

# A Survey of Tuna Transshipment in Pacific Island Countries: Opportunities for Increasing Benefits and Improving Monitoring



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**FFA**

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## Summary of Major Findings and Conclusions

<p><b>Legal Framework for the Regulation of Transshipment in the WCPO</b></p>	<ul style="list-style-type: none"> <li>• WCPFC CMM 2009-06 requires CCMs to report in their Annual Report to the Commission a summary of all transshipment activities covered by CMM 2009-06 (including transshipment activities that occur in ports or EEZs) that were undertaken by fishing vessels for which the CCM is responsible.</li> <li>• Fishery access licensing is a prerequisite to eligibility to engage in transshipment in port in Kiribati, Solomon Islands and FSM. Papua New Guinea and Marshall Islands have no such requirement</li> <li>• Fiji and PNG allow transshipment at sea for domestic longliners that return the catch to their home port; Palau allows certain transshipment at sea by Taiwanese longliners by bilateral agreement.</li> <li>• It would be incorrect to assume that the PNA ban on transshipping at sea is universally followed by all Parties. The provisions of the FFA MTCs result in some ambiguity for PNA members and subsequent narrow interpretations of the PNA requirements.</li> </ul>
<p><b>Overview of Purse Seine Transshipment Activities in the WCPO</b></p>	<ul style="list-style-type: none"> <li>• In mid-2012 there were 47 refrigerated fish carriers flagged to Pacific island country members of FFA.</li> <li>• In 2010 there were an estimated 1276 transshipments from DWFN seiners in the five major transshipment ports of Pohnpei (30% of transshipments), Majuro (25%), Honiara (20%), Rabaul (17%) and Tarawa (8%).</li> <li>• Multiple factors contribute to choices of transshipment port by DWFN seiners, the most important being proximity to fishing grounds.</li> <li>• A port's advantageous geographic location near fishing grounds does not necessarily guarantee that fishing is within its country's EEZ. Majuro had 25% of the purse seine transshipments in 2010 but only 17,000 tons were caught in the RMI EEZ. Tarawa had 8% of the transshipments but the catch in the Kiribati zone that year was 239,000 tons.</li> <li>• 81% of the total 2010 DWFN purse seine catch of 1,184,632 tons was transshipped in PIC ports. The remaining 229,532 tons were unloaded in Japan (64%), American Samoa (28%) and 6 other ports in Asia and South America (8%).</li> <li>• Average unloadings per transshipment varied among the five ports with Tarawa (857 tons) and Pohnpei (652 tons) being the two extremes.</li> </ul>
<p><b>Overview of Longline Transshipment and Unloading Activities in the WCPO</b></p>	<ul style="list-style-type: none"> <li>• No firm transshipment volume amounts are available for the four distinct longline fisheries in the WCPO that unload at sea or in port. It is believed the greatest amount of transshipping at sea takes place in the distant water bigeye/yellowfin target fishery as the</li> </ul>

	<p>practice is an integral part of operations in that fishery.</p> <ul style="list-style-type: none"> <li>• It is estimated that the total catch of target tunas by longline fleets from 18 CCMs (including American Samoa) in the Convention area was about 178,000 tons in 2010.</li> <li>• About 63,000 tons or approximately 35% of the total longline target tuna catch was unloaded in the ports of 12 PIC countries in 2010.</li> <li>• Fiji experienced the greatest volume of longline unloadings in 2010 with 70% of the total.</li> </ul>
<p><b>Contribution of Purse Seine Transshipment to PIC Economies</b></p>	<ul style="list-style-type: none"> <li>• Total estimated PIC direct revenue from purse seine transshipment fees in 2010 was approximately \$1.45 million.</li> <li>• Transshipment in Majuro generated 33% of total transshipment fees, Honiara 25%, Pohnpei 24%, and Tarawa 18%. PNG does not charge transshipment fees.</li> <li>• Private sector gross revenue from sales of goods and services to purse seiners engaged in transshipment ranges from a high of \$4,000- \$8,000 per transshipment in Majuro to a low of \$1,000- \$2,000 in Tarawa.</li> <li>• Total gross revenue for PIC governments and the private sector per purse seine transshipment ranges from a high of \$9,500- \$14,500 in Majuro to a low of \$2,600- \$6,700 in Rabaul.</li> <li>• Refrigerated fish carriers are estimated to contribute total gross revenue in all 5 ports of \$1.86 million to \$3.24 million.</li> <li>• The total combined range of gross revenue for PIC governments and the private sector from purse seine transshipment in all 5 ports is <b>\$9.7—\$15.9 million</b>, or from \$8- \$13 for every ton transshipped.</li> </ul>
<p><b>Trade in Discards and non-Target Species</b></p>	<ul style="list-style-type: none"> <li>• Leakage of discards and non-target species onto local markets in the PIC ports studied has been reported in the literature since at least 1995, but has generally not been contained nor have the problems it may generate been solved.</li> <li>• Tarawa has instituted some controls that are reported to be generally effective, but those controls are somewhat unique to that location.</li> <li>• Estimates of the annual retail value of leakage for Honiara (\$80,000- \$180,000) and Tarawa (\$50,000- \$100,000) demonstrate significant financial impacts in those two ports.</li> <li>• On balance leakage is considered a benefit to PIC economies, albeit one that requires constant monitoring and sometimes control to minimize adverse impacts.</li> </ul>
<p><b>Other Aspects of Transshipment in Port</b></p>	<ul style="list-style-type: none"> <li>• Mitigation of port congestion caused by transshipment has generally been handled well by Port Authorities.</li> <li>• Not all ports are equipped to handle major pollution events such as oil spills.</li> <li>• Curtailing prostitution connected to transshipment remains an important public health issue.</li> </ul>

<b>Monitoring Transshipment in Port</b>	<ul style="list-style-type: none"> <li>• A key point is that there is no WCPFC requirement, either in CMM 2009-6 or elsewhere, for port states to report on the transshipment activities in their ports.</li> <li>• Fisheries officers or fisheries compliance officers play a prominent role in clearing inward fishing vessels and collecting information on transshipment operations in some, but not all, major purse seine transshipment ports.</li> <li>• Boarding officers in all ports are guided by a check list or inspection form that must be signed by the ship's captain.</li> <li>• Employing and assigning personnel to monitor transshipping is made difficult in some ports by the seasonal nature of transshipping and government administrative and staffing limitations.</li> <li>• Monitoring may consist of remaining onboard during transshipment for various purposes, including prevention of dumping of fish; but very little actual verification of quantities transshipped take place.</li> <li>• The monitoring function more commonly includes collection of the relevant documentation relating to volumes transshipped.</li> <li>• The requirement for 100 percent observer coverage onboard purse seiners has reportedly absorbed any surplus trained personnel that might be available to assist with monitoring.</li> </ul>
<b>Improving Common Standards of Transshipment Monitoring</b>	<ul style="list-style-type: none"> <li>• A representative of the Fisheries department should be a part of the boarding party and also attend to the departure clearance to ensure all the appropriate documentation has been provided and made available to that department.</li> <li>• Refrigerated fish carriers should be required to complete the SPC unloading form. Fisheries Departments should send the completed SPC unloading form from the carrier to SPC via the TUFMAN system.</li> <li>• Transshipment records for each transshipment should be maintained by the Fisheries Department on a logsheet that covers the entire transshipment process for each purse seiner</li> <li>• Each Fisheries department or Authority in countries where significant transshipment takes place should include a Compliance Section to ensure compliance with all reporting requirements prior to, during and after the transshipment process.</li> </ul>
<b>Enhancement of Benefits through Monitoring and Data Collection</b>	<ul style="list-style-type: none"> <li>• All port states, including PICs and those elsewhere, should report to the Commission on transshipment activity in their ports.</li> <li>• FFA should continue to press for a comprehensive catch documentation scheme at WCPFC.</li> </ul>
<b>Increasing Transshipment Fees</b>	<ul style="list-style-type: none"> <li>• Transshipment fees are like access fees in that they are intended to capture a portion of the economic rent in the fishery.</li> <li>• Overall, the levels of transshipment fees have barely changed over the past 10- 15 years and continue to represent a very small percentage of catch value: about 0.10% to 0.23% percent of catch.</li> <li>• In discussions with the industry and local shipping agents during</li> </ul>

	<p>the course of the study, in no case did any of the more than 15 shipping agents in PIC ports interviewed consider that transshipment fees in their port were hindering the port's ability to attract transshipment business.</p> <ul style="list-style-type: none"> <li>• If large transshipment fee increase(s) are contemplated, they should be undertaken jointly by all ports/jurisdictions to maximize PIC revenue opportunities.</li> <li>• The difficulties of putting in place an arrangement for joint action on fee increases are formidable, and it is concluded that such a joint effort is impractical at this time.</li> </ul>
<b>Requiring All Purse Seine Unloading in PIC Ports</b>	<ul style="list-style-type: none"> <li>• If transshipment were undertaken in PICs by vessels currently unloading elsewhere, additional gross revenue from transshipment fees could be from zero (if all transshipments took place in Rabaul) up to \$4.7 million.</li> </ul>
<b>Compulsory Longline Transshipment in Port</b>	<ul style="list-style-type: none"> <li>• From the tropical distant water bigeye/yellowfin target fishery, 300- 400 or more Korean, Taiwanese, Chinese and Japanese DWFN longline vessels might be expected to transship in port under compulsory conditions, resulting in 1,000 or more port calls if there were no other major adjustments to operational patterns.</li> <li>• A conservative estimate of 500 longline in port transshipments could generate gross revenue exclusive of transshipment fees in the range of \$650,000 to \$1.7 million.</li> <li>• In future discussions on the subject, PICs should recognize that a complete ban on high seas transshipment by longliners could adversely affect PIC domestic opportunities for development.</li> </ul>
<b>Use of Local Shipping Agents to Enhance Benefits</b>	<ul style="list-style-type: none"> <li>• Some foreign companies that operate vessels or shore based facilities also set up agency businesses for transshipment operations, alleviating the need for reliance on established local agents. This is currently the situation in two PIC transshipment ports, but there are larger implications for gross revenue as more processing is developed onshore.</li> </ul>
<b>Concluding Comments</b>	<ul style="list-style-type: none"> <li>• Possible revisions to CMM 2009-6 discussed in the coming months should consider the development opportunities for PIC-based longline activities that may require transshipment at sea to ensure their economic viability.</li> <li>• Purse seine transshipment activities by DWFN vessels have coalesced around 5 main ports and are not expected to greatly expand.</li> <li>• Past estimates of gross revenue and this study demonstrate that not only have the levels and resultant revenue from transshipment fees not increased, but gross revenue from other government fees and gross revenue in the private sector have also not increased in real terms.</li> <li>• The implementation of recommendations made regarding transshipment monitoring would be greatly enhanced if supervisors and heads of departments in Fisheries departments took an</li> </ul>

	<p>interest in the data produced and directed efforts towards correcting quality problems that might be found.</p> <ul style="list-style-type: none"><li>• Future developments that may affect transshipment include: increases in longline transshipment by container, impacts of shark bans and sanctuaries, chain of custody activities for MSC certification of PNA free school skipjack, and the fishing access opportunities provided under VDS.</li></ul>
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## **Acronyms and Abbreviations**

CCM	Member, Cooperating non-member and Participating territory
CDS	Catch Documentation Scheme
CMM	Conservation and Management Measure
CNF	Cost and Freight
DWFFV	Distant Water Fishing Vessel
DWFN	Distant Water Fishing Nation
FSM	Federated States of Micronesia
IUU	Illegal, Unreported and Unregulated
PIC	Pacific Island Country
RMI	Republic of the Marshall Islands
PNG	Papua New Guinea
VDS	Vessel Day Scheme
WCPFC	Western and Central Pacific Fisheries Convention
WCPO	Western and Central Pacific Ocean

## Introduction

The subject of transshipment by longline and purse seine vessels has been an important subject and sometimes a contentious issue in the regional management of tuna fisheries in the Western and Central Pacific Ocean (WCPO). Transshipment undertaken in port has enhanced catch verification efforts and has also been a source of direct financial benefit to some FFA member countries. Given the importance of transshipment to its member countries, and following discussion of these matters at the 78<sup>th</sup> Meeting of the Forum Fisheries Committee, this study was commissioned by FFA.

The objectives of the study are to:

- Shed greater light on in port and at sea transshipment activities in the WCPO, including the MCS implications
- Document the transshipment monitoring and management measures undertaken in the major transshipment ports, both in relation to scientific and MCS-related catch validation and associated reporting
- Quantify as much as possible the current financial benefits accruing to FFA member countries from the transshipment in port by Distant Water Fishing Vessels (DWFVs); and to identify and investigate the means of increasing benefits to PICs from those activities.

The study was undertaken using a combination of document research, analysis of available data, and information obtained from personal contacts with people in government, the tuna industry, and ancillary businesses in major transshipment ports.

Travel for the study began with informal meetings with representatives of FFA member countries attending the negotiations for renewal of the US tuna treaty in Honolulu during the period March 1-3, 2012. Subsequent travel was undertaken to major transshipment sites in Solomon Islands, Papua New Guinea, Marshall Islands, Federated States of Micronesia, Fiji, and Kiribati, with one to three days spent in each port.

This report is primarily a regional assessment of transshipping by fleets characterized as distant water fleets in the data utilized. To the extent data representing PNG and Solomon Islands domestic-based purse seine fleets fishing in their respective EEZs could be identified, those data have been excluded from the descriptions of transshipping activities and subsequent analyses in the report. The results give a more accurate picture of the activities of DWFVs, including those that may be flagged in Pacific Island Countries (PICs) but operated for the primary benefit of foreign owners.

As used in the study, the term transshipment is that defined in the WCPF Convention as the unloading of all or any of the fish on board a fishing vessel to another fishing vessel either at sea or in port. The report compliments and expands on available historical information and analyses of benefits from transshipment. It was not designed nor is it intended to analyze in great detail the resultant economic impacts of transshipment, which would require much greater information and economic data from individual FFA member countries than were available to this study.

The term PIC(s) is used in the report to refer to the Pacific island countries that are members of the Pacific Islands Forum Fisheries Agency. Currency amounts in the report are in US dollars unless specified otherwise, and fish quantities expressed in tons are metric tons.

The author expresses his gratitude to the personnel of PIC Fisheries Departments and other government officials with whom he was in contact during the study; and to the fishing vessel owners, shipping agents, and others in the tuna industry who graciously provided their time and expertise. The assistance of the SPC Oceanic Fisheries Programme in providing statistical information and suggestions on methodologies for analyses is gratefully acknowledged.

This study has been undertaken on behalf of the Pacific Islands Forum Fisheries Agency and is not intended for distribution outside that organization or its members. The opinions expressed in the report are those of the author.

