**SCIENTIFIC COMMITTEE**
**TWENTY-SECOND REGULAR SESSION**
11-19 August 2026
Apia, Samoa (Hybrid)

# PROJECT 42: PACIFIC TUNA TAGGING PROJECT REPORT AND WORK-PLAN FOR 2024-2027

**WCPFC-SC22-2026-RP-PTTP01**
**1 July 2026**

**Submitted by SPC-OFP[1]**

[1] Oceanic Fisheries Programme of the Pacific Community (SPC)

# Table of contents



Data inclusion period to 2026-06-26

# 1. INTRODUCTION

This Pacific Tuna Tagging Programme (PTTP) report provides information on the PTTP to date with a focus on the tagging activities undertaken in 2025-2026 including research voyages, tag recoveries, tag recovery and seeding activities. Issues arising in 2026 for consideration by the PTTP Steering Committee are highlighted and the PTTP work planned for 2026-2029 is outlined.

## 1.1. Programme mandate

The PTTP is a joint research project, implemented by the Oceanic Fisheries Programme (OFP) of the Pacific Community (SPC). The goal of the Pacific Tuna Tagging Programme is to provide data and knowledge for stock assessment, harvest strategies, climate change projections and management of skipjack, yellowfin and bigeye tuna in the Pacific Ocean. The terms of reference for the project were updated by the PTTP steering committee in 2026 (WCPFC-SC22-2026-SA-WP02) and, subject to endorsement by the 22nd regular session of the WCPFC Scientific Committee, the objectives are described as:

a) Design and implement tagging research cruises that generate mark-recapture and electronic tagging data of sufficient quantity and quality for integration into WCPO stock assessments, SEAPODYM ecosystem models, and independent estimation of demographic parameters, for WCPO skipjack, yellowfin and bigeye tuna;

b) Develop and maintain the regional tag-recovery network, including reward systems, stakeholder engagement, and the training of observers and recovery officers, alongside tag seeding experiments, with the aim of sustaining high and well-characterised tag-reporting rates;

c) Maintain data collection, custody and entry processes, validation and quality control of all tagging release, recapture and associated data, and prepare these data for assessment and other analytical use;

d) Support, where possible, the estimation of key population parameters and processes. These include but are not limited to movement, growth, habitat-use, mixing, natural mortality, abundance, effects of fishing, and the interpretation of fisheries data, through both population dynamics-integrated and independent analytical methods;

e) Operate the tagging cruises as a shared regional sampling platform, collecting soft and hard tissues, developing and testing sampling protocols and methods, and undertaking other at-sea, scientific experiments in support of WCPFC scientific projects and work areas. These activities will be accommodated where they do not compromise core tagging objectives;

f) Contribute to peer-reviewed scientific literature that advances our understanding of tropical tuna biology, ecology and fisheries in the WCPO and wider Pacific Ocean.

## 1.2. Programme governance and funding

The PTTP is overseen by the PTTP Steering Committee, which provides scientific and strategic direction, endorses the cruise plans, and reviews objectives and outputs.

During 2025-26, the project was funded by WCPFC, with cash co-financing support from the Republic of Korea and the scientific services provider (SPC), alongside further in-kind co-financing from SPC. A detailed list of recent and historical funding support can be found in WCPFC-SC22-2026-SA-WP-02.

The overall operational structure of the PTTP to date is given in Table 1, with the work completed since the last PTTP report highlighted and the scheduled work for 2026 also shown. The spatial distribution of these research voyages in the Western and Central Pacific Ocean is shown in Figure 1.

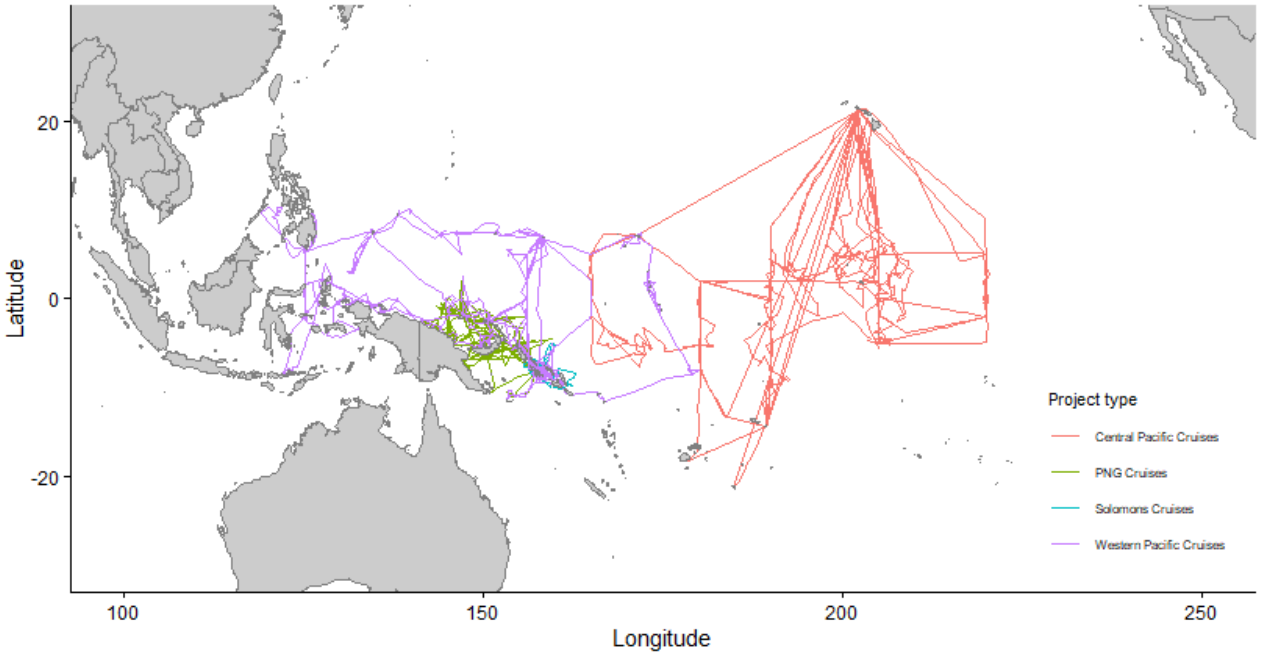


Figure 1: Tagging vessel tracks for all voyages for all PTTP research voyages. Legend relates to the groups of operational areas described in Table 1.

| Phase | Time Period | Operational Area | Tagging Vessel |
|---|---|---|---|
| PNGTP | Apr - Jul 2011 | New Guinea 2011 | SOLTAI 105 |
| | Jan - Mar 2012 | New Guinea 2012 | SOLTAI 105 |
| | Aug - Aug 2012 | PNG TAO 2012 | FTV Pokajam |
| | Apr - Jun 2013 | New Guinea 2013 | SOLTAI 101 |
| | Jul - Jul 2016 | PNG TAO 2016 | Pokajam |
| Phase 1 | Aug - Nov 2006 | Papua New Guinea | SOLTAI 6 |
| | Feb - May 2007 | Papua New Guinea | SOLTAI 6 |
| | Oct - Nov 2007 | Solomon Islands | SOLTAI 6 |
| | Feb - Mar 2008 | Solomon Islands | SOLTAI 6 |
| | Mar - Apr 2008 | Solomon Islands | SOLTAI 105 |

| Phase | Time Period | Operational Area | Tagging Vessel |
|---|---|---|---|
| Phase 2 | May - Jun 2008 | Central Pacific #1 | Double D |
| | Jun - Nov 2008 | Western Pacific #1 | SOLTAI 105 |
| | Mar - Jun 2009 | Western Pacific #2 | SOLTAI 105 |
| | May - Jun 2009 | Central Pacific #2 | DOUBLE D |
| | Jul - Oct 2009 | Western Pacific #3 | SOLTAI 105 |
| | Oct - Nov 2009 | Central Pacific #3 | AO SHIBI GO |
| | May - Jun 2010 | Central Pacific #4 | AO SHIBI GO |
| | Nov - Dec 2010 | Central Pacific #5 | PACIFIC SUNRISE |
| | Oct - Oct 2011 | Central Pacific #6 | PACIFIC SUNRISE |
| | Nov - Dec 2011 | Central Pacific #7 | AO SHIBI GO |
| | Sep - Oct 2012 | Central Pacific #8 | PACIFIC SUNRISE |
| | Nov - Dec 2013 | Central Pacific #9 | PACIFIC SUNRISE |
| | Aug - Aug 2014 | Central Pacific #10 | PACIFIC SUNRISE |
| | Sep - Nov 2015 | Central Pacififc #11 | GUTSY LADY 4 |
| | Sep - Oct 2016 | Central Pacific #12 | GUTSY LADY 4 |
| | Sep - Nov 2017 | Western Pacific #4 | SOLTAI 105 |
| | Jul - Aug 2018 | Central Pacific #13 | GUTSY LADY 4 |
| | Jul - Sep 2019 | Western Pacific #5 | SOLTAI 105 |
| | Aug - Oct 2020 | Central Pacific #14 | GUTSY LADY 4 |
| | Jul - Aug 2021 | Central Pacific #15 | GUTSY LADY 4 |
| | Sep - Oct 2022 | Western Pacific #6 | SOLTAI 105 |
| | Aug - Sep 2023 | Central Pacific #16 | GUTSY LADY 4 |
| | **Jun - Aug 2025** | **Central Pacific #17** | **GUTSY LADY 4** |
| | **Feb - Apr 2026** | **Western Pacific #7** | **SOLOMON SEARCHER** |

Table 1: Period, area and vessel used in PTTP tagging research voyages since the inception of the programme. Work that has been completed since the last PTTP report to SC21 in 2025 is highlighted in **bold**.

