modelling for skipjack, bigeye and yellowfin tuna.

2014 — WCPFC12 (12th Regular Session of the WCPFC) agrees on a workplan to develop harvest strategies for skipjack, yellowfin, bigeye, and South Pacific albacore tuna, marking a significant step in modernised evidence-based fisheries management.

2010 — Expansion to electronic tagging – introducing archival and sonic tags to improve tracking of tuna movements and behaviour.

2010 — Pacific tuna market reaches USD 5 billion in catch value, demonstrating sustained growth in Pacific tuna fisheries.

2006 — Pacific Tuna Tagging Programme begins – the largest and most comprehensive tuna tagging initiative in the Pacific, aimed at reducing uncertainties in stock assessments.

2001 — The Pacific Marine Specimen Bank (PMSB) is established to store biological samples for research on tuna growth, reproduction and environmental contaminants. These samples are caught during tuna tagging cruises, observer trips and scientific trips.

1998 — SPC begins using MULTIFAN-CL software to conduct stock assessments, replacing the ad hoc methods used before. Tagging data is a key input used by this computer program.

1989-92 — The Regional Tuna Tagging Programme begins, expanding tagging efforts to include multiple tuna species across the WCPO. This programme provided new insights into tuna movement, habitat use and stock assessments.

1982 — SSAP tagging data is used in the stock assessment of western and central Pacific Ocean (WCPO) skipjack tuna. This was the first time tagging data was included in a WCPO tuna stock assessment, a practice which is now routine.

1977-81 — Skipjack Survey and Assessment Programme (SSAP) – first large-scale tuna tagging initiative to study skipjack tuna population in the Pacific. SSAP generated the first significant dataset on skipjack tuna migration, growth, and stock structure.

2

2024 HIGHLIGHTS BY SPC FAME OBJECTIVES

OBJECTIVE 1

Enhance strategic oversight, efficient operational systems, partnership, and collaboration with other SPC divisions, our members, and partners

GROWING SPC FAME'S PORTFOLIO

In 2024, SPC FAME's portfolio covered 40 projects and five programme grants, with an annual expenditure of EUR 28 million. This budget was divided between OFP (EUR 13.7 million), CFAP (EUR 8.2 million), the Director's Office (EUR 4.9 million), and the Project Management Unit for the Pacific-European Union Marine Partnership (PEUMP) (EUR 1.1 million). In 2024, SPC FAME's budget increased by 5% from the previous year. This continues a trend of year-on-year growth for SPC FAME, following a 30% budget increase in 2023, post-COVID. In 2024, this growth was driven by the establishment of 11 new collaborations with six partners (DFAT, MFAT, the World Bank, the US Department of State, the Network of Aquaculture Centres in Asia-Pacific and the WCPFC), collectively worth EUR 35 million. These collaborations include the MFAT-funded Sustainable Pacific Fisheries Programme, the extension of DFAT programme funding, and WCPFC funding for several projects, including scoping next generation tuna stock assessment software.

In 2024, the annual budget execution rate of SPC FAME was 92%. This was lower than previous years, largely due to the geopolitical situation in Noumea where most SPC FAME staff are based.

As of January 2025, SPC FAME comprised 155 staff. There is an approximately even split between male and female employees and 39% (n = 61) of staff are from PICTs. OFP is the largest programme within SPC FAME, with 95 staff members, followed by CFAP with 36 staff members, and the Director's Office with 24 staff members. Most SPC FAME staff (90%) are based in Noumea, with the remaining 10% located in other countries, including Fiji, Tonga and the Federated States of Micronesia (FSM).

ENHANCING EFFICIENT OPERATIONAL SYSTEMS AND PROCESSES

SPC FAME continues to improve operational efficiency to better support our members. Highlights in 2024 included:

- enhancing country webpages for tuna data;
- merging the Ikasavea and Tails apps;
- developing divisional preferred supplier agreements (50% completed);
- developing more accurate and efficient monthly budget tracking and projection; and
- creating an implementation plan to support prioritisation and resource mobilisation for the SPC FAME Business Plan.

€28	Budget in millions
92%	Budget execution rate
40	Projects
155	Staff (78 female, 77 male), 39% (61) from PICTs

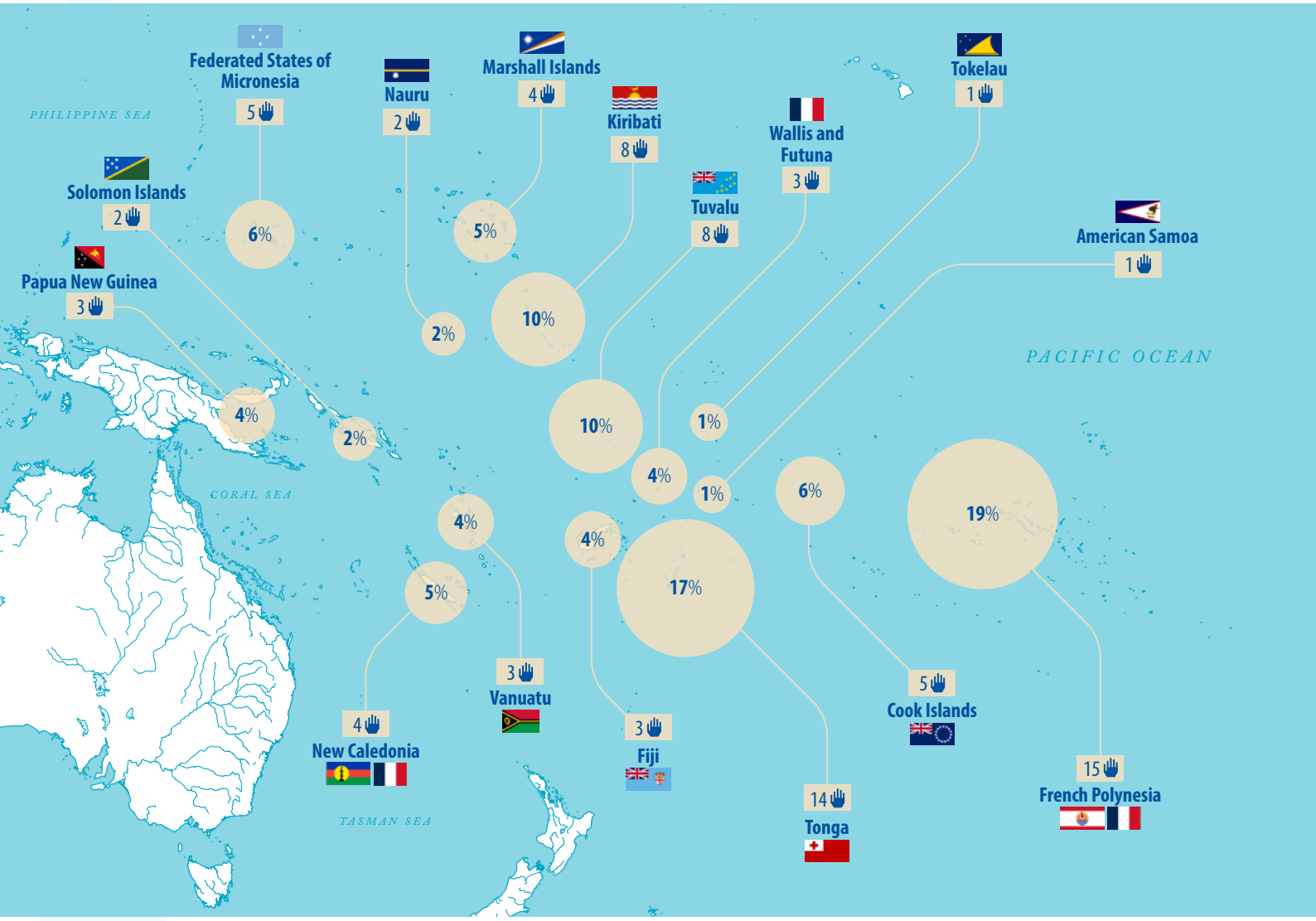


Figure 2 **Percentage of official requests (81 ✋) for technical support by PICTs in 2024.**

RESPONDING TO MEMBER REQUESTS

In 2024, SPC FAME received 81 technical support requests through its Member Request Management System and a further 241 informal requests across 16 PICTs. More than half of formal requests assessed (58%, n = 47) were requesting CFAP support, while the remaining requests were to OFP (38%, n = 31) and to the Director's Office (4%, n = 3). The most common topics for requests were coastal fisheries management, aquaculture development, coastal fisheries science, oceanic stock assessment, and coastal fisheries data and information. Although significantly fewer requests were made in 2024 – compared to 167 formal requests in 2023 – SPC FAME is still clearing requests from previous years and responding to 141 active requests. The overall completion rate for responding to member requests stands at 59% with most of the requests under implementation beyond the reporting year. There are 90 requests submitted between 2021 and 2023 that are still active. These historical requests will be prioritised in 2025 in order to clarify their status, actionability, and priority based on current member needs.

