

Consideration of a High Seas Transshipment Regional Observer Program in the Western and Central Pacific Fisheries Convention Area

Abstract:

As high seas transshipment continues to be a widely practiced operation in the Western and Central Pacific Ocean, there are steps that members of the Western and Central Pacific Fisheries Commission (WCPFC) can take to improve its oversight, including consideration of a regional observer program (ROP) for transshipment. To inform discussions on the option for a high-seas transshipment ROP at WCPFC and support the work of the transshipment intersessional working group (IWG), this report provides an overview of transshipment management and observer programs at other tuna regional fishery management organizations (RFMOs) and their applicability to WCPFC.

Table of Contents

Introduction 3

Current WCPFC Transshipment Management..... 4

High Seas Transshipment Observer Reporting in the WCPO 5

High Seas Transshipment Observer Reporting at Other Tuna RFMOs 5

Considerations for Implementing an Independent Transshipment ROP in WCPFC 8

Recommendations 11

Annex 1: Details of IATTC, IOTC, ICCAT and PNA independently run programs.....13

Introduction

At-sea transshipment is a component of many commercial fisheries operations globally and continues to increase in the Western and Central Pacific Ocean (WCPO). Recent Western and Central Pacific Fisheries Commission (WCPFC) Secretariat annual reports indicate that the number of reported high seas transshipment events has increased by 166% between 2014 (554 events) and 2019 (1,472 events).¹ This trend is despite text in the WCPFC transshipment measure, CMM 2009-06, that states “to the extent practicable, [fishing vessels should] conduct transshipment in port.”²

When insufficiently monitored, at sea transshipments can contribute to inaccurate catch records, laundering of illegally caught fish, and other illicit activities. Two recent Pacific Island Forum Fisheries Agency (FFA) studies (2016 and 2020) on the “Quantification of IUU Fishing in the Pacific Islands Region” highlighted at sea transshipment as a key area of uncertainty in the longline supply chain. With the most recent update (2020) stating that *“important areas of uncertainty remain in the at sea transshipment component of the longline supply chain and monitoring and control remain a work in progress. In particular, improvements are required to strengthen the implementation of the observer program such that information provided by vessels on the volume and species composition of fish transhipped can be validated against independent observer estimates.”*³

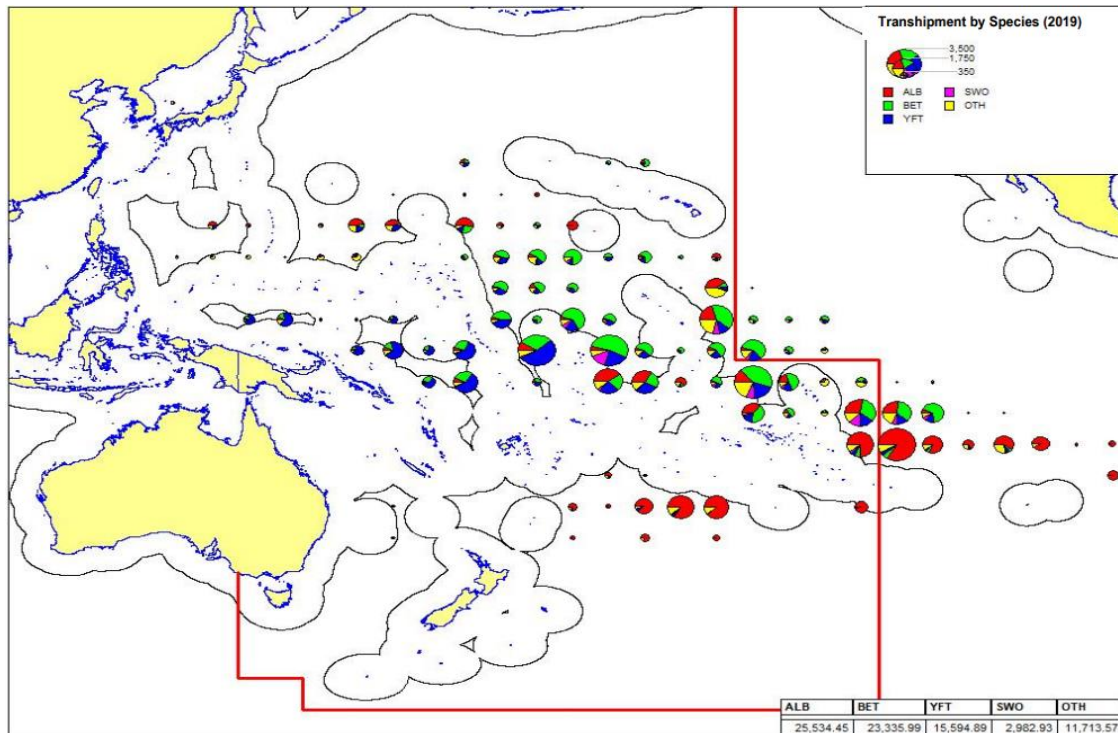
In 2018, recognizing the need to improve transshipment oversight, WCPFC15 formed an intersessional working group (IWG) to study the effectiveness of its current transshipment measure CMM 2009-06. This paper seeks to answer a key question included in the scope of work of the IWG: “What are the benefits, limitations, and estimated costs to WCPFC of implementing a regional observer program specifically for carrier vessels, managed, and administered by an independent organization similar to transshipment observer programs in the Indian Ocean Tuna Commission (IOTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), and Inter-American Tropical Tuna Commission (IATTC)?”. To that end, this paper provides a summary and estimated costs of observer program management at IOTC, ICCAT, IATTC, and the Parties to the Nauru Agreement (PNA). The paper does not endorse high seas transshipment but outlines potential approaches to improve data collection for better management of the practice in the interim.