## 1 THE LEGAL FRAMEWORK FOR REGULATION OF TRANSSHIPMENT IN THE WCPO

Transshipment is regulated at the regional, sub-regional, and national level in the Western and Central Pacific Ocean. At the regional level the major instrument utilized is the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (the Convention) and the Conservation and Management Measures (CMMs) enacted by the WCPFC Commission. The sub-regional level is represented by a prohibition on at sea transshipment adopted first by the Parties to the Nauru Agreement (PNA) and subsequently by the Pacific Islands Forum Fisheries Agency (FFA). At the national level, Pacific island FFA member countries (PICs) control various aspects of transshipping using licensing conditions as well as regulatory instruments.

### 1.1 THE CONVENTION AND CONSERVATION AND MANAGEMENT MEASURES

Transshipment is defined in the Convention as meaning ~~the~~ the unloading of all or any of the fish on board a fishing vessel to another fishing vessel at sea or in port<sup>1</sup>, and is addressed in several places in the document. Regulation of transshipment is covered under the terms and conditions for fishing in Annex III, with prohibition of transshipment at sea by purse seiners (subject to specific exemptions) addressed in Article 29. These and other relevant references to transshipment in the Convention are contained in Appendix 1.

The CMMs covering transshipment, particularly CMM 2009-06 described below, are often the result of a laborious and protracted negotiation process that may cover several annual Commission sessions in attempts to satisfy the concerns of all parties. The results of the process thus contain compromises and concessions made in the interest of moving the regulatory process forward, and do not necessarily represent the final word from the Commission on the subject.

The Commission placed specific conditions on transshipment in the adoption of CMM 2009-06, the regulatory contents of which were to commence no later than July, 2010 for most operations<sup>2</sup>. One of the stated aims of this comprehensive measure is to obtain and verify data on quantities and species transshipped to ensure accurate reporting of catches and to enhance stock assessments. This is consistent with paragraph 3 of Article 29 of the Convention that requires the Commission to ~~develop~~ develop procedures to obtain and verify data on the quantity and species transshipped both in port and at sea in the convention area<sup>+</sup>.

It is notable that while the Convention itself does not mention illegal, unreported and unregulated fishing (IUU) directly, the preamble in CMM 2009-06 recognizes that ~~un~~ unregulated and unreported transshipment of catches of highly migratory fish stocks at sea, in particular on

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<sup>1</sup> Fishing vessel is broadly defined in Article 1 of the Convention to include ~~any~~ any vessel used or intended for use for the purpose of fishing, including support ships, carrier vessels<sup>o</sup> +

<sup>2</sup> January 1, 2013 for troll-caught or pole-and-line caught fish,

the high seas, contributes to distorted reporting of catches of such stocks and supports IUU fishing in the Convention Area+

CMM 2009-06 requires certain reporting by unloading vessels and carriers, including a transshipment declaration to be submitted by both the unloading and receiving vessel for each transshipment in the Convention Area. The transshipment declaration is to be sent to the Executive Director of the Commission within 15 days of the completion of each transshipment on the high seas. There is no requirement placed on port states to report transshipments in port to the Executive Director of the Commission.

It is useful to note several features of CMM 2009-6 as they apply to discussions in this study:

- With the exception of exemptions granted to existing PNG and Philippine group seine operations (fish hold capacity of 600 tons or less) the references to regulation of transshipment by the Commission are generally geographically based, i.e. in port, national waters, and high seas.
- Transshipment in a port or in waters under the national jurisdiction of a member, cooperating non-member and participating territory (CCM) shall take place in accordance with applicable national laws.
- CMM 2009-06 does not apply to transshipment where fish is taken and transshipped wholly in archipelagic waters or territorial seas
- CCMs are responsible for reporting by vessels flying their flag. The chartering state is responsible when the vessel is operated under charter, lease or other similar mechanisms, as an integral part of the domestic fleet of a coastal state in the Convention Area.
- CCMs are required to report in their Annual Report to the Commission a summary of all transshipment activities covered by CMM 2009-6 (including transshipment activities that occur in ports or EEZs), that were undertaken by fishing vessels for which the CCM is responsible. Annex II of CMM 2009-6 describes the transshipment information to be reported annually by CCMs.
- As part of compiling the Annual Report contents relating to transshipment, CCMs are to take all reasonable steps to validate and where possible, correct information received from vessels undertaking transshipment using all available information such as catch and effort data, position data, observer reports and port monitoring data.

Certain exemptions to the ban on at-sea transshipment by purse seiners are possible within the WCPFC Convention framework<sup>3</sup>. CMM 2009-6 identifies the purse seine operations that may be eligible and sets out a procedure by which the flag state CCM may apply for these exemptions. These include an exemption for group seine operations+from Philippines and PNG, as well as transshipment activities involving New Zealand flagged domestic purse seine vessels where all fishing and transshipment activity take place within New Zealand fisheries waters.

CMM 2009-06 provides a definition of port+to include offshore terminals and other installations for landing, transshipping, processing, refueling or resupplying<sup>4</sup>. From a practical standpoint, PICs allow transshipment in ports generally used by international shipping. These ports require inward and outbound clearance from government authorities. Such ports of entry+ are enumerated in national Customs laws or other laws or regulations.

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<sup>3</sup> See paragraphs 25- 30 of CMM 2009-6.

<sup>4</sup> Article 1, paragraph 5

Theoretically at least, a vessel is considered *in port* as long as it is within the jurisdiction of the entity given authority by statute to manage and regulate that port. For example, ports under the control of the PNG Ports Authority have established geographic limits that are identified on charts used for the purpose. The study found that officials in some PICs were unclear if the phrase *in port* was linked to such established geographic limits that would determine their jurisdiction. An official with the Marshall Islands Port Authority said that the Authority's jurisdiction commenced from the pilot station at the entrance to Majuro lagoon. He assumed a vessel was determined to be *in port* once it had passed the pilot station.

## 1.2 PACIFIC ISLANDS FORUM FISHERIES AGENCY

The FFA's Harmonized Minimum Terms and Conditions for Foreign Fishing Vessel Access (MTCs) address control and monitoring of transshipment by requiring the operator of a foreign fishing vessel, among other requirements, to:

- not transship at sea under any circumstances except for the transfer of catch by a licensed group seiner to its licensed carrier vessel which is in good standing on the Regional Register;
- provide 72 hours notice to a licensing country of a request to transship any or all of the fish on board and shall provide the name of the vessel, its international radio call sign, its position, the catch on board by species, the time and port where such transshipment is requested to occur, and an undertaking to pay all fees required under the laws of the licensing country;
- only transship at the time, port, and approved designated areas authorized for transshipment by the licensing country;
- submit full reports on transshipping on the prescribed forms. (FFA 2011)

The FFA MTCs may be included in bilateral fishing agreements and/or implemented unilaterally by PICs as license conditions. They are not however universally applied to all vessels. The provisions are applicable only to tuna fishing or tuna fishing support vessels which operate in the exclusive economic or fisheries zone of a member country and are not part of the domestic fleet of the country in whose zone the operation occurs.

A PIC's recourse to prosecute for a license breach when licensed vessels transship at sea may be limited to transshipping activities within the PIC's fishery waters. In a recent incident in Solomon Islands a licensed longliner was discovered transshipping on the high seas. The attempt to prosecute the vessel for a breach of its fishing license was thwarted when the government's legal advice was that the government had no extra-territorial powers that would enable such a prosecution.

## 1.3 PARTIES TO THE NAURU AGREEMENT

The adoption of the Convention's requirement for purse seiners to transship in port was predated by a ban on all at sea transshipment by foreign fishing vessels enacted by the Parties to the Nauru Agreement (PNA) in 1990 that went into effect June 15, 1993. The ban became part of the PNA's Second Arrangement Implementing the Nauru Agreement Setting Forth Additional Terms and Conditions of Access to the Fisheries Zones of the Parties.

The ban on transshipping at sea was introduced as part of the PNA's initiative to capture greater economic benefits from transshipment activities and to monitor more closely the fishing level and efforts within their EEZs in order to make more informed decisions on management and conservation of their tuna resources (Tong and Rodwell, 1995). As written, the PNA ban applies to all gear types but has been most effectively implemented with the purse seine fishery:

The owner, charterer, operator, master or any other person responsible for the operation of a licensed vessel (hereafter referred to as ~~the operator~~) shall not transship fish at sea whether such transshipment is done within a fisheries zone of a licensing Party or on the high seas and shall transship only through ports designated by the licensing Party.

It would be incorrect to assume that the PNA ban on transshipping at sea is universally followed by all Parties. The provisions of the FFA MTCs above result in some ambiguity for PNA members<sup>5</sup> and narrow interpretations of the PNA requirements. For example, for various reasons and in spite of the PNA wording above, transshipment at sea is allowed by at least two PNA countries for locally-based longliners. One PNA country allows longline transshipment in its EEZ to domestic-flagged carriers.

#### 1.4 NATIONAL FRAMEWORKS IN PACIFIC ISLAND COUNTRIES

PICs address various aspects of transshipment through two methods. The first applies many of the existing regulations and port requirements that are applicable to other types of shipping to transshipment operations. This includes immigration and customs, port control, and environmental regulations, among others.

A second means of imposing regulatory requirements is through the enactment of laws, regulations, and/or licensing conditions that give effect to the conventions and agreements cited above, and through specific licensing conditions covering transshipment.

In PNG, for example, the general licensing conditions placed on ~~foreign~~ bilateral vessels and foreign carriers~~+~~ reflect the ban on purse seine transshipment at sea and specific national requirements:

- All vessels: no transshipment at sea
- All vessels: Transshipment must be done at a PNG's designated port under the supervision of an observer or Fishery Officer
- Purse Seiners: transshipment notice must be sent to NFA 48 hours prior to actual transshipment
- Carriers: unloading carrier is required to fill the catch unloading form. This must be submitted to NFA immediately after each transshipment

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<sup>5</sup> In response to a query on the status of this aspect of the PNA Second Implementing Arrangement, the PNA Office confirmed it is still in effect for all PNA members.

Fishery access licensing is a prerequisite to eligibility to engage in transshipment in port in Kiribati, Solomon Islands and FSM. Papua New Guinea and Marshall Islands have no such requirement<sup>6</sup>.

## 1.5 ALLOWABLE AT SEA PURSE SEINE TRANSSHIPMENT

Papua New Guinea is the only PIC that authorizes transshipment at sea by purse seiners. In order to provide exemptions from the ban on at sea purse seine transshipment and to track the WCPFC provisions noted above, PNG's provisions for Transshipments within PNG by PNG Licensed Foreign Bilateral Vessels applies where:

• the Catcher has 600 or less than 600mt carrying capacity and that it has been endorsed by the State to have Mothership Operation<sup>7</sup> on condition that both vessels (catcher & mothership) have observers or Fishery Officers on board to monitor the transfer.

## 1.6 TRANSSHIPPING AT SEA BY LONGLINERS BASED IN PIC PORTS

Some PICs allow transshipping by domestic-based longliners to enable fresh fish and/or frozen fish to be brought to port in that PIC. This provides an opportunity for local companies to obtain higher financial returns for that portion of their catch than would have been possible if forced to return to port or retain the catch onboard for a longer period.

Initially this occurred in PNG as a form of catch consolidation on a rotational basis, with one vessel at a time designated to return to port with the fresh catch of multiple vessels in a fleet, and return with bait and supplies for all. The practice evolved into employment of a vessel as a dedicated carrier, usually a former longline fishing vessel that collects the catch from others in the fleet and delivers bait and other supplies on a regular schedule. Depending on the size of the vessels concerned, a carrier can service 7 or 8 longliners or more during one collection trip.

Fiji and PNG allow transshipping by domestic-based longliners to carriers as described above. In Fiji, three domestic companies are allowed to undertake the practice with vessels authorized to fish in the Fiji EEZ. The carriers must carry observers and the companies must compensate the Fisheries Department for the observers and related costs. A similar situation occurs in PNG.

North of the Equator, Palau has authorized transshipment by Taiwanese longliners delivering to Palau. In contrast, FSM and the Marshall Islands have specifically prohibited transshipment at sea or catch consolidation and transshipment by locally-based longliners.

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<sup>6</sup> In the Marshall Islands an unlicensed purse seiner can transship in Majuro port, but must pay twice the regular transshipment fee.

<sup>7</sup> The Mothership Operation terminology used in PNG equates to group purse seine operations in WCPFC usage for regulatory purposes, even if the etymology of the two terms are not the same.



## 2 OVERVIEW OF TRANSSHIPMENT ACTIVITIES IN THE WCPO

### 2.1 GENERAL NATURE AND OPERATING PATTERNS OF IN PORT PURSE SEINE TRANSSHIPMENT

The general nature of DWFN purse seine transshipment in port has not changed significantly in the five years since 2007 when it was described in detail in a report to FFA<sup>8</sup>. The industry participants have become accustomed to the practice, and in general transshipment has been accepted as a positive economic development by the countries where the host ports are located. Newer purse seiner vessels are designed to enable quick unloading of their catch, contributing to increased efficiency that was lost when at sea transshipment was banned in mid-1993. Transshipment continues to consist of three general components:

- purse seine fleets of Japan, China, Taiwan, USA, Vanuatu, Korea, Federated States of Micronesia, Marshall Islands, Solomon Islands, and others;
- international fish brokerage firms based in Japan, Taiwan, and the USA with regional offices in Asia and elsewhere, and the carriers they operate or charter;
- shipping agents and service providers in the major transshipment ports of Pacific island countries.

The frozen fish carrier segment of the shipping industry is generally not as well known to PICs as the purse seine fleets they service. For this reason, the following section summarizes some relevant information on refrigerated carriers engaged in purse seine transshipment in PIC ports.

#### 2.1.1 The Role of Refrigerated Fish Carriers in Purse Seine Tuna Transshipment

Refrigerated fish carriers are an integral part of the WCPO tuna purse seine fishery, and play an important role in segments of the longline fishery as well.

The flagging of carriers in PICs has become more common in the past several years. In February, 2010 WCPFC CMM 2009-01 established the WCPFC Interim Register of Non-Member Carrier and Bunker Vessels. The Register is set to expire 60 days after the Annual Regular Session of the Commission in December, 2012 unless the Commission decides otherwise at that session. The Register contains fish carrier and bunker vessels flagged to States that are not CCMs. Vessels listed on the Register are authorized to be used in the Convention Area to receive transshipments of fish covered by the Convention and to bunker or otherwise supply CCM-flagged fishing vessels used to fish for highly migratory fish stocks in the Convention Area<sup>9</sup>.

As of May, 2012 there were just 10 carriers on the Interim Register, down from an estimated 60 or more carriers supporting fishing operations in the Convention Area that were flagged to non-CCMs in 2006 when the issue was first addressed by WCPFC. In contrast, seven

<sup>8</sup> McCoy, M.A. (2007) Regulation of transshipment by the Western and Central Pacific Fisheries Commission: issues and considerations for FFA member countries. Forum Fisheries Agency, Honiara

<sup>9</sup>Citation from [www.wcpfc.int/vessels#Register](http://www.wcpfc.int/vessels#Register)

refrigerated fish carriers are currently flagged in the Marshall Islands, all of which were said to be active only in the Convention Area. An additional 19 carriers are flagged in Kiribati. Vanuatu likewise flags 21 carriers, some of which are believed to be active outside the Convention Area at least part of the time. It is believed that at least some of these PIC-flagged carriers are engaged in high seas transshipment in the longline fishery.