SUPPORTING REGIONAL ENGAGEMENT

In 2024, convening and supporting high-level regional meetings continued to be a key way that SPC FAME fostered collaboration and learning amongst fisheries leaders. As well as providing opportunities for knowledge exchange at the regional level, these crucial meetings significantly influence the strategic priorities of SPC FAME's work programmes.

In 2024, engagement across these meetings was strong with 23 members attending the 16th SPC Heads of Fisheries meeting (HoF16), 14 members attending the 7th Regional Technical Meeting on Coastal Fisheries and Aquaculture (RTMCFA7), and 18 members represented at the 5th Regional Fisheries Ministers Meeting in Honiara.
At HoF16, an impressive 100% of participants surveyed (n = 47) agreed that they had gained new knowledge from the meeting, and 88% (n = 37) rated participant engagement as high (good or excellent).

At RTMCFA7, which was held online due to budgetary constraints, a slightly lower proportion of participants surveyed agreed that they had gained new knowledge (81%, n = 13) and 75% (n = 17) rated engagement as high (good or excellent).

In support of high-level meetings, SPC FAME prepared 120 scientific and discussion papers in 2024. These included 16 discussion and scientific papers for HoF16, 23 papers for RTMCFA7, and 91 papers for WCPFC meetings.

Provide, and facilitate access to and interpretation of fisheries, aquaculture, and marine ecosystems information and knowledge

DEVELOP AND CURATE FISHERIES-RELATED SCIENTIFIC AND TECHNICAL KNOWLEDGE

SPC FAME made available 466 new knowledge products in 2024. These publications included 92 technical and scientific papers, of which 58 were produced for the WCPFC Scientific Committee and 17 were published in peer-reviewed journals.
In 2024, 21 PICTs accessed SPC FAME digital resources accounting for 19,590 downloads – with Fiji leading the way with 24% (4600) of downloads.
Overall, globally SPC FAME resources were downloaded 964,145 times in 2024. The most downloaded products were *Onboard handling of sashimi grade tuna – A practical guide for crew members* (1202 downloads), *Benefish Study 4* (1151 downloads), and *Common food fish of Fiji* (1034 downloads). Notably, although only published in 2023, *Benefish* has already become a key resource for the region including informing the updated *Climate Change Assessment of Fisheries and Aquaculture in the Pacific Islands Region*, due to be published in early 2025. *Benefish* is one of the few sources of consolidated primary data on the economic role of fisheries in the region.

466	New knowledge products
19,590	Downloads
305	Social media posts
11.6%	Engagement rate of posts

COMMUNICATIONS AND VISIBILITY

As part of our ongoing commitment to strengthen visibility of SPC's work through social media platforms, SPC FAME published 305 posts across all SPC social media platforms in 2024. This equates to a 17% increase in the number of posts from 2023 (260), and accounts for 8.6% of the 3537 total posts made across all SPC platforms over this period. SPC FAME's posts achieved 557,430 impressions. SPC FAME posts had an engagement rate of 11.6%, on a par with the overall engagement rate across all SPC content.

STRENGTHEN MONITORING, EVALUATION, AND LEARNING

As part of our broader commitment to accountability and improvement, SPC FAME undertook four programmatic reviews in 2024:

1. An evaluation of DFAT's funding support to SPC FAME. The evaluation has supported stronger collaboration between DFAT and SPC FAME, including agreement on a new 5-year arrangement for flexible programme funding and the potential for stronger thematic alignment around climate change and gender equity and social inclusion (GESI).

2. An internal evaluation of the MFAT-funded Pacific Fisheries Leadership Programme (PFLP). The findings from this evaluation will inform the design and implementation of the next phase of the programme.

3. GESI analysis of the MFAT-funded Climate Science for Ensuring Pacific Tuna Access (CSEPTA) project. This review provided an early opportunity to apply the *Pacific Handbook for human rights, gender equity and social inclusion in tuna industries* to an active SPC FAME project. The analysis suggested concrete actions for both CSEPTA and SPC FAME which are under consideration for 2025.

4. A mid-term review of two integrated projects, the USAID-funded Pacific Coastal Fisheries Management and Compliance and the MFAT- and DFAT-funded Sustainable Coastal Fisheries and Aquaculture for Pacific Livelihood, Food and Economic Security. The review found the projects were highly relevant to regional priorities and that there were significant benefits to their integration. The findings are under consideration for 2025 implementation.

SPC FAME also hosted eight internal team reflections to support learning and improvement with 52 staff participating. The outputs from this process have informed this report.

A catch from southeast Malekula, Vanuatu, in 2020 comprising nine species from five families, including five species of soldierfish/squirrelfish (Holocentridae), one species of emperors (Lethrinidae), one of goatfish (Mullidae), one of parrotfish (Scaridae), and one of groupers (Serranidae)

OBJECTIVE 3

Enhance data collection and provide data management services for fisheries, aquaculture, and marine ecosystems

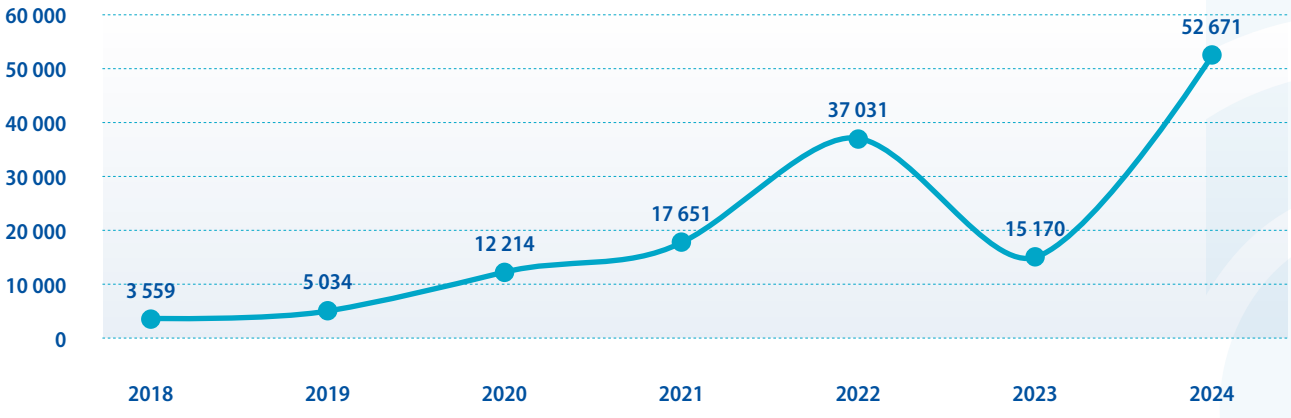
RESEARCH INFRASTRUCTURE, BIOLOGICAL SAMPLING, TAGGING AND DATA STANDARDISATION

In 2024, a record 52,671 tissue samples were collected, 297 samples were analysed directly from the Pacific Marine Specimen Bank (PMSB), and 6791 samples were sent for analysis. This takes the total number of samples collected to 328,809, and 49,306 samples analysed with a further 24,255 samples pending analysis. 2024 marked a huge increase in samples collected from 2023 (+247%) and samples analysed (+3426%). There are several reasons for this. First, the MFAT-funded CSEPTA project is a significant driver of this increase with 36,490 genetic samples collected under this project alone. Second, the analysis of samples off-site has multiplied SPC FAME's capacity to process samples 22 times over. Finally, the 2024 completion of the new fisheries laboratory in Noumea dedicated to genetics, genomics and fish ageing has increased SPC's capacity to store and analyse samples. This lab represents a major advancement for fisheries science in the region, setting the stage for cutting-edge research on the ageing and genetics of priority exploited species and, ultimately, strengthening the region's autonomy in managing its fisheries.