Current WCPFC Transshipment Management

CMM 2009-06 establishes terms and conditions for transshipments in areas beyond national jurisdiction including the required reporting and the prerequisite for an observer to monitor and verify high seas transshipments.⁴ In practice, very few observer reports have made their way to the WCPFC Secretariat, meaning its capacity to independently validate vessel and member reports remains very limited.

As of July 2021, there were 3,435 vessels on the WCPFC Register of Fishing Vessels, with 2,110 (61%) vessels from nine (9) CCMs listed as authorized to transship in the high seas. Most of the vessels are longliners (85%) followed by carriers/bunkering vessels (10%). Figure 1, below, shows the aggregated transshipment locations and proportional catch levels of all species in 2019.⁵¹ Of note is the high transshipment activity reported to have occurred in the high seas just outside the borders of Exclusive Economic Zones (EEZs), rather than in the most distant areas of the high seas – which is where in port transshipment may be considered impractical.

Figure 1: Map of the location of transshipments and the relative proportions of species transhipped in 2019. (Source: WCPFC-TCC17-2020-RP03)



ⁱ 2019 is used as a reference year to show transshipment data before covid disruptions influenced reporting

All this considered, some FFA members have voiced a preference for a prohibition on all high sea transshipments, as per the text in CMM 2009-06, but, as the practice remains authorized, there are a range of practical potential reforms available to improve transshipment oversight, especially through strengthening of the existing observer reporting processes and programs.

High Seas Transshipment Observer Reporting and Carrier Monitoring in the WCPO

At present, WCPFC has a requirement for a minimum of 100% ROP observer coverage rate to monitor at-sea transshipment (CMM 2009-06 paragraph 13), but lacks requirements for standardized transshipment observer forms and is the only tuna regional fishery management organization (tRFMO) that has not created a dedicated high seas transshipment observer program for receiving carriers. So, while some WCPFC members do provide observer coverage on their flagged vessels under their national observer programs, this leaves the Commission to rely on a patchwork system where each member designs its own transshipment observer program without Commission-wide requirements for consistent observer training, data collection, or reporting. Overall, this current process does not provide consistent information conducive to the long-term conservation and sustainable use of tuna resources in the region – a stated aim of the Commission.

There have been some efforts to standardize transshipment observer training, including through the Pacific Islands Regional Fisheries Observer (PIRFO) Training Framework⁶ where micro-qualifications are “completed in addition to the core or mandatory units of competency of a full qualification”. In addition, in 2021, the TSIWG recommended that minimum transshipment observer data fields be adopted to standardize observer reporting. More work is underway within the TSIWG to finalize and gain agreement on these data fields in 2022.