The beneficial ownership of refrigerated fish carriers is not easy to determine. Vessels are often registered under offshore shell companies or through other means that mask the identity of actual owners, a common practice in the utilization of flags of convenience in the international shipping business.

It is believed that several of the larger purse seine fishing companies in the WCPO own and or operate their own carriers in the WCPO tuna fishery. Among them are Fair Well, Kooq, and Fong Kuo from Taiwan; Shanghai Kachueng/Pan Pacific Foods and Shandong Zhonglu from China; and Dongwon of Korea.

Fish carriers employed in the tuna transshipping industry are of two basic physical types: (1) large vessels with capacities from 2,000 tons up to 5,000 tons; and (2) smaller vessels with capacities from about 1,200 to around 2,000 tons. Both size classes can be employed to handle cannery-grade fish.

Some but not all of the smaller vessels can have capabilities that also enable them to carry sashimi-grade tuna (as low as minus 55 or 60 degrees). These more versatile carriers are costly to build and can be of higher resale value because of their potential to operate in a variety of markets. Both types can be utilized in the transport of frozen cargo other than tuna. On rare occasions former large scale longliners can also be employed to transport frozen tuna transshipped in the longline fishery, but they are the exception rather than the rule owing to their unfavorable operating economics and limited capacity compared with vessels built as dedicated carriers.

The global business of operating refrigerated cargo carriers is highly competitive and can be subject to seasonality when there is heavy demand for some agricultural and fishery products. To guarantee the availability of carriers in the WCPO cannery-grade frozen tuna trade, they are generally time chartered by the three major tuna traders: Tri-Marine International, FCF, and Itochu<sup>10</sup>. Many carriers operating in the WCPO tuna fishery for cannery-grade product thus habitually call at various PIC ports, either as a result of such long term charter arrangements or ownership by fishing companies active in the region.

Space can also be obtained by trading companies on carriers other than those under their control when required, but usually at higher rates that may be passed on to fishing vessel operators. The scheduling of carrier and space availability in the WCPO cannery-grade frozen tuna trade can be a complicated logistics exercise, as fishing grounds and the needs of various fleets are constantly changing.

Carriers that regularly deliver their cargo to processing centers such as Bangkok have an ability to back load supplies for transshipping vessels in Pacific island ports. One important item required by purse seine fishing is salt, a commodity with large bulk but relatively low cost. Other supplies that might be transported are food items and occasionally spare parts. The latter is most practical for carriers operating in concert with seiners of the same company or nationality where such cooperation can be integrated into transshipping operations. According to one major

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<sup>10</sup> In a time charter a daily rate is paid for the vessel and crew, plus fuel costs. Time charters can be entered into with parties who have themselves chartered the vessel from the actual owners on bareboat basis where the charterer is responsible for the operation, navigation and management of the vessel and crew.

tuna trading company, some of the carriers utilized by their firm are also designed to carry extra fuel for delivery to fishing vessels. Carriers operated by fishing companies may also be used as an efficient and low cost means of carrying some purse seine crew to or from transshipment ports when air travel is impractical due to visa restrictions or other reasons.

### **2.1.2 Transshipment Freight Costs**

The market value of purse seine-caught cannery grade fish described in the trade and tracked by FFA and others is usually CNF, cost including freight. What is important to the purse seine operator is the net price received from the buyer, and obviously transshipment freight is an important part of the calculation in most transactions.

Fishing vessel companies that do not control their own carriers are unable to exert a major influence over freight costs. These costs can, however, be taken into consideration during sales negotiations with the traders. The level and manner in which the freight charges are applied to fish prices paid by the traders is dependent on several factors, such as distance of the transshipment port from the processing site, and other conditions of the sale. The resultant charges are thus not necessarily an amount common to all shipments at a given period in time.

Several purse seine fishing industry representatives were queried during the study for current estimated transshipment freight considered in either contracts or spot sales during the second quarter of 2012. They indicated that charges from Pacific island ports varied from about \$280 to around \$320 or more per ton depending on loading port and final destination, or roughly 14 to 16 percent of CNF Bangkok skipjack prices at the time. All those queried expected freight costs to rise, primarily as a result of increases in fuel prices.

In comparison with 2012, the freight charges from Micronesian ports to Bangkok during the first year in which in port transshipment was mandated (1993), ranged from about \$90-\$110 per ton, or about 10 to 13 percent of the Bangkok skipjack prices at the time. Freight charges had risen to \$130-135 by the late 1990s, and became part of a major crisis in the industry in 2000 when the annual average Bangkok skipjack price was exceptionally low and transshipment freight costs rose to 26 percent or more of that price<sup>11</sup>. By 2007 rates were around \$200 from central Pacific ports and have continued to rise since that time.

### **2.1.3 Globalization in the Tuna Industry and Its Impact on Transshipment in PICs**

During the past two decades the global tuna canning industry has gone through many changes, including closures of some processing facilities, opening of others in the western Pacific, and mergers or acquisitions of companies operating some tuna processing facilities. Beginning in the mid 1990s trading companies began to supplant canneries as the purchasers of the catch, with subsequent sales to processors. In the western Pacific, three trading companies have risen to dominate the purchasing and subsequent sales of cannery-grade tuna: Tri Marine, Itochu, and FCF<sup>12</sup>.

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<sup>11</sup>The overall Bangkok skipjack price for 2000 dropped to roughly \$525, driven by a surge in global skipjack catches and a resulting buildup of inventories. Prices eventually recovered by mid-2001 (Reid et al. 2003).

<sup>12</sup> See Hamilton et al. (2011) for a detailed discussion of the organization and operation of tuna trading companies.

The highly competitive nature of tuna trading requires economies of scale to attain profits, and the trading companies accomplish this through trading high product volumes. When a purse seine vessel operating company has a relatively small volume to offer traders, say one load only, they may be disadvantaged when it comes to determining transshipment location. Thus a vessel with a single purse seine load may have to travel to an inconvenient or more distant port, while in some situations the offer of multiple loads by a vessel operator can be sufficient to induce the trader to send a carrier to a more convenient port.

An additional complication for some vessel operators is the enactment in 2010 of European Union import regulations designed to combat IUU. Fish from vessels flagged in countries which are not compliant with the EU requirements (e.g. those countries such as FSM and Vanuatu without a competent authority, CA, and recognized catch certification scheme) are not eligible to enter the EU. This includes fish either in whole or processed form. So far, this requirement has apparently not hindered the sale of fish to traders. One person connected with the operation of a Vanuatu-flagged fleet that had previously supplied the Wewak loining facility in Papua New Guinea cited the lack of a CA in Vanuatu as a reason for cessation of delivery to the Wewak plant, and subsequently a greater reliance on transshipment, assumedly for non-EU sales.

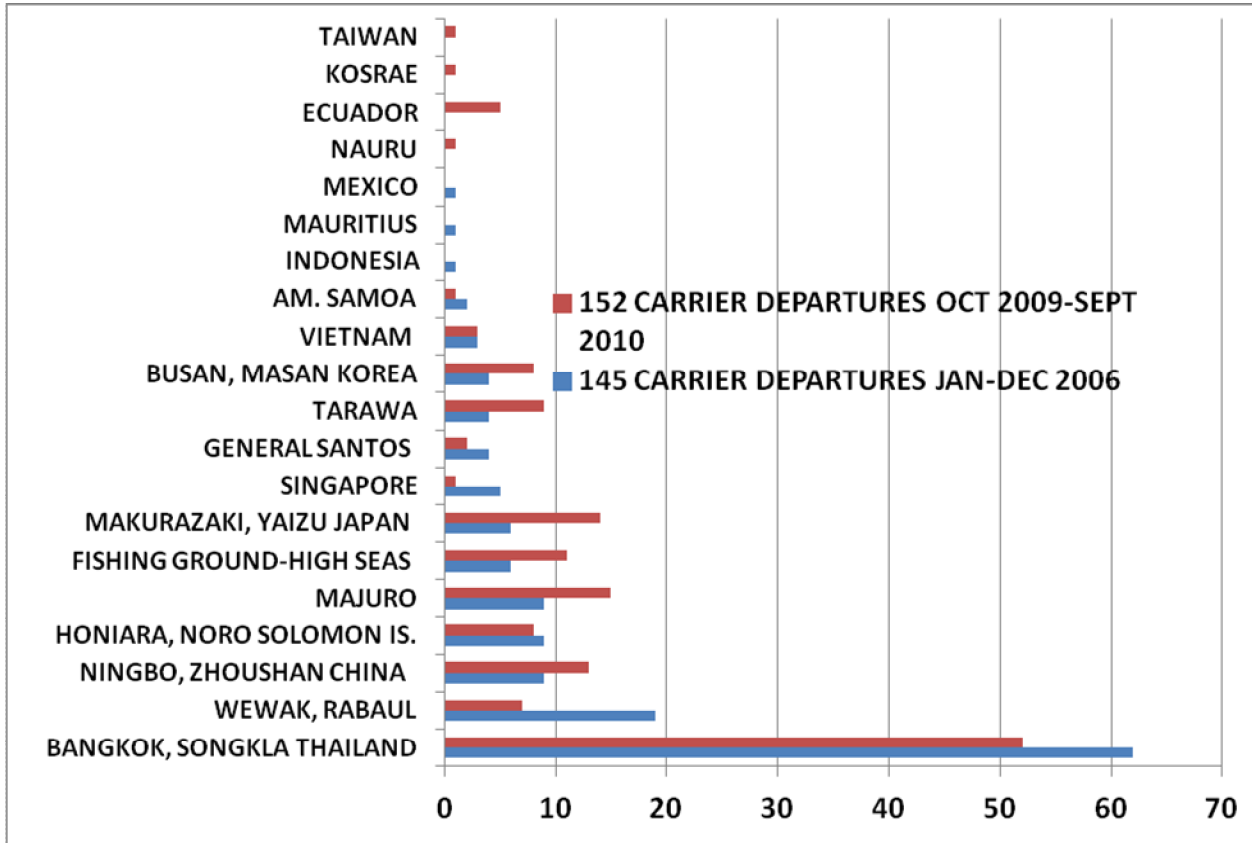
A further illustration of the global nature of the tuna industry as it applies to transshipment in PICs can be seen by an analysis of the declared next ports for departing carriers. Figure 1 below compares the number and declared destination of fish carriers that departed from Pohnpei, during two twelve month periods: January- December 2006 and October 2009- September 2010. During each of the periods an average of one carrier departed Pohnpei port every 2.5 days.

The 25 destinations declared included %ishing ground+or %high seas+for either processing or taking on additional cargo<sup>13</sup>. During both periods approximately two-thirds of the carrier departures from Pohnpei were to processing destinations, while one-third is assumed to have been to other locations for additional transshipping.

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<sup>13</sup> Carriers that declared high seas as a destination are assumed to be departing Pohnpei and awaiting instructions for the next port; those that declared fishing ground as a destination are assumed to have been engaged in longline transshipment at sea.

**Figure 1 Carrier Declarations of Next Port After Pohnpei, 2006 and 2009-2010 Compared**



Data Source: Pohnpei Port Authority

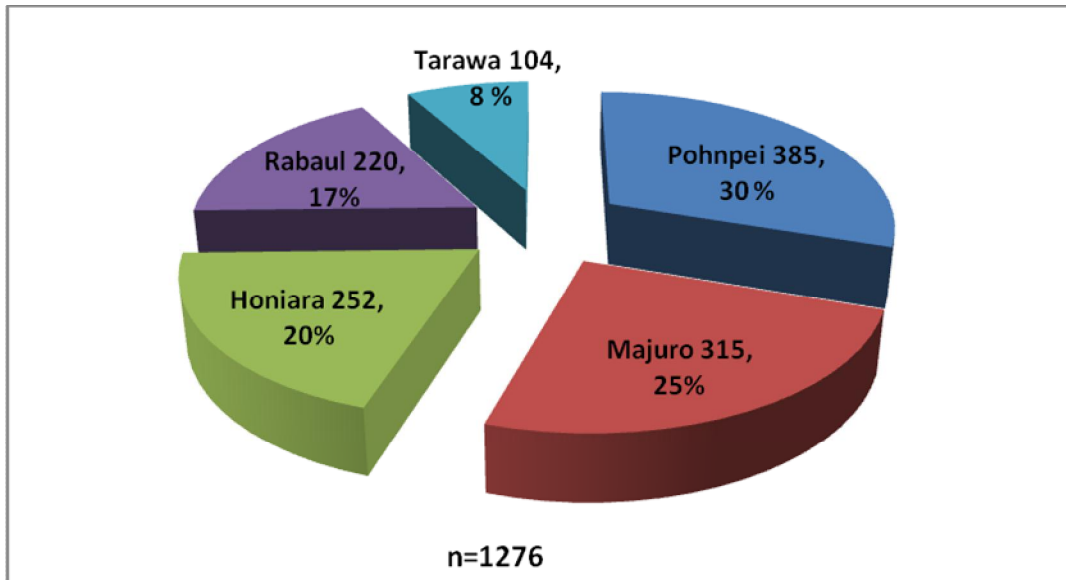
**2.1.4 Port Utilization for Purse Seine Transshipment**

During the early years of the ban on at sea transshipment, distant water purse seine operators investigated and utilized numerous ports in the western portions of the FFA region. For a variety of reasons some of those ports are no longer or rarely used. Examples are Chuuk and Kosrae in FSM, Manus and to a degree Wewak in PNG. The industry has had ample experience in most locations and has come to utilize a relatively small number of ports on a regular basis.

Pohnpei, Majuro, Rabaul, Honiara, and Tarawa are the ports that the industry has become accustomed to using and which currently provide the best options under most transshipping scenarios. These five ports were also the major ones used during an earlier survey that covered transshipments in 2005-2006 (McCoy 2007).

In 2010 there were an estimated 1276 transshipments from DWFN seiners in these five ports. Figure 2 below depicts the distribution of transshipments among the five ports in 2010.

**Figure 2 DWFN Purse Seine Transshipments in Five Major PIC Ports, 2010**



Data source: SPC

In addition to the five major ports, an additional six ports were used by DWFN purse seiners in 2010. Transshipments in these six ports: Funafuti, Kiritimati, Lae, Noro, Suva, and Wewak, accounted for only 64 operations or about 5 percent of total DWFN transshipments in PIC ports. Wewak is believed to have experienced the greatest number of DWFN transshipments with 38 or about 60 percent<sup>14</sup>.

### 2.1.5 Factors Contributing to Choice of Port for Transshipment by Purse Seiners

The largest single factor determining which port is utilized for transshipment is proximity to fishing grounds at the time. The tuna trading companies attempt to place carriers in locations convenient to purse seiners based on current fishing conditions, as it is in both parties' interest to complete transshipment as soon as possible after the purse seiner leaves the fishing grounds.