# 2. FIELD OPERATIONS

## 2.1. CP17 – 2025

The seventeenth central Pacific cruise, CP17 was implemented 25 June-8 August 2025, originating in Honolulu, Hawaii. The scientific team consisted of three SPC staff and one contracted technician. The vessel crew consisted of six crew members, Tim Jones, master, and Angel Tapias, engineer of the Gutsy Lady 4. This was the 6th such SPC-sponsored cruise utilizing this vessel (Table 1). During the 45 day cruise, 4,446 tags were deployed, including 10 pSAT tags provided by collaborators at Shanghai University (Table 2). Biosampling was

also conducted; 301 fish were sampled following standard Pacific Marine Specimen Bank protocols. Four other sampling protocols were followed to complete collections for other WCPFC science-aligned projects.

The nearly 6000 nm cruise track visited Jarvis, Kiribati Line Islands and international waters. Of the nearly 1,400 industry-shared dFADs, 36 were visited during CP-17 (Figure 2). Three TAO moorings, the 2N, equatorial, and 2S, 155W were visited; small aggregations were detected and a small number of fish were tagged at each. Similar to recent CP cruises in the Line Islands, effort was taken to deploy tags across many westward drifting dFADs to avoid short-term recaptures from vessels waiting across the 150W meridian in the EPO, and to disperse tagged fish in the WCPO region in hopes of longer-term recaptures spread out across a larger geographical area.

Generally, fishing was hampered by high abundance of large (>80cm) fish which seemed to be widespread and omnipresent throughout the study area. Despite this, the team was able to land considerable numbers of these larger fish, and in good enough condition to tag them.

| Tag type | SKJ | YFT | BET | Total |
|---|---|---|---|---|
| Yellow conventional - 13cm with code | 68 | 1,444 | 2,814 | 4,326 |
| Wildlife Computers satellite | 0 | 0 | 10 | 10 |
| Yellow Conventional 11cm with code | 3 | 37 | 83 | 123 |
| Total fish tagged | 71 | 1,481 | 2,907 | 4,459 |

Table 2. Numbers of fish tagged during CP17 by tag type and species.

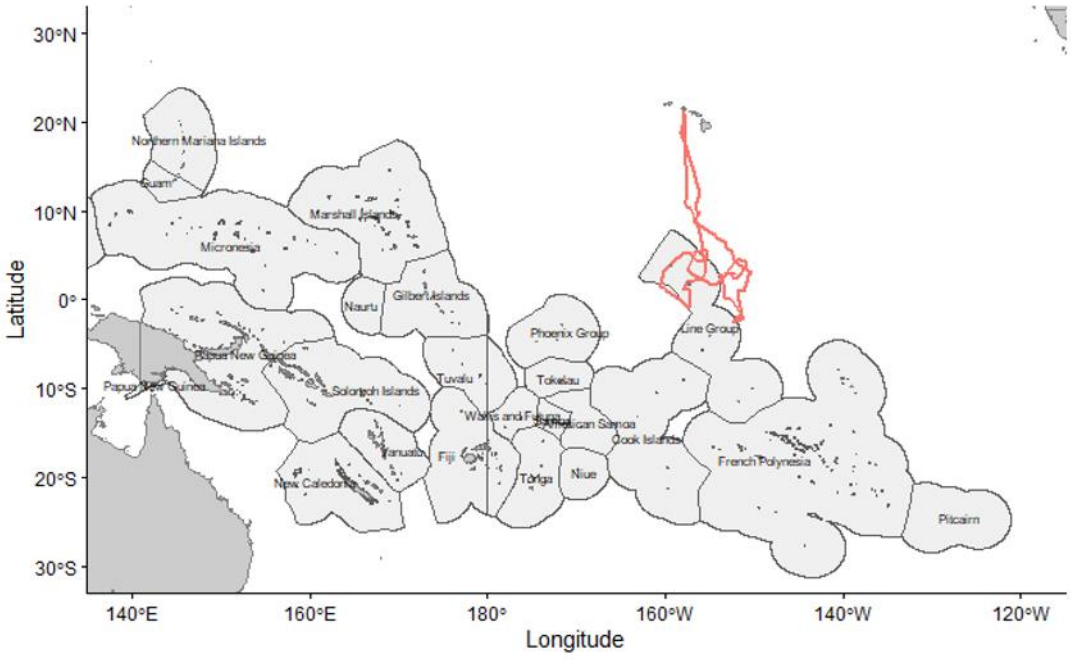


Figure 2: Voyage track of CP17 with daily positions for the vessel.

Of the 45 days of charter during CP17, 38 days were spent fishing and steaming; the seven remaining days were spent steaming to and from the fishing grounds. A total of 4,446 fish were tagged and released during the cruise (Figure 3), comprised of 2,894 bigeye (65%), 1,481 yellowfin (33%) and 71 skipjack (2%). The length frequency of tagged tuna is shown in Figure 4.

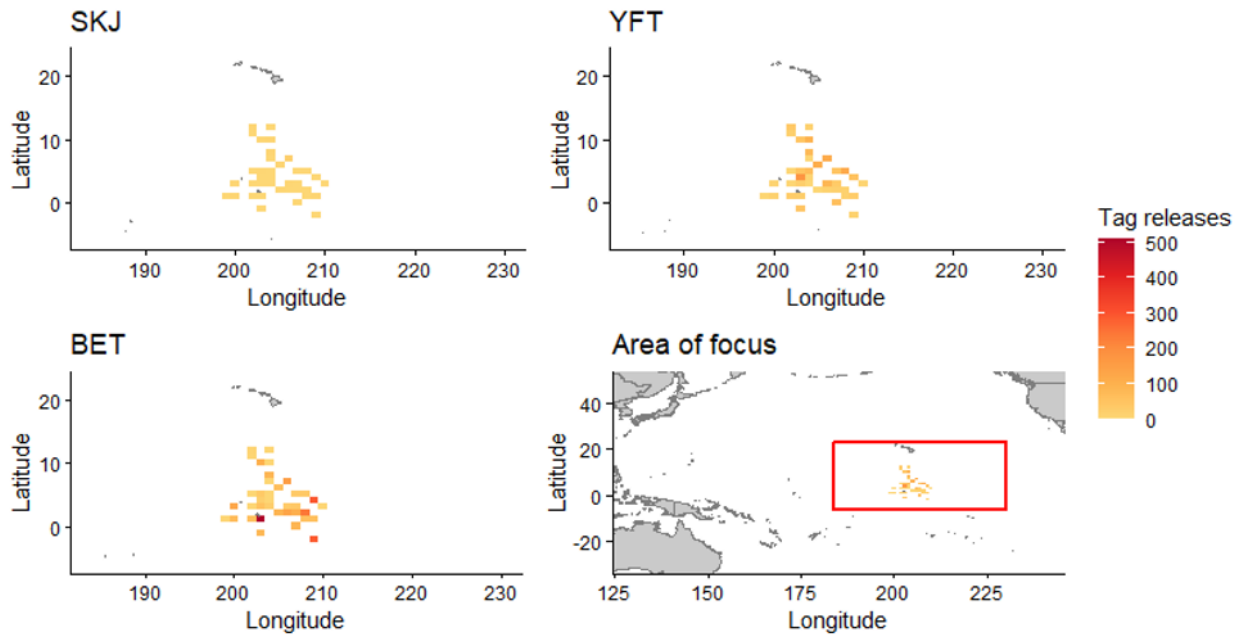


Figure 3: Distribution of tag releases during CP17 aggregated to 1 degree squares.