High Seas Transshipment Observer Reporting at Other Tuna RFMOs

Other tRFMOs such as IOTC, ICCAT, IATTC, and - to a certain extent - the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) have comparable transshipment measures that apply to large-scale tuna longline fishing vessels and authorized carrier vessels. Each measure requires that:

- All at-sea transshipments are prohibited unless monitored under the transshipment regional observer program (ROP).
- Members ensure that all carrier vessels have a transshipment ROP observer onboard

- Members submit an annual comprehensive report assessing the content and conclusions of the reports of the observers assigned to their carrier vessels.

Across the RFMOs, these measures have led to very similar high seas transshipment ROPs, financed by the countries whose longline vessels engage in transshipment operations, but managed and administered by independent organizations. These third-party organizations have provided training, coordinated placements, debriefed observers, and reported on transshipment data for over a decade.

1. IOTC

Currently managed under Resolution 21/02ⁱⁱ, the at sea transshipments observer program in the IOTC Convention Area has been managed by the Consortium of Marine Resource Assessment Group (MRAG) and Capricorn Fisheries Monitoring (CapFish) since 2009. Like ICCAT and IATTC, the responsibilities of the Consortium include the recruitment, training, and provision of qualified observers, managing the logistics for the deployment and return of observers, and maintenance of the IOTC at-sea transshipment program database. A report for each deployment is also submitted by MRAG to the IOTC Secretariat at the end of each deployment. In line with the agreed confidentiality rules, these reports are subsequently forwarded by the IOTC Secretariat to the concerned fleets whose vessels have transhipped under the deployment for which the report covers. Additionally, the reports for deployments where southern bluefin tuna (SBT) have been transhipped are also forwarded to CCSBT, as per the data sharing agreements signed between the IOTC and CCSBT.⁷ This arrangement has the benefit of minimizing costs to the fleets that catch and transship SBT in the IOTC Area of Competence.⁸ Annual reports, summarizing observed transshipments in the Indian Ocean, are submitted by the Consortium to IOTC.

2. ICCAT

The ICCAT regional observer program for at-sea transshipments is carried out under the provisions of the Recommendation 21-15 on transshipment. The ICCAT transshipment ROP has been implemented by a consortium comprised of MRAG and CapFish since 2007. They provide carrier observer recruitment, training, annual reports detailing transshipment information and summarizing observer reports, in

ⁱⁱ In the case of the twelve (12) Indonesian wooden carrier vessels listed on the IOTC Record of Authorized Vessel and listed in the measure, a national observer programme may be used in place of an observer from the ROP. National observers shall be trained and will carry out all of the functions of the regional observer, including provision of all data as required by the IOTC and equivalent to those prepared by the ROP Contractor. This provision will be rescheduled in consultation with the IOTC Secretariat as a two-year pilot project to be started in 2021. The effectiveness of the project shall be examined in 2023 to conclude whether the programme offers the same level of assurances as those provided by ROP.

addition to being responsible for equipment purchases and observer deployments under the supervision of the Secretariat.⁹ Recent changes reflected in Rec. 21-15 include the requirement that coastal and port transshipments are monitored and recorded when an observer is present. Observers also capture data on transshipped SBT, in agreement with the requirements of CCSBT. Reports for these transshipments are produced by the Consortium and submitted together with the ICCAT reporting mechanisms, and then shared by ICCAT with CCSBT

3. IATTC

IATTC's transshipment measure - Resolution C-12-07 – also limits at sea transshipment to longline and carrier vessels whose flag countries participate in the program to monitor transshipments at sea. MRAG Americas has been implementing the IATTC ROP since its inception in January 2009; providing similar services outlined above for ICCAT and IOTC. MRAG Americas records and verifies positions of vessels engaged in transshipments, issues daily reports on activities that are summarized for the Secretariat and provides captains with the opportunity to include any other relevant information. Under this program, observers also verify and countersign the transshipment declaration forms.¹⁰