Fewer fish were tagged in 2024 than usual because there is currently no platform available to implement this work for skipjack in the western Pacific region – that is, there are no suitable vessels available for charter to support this tagging. Instead, SPC FAME concentrated its efforts on implementing a tag seeding experiment to better estimate current observed tag return rates and the performance of different ports. A total of 2000 seeded tags were deployed by at-sea observers onboard the Pacific tuna purse seine fishery.

After eight years of consistent effort, SPC achieved a significant milestone in 2024 with the Pacific Islands Forum Fisheries Committee (FFC) adoption of regional electronic monitoring data standards. These standards, endorsed by the FFC, establish a uniform framework for collecting, sharing and analysing electronic monitoring data for longline fisheries. The standards support alignment between member data collection programmes which will, in turn, provide more accurate and consistent data for stock assessments and other fisheries science projects.

Figure 3 **Annual contribution of samples to the Pacific Marine Specimen Bank.**



IMPROVING FISHERIES DATA COLLECTION, MANAGEMENT AND UTILISATION

In 2024, SPC FAME-developed data collection apps continued to be well used across the region with 18 PICTs relying on these apps as part of their fisheries monitoring and management. This includes 14 PICTs using tuna-focused apps and 17 PICTs who use Ikasavea in their coastal fisheries management. In 2024, approximately 10,677 log sheet trips and 1417 observer trips were processed through SPC FAME tuna-focused apps. Even if the total number of trips processed slightly decreased in 2024, the overall usage of e-reporting continued to grow – from 49% in 2023 to 54% in 2024 e-reported longline observer trips. With SPC support, 18 PICTs submitted their Part 1 WCPFC reporting on fisheries research and statistics, with nine PICTs meeting reporting WCPFC deadlines. A further 4931 (landing and community) trips and 13,042 market stall surveys have been processed via Ikasavea.

SPC FAME also undertook several steps to streamline the way that members use and access their fisheries data. For example, in 2024 SPC FAME made significant improvements to the way that annual tuna catch estimates are calculated in Tufman 2, to the extent that, at the 2024 Tuna Data Workshop, all the estimates were done in one day – a process which previously took the entire week. Now SPC FAME is exploring with members using this workshop as an opportunity to focus on other tuna data issues. SPC also undertook work to better calibrate e-monitoring data on fish length measurements so that this information can be more reliably used for stock assessments. Another improvement is that there are now Tufman 2 reports and tools which enable countries to manage and access the observer data they need for Marine Stewardship Council certification processes themselves.

Ikasavea has seen several improvements. Firstly, the entire app has been updated to ensure its longevity and to enable updated features such as a ticketing system to allow users to report bugs. Already members are reporting bugs using the new system, which SPC is then fixing. Finally, as requested by members, the migration of Tails to Ikasavea is underway with vessel information already completed and more work set for 2025.

Using a fat meter to measure the fat content of bigeye tuna.

OBJECTIVE 4

Provide scientific research, analysis, and advice for evidence-based fisheries management

OCEANIC STOCK ASSESSMENTS, HARVEST STRATEGIES AND FADS

The latest stock assessments performed by SPC FAME for the WCPFC found that all four main western and central Pacific Ocean tuna stocks (South Pacific albacore, bigeye, skipjack and yellowfin) are "biologically healthy", not overfished, nor is overfishing occurring, with all stocks having a 0% probability of being overfished except bigeye (12.5% probability). In 2024, SPC FAME conducted two stock assessments of South Pacific albacore and Southwest Pacific striped marlin to support sustainable management of the Pacific fisheries.

In 2024, SPC FAME initiated a 3-year scoping project to plan the transition away from the ageing MULTIFAN-CL software that SPC currently uses for stock assessments. Modernising this software is critical for sustaining robust stock assessments, supporting strategic decision-making, and ensuring interoperability with partners. In the first year, SPC focused on collaborating with the wider scientific community and the other tuna regional fisheries management organisations (RFMOs) to find a long-term solution that meets both regional and global needs.

WCPFC CMM 2022-03, *Conservation and Management Measure on Establishing a Harvest Strategy for Key Fisheries and Stocks in the Western and Central Pacific Ocean*, commits to developing and implementing a harvest strategy approach for each of the key WCPFC fisheries stocks. To date, a management procedure has been adopted for skipjack tuna and there is one in development for South Pacific albacore. Through the consistent engagement of members, considerable progress was made on the albacore harvest strategy in 2024 with members strongly advocating for their preferred management objectives.

2024 saw increasing collaboration and data collection around oceanic fish aggregating devices (FADs). SPC FAME's drifting FAD project focuses on monitoring of drifting FADs through their whole life, including when lost or abandoned by fishers, through real or simulated data. Since its beginning in 2020, the drifting FADs data project has expanded significantly, with over 16 PICTs now participating. In response to the growth of the project, in 2024 SPC FAME implemented a new database solution which means FAD data are now available in real time without significant manual entry. Other RFMOs have also taken an interest in the results, with the Inter-American Tropical Tuna Commission deciding to implement drifting FAD data collection in their region.

SPC is also collaborating with the International Sustainable Seafood Foundation and partner fishing companies to trial biodegradable FADs in the Pacific, supported by EU funding. In 2024, three PICTs (PNG, Republic of the Marshall Islands and FSM) participated in this trial, the results of which will inform the WCPFC's upcoming regulatory review of FADs. The information generated through these two projects means that PICTs are better positioned to monitor FAD usage and address their environmental impacts.

In 2024, SPC continued significant work to enhance the capacity of Pacific fisheries professionals in stock assessment, harvest strategies and the use of oceanic FADs by training 195 Pacific Islanders (69 female, 126 male) across nine trainings in these areas. One hundred per cent of the participants surveyed agreed that they gained new knowledge from the training (n = 47) and a further 94% (n = 44) agreed that they would be able to use what they had learnt in their jobs. In 2024, SPC conducted follow-up surveys with participants from the introductory

An invertebrate survey, Lakeba Island, Fiji.

and advanced stock assessment courses. The survey results demonstrate the lasting impacts of these trainings with 94% (n = 17) of survey participants agreeing that their knowledge had increased, 88% (n = 16) agreeing that they had already applied their knowledge, and all agreeing (n = 18) that their work performance had improved because of the training.

COMMUNITY-BASED FISHERIES MANAGEMENT

At the 2024 regional community-based fisheries management (CBFM) workshop, participants representing 10 PICTs estimated that over 1100 communities are practising CBFM across the Pacific Islands region. Based on the 2022 baseline of 1028 coastal communities practising CBFM across 14 PICTs, this represents a roughly 7% increase in the number of coastal communities who are practicing CBFM.

In 2024, SPC FAME continued to contribute towards the growth of CBFM in the region by supporting 14 PICTs with their implementation of CBFM. This included supporting subnational CBFM scaling-up strategies for Kiribati, Nauru, Solomon Islands, Tonga and Tuvalu. One of the main ways that SPC FAME supported scaling up CBFM was through trainings and workshops for CBFM practitioners. In 2024, SPC trained 102 Pacific Islanders (48 female, 54 male) in CBFM across two regional workshops and one subnational workshop in Solomon Islands.

Evaluation surveys following these regional workshops found that 97% (n = 60) of participants surveyed agreed that they had gained new knowledge from the workshops. At the workshop focusing on the regional framework for scaling up CBFM, 93% (n = 42) of respondents agreed that they better understood the Pacific Framework for Action on Scaling Up CBFM because of the workshop. SPC FAME is also helping to strengthen regional CBFM networks by coordinating an online community of practice where CBFM practitioners can solve real-time challenges, share successes, and connect with each other.