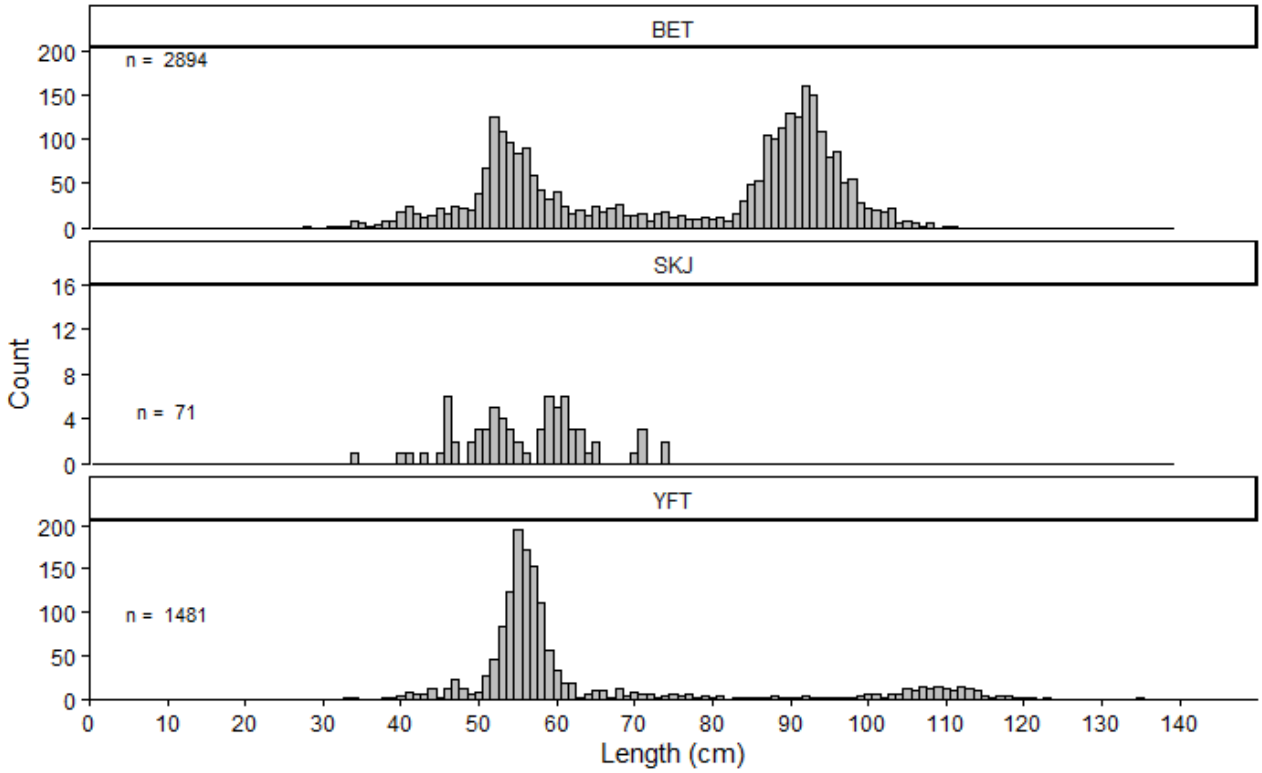


Figure 4: Size distribution (cm) of conventionally tagged tuna during CP17.

## 2.2. WP7 – 2026

The seventh Western Pacific cruise, WP7, was implemented as a series of seasonal campaigns, beginning in February 2026 originating in Noro, Solomon Islands, and working only in domestic waters (Figure 5). The recently refurbished and optimized pole and line vessel, the Solomon Searcher, was chartered on two

separate legs, a four-day trial in February, and a 17-day (cut short due to a tropical cyclone in the region) cruise in March. During these 21 days, 24,356 tags were deployed, consisting of 18,640 skipjack (77%), 5,656 yellowfin (32%) and 60 bigeye (<1%) tuna (Table 3). Biosampling was also conducted; 365 fish were sampled following standard Pacific Marine Specimen Bank protocols.

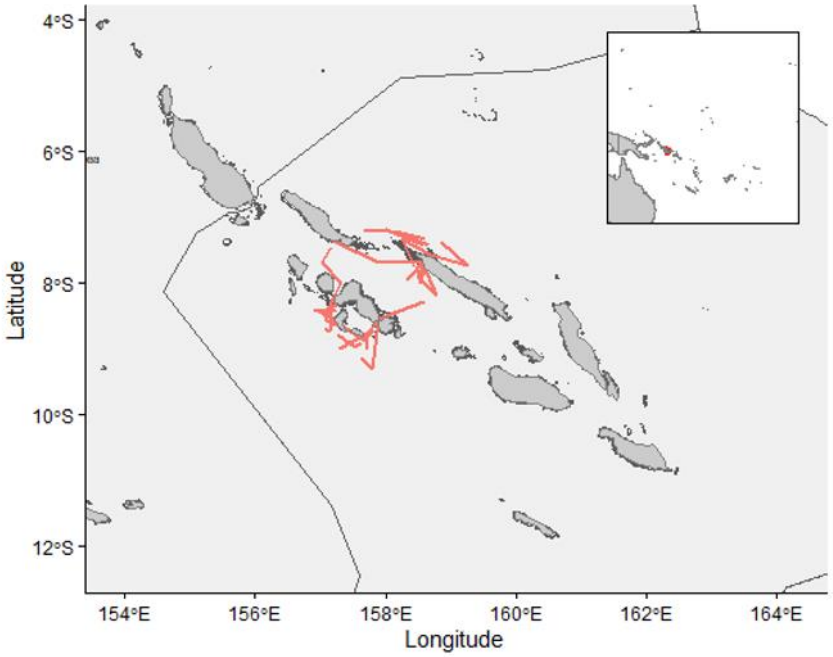


Figure 5: Voyage track of WP7 with daily positions for the vessel.

Fishing operations were centered mainly around Western Province, Choiseul, and Isabel (Figure 6), utilizing five baitgrounds. Anchored FADs, unassociated free-schools, and logs were fished successfully with the majority of releases made on aFADs and free-schools. Many productive schools were encountered with several days totaling well over 1,000 releases, and as high as 2,907 releases. Domestic purse seine vessels were difficult to avoid, especially around aFADs with catchable aggregations of fish present. On a few occasions during these trips, sets were made on tagged aggregations the day after tagging, and many tags were recaptured. To avoid this, free schools were targeted as much as possible to mitigate the risk of short-term recaptures. Generally, most schools encountered and tagged during WP7 contained mostly small SKJ and YFT <40cm. Length frequencies are shown in Figure 7.

| Tag type | SKJ | YFT | BET | Total |
|---|---|---|---|---|
| Yellow conventional - 11cm | 10,683 | 3,448 | 50 | 14,181 |
| Yellow conventional - 13cm with code | 7,956 | 2,208 | 10 | 10,174 |
| Yellow conventional - 13cm | 1 | 0 | 0 | 1 |
| Total fish tagged | 18,640 | 5,656 | 60 | 24,356 |

Table 3: Numbers of fish tagged during WP7 by tag type and species.

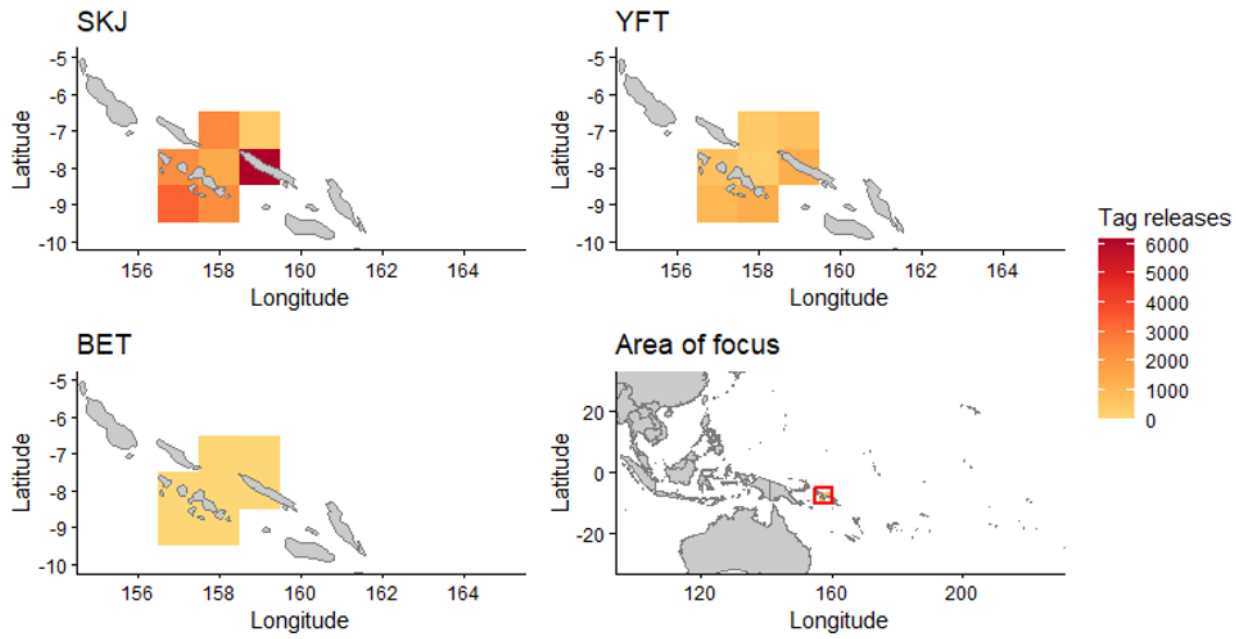


Figure 6: Distribution of tag releases during WP7 aggregated to 1 degree squares.