4. CCSBT

The CCSBT's observer program to monitor SBT transshipments at sea, which came into effect in 2009 (and was later revised in 2017), is regulated under the Resolution on Establishing a Program for Transshipment by Large-Scale Fishing Vessels. CCSBT's transshipment program is operated in conjunction with the ROP for transshipments of ICCAT, IOTC, and WCPFC to avoid duplication of the same measures.ⁱⁱⁱ For this reason, the report will focus on the details for ICCAT, IOTC, and IATTC.¹¹

5. PNA

While not a transshipment ROP, a pertinent example of an independently operated observer program in the WCPO is the PNA Observer Agency (POA); this program assumed responsibility for the Federated

iii A Transshipment Memorandum of Cooperation (MoC) was agreed between WCPFC and the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) in 2016 and subsequently signed in 2017. This MoC provides for High Seas transshipments involving southern bluefin tuna (SBT) to be carried out within the High Seas of the WCPFC Convention Area if observed by CCSBT-endorsed WCPFC Regional Observer Program (ROP) transshipment observers. Noting that the Commission has not prescribed the minimum data fields that ROP observers are expected to collect when they are deployed to monitor high seas transshipment activities, the Secretariat confirms that there is no additional progress to report since TCC14 towards operationalizing the MoC. (TCC15-2019-RP03)

States of Micronesia Arrangement^{iv} observer program and has been administered under contract by MRAG Asia Pacific Pty Ltd (MRAG AP) since 2013. MRAG AP is responsible for identifying and coordinating placements for the PNA observers who provide 100% coverage of purse seine vessels authorized to fish in PNA waters. The POA is an authorized program under the WCPFC ROP and MRAG AP coordinates observer contracts, finances, and travel arrangements in addition to providing reports to the PNA. Only observers that are nationals of a PNA member country and accredited by the PIRFO program are eligible to be used by the POA.¹²

Elements to Consider for an Independent WCPO Transshipment ROP

A. Precedence

In practice, all the flag States and most of the individual carriers operating in the WCPO have experience with independently run transshipment observer programs, through their membership at other RFMOs or participation in existing regional programs. Since 2011, the PNA has delegated the operational and logistical tasks involved in running its ROP to an independent third-party under the arrangements set out in WCPFC CMM 2018-05¹³. The PNA and tuna RFMO observer program could provide a valuable precedent for the potential development and implementation of a high sea's transshipment regional observer program for the WCPFC.

B. Observer training and tools

At ICCAT, IATTC, and IOTC, observers are required to have at least 1 year of at sea observer experience and submit their CVs to the Secretariat for approval.^v They then undergo training provided by the consortiums, whose standards are approved by the respective RFMOs. At IATTC for example, the training lasts 5 days and focuses on completing forms, fish identifications, compliance monitoring duties, safety, and communications protocols. For PNA, all observer trainings are provided by SPC/FFA and/or national trainers according to PIRFO standards, and not the POA/MRAG AP. However, where specific observer training (e.g., Marine Stewardship Council Chain of Custody (MSC CoC)) is required, this is

^{iv} The FSM Arrangement was developed as a mechanism for domestic vessels of the PNA to access the fishing resources of other parties. It was signed on the 30 Nov 1994 and came into force on the 23 Sep 1995. Signatories are Federated States of Micronesia, Marshall Islands, Nauru, Palau, Papua New Guinea and Solomon Islands.

^v Minimum qualifications for IOTC/ICCAT observers include medical and sea survival training, in addition to a first aid certificate. IATTC requires annual seaman's physical in addition to the first aid/CPR certificate.

provided by the PNA Office and supported by MRAG AP.^{vi} PNA has also developed a process to recruit trained observers under the PIRFO program (including those who have been qualified by their various domestic programs).

There are also several existing tools that could be utilized by carrier observers. The WCPFC High Seas Transshipment Electronic Reporting System (TSER) app can be pre-loaded on tablets and connected to inReach GPS units (or its equivalent used by the Pacific Community (SPC) and would allow carrier observers to send data to the Commission and the flag state in almost real time. In addition, electronic crane scales, have been studied and recommended to WCPFC¹⁴ and are already in use at ICCAT and other regions, can be used to improve overall transshipment weight reporting.