ENHANCING COMPLIANCE WITH COASTAL FISHERIES LAWS AND POLICIES

In 2024, SPC FAME supported the development of 26 new or updated coastal fisheries and aquaculture management plans. Of these, 15 were in draft and 11 were adopted across six PICTs (Cook Islands,

Fiji, Samoa, Solomon Islands, Tuvalu and Tonga). Amongst others, these included drafting six coastal fisheries management plans for Tuvaluan atolls, supporting Solomon Islands and Samoa with sea cucumber management plans, and advising Tonga on the development of management and development plans for various aquaculture and fisheries commodities.

SPC FAME also supported the development and updating of 22 pieces of coastal fisheries and aquaculture legislation across 12 PICTs. Of these, 15 were in draft and seven were adopted. These legislations include Wallis and Futuna's Policy for Sustainable Fisheries and Aquaculture bill, drafting Cook Islands marine resources regulations around health, safety and labour licensing, and support to New Caledonia on the export of sea cucumbers. The recent expansion of the CFAP legal team has enabled SPC to better support members in this area.

In 2024, SPC trialled the use of new technologies for monitoring, control, surveillance and enforcement (MCS&E) that enable PICTs to monitor fisheries activities remotely using cellular, Bluetooth, and satellite technologies. SPC worked closely with Kiribati, Nauru and Tuvalu to use these technologies and make their MCS&E more effective. Although these trials are still ongoing, they have already provided opportunities to better integrate remote monitoring into MCS&E in the region and underscored some of the logistical challenges of implementing high-tech solutions in areas where internet access can be expensive and sometimes unreliable. Learning from these trials will be important as SPC continues to work with members to find viable solutions to their MCS&E issues.

In 2024 SPC FAME trained or mentored 296 Pacific Islanders (113 female, 183 male) in law, policy, planning, and monitoring, control and surveillance in fisheries and aquaculture. These participants came from 12 PICTs. Almost all participants surveyed (98%, n = 56) agreed that they gained new knowledge from the training. Much of this capacity building took place across five formal trainings covering monitoring, compliance, surveillance and enforcement for coastal fisheries funded under PEUMP.

In early 2024, SPC FAME conducted 6-month follow-ups with participants from four courses on legislative drafting for coastal fisheries. Of those surveyed, 80% (n = 27) agreed that they had applied knowledge from the course. All respondents noted an improvement in their work performance as a result of the course and four participants felt that the training had contributed to a promotion or change in their role.

SOCIO-ECONOMIC RESEARCH FOR FISHERIES

In 2024, SPC FAME supported seven PICTs in socio-economic aspects of fisheries. SPC support included dashboard development for socio-economic surveys in Kiribati, a review of modelling for marine spatial reserves for FSM, and convening a regional socio-economic workshop to support peer exchange and the regional community of practice. In another example, SPC supported Samoa to successfully undertake a socio-economic fisheries survey which also facilitated an important exchange on the Ikasavea socio-economic model to better establish fishing effort, fish consumption, and estimate catch per unit effort. The governments are now looking at reporting and analysis with SPC support.

In 2024, SPC FAME trained 63 Pacific Islanders (32 female, 30 male and one non-binary) in the socio-economic dynamics of coastal fisheries and aquaculture across three trainings in Samoa, American Samoa and Fiji (for regional participants). Evaluation survey results illustrate the benefits of these trainings, with 97% (n = 37) of training participants surveyed agreeing that they both gained new knowledge from the workshop and would be able to use what they learnt in their roles.

Also in 2024, SPC FAME published two socio-economic assessments of bonefish recreational fishing in Kiritimati (Kiribati) and in the Cook Islands, focusing on the potential of recreational fisheries for supporting international tourism. A further two publications are under review, on the socio-economic impact of FADs in FSM and the socio-economics of recreational fishing in the Pacific Islands region.

Success story

Charting the future of coastal fisheries – delivering professional compliance and enforcement services across the Pacific

CONTEXT

In coastal fisheries, promoting a culture of compliance is pivotal for sustainable management and conservation. Across the Pacific, MCS&E is an important part of how communities traditionally manage their coastal resources to ensure sustainable use. However, MCS&E in coastal fisheries is challenging because there are often many resource users, unclear rights, and limited resources and institutional capacity for enforcement. Alongside strong stakeholder engagement and education efforts, effective compliance requires well-trained capable MCS&E officials. With this outcome in mind, SPC is working closely with PICTs and Pacific partners to build the capacity of fisheries staff through targeted training and mentoring.

CHANGE PROCESS

Since 2018, with the support of New Zealand's MFAT, the EU (through PEUMP) and USAID, SPC in collaboration with the University of the South Pacific has been delivering the regionally recognised vocational qualification Certificate IV in Coastal Fisheries and Aquaculture Compliance (Cert IV). Over this 6-month course, participants are instructed in all the technical skills and knowledge expected of an MCS&E officer. The course emphasises the practical elements of MCS&E with hands-on exercises on market stall inspections, preparing case files, and undertaking community consultations. From 2024 through to 2025, SPC FAME is undertaking a comprehensive overhaul of the course to align the curriculum with contemporary best practices and emerging trends in coastal fisheries management.

2023 MCS&E Cert IV graduate Aline Berry provides guidance as a mentor in the 2024 MCS&E Cert IV training at the University of the South Pacific in Suva, Fiji.

RESULTS AND IMPACT

Since 2018, SPC has trained 167 participants (74 women and 93 men) across seven cohorts in the Cert IV in Coastal Fisheries and Aquaculture Compliance. These participants represent 11 PICTs with the most participants coming from Fiji (52), Kiribati (22) and Solomon Islands (18). In 2024, the numbers of participants significantly expanded (41, 17 women and 24 men) indicating that there is a strong demand for skilled coastal fisheries and aquaculture compliance professionals across the region (see Figure 1).

Feedback on the Cert IV course has been consistently positive, with all participants surveyed agreeing that they gained new knowledge from the trainings (77% strongly agree, 23% agree, n = 61). SPC's follow-up studies indicate that six months or more after completion, the majority of respondents believed that they had improved work performance after participating in the course (55% high level of improvement, 41% moderate level of improvement). In follow-up surveys, respondents shared how they had applied the learnings from the training in their work. For example, respondents pointed to instances where they had used new enforcement techniques with market vendors, reviewed observer data while conducting vessel inspections, and been able to better handle difficult situations when consulting with communities.

On a personal level, many students have shared how the course has had a positive impact on their lives and given them greater confidence in their careers. For example, in the recent Women in Fisheries Newsletter (No. 40, September 2024), 2023 Cert IV graduate Aline Mary Berry, a Fisheries Community-Based Authorised Officer in Santo, Vanuatu, shared her story and reflected on the benefits of the course and the connections with her cohort.

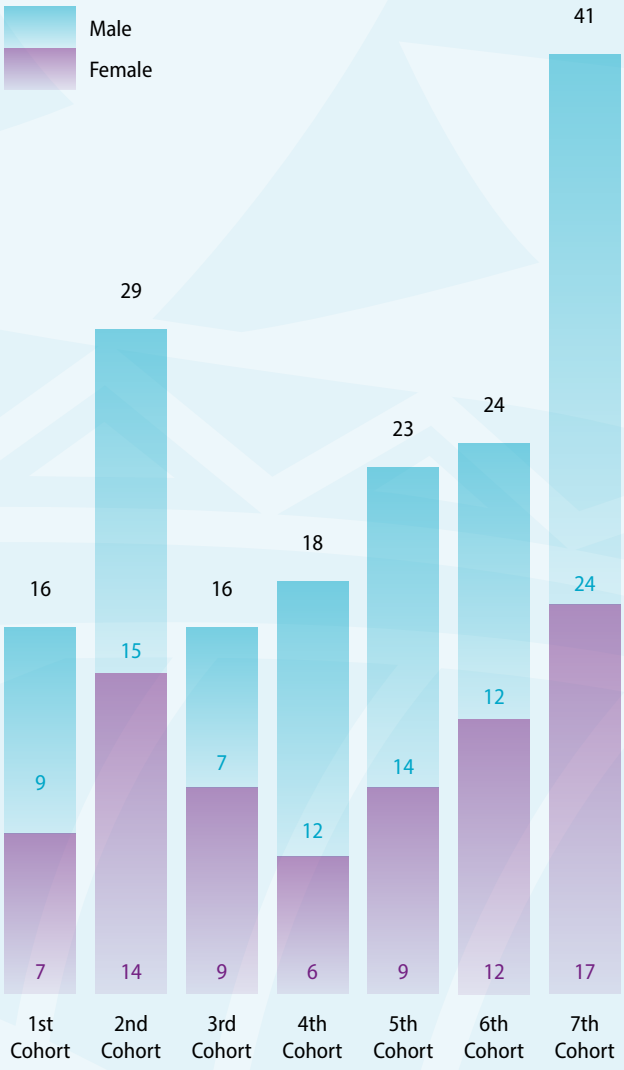


Figure 4 **Number of people trained in the Certificate IV in Coastal Fisheries and Aquaculture Compliance, 2018–2024.**

LESSONS LEARNED

Continuous improvement – Even though the feedback on the course has been consistently positive, the SPC team are still keen to improve. SPC is using the review process to make sure that the course incorporates up-to-date and advanced MCS&E techniques to ensure students continue to receive the most relevant and practical training.