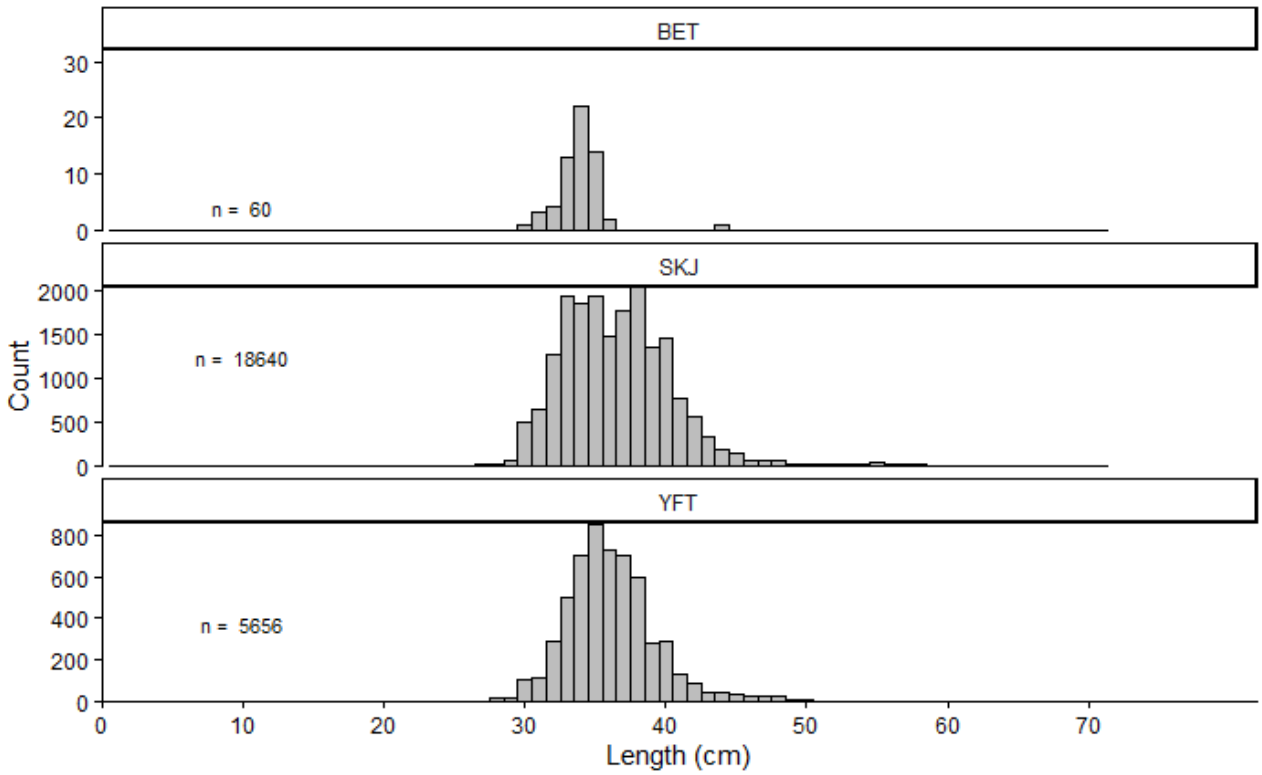


Figure 7: Size distribution (cm) of conventionally tagged tuna during WP7.

## 2.3. Upcoming tagging cruises

The WP7 cruise series will continue in throughout 2026 with a planned 16-day cruise in July and a further 25-day cruise based out of the Solomon Islands scheduled in October-November, encompassing the favorable moon phases of this period. Continued pole and line, skipjack-focused seasonal cruises are planned for 2027 (see *Work-plan 2026-2029).*

## 2.4. Historical field operations

Areas in the Western and Central Pacific covered by the different tagging voyages implemented since 2006 are shown in Figure 1. The release numbers and recovery percentages to date of conventional and archival tags made during the 17 Central Pacific (CP) voyages, the PNGTP and PTTP Phase 1 voyages, and the ongoing PTTP Phase 2 voyages, are detailed in Table 4. Releases and recaptures are further broken down by cruises and locations in Tables 5 and 6, and gear types in Table 7.

| | | Release numbers | | | | Recapture rate (%) | | | |
|---|---|---|---|---|---|---|---|---|---|
| Project | Tag type | SKJ | YFT | BET | Total | SKJ | YFT | BET | Total |
| CP | ARC | 32 | 368 | 992 | 1,392 | 0.0 | 8.7 | 18.1 | 15.2 |
| | CON | 2,154 | 12,249 | 59,547 | 74,045 | 3.9 | 9.0 | 24.3 | 21.1 |
| PTTP Phase 1 | ARC | 2 | 328 | 68 | 398 | 50.0 | 17.4 | 26.5 | 19.1 |
| | CON | 143,691 | 65,770 | 4,173 | 213,634 | 17.7 | 18.1 | 23.0 | 17.9 |
| WP Phase 2 | ARC | 174 | 91 | 123 | 388 | 2.9 | 3.3 | 8.9 | 4.9 |
| | CON | 178,914 | 48,348 | 5,575 | 232,839 | 18.5 | 13.7 | 19.4 | 17.5 |
| Total PTTP | ARC | 208 | 787 | 1,183 | 2,178 | 2.9 | 11.7 | 17.7 | 14.1 |
| | CON | 324,759 | 126,367 | 69,295 | 520,518 | 18.1 | 15.5 | 23.8 | 18.2 |

Table 4: Central Pacific, PTTP Phase 1 (PNG and Solomon Islands-based), Phase 2 Western Pacific, and total PTTP (including all other cruises) tag release numbers, and % of recoveries to date of conventional and archival tags.

| | | Release | | | | Recaptures | | | |
|---|---|---|---|---|---|---|---|---|---|
| Project | Cruise dates | SKJ | YFT | BET | Total | SKJ | YFT | BET | Totals |
| CP1 | May - Jun 2008 | 57 | 116 | 1,736 | 1,909 | 4 (7%) | 25 (21.6%) | 580 (33.4%) | 609 (31.9%) |
| CP2 | May - Jun 2009 | 169 | 205 | 2,309 | 2,683 | 5 (3%) | 26 (12.7%) | 578 (25%) | 609 (22.7%) |
| CP3 | Oct - Nov 2009 | 66 | 237 | 4,802 | 5,105 | 2 (3%) | 64 (27%) | 1791 (37.3%) | 1857 (36.4%) |
| CP4 | May - Jun 2010 | 7 | 120 | 2,284 | 2,411 | 1 (14.3%) | 13 (10.8%) | 519 (22.7%) | 533 (22.1%) |
| CP5 | Nov - Dec 2010 | 40 | 228 | 6,090 | 6,358 | 7 (17.5%) | 46 (20.2%) | 1972 (32.4%) | 2025 (31.8%) |
| CP6 | Oct - Oct 2011 | 2 | 123 | 3,804 | 3,929 | 0 (0%) | 29 (23.6%) | 1043 (27.4%) | 1072 (27.3%) |
| CP7 | Nov - Dec 2011 | 52 | 245 | 4,212 | 4,509 | 1 (1.9%) | 21 (8.6%) | 1468 (34.9%) | 1490 (33%) |
| CP8 | Sep - Oct 2012 | 20 | 140 | 6,014 | 6,174 | 2 (10%) | 32 (22.9%) | 2327 (38.7%) | 2361 (38.2%) |
| CP9 | Nov - Dec 2013 | 29 | 135 | 4,296 | 4,460 | 2 (6.9%) | 11 (8.1%) | 637 (14.8%) | 650 (14.6%) |
| CP10 | Aug - Aug 2014 | 12 | 98 | 195 | 339 | 0 (0%) | 6 (6.1%) | 4 (2.1%) | 10 (2.9%) |
| CP11 | Sep - Nov 2015 | 231 | 775 | 1,966 | 2,977 | 6 (2.6%) | 33 (4.3%) | 219 (11.1%) | 258 (8.7%) |
| CP12 | Sep - Oct 2016 | 109 | 371 | 1,575 | 2,110 | 3 (2.8%) | 84 (22.6%) | 275 (17.5%) | 362 (17.2%) |
| CP13 | Jul - Aug 2018 | 79 | 443 | 611 | 1,134 | 4 (5.1%) | 34 (7.7%) | 45 (7.4%) | 83 (7.3%) |
| CP14 | Aug - Oct 2020 | 318 | 1,751 | 4,318 | 6,387 | 8 (2.5%) | 101 (5.8%) | 517 (12%) | 626 (9.8%) |
| CP15 | Jul - Aug 2021 | 98 | 1,344 | 6,445 | 7,887 | 1 (1%) | 137 (10.2%) | 1617 (25.1%) | 1755 (22.3%) |
| CP16 | Aug - Sep 2023 | 815 | 4,485 | 5,996 | 11,296 | 36 (4.4%) | 350 (7.8%) | 538 (9%) | 924 (8.2%) |
| CP17 | Jun - Aug 2025 | 71 | 1,481 | 2,894 | 4,446 | 2 (2.8%) | 102 (6.9%) | 348 (12%) | 452 (10.2%) |
| Totals | Totals | 2,175 | 12,297 | 59,547 | 74,114 | 83 (3.8%) | 1101 (9%) | 14444 (24.3%) | 15628 (21.1%) |