C. Observer Cross-certification

ICCAT and IOTC training courses are run in conjunction with one another, enabling observers to work in both Convention Areas and to also monitor CCSBT transshipments. A similar operation could be beneficial to WCPFC and neighboring RFMOs such as IATTC. The 2020 IATTC annual report on transshipment notes that 43% of tuna transshipped in the Eastern Pacific Ocean was actually caught in the Western Pacific Ocean¹⁵ and the 2019 WCPFC Annual Report on Transshipment noted that *“high seas transshipment events were reported to have occurred more often in the tropical eastern Pacific, particularly within and around the overlap area with IATTC.”*¹⁶ IF WCPFC was to standardize its transshipment observer protocols and coordinate with IATTC, carriers that operate in both Convention areas would no longer have to carry two observers, reducing costs and logistical delays. Cross-certification of carrier observers^{vii} (as practiced by ICCAT and IOTC) could also create more opportunities for Pacific Islanders to be employed on carrier vessels operating in both Convention areas. Anecdotal information^{viii} points to some observer preference for carrier vessels over other gear types due to safety,

^{vi} Anecdotal information points to some observers completing the PIRFO and MRAG training to then join MRAG Americas observer program for better pay and working conditions. The POA in conjunction with Parties, has facilitated some top performing observers to undertake training and trips through MRAG Americas for the IATTC program.

^{vii} A recent FFA report included a recommendation to “start discussions with neighboring RFMOs to fully describe and document the similarities and differences in the sampling programmes to achieve harmonisation across RFMOs in data collection and perhaps training certification.”

^{viii} Observers provide positive feedback regarding working in ICCAT ROP, although the observations can be intense and run for long hours over several days at a time, they enjoy and value working in the program. Many observers are keen to remain available for deployment, and in light of the current Coronavirus pandemic (outside of the scope of this report) continue their valued role in strengthening the monitoring, compliance, and surveillance (MCS) within this fishery.

salary, and space considerations.

D. Data reporting, management, and logistics

IATTC, ICCAT, and IOTC transshipment reports are compiled by the third party at the end of each trip and submitted to the respective RFMO within 2–3-weeks. All reporting formats and standards used by observers under these programs were originally developed by the consortiums according to the specific requirements set out by each tRFMO. These forms were approved by their respective tRFMO and have since been standardized across all three tRFMOs. Summary observer reports are also sent every five days by ICCAT, IATTC and IOTC observers, which outline vessels, dates, and locations where at sea transshipments occurred over that period. ICCAT also publishes observer reports on its website with relevant sections hidden for confidentiality purposes.

Within the PNA program, the provider submits an annual report to the PNA office. Observer workbooks are based on a standardized SPC/FFA format, which incorporate WCPFC minimum data fields and debriefing of observers is also done through a PIRFO certified debriefer (generally from the national program). Debriefing reports are then sent directly by the POA to SPC, as the WCPFC’s scientific data coordinator. MRAG AP also works closely with the vessel companies and their agents in relevant ports to assist during observer placements with accommodation, meals, and transport, to ensure cost-effectiveness of the program.

A WCPFC ROP could combine the systems currently employed by other tRFMOs and the PNA program. Everyday management and logistics of carrier observers could be handled by an independent party while a streamlined reporting system could be developed by WCPFC. Carrier observer minimum data fields which are currently being considered by the TSIWG could complement the FFA transshipment observer standards and protocols work to establish transshipment observer and declaration forms. Together these groups can develop a transshipment observer reporting system that best fits WCPFC’s needs.

E. Program costs and cost recovery mechanisms

The costs of outsourcing these programs in 2019 (prior to the COVID-19 pandemic disruption), ranged from US\$280k (ICCAT), \$810k (IOTC) to \$1.04M (IATTC)^{ix}. These costs are recovered from the respective members of the 3 RFMOs that transshipped at sea through their authorized longline vessels. For IATTC, the fee is calculated based on the total costs of the program and paid into a special account that the IATTC Secretariat manages. For the IOTC and ICCAT, costs are based on the quantity of fish transshipped in the preceding year. These costs are usually primarily driven by observers' daily rates at sea and on shore (in transit or training).