There are reasons that may, depending on the situation, negate a decision on the part of the purse seine operator to use the port closest to current fishing grounds. The sale of the catch and the logistics involved may dictate use of another port. Other conditions that may exist in the port may also play a role in the operator's decision on which port to use. These include:

<sup>14</sup> The data also contain an additional 72 returns to Pago Pago by US and New Zealand seiners. It is assumed that most or all of the catch from those trips were landed at the cannery and not transshipped, however this is not possible to verify with the data available to the study.

- a requirement that transshipping purse seiners hold fishery access licenses in the relevant country as a prerequisite to transshipping;
- weather in the vicinity
- a need for international air travel connections for key personnel. Connections that avoid transit through the US are important to some vessels for visa reasons;
- past experiences in a port with government officials, including the level of scrutiny of documents, treatment by local officials and the chance for delays;
- Space in which to repair a net when required;
- Availability of needed supplies, equipment or repair facilities and workshops.
- Port amenities for rest and relaxation

According to some in the industry, a few captains (sometimes those working for large fleets) have on occasion mislead their home office on one or more of the above reasons and suggest an alternate port which might have more amenities or in the captain's view be more appropriate to the situation at hand.

Some ports possess advantages, both geographic and otherwise, for transshipment disproportionate to the amount of fishing taking place in their EEZ. The best example of this is Majuro where 25 percent of DWFN transshipment operations took place in 2010 but only around 17,500 tons was caught by distant water purse seiners in the entire Marshall Islands EEZ that year<sup>15</sup>. In contrast, Tarawa recorded just 8 percent of the transshipments in 2010 but had a total EEZ catch of nearly 239,000 tons<sup>16</sup>.

The conditions for conducting transshipment in the major ports are well known by the purse seine fishing industry. They recognize that no one port possesses all the necessary favorable attributes for transshipment desired by purse seiners and carriers, and they accept these shortcomings as part of the business. Some fishing companies have attempted to ameliorate the inevitable problems encountered by opening a local office or forming an alliance with someone they consider a particularly effective business agent.

In discussions with the industry and local shipping agents during the course of the study one factor that was not mentioned as a determinant of a transshipment port was the existence or level of transshipment fees. In no case did any of the more than 15 shipping agents in PIC ports interviewed consider that transshipment fees in their port were hindering the port's ability to attract transshipment business. By comparison, mention was made by agents in some ports of other high port fees, particularly anchorage charges in one case, and Customs duties and practices in another, that they believed were adversely affecting their transshipment business. A high level of scrutiny of vessel documents and resultant fines for minor infractions was also mentioned as a deterrent to attracting business in one port.

### **2.1.6 Environmental Considerations**

Government officials are aware of the risks to the environment of transshipment activities in port. One of those interviewed during the study was of the opinion that transshipment in port contained both opportunities and dangers. There are opportunities for generating revenue, but

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<sup>15</sup> Marshall Islands Annual Report to WCPFC, Part 1, August 2011

<sup>16</sup> Kiribati Annual Report to WCPFC, Part 1, August 2011

also dangers in the potential negative consequences to the environment. In many cases the former overshadows the latter and is given only minimal attention.

In general, Fisheries department personnel involved in transshipment monitoring, particularly those who have been trained as fishery observers, are cognizant of environmental issues that may arise, such as disposal of garbage in port and the dumping of reject catch while at anchor.

Strong environmental regulations and large fines for violations are not necessarily the norm in some of the home countries of captains and crew onboard vessels engaged in transshipping in PIC ports. They (and sometimes their foreign agents) are surprised at the relatively high level of environment monitoring that exist in some ports and may complain that overzealous enforcement is unnecessary and damaging to their business.

The role of government environment departments in monitoring port activity varies from country to country<sup>17</sup>. The usual prohibitions against bilge and ballast water pumping apply in port, as well as a prohibition against dumping of used brine applicable to purse seiners. In Majuro the Environmental Protection Agency authorizes fuel transfers in port involving all vessels, and requires advance notice of any refueling that may take place. EPA personnel are detailed to monitor refueling operations and the vessels billed on a cost recovery basis. Refueling in the lagoon is prohibited in Majuro.

The availability of oil spill booms also varies among PICs. Most oil companies with bulk plants in transshipment ports are equipped with the booms; however the authorization for their use and means of deployment also reside with the oil companies.

The disposal of rubbish is addressed in the ports of at least two countries. In Solomon Islands the rubbish from fishing vessels and carriers is brought ashore to be inspected by a health officer before being disposed of in the rubbish dump. In Pohnpei food of any kind cannot be brought ashore, and captains are instructed to dispose of any rubbish containing food at sea beyond 3 miles from port.

### **2.1.7 Purse Seine Transshipment Volumes in PIC Ports and Catch Unloaded Elsewhere**

The total tuna catch of DWFN purse seiners in 2010 based on unloading records from observer reports held by SPC was 1,184,362 tons. Of that total, 954,830 or 81 percent was unloaded in PIC ports (Figure 3). The total production comes from purse seiners registered in 18 countries, with all having undertaken at least one unloading in the PICs.

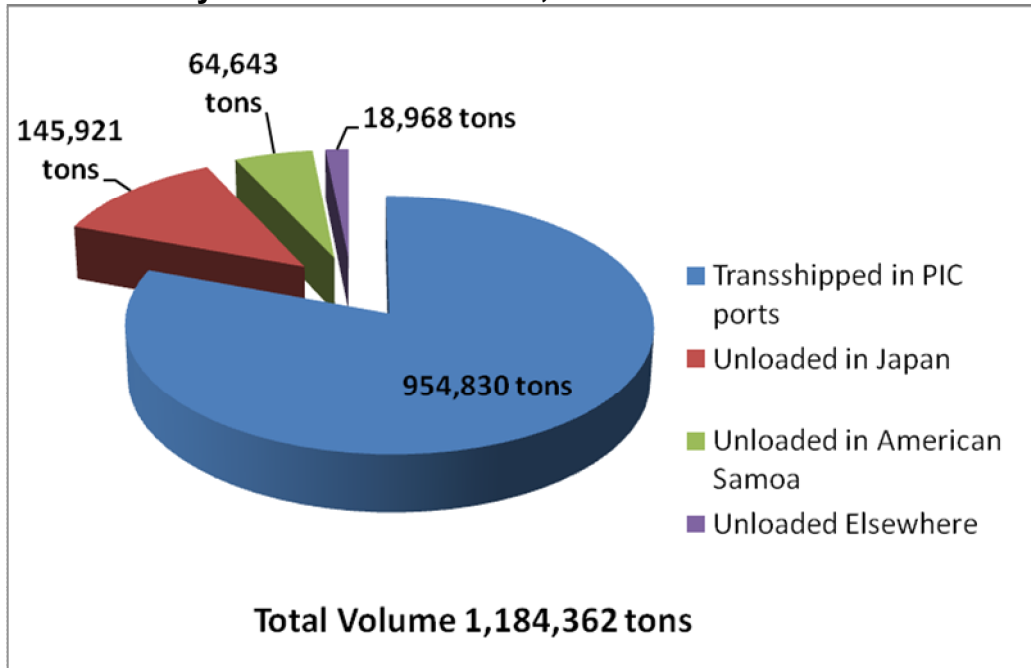
Of the 229,532 tons that were not unloaded within PICs, 64 percent (145,921 tons) were unloaded in Japan and 28 percent (64,643 tons) were unloaded in American Samoa. The remaining 8 percent (18,968 tons) was divided among 6 ports in Asia and South America, with General Santos (11,145 tons) being the most important in terms of volume unloaded. The relatively small volume of unloadings in the ports of Kaohsiung (1,462 tons), Masan (1,290), and Tongyeong (2,276) suggest the vessels returned directly from fishing grounds to their home port, likely for drydocking or repairs.

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<sup>17</sup> SPREP has provided assistance to several countries in assisting with environmental monitoring of port activities.



**Figure 3 Estimated Distribution of Catch Unloaded by DWFN Purse Seiners, 2010**



Data source: SPC

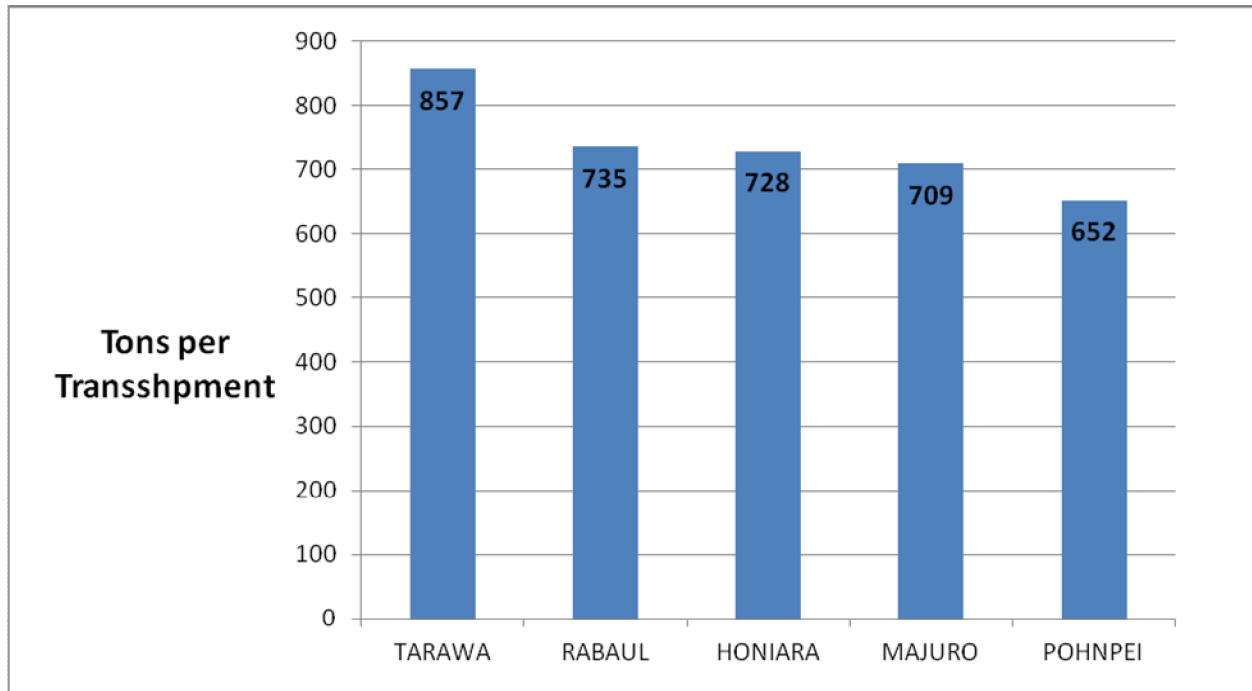
The figures above do not consider how much of the regional purse seine catch might have been unloaded for domestic processing in the PICs. The reasons for this are related to some ambiguity in the unloading data for the ports of Wewak, Noro, and to a lesser extent Majuro. In addition, about 90,000 tons have no unloading port specified in the data.

### 2.1.8 Average Tonnage Unloaded Per Transshipment

The overall average tonnage unloaded for the 1276 transshipments in the 5 major ports during 2010 was 712 tons. Vessels that transship typically can load from 10 to 15 percent less than vessel capacity for operational reasons. Still, the transshipment amounts recorded are below the carrying capacity of most large scale purse seiners and may indicate a practice within some fleets of vessels habitually transshipping before a complete load is obtained. The reasons for this may be partly operational, e.g. a need to visit port for mechanical, supply or other reasons, the availability of a carrier at short notice in a particular port, catches of larger fish such as big yellowfin that take more space for storage, or extended periods of poor fishing conditions before a full load is obtained. It may also represent a systemized pattern of transshipment practiced by some fleets that desire to maximize carrier use and efficiency in the supply chain.

It is interesting that vessels in the same fleet can exhibit different unloading strategies for different ports. For example, in 2010 the Korean fleet averaged 555 tons per transshipment in Pohnpei, 714 in Honiara, and 794 in Tarawa. As shown in Figure 4, Tarawa averaged the highest tonnage per transshipment, 857<sup>18</sup>. By comparison, the port with the most transshipments in 2010, Pohnpei, had the lowest tonnage per transshipment, 652.

**Figure 4 Average Tons Per Transshipment By Purse Seiners in 5 Major Ports, 2010**



Data Source: SPC

## 2.2 LONGLINE TRANSSHIPMENT AT SEA

In general terms, longline transshipment at sea involves the transfer of the catch from fishing vessels to carriers and the subsequent loading of supplies, bait, and sometimes fuel from the carrier to the fishing vessel. There are two general models of transshipment in the WCPO:

- the transshipment of predominantly ULT tuna and other related catch at sea, primarily by DWFVs, to dedicated carriers that service multiple fishing vessels and deliver the resultant cargo to ports in Asia;
- the transshipment of fresh and/or frozen tuna from longline vessels based in PIC ports to carriers from that port that typically service multiple fishing vessels from the same company and return the resultant cargo back to the PIC home port concerned.

<sup>18</sup> In this case size does matter, as transshipment by large EU purse seiners a relatively few times in Tarawa increased the tons per transshipment figure by 50 tons.

As has been pointed out by Miyake (2010) and others, the use of at sea transshipment has increased the fishing capacity of some longline fleets, even if the number and fish holding capacity of the fleet has been held constant. The obvious major benefit of not having to return to port to unload and obtain supplies is the significant time savings and the resultant increase in available fishing days.

In the WCPFC annual overview of tuna fisheries in the WCPO, tuna longline activity is categorized based on type of operation, area fished, and target species (Williams and Terawasi 2011). Of the seven broad categories identified, four are most relevant to the discussion of transshipment covered by this study<sup>19</sup>:

1. **South Pacific offshore albacore longline fishery** comprises Pacific-Islands domestic offshore vessels, such as those from American Samoa, Cook Islands, Fiji, French Polynesia, New Caledonia, Samoa, Solomon Islands, Tonga and Vanuatu; these fleets mainly operate in subtropical waters, with albacore the main species taken.
2. **Tropical offshore bigeye/yellowfin-target longline fishery** includes offshore sashimi longliners from Taiwan, based in Micronesia, Guam, Philippines and Taiwan, mainland Chinese vessels based in Micronesia, and domestic fleets based in Indonesia, Micronesian countries, Philippines, PNG, the Solomon Islands and Vietnam.
3. **Tropical distant-water bigeye/yellowfin-target longline fishery** comprises distant-water vessels from Japan, Korea, Taiwan, mainland China and Vanuatu. These vessels primarily operate in the eastern tropical waters of the WCP. CA (and into the EPO), targeting bigeye and yellowfin tuna for the frozen sashimi market.
4. **South Pacific distant-water albacore longline fishery** comprises distant-water vessels from Taiwan, mainland China and Vanuatu operating in the South Pacific, generally below 20 deg. S, targeting albacore tuna destined for canneries.