Linking cohorts – In the 2024 iteration of the course, SPC brought back graduates like Aline to serve as mentors to current participants, allowing them to pass on their knowledge and continue building MCS&E networks across the region.

Offering a Certificate III – In 2025, SPC in collaboration with the Palau Community College will introduce the Professional Certificate in Community Fisheries Compliance (equivalent to a Certificate III). This initiative will help to build a robust pipeline of skilled professionals who can address community-specific challenges and support sustainable fisheries practices.

OBJECTIVE 5

Strengthen the contributions of Pacific islands aquaculture and fisheries toward sustainable, biosecure, equitable and more secure food systems

SUSTAINABLE FISHERIES AND AQUACULTURE MANAGEMENT

A 2024 analysis of aquatic food consumption developed by the University of Wollongong and SPC with ACIAR funding highlighted the continued importance of fisheries and aquaculture to food systems in the region. Aquatic food is the most accessible and widely consumed animal protein for coastal people in the Pacific region. Pacific people, excluding PNG, Fiji and several territories, consume on average 43 kg of aquatic food per year. Fresh fish account for 70% of aquatic food consumption, consisting of reef fish (34%), pelagic fish (14%) and unclassified fresh fish (22%).

SUPPORTING AQUACULTURE PRODUCTION AND AQUATIC BIOSECURITY

One of SPC FAME's major focuses in 2024 was a series of consultation workshops to develop the Pacific Regional Aquaculture Strategy (PRAS) and mid-term review of the Pacific Regional Framework on Aquatic Biosecurity. Through this venture, SPC FAME has supported all PICTs at a regional level, with direct engagement from 17 PICTs. Although these workshops had a regional focus, the development of the PRAS will contribute to the development of national biosecurity standards. The PRAS is set to be released in 2025.

In addition to the regional work on aquaculture biosecurity, country-level activities were undertaken with six PICTs in 2024. These included collaborating with SPC's Land Resources Division and the World Organisation for Animal Health to conduct performance of veterinary services assessments in Samoa and Tonga. These assessments have provided a strong foundation for improving biosecurity in both Samoa and Tonga, highlighting critical gaps in biosecurity and fostering collaboration between aquatic and terrestrial sectors.

2024 saw the rollout of the Sustainable Coastal Fisheries and Aquaculture for Pacific Livelihoods, Food and Economic Security (SCoFA) aquaculture business grants funded by New Zealand's MFAT. SPC will support five Fijian enterprises through technology transfer and capacity building. For example, SPC FAME will support SeaPAC Fiji, a commercial marine shrimp farm, to install a 25 kW solar system to fully power their new off-grid farm. This enterprise will also receive a new tractor to streamline post-harvest processes, thereby improving the turnaround time for their ponds and enabling them to stock and run a second shrimp cycle more efficiently.

Katarina Baleisuva checks the broodstock in her tilapia hatchery in Fiji.

OBJECTIVE 6

Identify diverse and sustainable livelihood options for SPC member PICTs

LIVELIHOODS

SPC FAME has worked with six PICTs on alternative/supplementary livelihoods, including fishing diamondback squids in Samoa, Tonga and Wallis and Futuna, and mid-water fishing methods in American Samoa, Fiji and New Caledonia. SPC trained 41 people (six female, 35 male) in sustainable fishing methods, including diamondback squid trials in Samoa and Tonga.

In 2024, SPC FAME supported six PICTs with technical advice related to nearshore FADs. This included delivering five FAD surveys in Cook Islands, Pohnpei, Samoa, Tokelau, and Wallis and Futuna, and installing digital trackers on FADs in Cook Islands and New Caledonia.

In 2024, SPC FAME trained or mentored 69 people in aquaculture production, seafood safety, quality and value adding. Most training focused on tilapia farming. All participants surveyed (n = 17, six female and 11 male) agreed that they had gained new knowledge from their training in diversification of aquaculture production, seafood safety, quality and value adding.

In addition to the SCoFA aquaculture business grants, SPC has supported the Muanira Women's Group in Fiji by improving their commercial mangrove oyster grow-out system at their community farm. Previously, they used homemade PVC mesh oyster baskets, which were time-consuming to produce and had a short lifespan. SPC provided training and collaborated with FAO to procure commercial Hexyl oyster baskets, which last over 15 years and utilise a longline grow-out system. The farm now boasts over FJD 20,000 worth of oysters, with significantly improved production due to the new baskets.

In 2024, SPC and the Blue Resources Trust co-developed an electronic non-detriment finding (NDF) system to support PICTs wanting to pursue international exports of their coastal fisheries products. An NDF is an assessment of whether trade will have a negative effect on the survival of a species. Under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), NDFs must be completed prior to the issuing of trade permits. Already, Vanuatu and PNG have used the NDF tool to assess the sustainability of their fisheries, for example sea cucumbers and other high-value species, and ensure compliance with international trade regulations. The new system enabled Vanuatu to finalise three NDFs in 2024. Opening up trade and export of these species can advance both the livelihoods of coastal communities and the development aspirations of participating PICTs.

The *Beyond the Reef Toolkit* was developed to promote sustainable fishing beyond lagoon ecosystems, especially near FADs. Created by SPC FAME, the toolkit includes a manual summarising 20 nearshore fishing techniques and three seasons of training videos. Filmed in New Caledonia and Cook Islands, the videos feature Pasifika fishers explaining the content in accessible and culturally relevant ways. Launched in 2023, the toolkit has gained momentum in 2024 through partnerships with Pasifika TV and national campaigns, reaching 20 PICTs. More than just a technical resource, it represents a holistic approach to sustainable fishing education.

OBJECTIVE 7

Support the development of national capacity and enhance capabilities in fisheries and aquaculture among PICTs

OVERVIEW OF TRAININGS

Training is a core way that SPC FAME contributes to the capacity and capabilities of the fisheries and aquaculture sectors across PICTs. In 2024, SPC FAME delivered 83 trainings to 1430 Pacific Islanders (427 female, 1002 male and one non-binary) with participants representing 21 PICTs. The most well represented PICTs in SPC FAME trainings in 2024 were PNG (230 participants), Fiji (185), and Solomon Islands (147). Based on survey responses 72% of participants were between the ages of 31 and 59 years old.

In 2024, trainings touched on almost all of SPC FAME's technical areas, with topics ranging from drafting fisheries legislation to stock assessment techniques. However, the trainings that reached the most people were around fisheries biological sampling, genetics and tagging (260 participants), observer training (171), and coastal fisheries MCS&E (170). 2024 also saw SPC FAME experiment with peer-to-peer exchanges between PICTs on socio-economics and coastal fisheries monitoring. Initial feedback on these exchanges was positive and SPC FAME will continue to explore these approaches in 2025.

SPC FAME maintains a robust programme of monitoring, evaluation and learning related to capacity-building initiatives. In 2024, to gather feedback on SPC FAME's trainings, 60 post-training evaluation surveys were conducted, with 72% of trainings opting to solicit feedback in this way. The final surveyed sample represents more than half (55%, n = 780) of total trainees in 2024. Alongside these post-training surveys, SPC FAME implemented tracer studies for 10 trainings implemented between 2021 and 2024. These valuable data are used to foster learning, improve implementation, and report back to stakeholders.