The total program costs for administering the PNA observer program through MRAG AP is based on the number of authorized fishing vessels and the number of fishing days used by each vessel and travel costs. Vessels are charged fees in three components: (i) fixed costs, which cover administering the POA (e.g., coordinator salaries, office costs, insurance); (ii) sea days fees (currently \$129/day), which cover the variable costs of operating the POA (e.g., observer sea day and shore day fees, accommodation/meals, agents' fees) and (iii) travel costs. The estimated total annual cost for the 70 fishing vessels participating in the program in 2019 was \$2,950,000, though actual costs will be dependent on actual sea day usage and travel costs. The POA has a 100% cost recovery mechanism from the flagged vessels similar to the other t-RFMOs.^x

There is a clear overlap in the distant water fishing countries involved in centralized high seas transshipment ROPs at other tRFMOs and those that actively transship on the high seas within the WCPFC (Panama, Korea, China, Chinese Taipei, Japan, Vanuatu). These other programs provide multiple examples that WCPFC could employ to determine program budgets and ensure full cost recovery.^{xi}

F. Secretariat roles and responsibilities

At IOTC, ICCAT, and IATTC, the Secretariat maintains the authorized list of carrier vessels, similar to the WCPFC Secretariat maintaining its vessel registry. IOTC, ICCAT and IATTC Secretariats also receive transshipment declarations along with carrier observer reports. These observer reports are condensed

^{ix} Cost differenced are driven mainly by the total number of observer sea days, for example, IATTC travel costs are three (3) times higher on average when compared to ICCAT costs.

^x Information on costs related to the PNA OB program was provided through interviews with MRAG

^{xi} Other options for this arrangement could include having companies involved pay fees directly to the WCPFC Secretariat based on an agreed cost structure, with the Secretariat then passing fees on to the provider (the same as the current POA arrangement). Recovering from companies based on usage (with fees paid upfront and decremented as used) ensures equity.

by the providers and sent to the Secretariat to produce an annual summary of the program that is shared with all members. At IOTC, the Secretariat is also updated throughout the observer deployment process and at ICCAT, the Secretariat receives near real time potential non-compliance reports submitted by the providers.

Within the PNA observer program makes reports available to the FSMA Administrator and relevant Parties, as well as submits to SPC who inputs the data into regional observer database able to be accessed by WCPFC. A similar process with transshipment reporting either through SPC or directly to the Secretariat may be implemented for a WCPO high seas transshipment ROP, keeping any WCPFC Secretariat tasks to a minimum. This Secretariat reporting system could also address a major flaw identified in WCPFC's current transshipment program – the lack of transshipment observer reporting to the Secretariat. This approach leaves the Secretariat, the Commission, and its science provider - SPC - without access to independent records of transshipment activity. A WCPO wide high seas transshipment ROP could address this loophole by putting in place standardized transshipment observer reporting to the Secretariat without adding cumbersome administrative burdens to the WCPFC Secretariat.^{xii}

Conclusion:

The current patchwork of transshipment monitoring programs in place at WCPFC lack minimum agreed data fields and verification processes that are present at the other tuna RFMOs, which reduces the effectiveness of transshipment oversight within the region. When discussing ways to address these issues and improve monitoring of transshipment in its Convention Area, the advantages of the current RFMO and PNA centralized systems should be considered. WCPFC should explore the option of a centralized WCPFC HS TS ROP that would be managed by a provider that coordinates with the WCPFC Secretariat to:

- a. Identify available PIRFO certified observers from national programs;
- b. Facilitate observer contracts and coordinate placement of observers onboard vessels;
- c. Coordinate logistics such as flight, visa, and accommodation arrangements for observers;
- d. Administer financial arrangements (including allowances for observers in transit);
- e. Develop and administer a Code of Conduct for observers;

^{xii} Consistency with the reporting and compliance requirements would be easier to uptake from the fisheries perspective and easier to manage from the RFMOs.

- f. Facilitate insurance for observers;
- g. Manage the provision of technical and safety equipment; and,
- h. Coordinate debriefing, data management and reporting.

While the Commission considers the advantages of HS TS ROP, it is also worth including the following improvements for the overall effectiveness of transshipment monitoring in the region:

- Adoption of reporting minimum transshipment observer data fields and submission of these reports to the WCPFC Secretariat within 24 hours of disembarkation.
- Enhanced transshipment data sharing agreements with IATTC; and,
- Requirements for countries to respond to transshipment observer reports.