### 2.2.1 Transshipment in the South Pacific Offshore Albacore Longline Fishery

Some transshipment takes place at sea by vessels based in PIC ports. Transshipment in the fishery is driven by the size of vessel and type(s) of catch preservation system employed. Albacore are targeted primarily for cannery purposes, with the best quality catch of tunas in the final sets retained as fresh (either on ice or refrigerated seawater (RSW)). The fresh component is transferred to a carrier or a fishing vessel acting as a carrier for return to the port where the vessels are based. This fresh component of the catch is predominantly yellowfin and bigeye, although albacore and other species can be transshipped as well. The practice is known to be active in Fiji, Papua New Guinea, and for some non-US flag vessels operating from their base in American Samoa.

The country where the practice is most prevalent is Fiji. The Fiji Fisheries Department has authorized at sea transshipment for three companies whose vessels fish predominantly in the Fiji EEZ<sup>20</sup>. Each company operates one or more vessels to collect the fresh portion of the catch from multiple company longliners for return to Suva on a regular basis, and to provide provisions and bait during transshipment operations. This consolidation and transshipment practice was allowed by the Fiji Fisheries Department after several representations were made by the participants from the local industry showing the crucial importance of this mode of

<sup>19</sup> The remaining three categories are domestic fisheries in the sub-tropical and temperate regions of the Convention Area, South Pacific distant-water swordfish fishery, and the North Pacific distant-water albacore and swordfish fisheries.

<sup>20</sup> Solander, Sea Quest, and Golden Ocean.

transshipment to their operations financial viability. The fresh portion of the non-albacore tuna catch is a major component of vessel income, and there are serious consequences to vessel profitability when this catch cannot be landed in as fresh a condition as possible. The three companies say they target landing the catch in Suva usually within 5 to 7 days after capture. Only vessels eligible to fish in the Fiji EEZ are able to be considered for operation in this manner.

One Taiwanese company is reported to operate a similar type of at sea transshipment utilizing two former longliners in transshipping longline-caught fish from albacore-targeting longliners in the eastern portion of the Convention Area. The frozen albacore portion of the catch in this fishery is returned to port and either delivered directly to processing facilities or transshipped using containers.

### **2.2.2 Transshipment in the Tropical Offshore Bigeye/Yellowfin Target Longline Fishery**

Papua New Guinea allows the transshipment at sea from locally-based longliners from Port Moresby where catches are delivered back to port for unloading. According to one company operating from that port, they have experimented with both fresh and frozen product as objects of transshipment.

Some transshipment activity is believed to be carried out at sea between smaller Taiwanese longline vessels fishing in the region of the Convention Area that includes Palau and parts of Philippines and Indonesia.

Neither the FSM nor Marshall Islands allows transshipment at sea by longliners operating in their EEZ, irrespective of home port.

### **2.2.3 Transshipment in the Distant Water Bigeye/Yellowfin Target Longline Fishery**

Very little transshipment in this fishery takes place in port. Transshipment at sea is the norm and is integral to the economic viability of the distant water longline vessels from Japan, Korea, Taiwan, and China engaged in the fishery. Vessels are typically capable of holding the catch at -55 to -60 deg. C and are serviced by carriers with like refrigeration capacities. Fishing activities take place over a wide range of the WCPO and into the EPO, far removed from ports that might be utilized for transshipment. The final load of a two to three year voyage is usually returned by the fishing vessel to the Asian home port.

The Japanese sashimi tuna market remains the primary destination for most frozen ULT tuna produced by distant water longline vessels in the fishery. Korea has a domestic market for some of its catch and other markets are being developed by Korea and others in Europe and China. The market in China is supplied primarily by Chinese vessels.

In addition to receiving the transshipped catch, refrigerated carriers also bring supplies including bait, provisions, fishing gear, mail, and other items from Asian home ports. In some cases they may also supply fuel to fishing vessels from their own tanks.

There are reported to be about 20 Japanese owned and a few Korean and Taiwanese carriers operating in this fishery. The usual schedule of outbound voyages from Japan includes stopovers in ports of Busan, South Korea, Kaohsiung, Taiwan, and occasionally Singapore on their way to rendezvous with fishing vessels on the high seas. The stops are to load supplies

and equipment for the vessels they will be meeting, as well as to load fuel for transfer at sea. Since 2010, these stops have also included the boarding of observers from both the WCPFC and IATTC when required.

#### **2.2.4 Transshipment in the South Pacific Distant Water Albacore Longline Fishery**

Although vessels in this fishery tend to be larger than those in the offshore albacore longline fishery, it is believed that most of their South Pacific cannery-grade albacore longline catch is unloaded in ports where processing takes place rather than transshipped at sea. The main reason for a lack of transshipment activity is believed to be the high transshipment cost relative to the value of the catch.

This does not mean that on occasion some fish is not transshipped either on an opportunistic basis or as a result of adverse landing situations ashore. An example of the latter is the operation of a carrier exclusively for cannery-grade albacore in December and January 2011 believed to have been a consequence of large catches in the fishery at a time when canneries are usually shut down for maintenance during the holiday season.

Information presented at WCPFC 8 in March, 2012<sup>21</sup> shows that in 2010 about 62 percent of the South Pacific albacore catch of 71,429 tons was attributed to vessels from China, Taiwan, Vanuatu and Solomon Islands (which are believed to have been mainly Taiwanese affiliated) operating in all four longline fisheries described above. China, Taiwan, and Vanuatu also comprise the bulk of the distant water albacore longline fleet and vessels from those countries would be most likely to participate in transshipment at sea if and when it occurred<sup>22</sup>.

### **2.3 ESTIMATES OF LONGLINE CATCH UNLOADED IN PIC PORTS AND CATCH UNLOADED ELSEWHERE**

Estimating the longline catch unloaded in PIC ports is complicated by several factors, including the lack of complete logbook information for all longline returns to port and an inability to confirm that port returns were for unloading purposes. There may also be ambiguity problems in some countries in comparing port return data with that submitted to the Commission in annual reports due to catch attribution practices by some countries.

The objective of estimating longline catches in PIC ports and that unloaded elsewhere is to provide background to future policy discussions by PICs on increasing benefits from the fishery. Due to incomplete unloading data and the need to make certain assumptions for the analysis, the results described here should be taken as descriptive rather than definitive.

The variability of targeting strategies and gear configuration between fleets can sometimes produce differing quantities of non-tuna species. Because of the possible large variability in reporting those non-tuna catches, the discussion here relates solely to the three main target tuna species captured by longline: albacore, yellowfin and bigeye<sup>23</sup>.

<sup>21</sup> WCPF (2012) South Pacific Albacore Fishery. WCPFC8-2011-IP/04 Rev 1.

<sup>22</sup> Japan is a major distant water longline fishing nation, however it does not have an albacore target fleet in the South Pacific and the albacore catch attributed to Japanese vessels of approximately 4 percent of the South Pacific catch is likely incidental catch from longline vessels targeting other tuna species.

<sup>23</sup> This is also the basis on which SPC reports annually to WCPFC in its overview on tuna fisheries.

The analysis first calculates separately the total longline target tuna catch in the Convention Area and the estimated catch volumes unloaded in PIC ports. Subtracting the estimated unloading in PIC ports gives an estimate of catch that is unloaded elsewhere. The %elsewhere+ is catch that may be transshipped at sea or unloaded at non-PIC ports such as American Samoa.

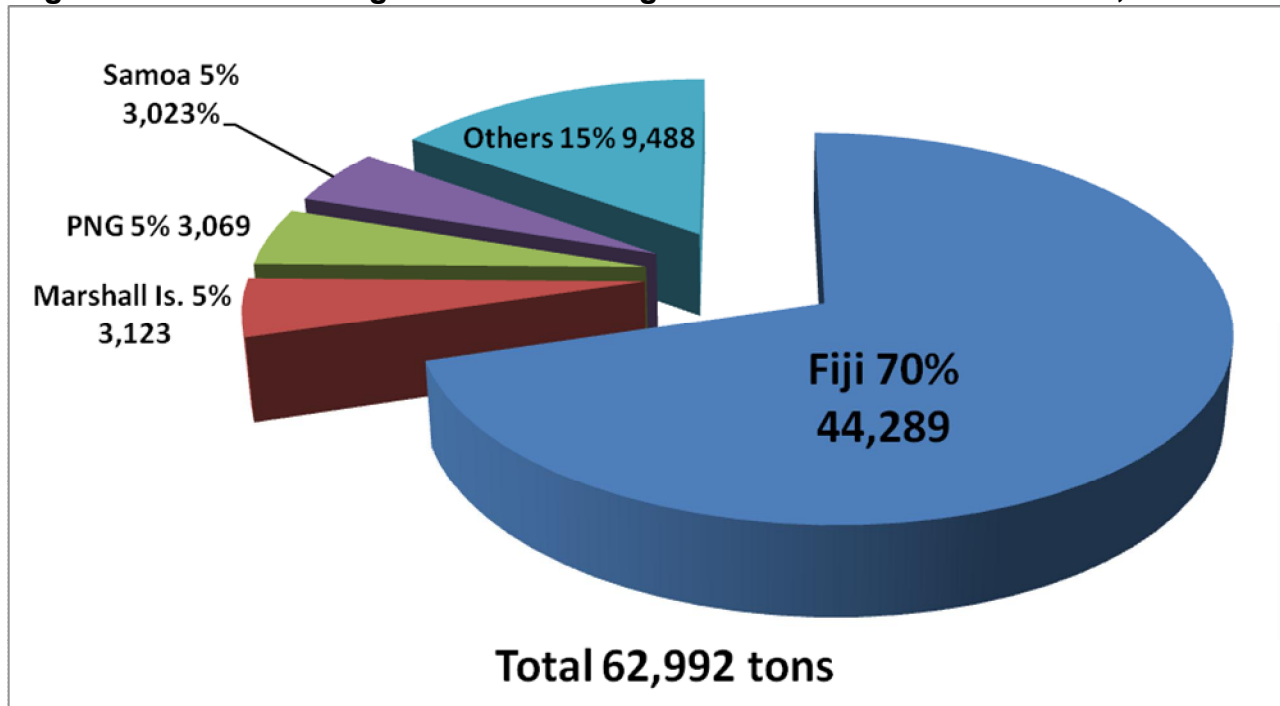
The calculation of the total longline catch of target tunas in the Convention Area for 2010 is made by combining the catch totals for albacore, bigeye and yellowfin (some noted as provisional) from flag state annual reports to the Commission in 2011. The total omits reported tuna target catches from countries not considered germane to the analysis: Vietnam, Indonesia, Philippines, Australia, New Caledonia, French Polynesia, USA, Australia, and New Zealand.

The resultant estimate of total catch of target tunas by longline fleets from 18 CCMs (including American Samoa) is about 178,000 tons in 2010.

Estimates of longline catch of target tunas unloaded in PIC ports are made using two data sets held at SPC. The first is taken from logbook data for vessels returning to ports in each PIC country, irrespective of vessel flag. This port return data include the total tuna catch and number of trips into that country's port(s) that enable an estimate of catch per trip which should approximate the unloaded catch. The logbook coverage is incomplete however, and information from a second data set is used to calculate and raise the estimates of landing for each country's port(s).

Using this methodology, it is estimated that in 2010 about 63,000 tons of longline target tuna catch was unloaded in the ports of 12 PIC countries, or approximately 35 percent of the total contained in the flag state reports noted above. Of that portion unloaded in PIC ports, about 70 percent was unloaded in Fiji's two major ports, Suva and Levuka. The estimated catch unloaded in Fiji and other PICs is depicted in Figure 5.

**Figure 5 Estimated Longline Catch of Target Tuna Unloaded in PIC Ports, 2010**



Data Source: SPC

The ~~Others~~ category consists of target tuna catch unloaded in Solomon Islands (2,201 tons), FSM (2,017), Palau (1,758), Kiribati (1,701), Vanuatu (1,600), Niue (126), Tonga (82), and Cook Islands (3).

## 2.4 SUMMARY OF PORT USE FOR LONGLINE TRANSSHIPMENT

The dearth of longline transshipment in PIC ports by vessels engaged in the distant water bigeye/yellowfin fishery underscores the importance of transshipping at sea for fleets engaged in that fishery. Some tuna transshipment operations involving longliners from this fishery do occur in port, but these are believed to be relatively rare occurrences. Other known port use for transshipment is summarized below.

Solomon Islands In Solomon Islands a Taiwanese company has operated an in-port transshipment operation linked to the provision of fishery access licenses to Taiwanese longliners for several years. The company provides a carrier, a converted longliner with approximately 250- 300 tons capacity, for the transshipment of longline bycatch from Taiwanese albacore longliners operating in or near Solomon Islands. It is also believed that the carrier vessel handles the catch of shark longliners operating in Solomon Island waters. During the period 2009- 2011 an annual average of about 1500 tons was transshipped by this company to Taiwan from the port of Noro.

FSM There was an undetermined volume of frozen longline-caught fish transshipped in Pohnpei by Chinese distant water longliners during 2011 and 2012<sup>24</sup>. Operations were undertaken as a result of requirements that all longliners fishing in the FSM EEZ unload in FSM ports. Several transshipments were undertaken, but in April, 2012 the vessel operators indicated they would cease operations and fish elsewhere due to poor fishing results in FSM.

PNG Transshipping from longliners to carrier vessels is still carried out by the small number of shark longliners active in PNG under the National Fisheries Authority's existing Shark Management Plan . Operations usually take place in Rabaul, from 3 to 4 times per year.

Vanuatu Vanuatu reported 22 transshipments in port since 2009 in its annual report to the Commission. Details of the fleet(s) involved are not given, but it is believed the bulk of transshipments involved albacore for cannery use.

Samoa Transshipment operations by Taiwanese longliners began in Apia, Samoa in 2010. As of April, 2012 there had been 34 such operations, with 6 occurring in 2012.

The following section discusses the contributions of both purse seine and longline transshipment to the economies of Pacific Island countries. As can be seen by the information presented in this section, those contributions can be expected to be heavily weighted towards purse seine transshipment.

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<sup>24</sup> Transshipped volumes are not readily available as the longline transshipment data are not held separately but are co-mingled with that from much larger purse seine transshipment operations.

### 3 THE CONTRIBUTIONS OF TRANSSHIPMENT TO THE ECONOMIES OF PACIFIC ISLAND COUNTRIES

#### 3.1 PURSE SEINE TRANSSHIPMENT

The contribution of purse seine transshipment to the PIC economies analyzed here consists of three components:

- Purse seine transshipment fees that are paid to government entities<sup>25</sup>
- Other government revenue from service charges relating to transshipment operations
- Private sector gross revenue from the purchase of goods and services.

It is recognized that the three components do not provide economic benefits in the same manner. For example, public sector revenue from transshipment fees is easily described as an economic benefit. On the other hand, determining the economic benefit from the purchase of goods and services would require knowledge of the local content of private sector revenue and other factors. The application of that level of finer scale analysis in multiple countries was beyond the time and resources available to the study. Hence when the three components are taken together they are characterized as *PIC gross revenue* from purse seine transshipment activity.