Table 5: Tag releases and recaptures for PTTP Central Pacific cruises to date.

| | | Release | | | | Recaptures | | | |
|---|---|---|---|---|---|---|---|---|---|
| Project | Cruise dates | SKJ | YFT | BET | Total | SKJ | YFT | BET | Totals |
| PG1 | Aug - Nov 2006 | 13,948 | 7,806 | 562 | 22,316 | 2652 (19%) | 1810 (23.2%) | 230 (40.9%) | 4692 (21%) |
| | Feb - May 2007 | 26,493 | 12,845 | 129 | 39,467 | 2515 (9.5%) | 1731 (13.5%) | 8 (6.2%) | 4254 (10.8%) |
| PG2 | Apr - Jul 2011 | 28,730 | 11,571 | 355 | 40,656 | 5800 (20.2%) | 2496 (21.6%) | 60 (16.9%) | 8356 (20.6%) |
| PG3 | Jan - Mar 2012 | 28,312 | 9,606 | 2,008 | 39,926 | 7346 (25.9%) | 1736 (18.1%) | 533 (26.5%) | 9615 (24.1%) |
| PG5 | Apr - Jun 2013 | 23,402 | 5,955 | 564 | 29,921 | 3386 (14.5%) | 900 (15.1%) | 47 (8.3%) | 4333 (14.5%) |
| SB1 | Feb - Apr 2008 | 15,327 | 14,405 | 414 | 30,146 | 1800 (11.7%) | 2434 (16.9%) | 62 (15%) | 4296 (14.3%) |
| | Oct - Nov 2007 | 7,479 | 3,565 | 139 | 11,183 | 1981 (26.5%) | 786 (22%) | 18 (12.9%) | 2785 (24.9%) |
| WP1 | Jun - Nov 2008 | 37,691 | 17,647 | 1,467 | 56,805 | 6632 (17.6%) | 2147 (12.2%) | 372 (25.4%) | 9151 (16.1%) |
| WP2 | Mar - Jun 2009 | 34,207 | 13,919 | 3,145 | 51,271 | 4628 (13.5%) | 2361 (17%) | 491 (15.6%) | 7480 (14.6%) |
| WP3 | Jul - Oct 2009 | 30,724 | 7,340 | 735 | 38,799 | 6870 (22.4%) | 1452 (19.8%) | 199 (27.1%) | 8521 (22%) |
| WP4 | Sep - Nov 2017 | 25,408 | 2,375 | 20 | 27,803 | 6174 (24.3%) | 471 (19.8%) | 1 (5%) | 6646 (23.9%) |
| WP5 | Jul - Sep 2019 | 15,595 | 1,077 | 146 | 16,818 | 1420 (9.1%) | 66 (6.1%) | 17 (11.6%) | 1503 (8.9%) |
| WP6 | Sep - Oct 2022 | 16,649 | 334 | 2 | 16,987 | 7305 (43.9%) | 130 (38.9%) | NA (0%) | 7435 (43.8%) |
| WP7** | Feb - Apr 2026 | 18,640 | 5,656 | 60 | 24,356 | 22 (0.1%) | 1 (0%) | NA (0%) | 23 (0.1%) |
| Totals | Totals | 322,605 | 114,118 | 9,748 | 446,473 | 58539 (18.1%) | 18526 (16.2%) | 2038 (20.9%) | 79103 (17.7%) |

Table 6: Tag releases and recaptures for PTTP Pole & Line cruises to date.

**At the time of publication, approximately 3,700 conventional tag recaptures have been registered in the Solomon Islands tag recovery network, most likely associated with the WP7 experiments. Due to the timing of recruitment of the new Tag Recovery Officer and her training for tagging data entry directly in OFP's databases, there was a delay in entering these recaptures, which are not included in the tables above.

| | | | | Recaptures | | | |
|---|---|---|---|---|---|---|---|
| Gear | Cruise Type | Tag type | Releases | SKJ | YFT | BET | Total |
| WP Pole&Line | Archipelagic (Sol+PNG) 2016+ | ARC | 93 | 2.5 | 0.0 | 0.0 | 2.2 |
| | | CON | 85,981 | 19.6 | 7.1 | 7.8 | 18.2 |
| | Archipelagic (Sol+PNG) pre2016 | CON | 319,161 | 17.8 | 16.9 | 21.6 | 17.7 |
| | | ARC | 658 | 4.1 | 14.4 | 16.3 | 13.4 |
| | | SON | 222 | 4.3 | 9.6 | 38.9 | 10.4 |
| CP Mixed | dFad Access 2013+ | ARC | 680 | 0.0 | 8.7 | 13.3 | 11.8 |
| | | CON | 36,412 | 3.4 | 7.8 | 14.7 | 12.1 |
| | | SON | 461 | 0.0 | 4.0 | 5.1 | 3.7 |
| | Pre-dFad 2008-2013 | CON | 37,538 | 5.4 | 17.2 | 30.7 | 29.9 |
| | | ARC | 712 | 0.0 | 8.7 | 22.4 | 18.5 |

Table 7: Recapture rate by gear, tag, and selected cruise-focus types. Equatorial releases consist of tags released in the EEZs of Palau, Federated States of Micronesia, the Marshall Islands, Nauru, Kiribati and Tuvalu.

## 2.5. Biological sampling

As part of its planned activities, the CP17 and WP7 cruises provided a significant number of biological samples and data as identified in Table 8 and Table 9, respectively. Biological sampling during tagging cruises complements the work conducted by national and regional fisheries staff on vessels and in ports, increasing the number of samples collected in the region during the year. This sampling effort contributes significantly to the WCPFC Tuna Tissue Bank by providing biological information and samples that are available to the scientific community to conduct biological and ecological studies of interest to the region (WCPFC-SC22-2026-RP-P35b01), and can leverage the scientific staff and equipment aboard the tagging vessel to carry out specialist protocols.

| Species | Muscle | Liver | Otolith | Stomach | Spine | Blood | Kidney | Brain | Fatmeter |
|---|---|---|---|---|---|---|---|---|---|
| RRU | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| FRI | 32 | 32 | 25 | 32 | 0 | 0 | 0 | 0 | 0 |
| BUM | 3 | 2 | 1 | 0 | 4 | 1 | 1 | 1 | 0 |
| YFT | 283 | 143 | 134 | 139 | 0 | 5 | 5 | 5 | 263 |
| KAW | 26 | 25 | 21 | 26 | 0 | 0 | 0 | 0 | 0 |
| SKJ | 317 | 161 | 148 | 156 | 0 | 5 | 5 | 5 | 744 |

Table 8: Number of samples taken during WP7 per species and sample type.

| Species | Muscle | Liver | Otolith | Stomach | Spine | Blood | Kidney | Brain | Fatmeter |
|---|---|---|---|---|---|---|---|---|---|
| DOL | 15 | 17 | 0 | 15 | 0 | 0 | 0 | 0 | 0 |
| RRU | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| WAH | 8 | 8 | 8 | 8 | 0 | 0 | 0 | 0 | 0 |
| SSP | 3 | 2 | 0 | 2 | 0 | 1 | 0 | 1 | 0 |
| BET | 465 | 120 | 114 | 102 | 0 | 12 | 6 | 6 | 74 |
| BUM | 12 | 12 | 6 | 7 | 0 | 5 | 6 | 5 | 0 |
| YFT | 197 | 234 | 119 | 121 | 0 | 10 | 5 | 5 | 96 |
| KAW | 3 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 |
| SKJ | 66 | 34 | 28 | 28 | 0 | 13 | 6 | 6 | 19 |

Table 9: Number of samples taken during CP17 per species and sample type.