A detailed analysis of the PNA, ICCAT, IATTC, and IOTC independently run observer programs are provided in Annex 1.

Annex 1: Details of IATTC, IOTC, ICCAT, and PNA independently run programs

Note that 2019 is used as a reference year as it is before COVID-19 impacts may have influenced data.

Details	PNA ^{xiii}	IATTC	IOTC ^{17,18}	ICCAT ^{19xiv}
Office locations	Majuro, RMI Brisbane, AUS Rabaul, PNG Pohnpei, FSM	Florida, USA Alaska, USA	London, UK Cape Town, SA	London, UK Cape Town, SA Madrid, Spain
Coverage	100% FSMA purse seiners	100% for transshipment carrier vessels		
Years' operating	9	12	13	14
Tenure renewal	Multiyear	Every 3 years	Annual	Annual
Average Deployment length (days)	29	73	60 ^{xv}	57
Number of deployments	652 ^{xvi}	42	65	16
# of carrier vessels in the ROP	NA	87	101 ²⁰	175 ²¹
Actual # of carrier vessels receiving fish (2019)	NA	20	27	13
# of donor LL able to transship under the ROP	NA	1107 ²²	988 ²³	1070 (ICCAT vessel list) ²⁴
Actual # of LL vessels transshipped	NA	285	370	150

^{xiii} All PNA data was shared via comm with MRAG AP.

^{xiv} ICCAT reports are based on transshipment completed from completed between 1 September 2018 and 31 August 2019.

^{xv} Information provided via comm with MRAG.

^{xvi} Average number of deployments completed from 2015-2019 provided by MRAG AP

# of at-sea TS monitored	NA	605	1,317	467
Nationality for Observers eligibility	PNA Members	USA, Taiwan, Panama, Solomon Islands, Fiji, Federated States of Micronesia, Papua New Guinea	Any National from an FAO country	Any National from a member of an ICCAT CPC
Observer nationality different for Flag state	Not nationals or citizens of the flag State of the fishing vessel (with exemptions)	Not nationals of the flag state, however, they may be from the same country the vessel is deploying from, for example, a Fijian National on a Panama flagged vessel sailing from Fiji	Not nationals or citizens of the flag State of the receiving carrier vessel. (To the extent possible)	Not nationals or citizens of the flag State of the receiving carrier vessel
Members participating in ROP	Vessels are sponsored by PNA member countries to operate under the FSM Arrangement	China, Japan, Korea, Panama, Chinese Taipei, Vanuatu	China, Chinese Taipei, Japan, Kenya, Korea, Malaysia, Oman, Seychelles	Chinese Taipei, Japan, China, St. Vincent and the Grenadines, Côte d'Ivoire, Korea, Namibia, Belize, Senegal
Reporting standards and forms	All reports and forms (except MSC forms) are determined by SPC/FFA (and PNAO) Data Collection Committee, considering WCPFC minimum data fields.	Standardized carrier observer forms to meet the Commission requirements are provided by MRAG and submitted by observers		
Debriefing	By PIRFO-certified debriefers in PNA Parties, coordinated by POA. Data provided to Parties, SPC/WCPFC	Providers (MRAG Americas) debrief and send finalized data sets to RFMO	Debriefers are Consortium staff Pre-covid - debriefed in London/Cape Town (office) Covid - remote debriefing	
Performance Evaluation/ Auditing	The PNA Observer Agency is authorized as part of the WCPFC ROP. WCPFC Secretariat conducts Audits of the all authorized programmes periodically (every 4-5 years)	There are no formal audits by the Secretariat, only feedback provided on reports submitted to the Secretariat. Annual reporting outputs by the ROP are reviewed by the Secretariat before reported to the Commission.		