The estimates of gross revenue in the five PICs apply to the ports where the vast majority of purse seine transshipment takes place: Majuro, Pohnpei, Rabaul, Honiara and Tarawa<sup>26</sup>. Operational transshipment information is taken from records of activities for 2010. Transshipment-related financial information collected during the course of the study relates to late 2011- 2012. It is believed there have been no substantial changes to the various fees and charges, including transshipment fees, during the intervening one to two years that would invalidate the applicability of that information in the present study.

Of the three components, transshipment fees can be estimated more precisely because of the availability of unloading data and known fees. The other two components rely on expenditure ranges estimated from information gathered during the course of the study. The ranges are required to account for the variability in both certain government charges and purse seine vessel practice and requirements related to transshipment. The following subsections discuss each of the components of PIC gross revenue in greater detail.

##### 3.1.1 Public Sector Revenue from Purse Seine Transshipment Fees

Table 1 describes the transshipment fees applicable to purse seine transshipment in the 5 major transshipment PICs. The FSM fee is applied by the state of Pohnpei while the others are national in scope.

<sup>25</sup> The government charges for transshipment are sometimes referred to in common usage in the PICs as *levies* or *fees* and the usage is continued here with no distinction between the two terms.

<sup>26</sup> Values for 2010 transshipments undertaken in Noro in Solomon Islands, Wewak in PNG and Kiritimati in Kiribati (about 5 percent of all transshipments in 2010) are not included, as it was not possible to obtain the expenditure information from those ports.



**Table 1 Transshipment Fees in the 5 Major Transshipment Countries, 2012 (US\$)**

Country	Per ton	Per transshipment
Solomon Islands	\$2	--
Papua New Guinea	none	--
Marshall Islands	none	\$1,500 each for carrier and seiner <sup>a</sup> .
FSM (Pohnpei)	\$1.25/st = \$1.37 per mt	--
Kiribati	\$3	--

<sup>a</sup> A seiner without a fishery access license can transship in the Marshall Islands, but the fee is twice the regular rate, or \$3,000.

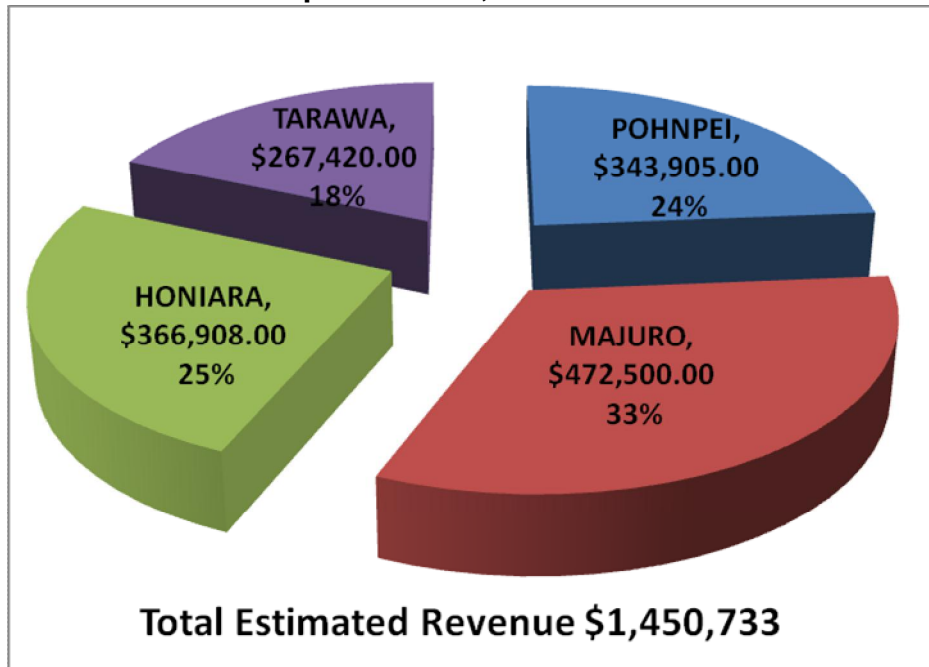
It is interesting to note that the absence of transshipment fees alone does not appear to provide a competitive advantage to that port. The number of transshipments for Rabaul where there is no transshipment fee (Section 2, Figure 2) was less than three other PIC ports where transshipment fees were charged. This reinforces the understanding that current transshipment fee levels do not disadvantage any one port and that there are multiple factors determining port use for transshipment.

### 3.1.2 Estimates of Annual PIC Revenue from Purse Seine Transshipment Fees

Using the total volumes transshipped in the four PIC ports where fees are charged (shown in Figure 3 in Section 2), and applying the fee levels described in Table 1 above, it is estimated that the four PICs collected about \$1.45 million in purse seine transshipment fees in 2010 from the ports noted. The distribution of the estimated total amount is shown below in Figure 6<sup>27</sup>.

<sup>27</sup> Solomon Islands include Noro and Honiara; Kiribati includes Tarawa and Kiritimati.

**Figure 6 Total Estimated Revenue from Purse Seine Transshipment Fees, 2010**



The total estimated revenue equates an average payment of about \$1.90 per ton for the tonnage transhipped in the four ports shown in Table 3.

There is no uniformity in the internal distribution of transshipment fees among PIC governments. In the Marshall Islands, the Marshall Islands Marine Resources Authority (MIMRA) is the recipient of such fees, while in Solomon Islands, Kiribati, and Pohnpei the fees collected are deposited in the respective country's general income fund.

### **3.1.3 PIC Government Gross Revenue from Other Fees and Charges Related to Transshipment Activities**

Most of the fees and charges paid to government entities by transshipment operations are applicable to all international shipping that are levied by various government agencies or authorities. These fees vary in content and form and are not necessarily assessed at all ports. In addition to standard port use fees, some countries assess fisheries-related fees on carriers that are also applicable to purse seine vessels, such as training levies.

PICs generally do not charge duty for supplies such as food, spare parts, and salt transferred from carriers to purse seiners in port. In PNG and FSM for example, the requirement is to declare the items as inward cargo on a Customs entry list. In the absence of a duty free zone at the port, duty is assessed only upon landing of such cargo.

The following fee categories are illustrative of fees found to be charged in one or more of the five PIC ports surveyed:

- Port entry

- Port Security Improvement
- Ports Authority
- Wharfage and/or anchorage
- Environment levy
- Light dues, navigation aids
- Trading license
- Customs
- Quarantine
- Government officers time/overtime
- VAT on invoice total

The charges and manner of application for the above fees vary among the ports so that some ports charge more for some categories. In order to get an idea of the magnitude of these fees in aggregate for each port surveyed, shipping agents handling purse seiners calling for transshipment were queried on what the charges to a purse seiner might be for an average or normal purse seine transshipment, and representative invoices were requested. Several agents provided multiple invoices and perusal of the invoices found that they were likely representative of an average purse seine transshipment visit of from 5 to 10 days. The ranges of known fees in the 5 ports are shown in Table 2 based on discussions with the agents and the information provided.

**Table 2 Estimated Ranges of Other Government Revenue Related to Purse Seiners Engaged in Transshipment**

Port	Estimated Range per Transshipment
Honiara	\$2,000- \$3,000
Rabaul	\$600- \$2,200
Majuro	\$4,000- \$5,500
Pohnpei	\$3,000- \$4,000
Tarawa	\$4,000- \$6,000

Refrigerated fish carriers also incur fees while in port transshipping or awaiting the arrival of purse seiners. The information for carriers was not as readily available to the study as that for purse seiners. From the information provided, it is estimated that the highest fees for carriers on a per visit basis are in Tarawa, and the lowest in Rabaul. Both extremes are primarily due to harbor use and/or anchorage fees. Rabaul has no anchorage fee while Tarawa charges a daily rate applicable to all vessels on the basis of tonnage.

A strategy employed by carrier operators in situations when fishing is slow or the transshipment port has not been determined is to instruct the carrier to drift offshore awaiting instructions. This practice can also be used to ameliorate situations in any port where fees are considered onerous, but is likely not limited to ports with high use fees such as Tarawa.

Annual PIC gross revenue from refrigerated fish carriers engaged in the purse seine transshipment business is difficult to quantify. Information on port calls by carriers that would be

useful in economic analysis is typically available from port authorities rather than fisheries departments. In all ports surveyed the required data are co-mingled with that of other international and domestic shipping and it was not always possible to enlist the assistance of those authorities in providing the information on a timely basis (Pohnpei being an exception).

From discussions with shipping agents handling foreign carrier visits, it is understood that the autonomous nature of their operation means that all or nearly all expenditures result in gross revenue to the government for fees and services. It is estimated that the averages of gross revenue are on the order of around \$5,000 per visit in Majuro, \$9,000 in Tarawa, \$8,000 in Pohnpei, and \$5,000 in Rabaul. An average of \$6,800 per port visit applicable to all ports is deemed appropriate for this calculation.

Using an estimated carrier capacity of around 2,000 to 3,500 tons, the volume of transshipped fish in the 5 ports (955,000 tons in 2010) would require from 273 to 477 trips, resulting in about \$1.86 million to 3.24 million in PIC gross revenue.

Revenue from the licensing of carriers is not included in the analysis but is nevertheless a source of revenue to all PICs. Relevant to the general discussion on transshipment, it is interesting that there is no uniformity in the fee levels or duration of license for carriers in the five countries surveyed (Table 3).

**Table 3 Carrier License Fees in the 5 Major Transshipment Countries, 2012**

Country	Carrier License Cost/Duration
Solomon Islands	One year duration. Less than 1000 gt \$600, over 1000 gt \$1000
Papua New Guinea	3 month license only for transient or %fee lance+ carriers; fee dependent on vessel size with progressively larger fee levels for domestic, locally-based foreign and foreign. with 4,500 Kina (approx \$2,300 in mid-2012) maximum charge <sup>a</sup> .
Marshall Islands	Registration \$100, \$3,000 annual license
FSM	Carrier license \$300 for 3 months; Renewable
Kiribati	Annual registration fee of \$1,000

<sup>a</sup>Some carriers can be licensed on different terms under conditions of a bilateral access agreement

### 3.1.4 Private Sector Gross Revenue from Purse Seine Transshipment

The revenue obtained by the private sector from the sale of goods and services to transshipping operations is more variable than either transshipment fees or other fees charged. As described in Section 2, some carriers are able to transport supplies back from delivery ports, most often Bangkok. As mentioned in 2.1.1 above, a major supply item is salt. Because of its bulk and relatively low price it is normally impractical for local businesses to import and warehouse salt onshore. One foreign business engaged in fuel brokerage and other services does import

bagged salt in containers in two ports. DWFV vessel operators and/or traders also maintain salt supplies onshore in at least two locations: Pohnpei and Tarawa<sup>28</sup>.

The information on private sector revenue in transshipment ports was obtained during the study in the same manner as that for the government fees and charges listed in the previous subsection. From the information collected it is clear that there is a large variability in the amounts spent on locally obtained supplies, particularly food. This is attributed to different crew nationalities, company policies on victualling, and alternative sources of supply such as carriers or sister ships.

Goods and services obtained by transshipping purse seine vessels typically consist of:

- Shipping agency fees
- Pilot fees
- Garbage disposal fees
- Local purchases of agricultural products (including materials for FAD or payao construction such as bamboo and coconut fronds)
- Water taxi/boat hire
- Security guards
- Other local purchases as represented by cash advances for crew spending ashore<sup>29</sup>
- Stevedores

The use of water taxis and boat hire has become prevalent throughout all ports as port authorities have stopped the use of the seiner or carrier's own support boats for transport between anchored vessels and shore. The reasons for this are related to port control measures that have designated specific landing sites and in some case the issuance of passes to crew who desire to go ashore. These requirements have created a windfall for businesses in some ports; however in one port the Port Authority's own boat must be used.

Stevedores are not commonly used during transshipment except for Spanish vessels transshipping in Kiribati. Occasional use of stevedores was reported in Pohnpei where vessels sometimes request 4 to 6 at most, but it is rare in other ports. The DWFN vessels most likely to utilize stevedores in PIC ports are the non-Taiwanese associated vessels in the US fleet. These vessels often unload at American Samoa, where stevedoring has been an integral part of operations there for many years. Some use of stevedores was reported for Japanese vessels transshipping in Rabaul, however that occurs only rarely (four times in 2010).

The provision of fuel to transshipping vessels is excluded from this discussion because:

- The low amount of local content relative to the value of fuel bunkers obtained could distort the overall picture in some ports even though inclusion would contribute to increased gross revenue<sup>30</sup>
- One quantifiable benefit from fuel purchase is tax revenue, however most countries do not charge tax to overseas vessels

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<sup>28</sup> The cost of salt purchased from shore-based operations can be more costly to the purse seine vessel than that delivered by carriers because of onshore storage costs and the requirement to load at a wharf that incurs additional costs in terms of both time and fees.

<sup>29</sup> Not all cash advances are necessarily spent ashore; some are provided to departing crew for use during transit.

<sup>30</sup> In at least two previous studies (Hamilton et al. 2009 and SPPF 2002) the revenue from fuel sales in one port is included in the discussion of benefits from transshipment, however both emphasize the non-fuel components due to the limited local content of fuel.

- In one port where fuel is obtained, it is most often by domestic-based vessels not covered in this analysis.

The estimated ranges of gross revenue for the non-fuel private sector are summarized in Table 4.