From these surveys, there is strong evidence that SPC FAME trainings are both improving knowledge and supporting knowledge application in PICTs' fisheries and aquaculture. Nearly all survey respondents (98%, n = 767) agreed that they acquired new knowledge from trainings. In the same surveys, 97% (n = 659) of respondents agreed that they would be able to use these learnings in their work. Evidence from the tracer studies corroborates this, with most respondents (85%, 71) reporting having applied their learnings after the trainings. Furthermore, nearly all tracer survey respondents (93%, n = 75) reported improvement in their work performance after attending the trainings.

VOCATIONAL TRAININGS

In 2024, 16% of SPC FAME trainings were vocational (13 out of 83 trainings), meaning that they contributed to a regionally recognised qualification in fisheries, aquaculture and management. Except for the Cert IV in Coastal Fisheries and Aquaculture Compliance, all these vocational trainings were part of regional or national observer trainings. In 2024, these trainings reached 194 Pacific Islanders (25 female, 169 male). Of the vocational course participants surveyed, all agreed that they gained new knowledge (100%, n = 133) and nearly all agreed that they would be able to apply what they learnt (97%, n = 129).

1430	Pacific Islanders trained
21	Participating PICTs
83	Training courses
98%	Gained new knowledge

Success story

Walking the walk – transforming leadership in Pacific fisheries

Leadership for Change cohort 5, Nadi, Fiji.

CONTEXT

The 2015 10-year Regional Roadmap for Sustainable Pacific Fisheries identifies leadership and management skills as key enabling factors in achieving its goals. The Pacific Fisheries Leadership Programme (PFLP) was designed to address this need by strengthening leadership and management in Pacific fisheries. With support from New Zealand's MFAT, SPC coordinated the consortium that designed and implemented the PFLP.

CHANGE PROCESS

From 2018 to 2024, the programme delivered courses, workshops, coaching sessions and alumni networking events targeting officers and middle and senior managers working in the fisheries sector in PICTs. Participants were recruited through a mix of social media promotion and targeted interventions to ensure representative participation from across the region. In 2024, the PFLP concluded implementation and conducted an internal evaluation to assess its long-term impact.

RESULTS AND IMPACT

The PFLP reached 419 participants across its offerings, with each participant attending an average of 4.1 events. PFLP participants (207 women, 211 men and one non-binary) were based in 17 PICTs, representing 77% of the region. Almost all participants responding to the post-training survey (160 out of 167, 96%) increased their knowledge of leadership after attending a course. In a tracer survey to assess medium-term outcomes, all participants (n = 50) reported they applied the learnings from the programme in their workplace.

Looking at impact over the longer term, all interviewees (n = 35, including 25 participants and 10 managers of staff who participated) reported better work performance and better management of their work priorities after attending the PFLP. Furthermore, 28 participants reported a promotion or change in role to a higher position and noted the PFLP's contribution. Due to the success of the first phase, MFAT has agreed to fund a second SPC-led 4-year phase commencing in 2025.

"The course helped me to understand myself better and to understand my colleagues and how they work. It enabled me to be more sensitive but also to lead effectively. I learned different ways of building a team that works well together."

Female participant from Samoa

LESSONS LEARNED

The PFLP's success was underpinned by trust and agile decision-making amongst the consortium partners, which enabled an adaptive management approach. Online and in-person delivery helped to expand the reach of the programme, and the inclusion of coaching facilitated the translation of skills into action. Although in the first phase the PFLP had a profound impact at the individual, workplace and organisational level, the evaluation found that further work was needed to connect this to national and regional fisheries priorities. Based on these learnings, the second phase of the PFLP will focus on scaling impact to more effectively drive transformative change.

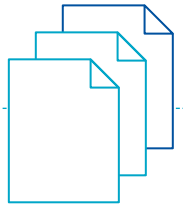
3

FOCUS ON OUR RESEARCH

As a regional centre for technical and scientific advice on fisheries and aquaculture, research is a critical function of SPC FAME. The research produced by SPC FAME scientists helps to elevate Pacific fisheries knowledge and awareness within the broader scientific community.

Our research is underpinned by close collaboration with PICTs and the broader scientific community. A new milestone for research partnerships was reached in 2024, with the formalisation of the relationship between SPC and Japan's Fisheries Research and Education Agency – Fisheries Research Institute. This memorandum of understanding will facilitate data sharing, joint research cruises, and temporary staff exchanges.

In 2024, SPC FAME contributed to 17 peer-reviewed publications across 13 journals and two books, including renowned journals like *Nature: Scientific Reports*. The number of peer-reviewed publications is largely consistent with previous years but slightly lower than in 2023 (20 publications). SPC FAME's research covered a range of topics, including the drift of FADs, tuna mercury concentrations, micronekton abundance, and the gendered differences in perceptions around coastal fisheries management. A summary of publications from 2024 is provided in the table below.



2024 RESEARCH PUBLICATIONS

1 **Leveraging deep learning and computer vision technologies to enhance management of coastal fisheries in the Pacific region**

2 Simulating drifting fish aggregating device trajectories to identify potential interactions with endangered sea turtles

3 Assessing the drift of fish aggregating devices in the tropical Pacific Ocean

4 Stable Tuna Mercury Concentrations since 1971 Illustrate Marine Inertia and the Need for Strong Emission Reductions under the Minamata Convention

5 'Drivin' with your eyes closed': Results from an international, blinded simulation experiment to evaluate spatial stock assessments

6 Comparative analysis of day and night micronekton abundance estimates in west Pacific between acoustic and trawl surveys

7 Synthesizing the spatial functionality of contemporary stock assessment software to identify future needs for next generation assessment platforms

8 Age validation of yellowfin and bigeye tuna using post-peak bomb radiocarbon dating confirms long lifespans in the western and central Pacific Ocean

9 A rare oasis effect for forage fauna in oceanic eddies at the global scale

10 Are tuna always hungry? A deep dive into stomach-fullness measures in the western and central Pacific Ocean

11 When does spillover from marine protected areas indicate benefits to fish abundance and catch?

12 Optimising the design and analysis of capture-mark-recapture experiments using individual-based models

13 **Unlocking legal and policy frameworks for small-scale fisheries in Samoa in Unlocking Legal and Policy Frameworks for Small-Scale Fisheries: Global Illustrations**

14 **Unlocking legal and policy frameworks for small-scale fisheries in Tonga in Unlocking Legal and Policy Frameworks for Small-Scale Fisheries: Global Illustrations**

15 Tonga: Enabling Coastal Communities to Protect Marine Resources and Secure the Livelihoods of Small-Scale Fishers

16 Coastal Fisheries Governance in the Pacific Islands: The Evolution of Policy and the Progress of Management-at-Scale

17 Gender differences in the perceived impacts of coastal management and conservation

Leveraging deep learning and computer vision technologies to enhance management of coastal fisheries in the Pacific region

This research paper, published in *Nature: Scientific Reports* in September 2024, outlines the design and development of the technology that sits behind Ikasavea – a coastal fisheries monitoring system that harnesses artificial intelligence and computer vision to enhance coastal fisheries management across the Pacific. Ikasavea automates data extraction and analysis using technology to identify fish species and measure size and weight. By December 2023, it had automated the identification of over 600 finfish species and the measurement of over 80,000 specimens. The system integrates key data on catch rates, fishing locations and market characteristics, to support rapid fisheries assessments.