ER / tablet / laptop or manual reporting	Both hardcopy and e-reporting through FIMS app. Observers are supplied with tablets/InReach devices for e-reporting	Manual reporting through standard forms	All observers are issued with laptops and all communication is done electronically. Data captured in access database Sent via email to MRAG	
Weight and species estimation (Visual/own crane scales/ vessel crane scales)	Part of the PIRFO training (visual or crane scales)	Observer visually estimates the number of fish by species in each string and multiples by the average weight by species to derive estimates	Visual estimate of numbers of fish & species composition, weights are in most instances, determined from the vessel's declaration and proportioned in accordance with the observers counts. Weight scales are used by some vessels.	
Safety / Communication equipment	MRAG Provides: <ul style="list-style-type: none"> • Life vests, • Personal Locator Beacons (PLB), • InReach personal satellite, • Communications device 	MRAG Provides: <ul style="list-style-type: none"> • PLB, • Survival Suit, • Personal Floating Device (PFD), • Signal mirror • InReach personal satellite communications device 	MRAG Provides: <ul style="list-style-type: none"> • PLB and PFD, • InReach two-way satellite communications device, • Immersion suit with whistle strobe and signal mirror • Helmet 	
Observers' pay per day (USD)	At sea: \$75 (\$85 on MSC trips) In transit - \$30/day MRAG AP recovers all travel related costs from vessels	At sea: \$340 In transit: \$350 Training: \$453 ^{xvii}	At sea: €125/day In transit - €65/day	At sea: €125/day In transit - €65/day
Annual Program Cost (2019) USD	Est, USD \$ 2,950,000 (will vary based on actual sea day usage/travel) ^{xviii}	USD \$ 1,043,016	~USD \$ 810,000 ²⁵	USD \$ 287,000 ²⁶

^{xvii} Note that this is the rate charged to the client. Pay rates to observers are variable based on experience and are not made public. Since 2019, rates have been updated to:

USD\$380 for days at sea

USD \$371 for travel days

USD \$630 for training days

^{xviii} POA coordinated 19,729 sea days in 2019 compared to IATTC which had 2699 seadays in 2019.

Endnotes:

¹ Annual Report on WCPFC Transshipment Reporting WCPFC-TCC16-2020-RP03-rev1. 10 December 2020.

<https://www.wcpfc.int/doc/wcpfc-tcc16-2020-rp03rev1/annual-report-wcpfc-transshipment-reporting-rev-1>

² WCPFC CMM 2009-06: Conservation and Management Measure on Regulation of Transshipment. December, 2009.

<https://www.wcpfc.int/doc/cmm-2009-06/conservation-and-management-measure-regulation-transshipment-0>

³ The Quantification of Illegal, Unreported and Unregulated (IUU) Fishing in the Pacific Islands Region – a 2020 Update. October 2021.

<https://static1.squarespace.com/static/52a9273ae4b07fa2610392dd/t/61b7e62aa1cb747d1e6824c0/1639441975812/ZN2869+-+FFA+IUU+2020+Update+-+final.pdf>

⁴ WCPFC CMM 2009-06: Conservation and Management Measure on Regulation of Transshipment. December, 2009.

<https://www.wcpfc.int/doc/cmm-2009-06/conservation-and-management-measure-regulation-transshipment-0>

⁵ Annual Report on WCPFC Transshipment Reporting WCPFC-TCC16-2020.

<https://www.wcpfc.int/doc/wcpfc-tcc16-2020-rp03rev1/annual-report-wcpfc-transshipment-reporting-rev-1>

⁶ Pacific Island Regional Fisheries Observer (PIRFO) Training Framework. May 2020. Version 3.2.

https://www.pirfo.org/media/attachments/2020/05/19/pirfo-training-framework_2020_v3.2.pdf

⁷ IOTC. Cooperation with Other Organizations. Accessed 16 February 2022. <https://www.iotc.org/about-iotc/cooperation-other-organisations>.

⁸ IOTC Resolution 21/02 On Establishing a Programme for Transshipment by Large-Scale Fishing Vessels

[https://www.ofdc.org.tw:8181/web/components/Editor/webs/files/Res%2021-02_\[E\].pdf](https://www.ofdc.org.tw:8181/web/components/Editor/webs/files/Res%2021-02_[E].pdf)

⁹ 21-15 Recommendation by ICCAT on Transshipment.

<https://www.iccat.int/Documents/Recs/compendiopdf-e/2021-15-e.pdf>

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[Regional Vessel Register List \(iattc.org\)](#)

²³ IOTC Record of currently authorized Vessels as of 2/15/2022

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