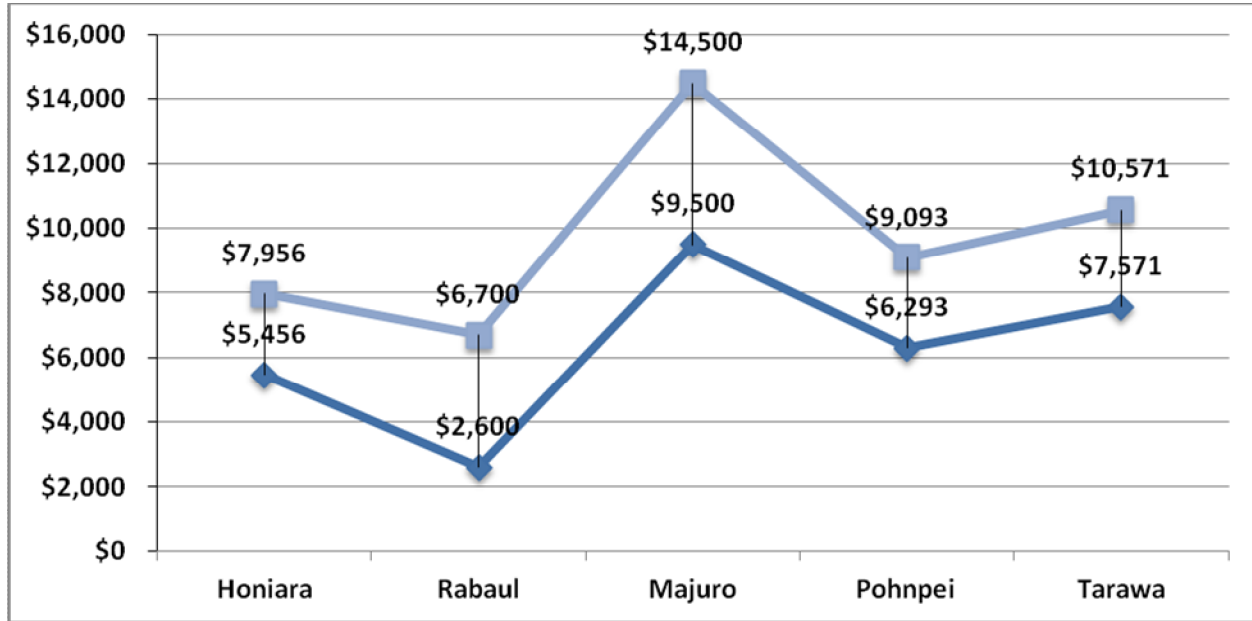
**Table 4 Estimated Ranges of Private Sector  
Non-fuel Gross Revenue Related to Purse Seine  
Transshipment**

Port	Range (US\$)
Honiara	\$2,000- \$3,500
Rabaul	\$2,000- \$4,500
Majuro	\$4,000- \$8,000
Pohnpei	\$2,500- \$4,200
Tarawa	\$1,000-\$2,000

### 3.1.5 Summary of PIC Gross Revenue from Transshipment

The information in the preceding subsections and unloading data presented in Section 2 is used to estimate the ranges of gross revenue on an individual port basis. The breakdown for each port by the three categories of revenue is contained in Appendix 2. Figure 7 below depicts the ranges of estimated gross revenue from all three categories (transshipment fee, other government fees, and the private sector) derived from purse seiners per transshipment for the 5 ports surveyed.

**Figure 7 Estimated Ranges of Gross Revenue per Purse Seine  
Transshipment in 5 Ports**



The estimated annual ranges for 2010 for all 5 ports can be extrapolated from per transshipment amounts in Table 4 above and the number of transshipments that took place during the year. The results are shown Table 5 below that estimates the range of total gross revenue from purse seiners for each port.

**Table 5 Estimated Ranges of Gross Revenue from Purse Seiners Engaged in Transshipment, 2010**

Port	Number of Transshipments	Range per Transshipment (US\$)	Estimated Range of Total Gross Revenue (US\$)
Honiara	252	5,456· 7,956	1,374,912· 2,004,912
Rabaul	220	2,600· 6,700	572,000· 1,474,000
Majuro	315	9,500· 14,500	2,992,500· 4,567,500
Pohnpei	385	6,293· 9,093	2,422,805· 3,500,805
Tarawa	104	7,571· 10,571	475,384· 1,099,384

### 3.1.6 Total Gross Revenue from Purse Seine Transshipment, 2010

From the ranges for each port in Table 5 above, it is estimated that the aggregate range of PIC gross revenue from purse seiners engaged in transshipment in the 5 major ports in 2010 was on the order of \$7.84 million to \$12.65 million.

Adding the estimated gross revenue from refrigerated fish carriers of \$1.86 million to \$3.24 million, the total combined range of gross revenue is **\$9.7 million to \$15.9 million**, or from \$8 to \$13 for every ton transshipped in port by purse seiners.

### 3.2 PIC GROSS REVENUE FROM LONGLINE TRANSSHIPMENT IN PORT

From knowledge of longline operating patterns as well as documentary and anecdotal information collected during the study (Section 2), it is clear that there is much lower PIC gross revenue from longline transshipments in PIC ports than from purse seiners. No attempt is made here to estimate total gross revenue to PICs, but some information is available from Solomon Islands that provides at least an idea of the magnitude of that gross revenue compared with that from purse seiners described above.

The most consistent in port longline transshipment appears to take place in Solomon Islands where the latest annual figures (2011) from 31 transshipments show gross government revenue from transshipment fees to have been about \$23,000<sup>31</sup>, or approximately \$750 per transshipment.

Government gross revenue from other fees and charges could be expected to be about the same as that for purse seine, \$2,000 to \$3,000 for Honiara, except lower where the particular charges are based on vessel size.

Shipping agents in Pohnpei and Honiara noted that port stays for transshipping longline vessels tend to be somewhat longer than purse seiners, resulting in slightly greater gross revenue to port agents. This is attributed to a longer time spent onshore by crew occasioned by the long periods spent at sea as well as delays experienced in awaiting crew replacements and/or spare parts. As for other private sector revenue, it is thought that crew from distant water longliners do not spend as much onshore as those from purse seiners. Balancing these lower crew expenditures are those of the ship's officers who may have spouses or other family members visit them while the ship is in port.

### 3.3 OTHER ASPECTS OF IN PORT TRANSSHIPMENT ACTIVITIES

#### 3.3.1 The Trade in Discards and non-Target Species and its Regulation

The trade in discards of target species and non-target species between personnel onboard transshipping vessels and segments of the local populace in transshipping ports has been occurring since purse seine transshipment began in PIC ports nearly 20 years ago. These activities are termed **leakage** in the following discussion that covers the situation in the five PIC ports studied. In many cases the leakage is brought ashore for sale by people engaged in the trade as a full or part-time occupation. In limited situations some of the fish is said to be bartered for sexual or other services onboard<sup>32</sup>.

<sup>31</sup> The figure represents total fee revenue from sharks (\$2 per ton) and tuna (tuna \$12).

<sup>32</sup> Not to make light of the dangers of these activities including the potentially damaging results such as exposure to sexually transmitted diseases, or draw parallels with historical situations, but it is worth recalling that this type of trade has been going in various Pacific island locations since the arrival of Europeans bearing iron implements on sailing ships.



Forau (1995) noted that in Solomon Islands there was an ongoing and increasing trade in discards/bycatch. At the time, the problem was addressed by placing security officers required by Customs onboard during transshipment who were charged with prohibiting any form of trade between the crew and the local population. The trade has continued in Honiara and if anything has become larger and more entrenched. Security guards are still placed onboard, but they are not effective in curtailing the trade. Their job is primarily to prevent unauthorized people from actually going onboard the transshipping vessels (Figure 8).

**Figure 8 Purchasing Bycatch and Small Tuna from a Purse Seiner in Honiara**



Photo: Ambrose Orianihaa (undated)

Leakage from transshipment is not always welcomed by all segments of PIC society. Local fishermen in particular are often concerned about the problems caused by large amounts of fish brought into local markets that can disrupt their own marketing efforts, particularly when that fish is sold at prices below that which they are asking for their own catch.

Although it could be argued that the nutritional welfare of a relatively large urban population is more important than work for a few fishers, there can be a flow-on of negative effects to disadvantaged rural areas. Solomon Islands rural coastal communities ship fish into Honiara that in 2007 provided cash income of more than SBD 5.5 million. It is argued that selling cheap tuna in Honiara can seriously affect these communities by greatly reducing or eliminating markets for their fish during certain periods of intensive transshipping (McCoy and Gillett, 2008).

According to those people interviewed about leakage during the study, the institution of the management measures for FAD closures and catch retention has apparently not had an observable impact on leakage volumes. In Honiara the lack of transshipping activity brought about by a cessation of fishing because of a lack of available days in the VDS system has had the greatest local impact.

Since activities surrounding leakage take place in the informal sector, the amounts and value of leakage in some of the PIC ports surveyed can only be guessed. Of the ports surveyed it is evident that the greatest amount of leakage occurs in Honiara and Rabaul, with the least in Majuro and FSM. Kiribati is the only port that appears to have taken significant steps to institutionalize the trade, and it is reported to bring considerable benefits. Estimates for the annual retail sales value of fish from leakage in Honiara and Tarawa are given in the following discussion.

Honiara Much of the leakage occurs at the anchorage fronting the Honiara Public Market. Barter between middle-men who offer vegetables, other produce and items such as phone cards or cigarettes to vessel crews is common. One source in Honiara familiar with transshipping activities estimated that sales onshore of discards and non-target species from purse seiners could reach the equivalent of US\$15,000- \$30,000 per month during busy transshipment months (normally November to February). During other periods the values are more in the range of US\$3,000- \$8,000. Leakage is commonly traded in empty salt sacks, with more desirable species such as rainbow runner sometimes double the price of small or damaged skipjack.

It was reported during the study that health officials in Honiara were concerned about the poor quality of fish entering the local market from leakage, and that regulatory measures were being undertaken to stop the trade. Inquiries made to the Honiara City Council revealed however that no such measures had been taken or were under active consideration.

One shipping agent in Honiara said that there needs to be some better management or regulation of the trade. The Customs Department seems to be the one most concerned, and according to the agent, had approached him to get involved and become the agent for collection and sales of leakage. The agent declined, saying that such a system would be unwelcome by those currently engaged in the trade, and could cause greater problems for him than the situation at present.

Rabaul Sources in Rabaul confirmed that leakage does occur, and that like Honiara the middlemen (usually women in small canoes) exchange vegetables and other items for sacks of fish alongside the transshipping purse seiners. The fish enters commerce not just in Rabaul but is also first smoked or cooked in traditional earth ovens and distributed to villages distant from the commercial center. Several inhabitants of Rabaul, including NFA observers based there confirmed that the trade is welcome in the port by those in the community directly involved as an income-generating opportunity from purse seine transshipping. Customs officers reportedly try to make sure that unauthorized personnel do not board the fishing vessels, but do not stop the trade.

Majuro Very little leakage is said to exist in Majuro. Some fish are obtained by government officers during regular boarding, and according to agents some shore-side dock workers insist on being provided with a fish or two in addition to being paid for their labor. The lack of leakage may be attributable to a lack of a market for the relatively low quality of fish, the preference of Marshallese for reef fish, and the availability of alternative fish supplies at local stores and fish markets.

Pohnpei Like Majuro, the absence of a market for low quality fish from purse seiners and available alternatives for locally-caught fish reduce the amount of leakage experienced. Observers and port agents report that some local people visit purse seiners to ask for fish, masking their requests as those for bait for their own fishing activities. Persons who do approach transshipping vessels are kept off the vessel by either security guards or port officials onboard. In general, no institutionalized marketing has developed as is the case in Honiara and Rabaul and one gets the impression that leakage is tolerated as long as the activities are not high profile and the fish are destined for home consumption and do not enter trade onshore.

Tarawa The demand for discards and non-target species is high in Tarawa. Uncontrolled leakage has been a problem in the past, even though the government corporation engaged in various aspects of fisheries and transshipping has been given a monopoly to handle discards in order to place the trade on a more regular footing and reduce the negative aspects of leakage. That effort has been only partially successful as the informal trade continued to a point where in 2008 the government corporation obtained a court order re-affirming its authority to store and market non-target species and discards.

Strong resistance to the marketing of discards and non-target species has come from local fishermen and their associations. The compromise reached has been to place geographic limits on where the government corporation can market the fish obtained from transshipment operations. According to the officer in charge of the corporation, there is still leakage present, primarily caused by individuals who board the transshipping purse seiners in violation of Customs and port regulations.

The estimated total discharged from transshipping purse seiners for sale by the corporation is on the order of 200 tons per year, providing revenue of from AUD50,000 to AUD100,000. It is often the case that the frozen fish sold in this manner is about half the price of locally-caught skipjack and is thus welcomed by the community as a whole.

Summary Leakage has generally not been contained nor have the problems it may generate been solved in the PIC ports studied. Tarawa has instituted some controls that are reported to be generally effective, but those controls are somewhat unique to that location. After nearly 20 years of experience with leakage and an inability of officials to curtail the practice in any meaningful way, on balance the practice is appropriately described as a benefit, albeit one that requires constant monitoring and sometimes control. The means of that monitoring and control are specific to each port and the circumstances surrounding this aspect of transshipment. In adopting specific measures, PICs should be cognizant that there is no quick fix to the perceived problem, and need to take into account the beneficial aspects of the practice.

### **3.3.2 Other Concerns Related to Transshipment in Port**

Three concerns related to transshipment (termed here ~~the~~ the three Ps+) are linked directly to in port transshipment:

- Port congestion
- Pollution
- Prostitution

All three Ps are addressed in varying degrees by PIC authorities in the five ports studied. When kept under control, the costs to society in general are minimized. When allowed to spiral out of control these costs can become exponentially higher.

Of the three, port congestion is handled relatively well as port management authorities have developed procedures to handle the congestion that can be caused by large numbers of vessels in port. One of the consequences of the increased vessel traffic has been a necessary rise in the number of qualified harbor pilots in most ports. One of the more challenging aspects of keeping ports running smoothly in recent years has been the need to comply with the International Ships and Port Facility Security (ISPS) Code of the International Maritime Organization. Security infrastructure has needed upgrading and training undertaken by port administrators and others.

Pollution prevention in transshipment ports requires ongoing vigilance. Pollution can come from the discharge of used brine and other waste, the spillage of oil including that contained in bilge water, and the dumping of spoiled fish. Of equal or greater concern is the introduction of alien organisms in the ballast water of fish carriers. Port regulations exist that cover all of these potential sources of harm to the environment and society. Enforcement of those regulations is an ongoing task and should not be neglected.

Prostitution is a particularly difficult issue for authorities in transshipment ports to control or eradicate. Previous reviews and studies of the impacts of transshipment in PIC ports have sometimes alluded to prostitution as an undesirable byproduct of such development (Forau 1995 and SPPF 2002 are two examples). In general, greater awareness and sensitivity to the problem in recent years has prodded some PIC governments to take action. Publicity directed at generating greater awareness of the problem such as that by Greenpeace in 2006 has also contributed to action by officials and politicians in some ports<sup>33</sup>.

A more recent comprehensive analysis of domestic tuna fishery development in one PIC addressed what has come to be known as ~~the~~ <sup>the</sup> sex trade+ (Hamilton et al. 2009). When discussed in the context of categories of other forms of social disruption, i.e. alcohol and drug abuse, anti-social behavior (violence), smuggling, and illegal entry, prostitution can be seen as a problem that is exacerbated more by the presence of foreign vessels in port than perhaps some of the other disruptions. Leaving the morality issues aside, the risks to public health by prostitution activities involving visiting fishing and carrier vessels are serious and should not be ignored<sup>34</sup>.

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<sup>33</sup>Greenpeace noted that ~~many~~ <sup>many</sup> do it because of poverty at home and the chance to earn money, clothes and fish to take home+ ([www.greenpeace.org/international/en/news/features/fish-and-sex-trade131006](http://www.greenpeace.org/international/en/news/features/fish-and-sex-trade131006))

<sup>34</sup> In Thailand, although AIDS infection rates are decreasing, UNAIDS, a United Nations agency, reported in 2010 that over 500,000 people are living with HIV and in 2009 28,000 people died from AIDS.