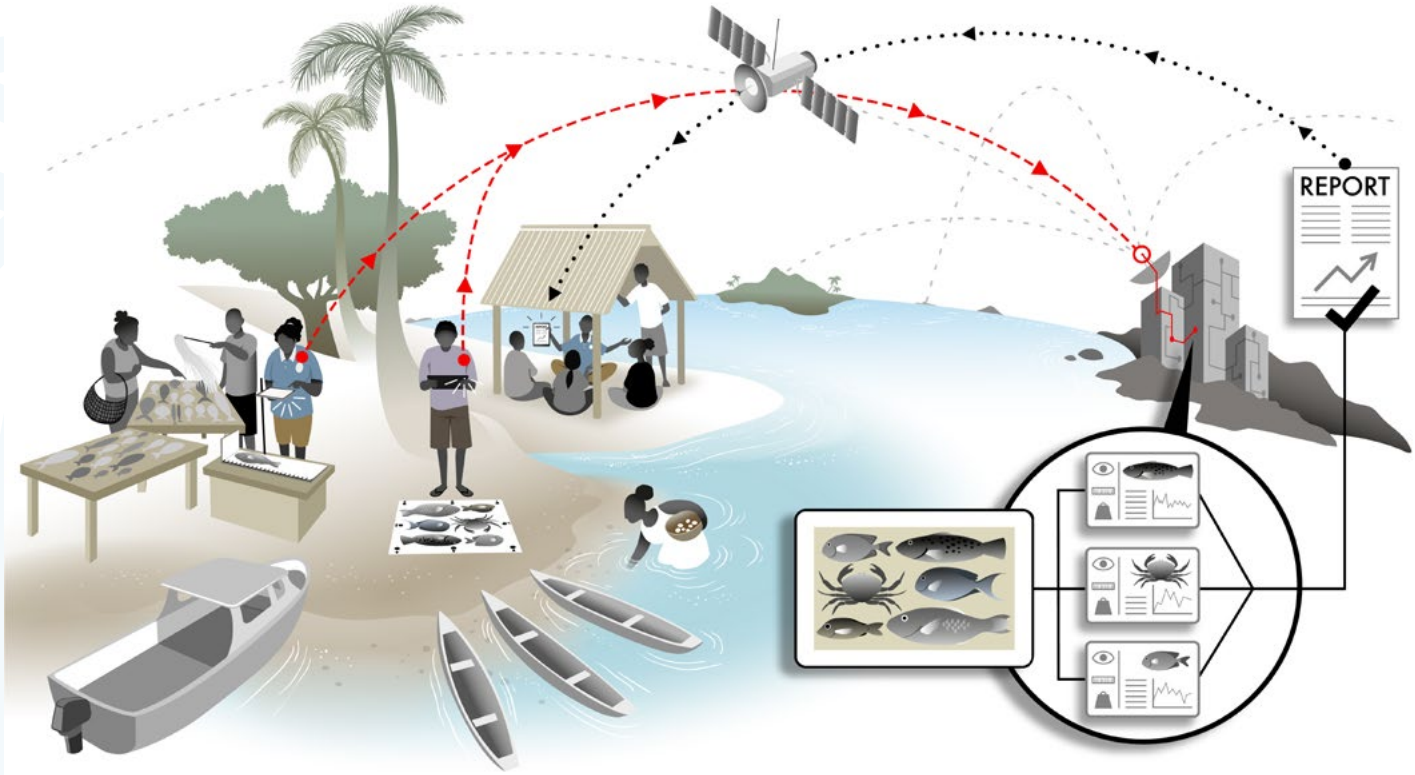


Figure 5
The basic structure of the AI-enabled coastal fisheries monitoring system behind Ikasavea showing the flow of raw data from PICTs to a central computing facility at SPC.

Simulating drifting fish aggregating device trajectories to identify potential interactions with endangered sea turtles

Each year 46,000–65,000 drifting FADs are used in the Pacific tuna fisheries. This research, published in *Conservation Biology* in May 2024, used FAD data and simulations to show that up to 60% of these devices will likely drift into critical sea turtle habitats, including migration and feeding areas. Drifting FADs could impact upon endangered species of significant cultural and ecological value to PICTs like the leatherback and hawksbill turtle. This research underscores the need for further work to assess both sea turtle entanglement rates and the effects of tuna management measures, such as non-entangling drifting FAD designs or changes in deployment strategies.

4

SUSTAINABLE DEVELOPMENT GOALS AND CROSSCUTTING ISSUES

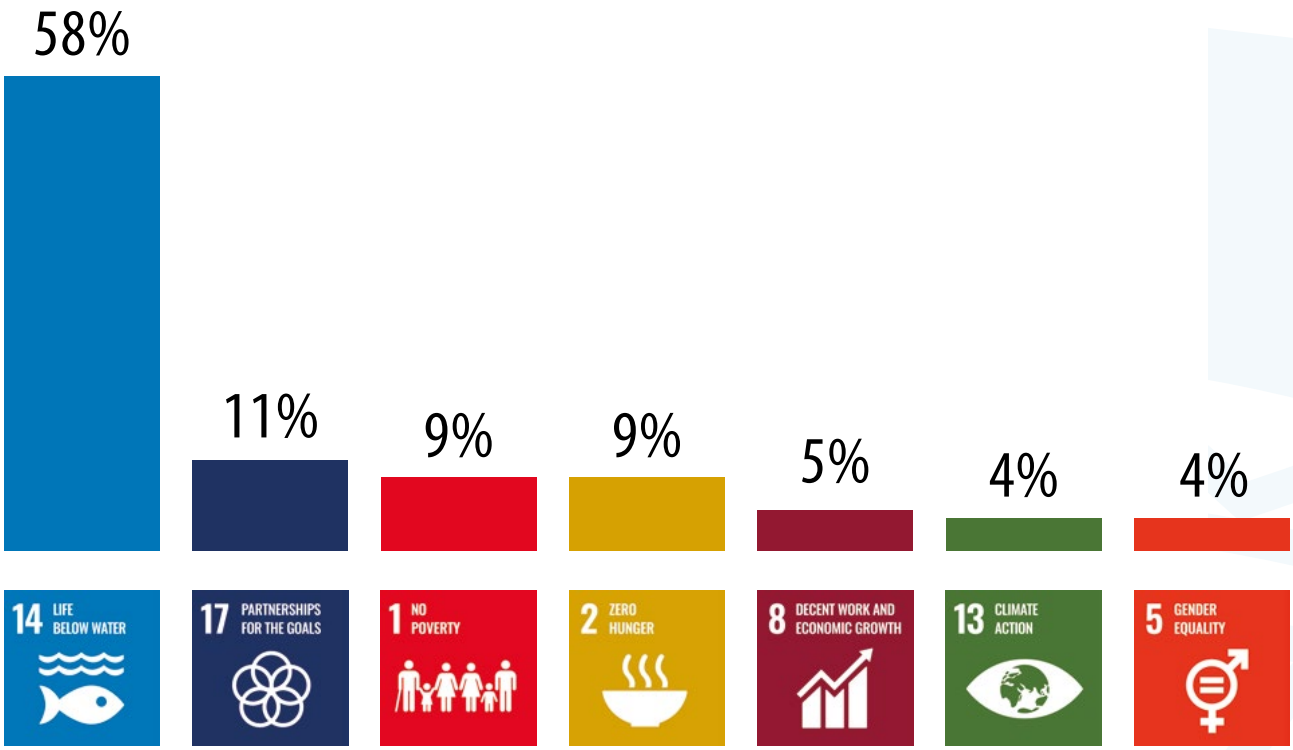


Figure 6 **Results by primary SDG (55 results reported).**

CONTRIBUTING TO THE SDGS

Throughout 2024, SPC FAME maintained its commitment to advancing the UN Sustainable Development Goals (SDGs). In 2024, SPC FAME results addressed seven of the 17 SDGs, with a primary focus on SDG 14: Life below water. SPC FAME also made significant contributions to fostering partnerships (SDG 17), reducing poverty (SDG 1), and eliminating hunger (SDG 2).

GENDER, EQUITY AND SOCIAL INCLUSION

Through our ongoing partnership and collaboration with SPC's Human Rights and Social Development Division, SPC FAME continues to support fisheries and aquaculture practitioners and managers to integrate gender, promote social inclusion, and ensure environmental responsibility in their work. Enabling the greater participation of women and marginalised groups in fisheries and aquaculture is critical to increasing the benefits that flow from these sectors to the region.