## 2.6. Strontium chloride chemical tagging

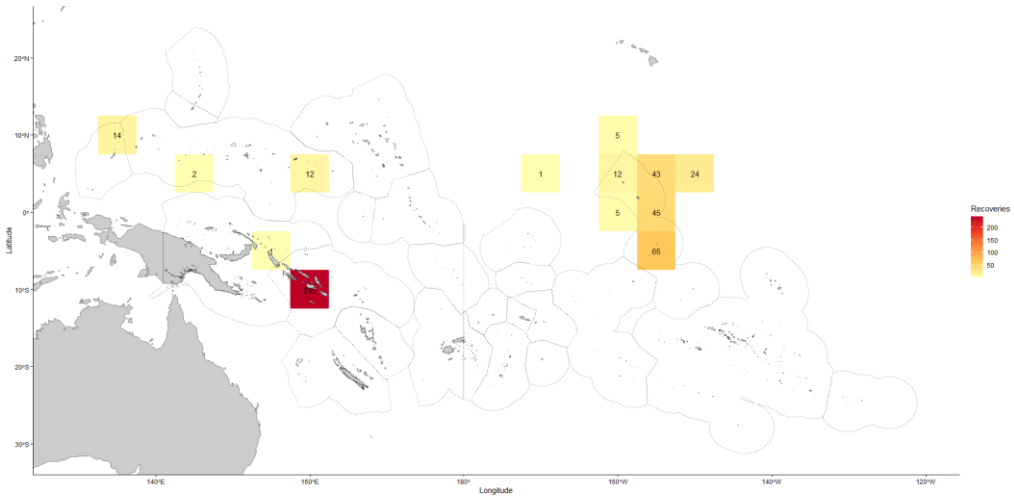


Figure 7. Distribution of recovered SrCl-marked fish.

Efforts to mark tropical tuna with strontium chloride (SrCl) to validate age at length estimations began in 2019. Of the 3,061 fish marked with SrCl and released across all species between 2019 and 2023, 471 were recaptured and reported (Figure 7), representing approximately 15% of all releases. Among these 471 recaptured fish, 233 individuals were successfully sampled, with otoliths retrieved. Repatriation of these samples from throughout the tag recovery network is ongoing, where they form a unique dataset for validation of independent age-at-length estimates, and spatial variation in growth (Wakefield & Hamer, WCPFC-SC22-2026-SA-WP-10).

# 3. TAG RECOVERY NETWORK AND DATA

## 3.1. Tag Recovery Network

Since September 2021, a fisheries service provider, MRAG, assumed responsibility for centralizing the collection of reported tag data from the following countries: Palau, Nauru, Tuvalu, Tokelau, Papua New

Guinea, Solomon Islands, Vanuatu, American Samoa, Federated States of Micronesia, Marshall Islands, Fiji, Kiribati and Cook Islands. In the majority of locations, tag finders are offered a US$ 20 reward or PTTP merchandise, and observers are also offered a US$ 20 reward if assist with an onboard tag recovery, including the collection of high quality catch and length data of the tagged fish.

To maintain and improve the tag recovery network, targeted trips by SPC staff were made to Pago Pago, American Samoa (July 2025), Lae, Rabaul, Madang, Wewak, Papua New Guinea (Oct 2025), Honiara, Noro, Solomon Islands (Nov 2025), Honiara, Noro, Solomon Islands (Jan 2026), Port Vila, Vanuatu (Feb 2026), Apia, Western Samoa (March 2026) to meet with Tag Recovery Officers, observer coordinators, debriefers and others involved in tag recovery, to provide training and improve processes for tag recovery in each port. Pago Pago, Bangkok, Noro, Lae, and Rabaul are all scheduled to be visited during the remainder of 2026 to reinforce effective liaison with respective Tag Recovery Officers and key agents within the tuna-product supply chain, and provide any materials, outreach and training as requested.

Maintenance of this network is necessary, as turnover of staff across all points of this supply chain is frequent, creating lapses in awareness of the tagging program and recovery processes. Recoveries are anticipated across ports in the warm-pool and 'Western Pacific-East Asia' areas with continued tagging activities in the Solomon Islands. Therefore it is essential to maintain the network in these regions.

## 3.2. Tagging Data Validation

Validation, the process of verifying and improving the reported recapture information provided by finders, is a critical process for subsequent integration of tagging data into downstream analyses. A dedicated team works to ensure maximum data availability of new and historic tagging data, with a prioritisation schedule that matches WCPO stock assessments.

During the period 2025-26, over 4,000 yellowfin and bigeye tuna tag recoveries were examined and validated prior to the 2026 stock assessments for these species. In 2026-27, validation effort will prioritise skipjack tag recaptures, in preparation for the planned 2028 WCPO skipjack tuna stock assessment. Improvement and automation of this process of data validation continue to be part of the PTTP workplan.

## 3.3. Tag Seeding

Uncertainty in estimated tag reporting rates continues to be a highly influential component of stock assessment and related tagging analyses of WCPO tuna species (WCPFC-SC22-2026-SA-IP-05, Ducharme-Barth et al. 2026 WCPFC-SC22-2026-SA-IP-XX). Informative priors placed on these parameters can help constrain model estimation and reduce the occurrence of boundary limits being hit during likelihood minimisation. Tag seeding, the implanting of tags into already caught fish onboard purse seine vessels, are experiments implemented by regional and national observer programmes, and supported by SPC through the PTTP, to provide such priors. Additional payments are made to observers, briefers and debriefers who carry out these experiments.

In 2024 there was an expansion of tag seeding effort (SC20-RP-PTTP-02), which had fallen to levels far below those required to identify temporal changes in reporting rate (SC15-SA-IP-06), and included a new tag seeding protocol to simplify the seeding process following feedback from observer programmes that this would improve deployment numbers. Following an idealised experimental design, seeding kits were distributed to observer coordinators in ports to provide maximal coverage across regions and vessel flags to improve reporting rate estimations. This included deployment of seeding kits on vessels departing from ports outside of WCPO purse seine fishing grounds, but that nevertheless land tuna from fishing grounds that currently or historically experience tagging effort, such as Japan, and central and south America.

A summary of all seeded tags over time, and number of seeding kit deployments by observer programme is provided in Figures 8 and 9, respectively. Deployment of seeding tags is now approximately 30% higher than the historical peak in 2014.

Members of the PTTP team were able to attend the Regional Observer Coordinator Workshop (ROCW) in February 2026 held in Port Vila, Vanuatu. This workshop provided a chance to meet observer coordinators to discuss this tag seeding expansion and tag recovery in their ports. Forty tag seeding experiments were distributed during this event to specific coordinators in attendance. FRA-Japan have provided a further 500 Japanese tagging programme tags, which are planned for deployment in the second half of 2026, as JPTP tags are treated with their own reporting rate parameters in WCPO stock assessments. Maintaining this elevated level of seeding throughout the fishery is a priority for 2026-27 (see *Work-plan 2026-2029).*

Tag seeding data are subject to reporting delays because observer data are only submitted after vessels return to port. Factors such as vessel schedules, port logistics, and data debriefing can delay the availability of seeding records. As a result, the data presented here may not include all recent tagging activities and should be interpreted with this reporting lag in mind.

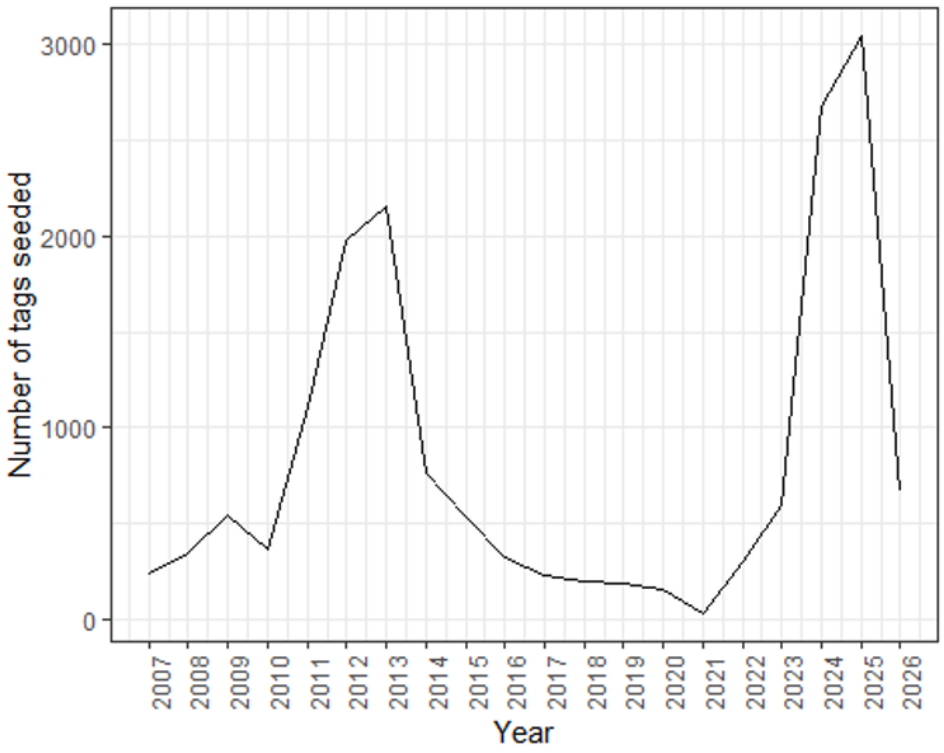


Figure 8. Number of seeded tags deployed per year since the beginning of PTTP. Note that the most recent period is subject to severe delays in data reporting, and does not accurately represent seeding levels at the time of this report.