In 2024, SPC FAME contributed advice on the inclusion of GESI in policies and plans as well as delivering GESI capacity building across the region. SPC FAME provided GESI advice on four fisheries management policies, including guidance to the Kiribati Ministry of Fisheries and Marine Resource Development to strengthen GESI mainstreaming in their strategic plan (May 2024), based on findings from the gender and fisheries analysis conducted by SPC FAME (see success story). SPC FAME also provided advice on policies in Solomon Islands, Tonga and the Republic of the Marshall Islands. SPC FAME delivered tailored capacity building initiatives for GESI in fisheries in Kiribati, Fiji and Solomon Islands and at the GESI in Fisheries Symposium in Solomon Islands, reaching over 100 participants from 12 different PICTs. At this symposium, SPC FAME presented on GESI good practices, lessons, challenges and priorities for 2025.

CLIMATE CHANGE

In 2024, a 12-year update on the Pacific Regional Fisheries and Aquaculture Climate Change Assessment was developed in response to member requests and improved data. It covers Pacific fisheries (coastal, oceanic and freshwater), aquaculture, livelihoods, economies and blue foods, with summaries and adaptation recommendations for 22 PICTs. The update highlights risks to coastal fisheries, shifts in tuna stocks, and varying regional impacts. An early preview was discussed at HoF16, with members providing input. The report will be launched at HoF17 in early 2025.

At the beginning of 2024, SPC FAME hosted a climate awareness workshop in Wellington, to enhance knowledge and awareness of SPC members on climate issues and projected impacts on the industrial tuna fisheries of the western and central Pacific. This workshop was supported by New Zealand's MFAT as part of the CSEPTA project and was attended by 103 participants mostly from WCPFC members including representatives from 20 PICTs. At the end of the workshop, participants surveyed reported that they had increased their knowledge of the impacts of climate change on fisheries (91%, n = 42), and their understanding of loss and damages (93%, n = 43).

2024 was also a pivotal year in the development of the proposal for the Green Climate Fund for a regional tuna programme. As part of this process, SPC FAME in collaboration with Conservation International commissioned a series of 12 technical studies to consolidate relevant technical, scientific and policy information for the proposal. To ensure that the proposal met the needs and expectations of members, SPC FAME also undertook extensive stakeholder engagement across the 14 participating PICTs, meeting with 1070 (388 female, 682 male) representatives from member governments, regional organisations, civil society and community groups.

Marshall Islands, 2022.

Success story

Inclusive research to build capacity and ownership – Kiribati's gender and fisheries analysis

CONTEXT

The Kiribati Ministry of Fisheries and Marine Resource Development (MFMRD) is committed to integrating GESI into all aspects of its work. To better understand the gender dimensions of fisheries and aquaculture in Kiribati, the MFMRD together with SPC's PEUMP and the University of Wollongong ANCORS Pathway Project completed GESI analyses in 10 local communities across Tarawa, Maiana, Nonouti and Kiritimati. In addition to the community gender analyses, MFMRD also participated in an institutional analysis to assess the enabling environment for gender mainstreaming in fisheries.

CHANGE PROCESS

The gender analyses took place between October and December 2023 and were informed by focus group discussions and key informant interviews. Over 60 focus group discussions took place with 488 fishers and aquaculture farmers from 11 villages (246 women, 242 men). Interviews were conducted with 12 MFMRD staff (seven women, five men) and two Ministry of Women, Youth, Sport and Social Affairs staff. As part of the institutional gender analysis, 22 MFMRD staff participated in a three-day GESI training. This data collection informed a set of recommendations to progress gender in fisheries which were validated by MFMRD and presented to key I-Kiribati stakeholders. The report was published in mid-2024.

RESULTS AND IMPACT

The MFMRD participants completed pre- and post-training surveys. Following the training, all participants surveyed (100%, n = 20) agreed that they gained new knowledge. The training also encouraged critical thinking, with all participants agreeing that the sessions challenged their perspectives. After the training, participants reported increased confidence in applying GESI principles to their work and shared their plans to do so, such as using GESI tools in community engagement projects or the establishment of women's fisheries groups. MFMRD staff have followed through with these commitments – with MFMRD spearheading the creation of women's associations dedicated to fisheries management and community development to strengthen women's participation in the implementation of CBFM. The MFMRD Director for Coastal Fisheries was part of the GESI analysis process from the initial planning stages and she presented the key findings at the HoF16 meeting – underscoring Kiribati's leadership and commitment to embedding gender equality in fisheries.

LESSONS LEARNED

Training sessions and hands-on GESI exercises are powerful tools to foster lasting change within organisations. They not only equip staff with essential skills but also serve as catalysts for broader organisational shifts. The commitment shown by MFMRD staff to implement GESI-focused actions in their daily work, alongside the integration of GESI recommendations into the MFMRD strategic plan, underscores how capacity-building efforts can drive sustained progress on GESI.

Engaging stakeholders in tool development and piloting ensures tools are practical, contextually relevant, and effective. Stakeholder feedback provides insight into any necessary adjustments to better suit the local context.

"This gender and fisheries analysis provided me with a deeper understanding about our cultural ways of living and how we, as I-Kiribati, associate ourselves with our ocean and our marine resources."

Tarateiti Uriam Timiti, Community-based Fisheries Management Coordinator, MFMRD

5

LOOKING AHEAD TO 2025

SPC FAME remains committed to delivering the best available scientific information for tuna fisheries in the region, and a full spectrum of coastal fisheries and aquaculture technical and science capability. Delivery includes convening and contributing to regional meetings like the Heads of Fisheries meeting that provide a platform for collaborative discussions and which shape SPC FAME's science and technical agenda and the wider future of our sectors. 2025 also offers an important opportunity to reflect and reimagine how existing frameworks like the *Regional Roadmap for Sustainable Pacific Fisheries* and *A New Song for Coastal Fisheries*, and processes including the Regional Fisheries Ministers Meeting, can best meet the needs of the Pacific Islands region into the future.

To strengthen the resilience of Pacific fisheries to climate change, SPC FAME will work closely with the SPC Climate Change and Ocean flagships. SPC FAME will prioritise research on climate change impacts, developing predictive models, and providing scientific advice to PICTs to better integrate climate change into adaptive fisheries and aquaculture management. The release of the updated Assessment of the Vulnerability of Pacific Island Countries and Territories to Climate Change is part of this commitment. So too is SPC FAME's ongoing implementation of CSEPTA (Climate Science for Ensuring Pacific Tuna Access) and work to continue and extend work on advance warning systems through the Green Climate Fund Regional Tuna Programme, and the development and resource mobilisation for the Regional Coastal Fisheries and Aquaculture Climate Change Plan.

As a regional centre for research and science, SPC plays a crucial role in ensuring that PICTs have the strategic assets needed to enable scientific innovation and ultimately, to sustainably manage fisheries into the future. This involves continuing the development of the Pacific Research Vessel, strengthening the Pacific Marine Specimen Bank, and maintaining and enhancing laboratory facilities for emerging regional research needs.

Efficient fisheries, aquaculture, and environmental data collection and management remain critical to supporting informed decision-making. SPC will continue to develop accessible data tools and systems for coastal and oceanic fisheries. In 2025, SPC FAME will focus on self-service models that harness automation to ensure members can more effectively access and use their data, such as the tuna country webpages. SPC FAME will also explore AI-powered monitoring and remote sensing technologies to support ecosystem-based fisheries management.

Working closely with national governments, the Gender Flagship and the Food Systems Flagship, SPC will support the scaling up of community-based fisheries management initiatives, empowering local governance, and promoting livelihood diversification. The release of the Pacific Regional Aquaculture Strategy in 2025 will set a clear agenda to address the challenges facing the sector and align innovative solutions from across the region.

In 2025, SPC FAME will continue to invest in capacity building and leadership development for the sector through our well-established training and mentorship programmes. This will include implementing Phase II of the Pacific Fisheries Leadership Programme and providing more opportunities for on-the-job training including aquaculture internships and Pacific Island fisheries professional posts.

Across 2025, SPC FAME will continue to improve the quality of services to members, including the integration of work across different sectors and the extension of member capability in critical areas. Building resilience to future crises will continue to underpin our approach to delivery. This will require a renewed focus on resourcing across coastal fisheries, include a direct focus on sustainable blue economies, and acceleration of the digital transformation.

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