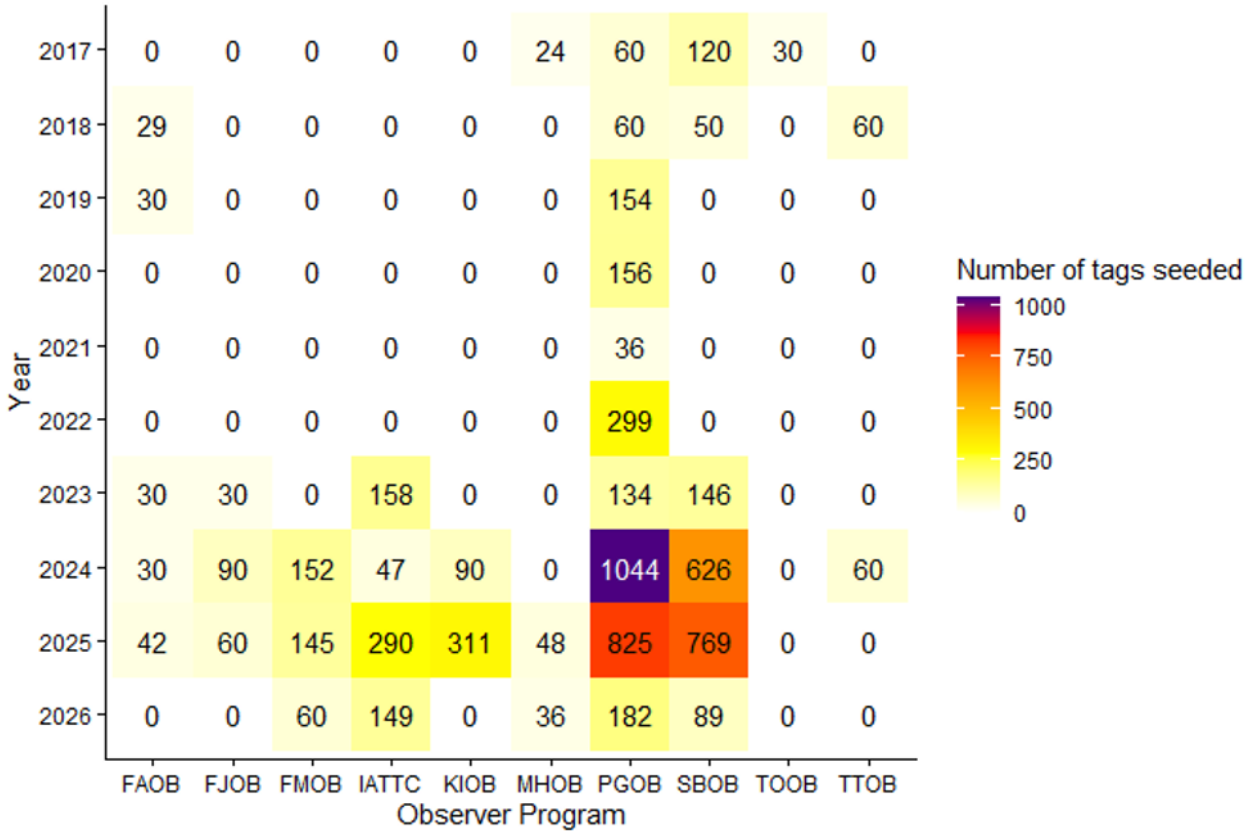


Figure 8. Number of seeded tags deployed per observer program per year in the last 10 years

# 4. DATA ANALYSES

The PTTP also supports the preparation and integration of tagging data into a wide range of stock assessment, population dynamics and auxiliary analyses that support WCPFC's science programme. The scientific outputs that these data support are varied (WCPFC-SC22-2026-SA-WP-02), but here we detail the major contributions during the period 2025-26.

Yellowfin and bigeye tuna tagging data were used to guide decisions on regional structure, and external estimates of demographic parameters (Hamer 2026; WCPFC-SC22-2026-SA-IP-01), as well as being prepared for direct integration into the WCPO stock assessments for these species (WCPFC-SC22-2026-SA-WP-03, WCPFC-SC22-2026-SA-WP-04). These tagging datasets, alongside that for WCPO skipjack tuna, continue to support WCPO harvest strategy work through integration into operating models, estimation methods and monitoring strategies (WCPFC-SC22-2026-MI-WP-01, WCPFC-SC22-2026-MI-WP-05, WCPFC-SC22-2026-MI-IP-01).

Updated PTTP tagging data were also integrated into the latest SEAPODYM reference solutions for Pacific yellowfin and bigeye tuna for estimation and validation of environmentally-driven movement behaviours (WCPFC-SC22-2026-EB-WP-03), supporting climate projections for the tropical tuna species and seasonal movement rates for stock assessment and harvest strategy operating models.

Independent analyses of tag reporting rate (WCPFC-SC22-2026-SA-IP-05), tagging-induced mortality (WCPFC-SC22-2026-SA-IP-04), tag mixing (WCPFC-SC22-2026-SA-IP-19) and bigeye tuna natural mortality (Ducharme-Barth et al. WCPFC-SC22-2026-SA-IP-XX) were also undertaken using PTTP tagging data. An initial exploration of using PTTP tagging data for independent analyses of fishing mortality and abundance was also performed, using a spatiotemporal tagging model based on that recently used for EPO skipjack tuna, and now planned

for further development as part of P123 Next-generation tuna stock assessment model software in 2027 (WCPFC-SC22-2026-SA-WP-01).

Further simulation testing of the independent estimation of natural mortality through cohort-analyses, the potential for deployment of automatic, RFID tag detectors within the purse seine fleet (conditional on upcoming equipment trials), and data exploration of skipjack tagging data for the 2028 WCPO skipjack stock assessments are planned for 2027 (see *Work-plan 2026-2029).*

# 5. PTTP WORK-PLAN 2026-2029

## 5.1. Field Operations

| Year | Activities | Operational Considerations | Scientific Outputs |
|---|---|---|---|
| **2026** | Seasonal Pole & Line Tagging Cruises (~60 days in total)<br>• Solomon Islands EEZ focused<br>• primary focus SKJ<br>• secondary YFT<br><br>Test the performance and reliability of the refurbished FV Solomon Searcher for wider application in western Pacific<br><br>Identify and establish new bait grounds for wider western Pacific tagging of SKJ | Solomon Islands based tagging increases potential for a higher proportion of short time-at-liberty recaptures. This is mitigated by negotiations with NFD for their fleet to avoid areas where tagging has occurred and to spread releases across as many schools as possible<br><br>Identify and resolve vessel and gear performance issues that may restrict the FV Solomon Searcher from use in broader Western Pacific tagging cruises<br><br>New bait grounds tested and available for wider western Pacific tagging cruises | Tagging data for WCPO tuna stock assessments and harvest strategy development (*scientific services*)<br><br>Tagging data for SEAPODYM, improving movement estimation for stock assessment, harvest strategies and climate projections (*scientific services, P62*)<br><br>External estimates of natural and fishing mortality, and abundance (*scientific services, P123*) |
| | Biological sampling of tuna and bycatch | Dedicated and experienced science samplers deployed on the cruises to undertake specific tasks and protocols to support broader SC work programme | Age-at-length parameters for WCPFC stock assessments (*Science Services, P129*)<br><br>Independent estimates of movement (*Science Services*)<br>Connectivity and stock structure (*Science Services*)<br>Climate impacts on growth (*P121*)<br><br>Ecosystem indicators (*P121*), climate impacts on tuna ecology and ecosystems (*P62, P121*) |
| | High-quality genetic sampling of tuna | Dedicated equipment and trained staff onboard to collect and preserve fresh samples in sterile and deep freeze conditions | Building of epigenetic clocks, genome deep sequencing, close-kin mark-recapture estimates (*P100d, P123*) |
| **2027** | Seasonal Pole & Line Tagging Cruises (~60 days in total)<br>• Warm-pool focused (Solomon Is., Fed. States of Micronesia EEZ, eastern warm-pool) | Broader distribution of SKJ tag releases in the warm-pool. Extent of operations outside of Solomon Islands EEZ conditional of vessel performance and equipment tests in 2026 and access to and quality of bait grounds. | *Scientific Services, P62* |

| | | | |
|---|---|---|---|
| | • primary focus SKJ<br>• secondary YFT | Timely issuing of permits | |
| | Archival tagging of yellowfin tuna | Collaboration and in-kind contribution from FRA Japan | Independent estimates of movement<br>Spatial variability in growth and bioenergetics |
| | Biological sampling of tuna and bycatch | Deployment of dedicated samplers for specialised sampling | *Scientific Services, P62, P120, P121, P129* |
| | High-quality genetic sampling of tuna | Deployment of dedicated samplers for specialised sampling | *P100d, P123* |
| | RFID Automated tag detection field trials | | Improve reporting and reporting rate priors (*Scientific Services*) |
| **2028** | Seasonal Pole & Line cruises (~60 days), and associated biological sampling | Locations contingent on success of 2027 research cruises | |
| **2029** | Seasonal Pole & Line cruises (~60 days), and associated biological sampling | Potential requirement to continue bigeye tagging time-series | |

## 5.2. Tag Recovery Network and Data

| Year | Activities | Operational Considerations | Scientific Outputs |
|---|---|---|---|
| **2026** | Training of tag recovery officers and new data entry staff | Preparatory work for increased focused on SKJ tagging in western Pacific while maintaining network capacity in central and eastern Pacific | Acquisition of high-quality tagging data (*Scientific Services*) |
| | Maintenance and expansion of tag recovery network Thailand | | Continued and improved tag reporting (*Scientific Services*) |
| | Tag seeding | Seeding activity continues to be implemented by observer programmes, and is stratified by fleets and areas | Well characterised reporting rates (*Scientific Services*)<br>Mapping of product flow to inform tag recovery network and *P114 Improving Cannery Receipt Data* |
| | Data validation for 2026 YFT and BET stock assessments | Quality control and assurance imposed on recovered tags | Maximal data available for stock assessments (*Scientific Services*) |
| | Support tag recovery officers in IATTC ports | Tags release during PTTP central pacific, and in smaller numbers, western pacific cruises, still being recovered in central/south American ports | Maximal data available for stock assessments (*Scientific Services*) |
| **2027** | Maintenance and expansion of tag recovery in warm-pool region | Warm-pool tag recovery network is operating efficiently.<br>Weaknesses in network are identified and mitigated efficiently.<br>Effective central and eastern Pacific network maintained (in collaboration with IATTC) | Acquisition of high-quality tagging data (*Scientific Services*) |
| | Tag Seeding | Seeding activity continues | |
| | Evaluation of RFID detection rate | Conditional on successful data from field trials | Well characterised reporting rates (*Scientific Services*) |
| | Data validation for 2028 SKJ stock assessment | Quality control and assurance imposed on recovered tags | Maximal data available for stock assessments (*Scientific Services*) |
| | Continued training of tag recovery officers for data entry | QA and QC of recovered tags completed efficiently | |
| | Support tag recovery officers in IATTC ports | Conditional on whether IATTC have funds to share financing of these positions in 2027 | Maximal data available for stock assessments (*Scientific Services*) |
| **2028** | Continued tag seeding and recovery network maintenance | | |
| | Data validation for 2028 SKJ stock assessment | | |
| **2029** | Continued tag seeding and recovery network maintenance | | |

## 5.3. Data Analysis

| Year | Activities | Operational Considerations | Scientific Outputs |
|---|---|---|---|
| **2026** | Data preparation for 2026 YFT and BET stock assessments | | High quality stock assessments (*Scientific Services*) |
| | Estimation of reporting rates, tagging condition effects, and tag mixing rates for 2026 YFT and BET stock assessments | | High quality stock assessments (*Scientific Services*) |
| | Data preparation for estimation and validation of SEAPODYM YFT and BET reference model movement parameters | | Improved SEAPODYM reference models for climate projection (*P62)* |
| | Independent estimation of BET natural mortality | Conditional on accurate reporting rate estimations, collaboration with NOAA | Independent demographic parameter estimation (*Scientific Services*) |
| **2027** | Validation of independent natural mortality estimation through simulation testing | Conditional on staff resourcing, collaboration with NOAA | |
| | Data preparation and analysis for development of independent, spatiotemporal model for estimation of fishing mortality and abundance | Collaboration with DTU Aqua | Independent estimation of fishing mortality and abundance (*P123*) |
| | Analysis for potential of RFID tagging technology scale-up | Conditional of successful data from field trials, resourcing for analysis | Improved and well characterised reporting rates (*Scientific Services*) |
| **2028** | Data preparation for 2028 SKJ stock assessment | | |
| | Estimation of reporting rates, tagging condition effects, and tag mixing rates for 2028 SKJ stock assessment | | |
| **2029** | Data preparation and analyses for 2029 YFT and BET stock assessments | | |
| | Data preparation for estimation and validation of post IPCC7 AR SEAPODYM reference solutions | Conditional on new ensemble ocean data products and resourcing for SEAPODYM development | |

# 6. RECOMMENDATIONS

SC22 is invited to note the report of ongoing progress in implementation of the PTTP. We recommend that SC:

- Note the need for member participation and support in tag reporting as both wild and seeded tags continue to be found throughout the fishery.
- Note the critical importance of effective tag seeding for informing stock assessment, and support the increased deployment and fleet coverage of tag seeding experiments through regional and national observer programmes.
- Note the revised Terms of Reference endorsed by the PTTP Steering Committee (WCPFC-SC22-2026-SA-WP02)
- Consider and endorse the PTTP work-plan for 2026 - 2029.

# 7. ACKNOWLEDGMENTS

We gratefully acknowledge the voluntary contributions from all the entities listed in 1.2 Programme Funding and Governance. We acknowledge the support of national fisheries administrations, observer programmes and the tuna fishing industry in assisting with the project, in particular the recovery of recaptured tags and access to fish for field operations. The contribution of both vessel and scientific crew to the successful implementation of the PTTP is gratefully acknowledged.

This report was provided by J. Muir, M. Boutigny, M. Cunningham, S. Gislard, M. Ghergariu and J. Scutt Phillips

# 8. REFERENCES


| | | |
|---|---|---|
| WCPFC-SC22-2026-SA-WP02 | PTTP Steering Committee | Scientific outputs from the Pacific Tuna Tagging Programme, and addressing requests from FAC19 |
| WCPFC-SC22-2026-RP-P35b01 | SPC-OFP | Project 35b: WCPFC Pacific Marine Specimen Bank |
| WCPFC-SC22-2026-SA-WP10 | Wakefield C. et al. | Project 129 update: Building an age-length data stream for tuna assessments |
| WCPFC-SC22-2026-SA-IP05 | Peatman T. et al. | Analysis of tag seeding data for the 2026 bigeye and yellowfin assessments: reporting rates for purse seine fleets |
| WCPFC-SC22-2026-SA-IPXX | Ducharme-Barth et al. | Natural mortality estimation for WCPO bigeye tuna: a joint cohort analysis of Coral Sea and Region 4 tagging data |
| SC20-RP-PTTP-02 | SPC-OFP | Project 42: Report of the Pacific Tuna Tagging Project Steering Committee |
| SC15-SA-IP-06 | Peatman T. et al. | Analysis of tag seeding data and reporting rates |
| WCPFC-SC22-2026-SA-IP01 | Hamer P. | Summary Report from the SPC Pre-assessment Workshop – March 2026 |
| WCPFC-SC22-2026-SA-WP03 | Magnusson A. et al. | Stock assessment of yellowfin tuna in the western and central Pacific Ocean: 2026 |
| WCPFC-SC22-2026-SA-WP04 | Kim K. et al. | Stock assessment of bigeye tuna in the western and central Pacific Ocean: 2026 |
| WCPFC-SC22-2026-MI-WP01 | Scott R. et al. | Operating models for bigeye tuna |
| WCPFC-SC22-2026-MI-WP05 | Scott R. et al. | Operating models for yellowfin tuna |
| WCPFC-SC22-2026-MI-IP01 | SPC-OFP | Skipjack monitoring strategy |
| WCPFC-SC22-2026-EB-WP03 | Senina et al. | SEAPODYM applications to Pacific tuna species |
| WCPFC-SC22-2026-SA-IP05 | Peatman T. et al. | Analysis of tagging data for the 2026 bigeye and yellowfin assessments: corrections to tag releases for tagging conditions |
| WCPFC-SC22-2026-SA-IP19 | Scutt Phillips J. et al. | Estimation of tag mixing periods for the 2026 WCPO tuna stock assessments |
| WCPFC-SC22-2026-SA-WP01 | Hamer P. et al. | Project 123: Scoping the next generation of tuna stock assessment software |