## 4 MONITORING OF TRANSSHIPMENT ACTIVITIES

### 4.1 PURPOSES OF MONITORING TRANSSHIPMENT

PIC monitoring of transshipment activities can contribute to maximizing benefits from transshipment and help to minimize adverse impacts of those activities in port. For example, the level and completeness of monitoring purse seine transshipment can affect the collection of revenue from fees that are based on transshipment volume. The presence of monitors can also discourage harmful practices such as discarding unwanted fish or trash into the lagoon or harbor.

The level of monitoring can also affect the reliability of stock assessments, particularly those that utilize data from DWFN high seas longlining. Improved estimates of total volumes transshipped by species are an integral part of efforts to enhance stock assessments in this and other fisheries. Improvement in the collection of transshipment and landing data and their subsequent transmission to SPC has been consistently and strongly recommended for several years by the Oceanic Fisheries Program at SPC, most recently at the 6<sup>th</sup> Tuna Data Workshop in April, 2012<sup>35</sup>.

In addition to the collection of catch data contributing to stock assessments, transshipment monitoring has been cited as a tool to combat IUU fishing activities that undermine the effectiveness of conservation and management measures. Several tuna Regional Fishery Management Organizations have enacted high seas transshipping monitoring programs that are intended to combat IUU fishing by preventing tuna laundering+ where catches by IUU fishing vessels may be transshipped under the names of duly licensed or authorized fishing vessels.

Publicity campaigns by some environmental non-government organizations have also emphasized the need to ban high seas transshipment because of the IUU aspect. In the WCPO, this emphasis on regulation of transshipment as a primary tool to combat IUU fishing has been supported by some who have so far resisted attempts by the PICS to enact an overall catch verification scheme that could include transshipment regulation as an integral part.

### 4.2 MONITORING OF TRANSSHIPMENT IN PORT

As noted in Section 2 above, there is very little longline transshipment undertaken in the five ports surveyed. As a result, the following descriptions and discussion are reflective of activities monitoring purse seine transshipment. Many of the monitoring procedures are also applicable to the monitoring of transshipment by longliners in port, when those activities occur<sup>36</sup>.

A key point in the discussion of monitoring transshipment in port is that there is no WCPFC requirement, either in CMM 2009-6 or elsewhere, for port states to report on the transshipment activities in their ports.

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<sup>35</sup> A listing of the benefits from collecting transshipment data was provided to the April, 2012 workshop by SPC and is contained in Appendix 6.

<sup>36</sup> For example, in Rabaul it is reported that procedures similar those for monitoring purse seine are also used to monitor transshipment of shark longline vessels.

#### 4.2.1 The Roles of PIC Fisheries Departments in the Port Entry and Clearance Process

Procedures for clearing arriving purse seine vessels and carriers in transshipment ports are fairly standard and reflect the usual practices as they apply to international shipping. A boarding party consisting of representatives from the relevant government offices first boards the vessel at the wharf or at anchor and checks the ship's documents and conducts other aspects of the clearance process such as Customs inspection. The clearance process is a cooperative one amongst various government department representatives, and the role taken by Fisheries departments in this process varies from country to country.

In some ports visited during the study, notably Rabaul and Majuro, fisheries officers or fisheries compliance officers play a prominent role in clearing inward fishing vessels and collecting information relevant to the pending transshipment operation. In ports where compliance officers are in attendance, those officers are able to delay the transshipment process if all documentation, particularly catch logsheets, are not in order. In other jurisdictions the Police and Customs departments tend to take the lead, with Fisheries Officers collecting information relevant to transshipment. Information relating to the intended transshipment includes:

- A detailed well plan showing the stowage of fish onboard
- A voyage memorandum showing previous ports visited
- A sheet of general information relating to the vessel's particulars and the amount of fish onboard

Pohnpei was the only port visited where fisheries officers or representatives do not participate in boarding when the clearance process takes place. The information relevant to intended transshipping in Pohnpei is collected by the Port Authority and copies provided to the National Ocean Resources Management Authority as required. Pohnpei was also the only port where arriving vessels are required to come to the wharf for clearance<sup>37</sup>.

Fisheries Officers participating in boarding parties are typically guided in their tasks by a check list and/or inspection form. Once the forms are completed, they are signed by the captain and boarding officer in charge. In addition to information on the vessel's licenses and certificates, the inspection forms detail the catch onboard by species and weight. In the case of FSM, there is no specific form for use with transshipment in port. The National Police use the same boarding form in port as that for boarding and inspection of foreign and domestic fishing vessels at sea.

In general practice, once a vessel has been cleared by authorities to commence operations, monitoring of activities (if it takes place) is done by the government Fisheries department. Transshipment in port may also trigger periodic monitoring activities by other government offices and agencies to enforce various regulations. In the five ports surveyed, the offices or agencies other than those charged with fisheries management responsibilities cited the objectives of this monitoring as one or more of:

- Confirming the purpose of activities undertaken by collecting all documentation relating to each transshipment
- Enforcing immigration regulations
- Ensuring compliance with all port requirements

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<sup>37</sup> This requirement was attributed to incidents in the past that led boarding party officials to believe that travel to the anchorage by boat was dangerous.

- Preventing pollution in harbors, including oil pollution, discharge of used brine, and dumping of discards
- Preventing unauthorized persons from boarding the vessels engaged in transshipment

Equally important as the incoming clearance is the departure clearance that enables vessels on international voyages to more easily clear their next port of call. Whereas most Fisheries departments are active in the inward clearance and have check lists from which to work, the departure clearance may be overlooked. The departure clearance procedure provides an opportunity to ensure that all required information and documents relating to the transshipment have been completed. For example, in the Marshall Islands transshipment documentation is checked against observer catch data before the vessel is allowed to depart.

Boarding procedures are not without critics in some ports. Shipping agents in one port handling vessels engaged in purse seine transshipment complained of the large number of personnel attending clearances, and the requirement to pay fees to numerous departments. Payment of overtime is also required and agent in one port cynically commented that it is almost impossible to get all representatives together in a timely manner for a departure clearance during working hours, but the process was much easier when overtime payments are required.

#### 4.2.2 Collection and Reporting on Transshipped Catches in PIC Ports

The port entry and clearance processes described above put into motion systems for collecting and reporting catches transshipped in PIC ports. Procedures and documentation differ somewhat in the 5 major purse seine transshipment ports, but information on the estimated volume of transshipped catch is collected in all ports.

Officers intending to monitor transshipments either visit the purse seiner one or more times during the transshipment operation, or remain onboard until transshipment is completed. It was explained by fisheries officials in two of the PIC ports that for observers staying onboard, living conditions are better on the purse seiner as there is already a space set aside for an observer and the crew is familiar with observers and their duties. The representatives of traders who are purchasing the fish usually conduct their operations onboard the carrier vessel<sup>38</sup>.

Transshipment operations take place for 12 to 14 hours or more per day depending on the weather. In ports where the Fisheries Department has sufficient manpower, it is normal for more than one observer to be detailed to monitor the transshipment. The number of people available to monitor transshipments varies between ports. Fisheries Department personnel assigned as monitors may be those who are designated port samplers, unassigned observers, and in some cases office personnel. In general, the number of trained observers available to monitor transshipments has been greatly reduced due to the 100 percent observer requirement for purse seiners. Those onboard observers do not always physically remain on the vessel at the conclusion of a trip and are not tasked with monitoring transshipment, even if scheduled to remain onboard for a subsequent trip on the same vessel.

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<sup>38</sup> A major purpose of the traders' representatives is to check fish quality as well as estimate volumes transferred. Since ownership of the catch generally transfers from the seller (i.e. the purse seine company) to the buyer once it crosses the rail of the carrier it is common for the buyer's representative remain onboard the carrier while transshipment operations take place.

Employing and assigning personnel to monitor transshipping is made difficult in some ports by the seasonal nature of transshipping and government administrative and staffing requirements. When fisheries departments find it difficult to hire full or part-time personnel to monitor transshipment, office-based personnel normally assigned to other tasks are sometimes used. This is the case in Solomon Islands and Marshall Islands according to Fishery officials in those countries.

In PNG transshipment monitoring has been delegated to Provincial Fisheries Departments who utilize their own officers to monitor transshipping. These officers are sometimes, but not always, former observers employed at the National Fisheries Authority. According to the NFA officer in charge of the observer station in Rabaul, when the number of vessels engaged in transshipment exceeds the available provincial workforce, casual workers are employed.

The negative aspects of using possibly untrained personnel to monitor some transshipments is mitigated by the reality that the monitoring job in most ports consists primarily of collecting documents reflecting volumes transshipped and submitting the appropriate paperwork. In order to accomplish this task, monitoring personnel must await the conclusion of operations and production of the needed documents by the purse seiner and carrier. The extent to which attempts are made to validate the estimated catch volumes transshipped is not clear.

If monitoring personnel intend to validate the amounts transshipped through visual observation, a tally of cargo net loads transferred from the purse seiner to the carrier must be kept independent of that on the purse seiner and carrier. At least one monitor should be placed onboard the purse seiner with a second onboard the carrier to conduct such tallying, with periodic reconciliation of any discrepancies found.

Catch transfer operations can last for 3 to 4 days or more, and take place almost constantly. A knowledgeable observer coordinator in one PIC port who said he attempted to verify catch log data with actual volumes transshipped by this method described the task as a difficult one that required constant attention and was best accomplished by two monitors. In his experience, this level of monitoring rarely, if ever, takes place<sup>39</sup>.

The forms used by monitors to document the volumes transshipped vary among the ports studied. An example of one form from Solomon Islands is shown in Appendix 3. All forms in use require the signature of both the captain and person monitoring the transshipment.

Subsequent to collecting transshipment volume information, some (but not all) PICs transfer the relevant information to the SPC Regional Unloading Form (Appendix 4) and forward to the Oceanic Fisheries Program at SPC. PNG appears to be the most consistent in submission of the regional form. Marshall Islands and Kiribati commenced its use in 2012. The Solomon Islands purse seiner transshipment logsheet example requires information on the quantities of each species transshipped and quantities rejected.

FSM's National Ocean Resource Management Authority formerly collected data on transshipment volumes, but no longer does this on a regular basis<sup>40</sup>. In Pohnpei, the Port Authority includes total volumes transshipped on the vessel's departure clearance documents as part of its fee calculation exercise.

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<sup>39</sup> In contrast, an observer coordinator at a different PIC port stated that his monitors did keep a tally of cargo net loads transferred. It was not possible for the study to determine the degree to which actual tallying takes place during purse seine transshipment in the various PIC ports.

<sup>40</sup> NORMA does obtain transshipment volume information when the vessel operator's agent requests a European Community Catch Certificate; however no compilation of this data is made.



### 4.2.3 Role of Port Sampling During Transshipment

In some ports the port samplers have been the only source of manpower with which to collect transshipment information (the monitoring function as described above). Port samplers typically moved from vessel to vessel at the anchorage where transshipment takes place, sampling a few wells on each. Port sampling coverage has not always been 100 percent for logistical, manpower and other reasons, particularly when there are a large number of vessels in port.

SPC now recommends that PICs *not collect* port sampling data from purse seine transshipments. The main reason given is that it is difficult to determine the set type that the sampled fish have come from due to the high level of well mixing at sea (mainly in Korean and Taiwanese seiners). However, SPC still strongly recommends the collection of purse seine transshipment landings data, i.e. total volume transhipped/landed by species<sup>41</sup>.

The cessation or hiatus in port sampling has not meant an increase in the availability of manpower to more fully monitor transshipments. The requirement for 100 percent observer coverage onboard purse seiners has reportedly absorbed surplus trained personnel that might have been available to fulfill those monitoring functions.

### 4.2.4 Transshipment Verification Documentation

CMM 2009-6 (paragraph 11) requires that Part 2 of their Annual Report include all transshipment activities covered by the measure (including that which occurs in ports or EEZs). In doing so, CCMs shall take all reasonable steps to validate and where possible correct information received from their vessels undertaking transshipment. The CMM instructs that all available information should be used, including catch and effort data, position data, observer reports, and port monitoring data. The degree to which CMMs utilize such data to verify transshipments is not known.

As noted earlier, except for vessels for which they are responsible there is no requirement for PICs to report transshipment activity to the Commission. Data on transshipment volumes is however collected by the PICs for activities in their ports for fee calculations and other purposes.

The document most widely used by PICs to provide information on the volumes transhipped in their ports is the Mateco Receipt<sup>42</sup>. This is a receipt issued by the unloading vessel and signed by officers of both the unloading and the receiving vessel acknowledging the receipt of transferred cargo by the latter vessel. In signing, both parties acknowledge and agree on the cargo volume. In the case of the tuna industry it is understood that the amount(s) noted in the document are estimates.

There is no one standard form for the Mateco Receipt, and the level of detail describing the transhipped cargo may vary among transshipments. It is common to show separate totals by species, but usually not by size category. Occasionally some Mateco Receipts may simply note a total weight of mixed skipjack and yellowfin. The Mateco Receipt forms the basis of shipping documents and is considered an estimate, even if weighing of individual cargo net loads is done

<sup>41</sup> P. Williams, personal communication.

<sup>42</sup> In some shipping documentation it may be shown as a transshipment receipt.

during the transshipment process. In the tuna industry, the Mate~~s~~ Receipt is not an invoice against which payment is made. The invoice is issued to the buyer from the vessel~~s~~ home office and is based on the Mate~~s~~ Receipt.

The actual weight of the fish by species and size class are obtained upon unloading of the carrier at the cannery or cold store and is termed an %~~outturn~~+ weight. In addition to being a more or less exact weight, the outturn accounts for shrinkage of a bulk frozen product during transit. Further adjustment(s) to the final amount due the seller are made by the buyer on the basis of the outturn weight and certain quality deductions, if necessary.

Comparison of catch logbooks with the Mate~~s~~ Receipt by monitors in port could show discrepancies in the totals, since both are estimates. Given the manner in which payments are made in the industry, there can be an incentive for a captain (who is being paid on a per ton basis) to overestimate the catch and thereby receive a larger up-front payment. Captains who consistently overestimate transshipped volumes are often readily identified by buyers and owners alike and their subsequent transshipments may be given greater scrutiny. Some fishing companies instruct captains to under estimate transshipments slightly, preferring to have a cushion for future payment against rejects and to not sour relations with buyers for future transactions.

In either case and in the final analysis it is the outturn weight at the cannery that determines the actual weights contained in a given transshipment. Availability of that documentation provides a definitive answer to transshipment volume, by species and weight broken down by size class.

An example of potential use of the outturn report is that planned by the US National Marine Fisheries Service. NMFS intends to require US flag purse seiners to submit the outturn report in addition to an unloading and transshipment logsheet for each unloading. In its draft form, the measure requires submission of a Final Outturn Report that includes:

- Name of the unloading vessel and receiving vessel
- Weight unloaded by size and species
- Name of processing company to which the fish were delivered/consigned.
- Signature of the receiver

In the NMFS plan there is no specific time requirement for submitting the outturn report. It is noted that the original should be submitted %~~within~~ a reasonable time period after the fish were received at their final destination+.

#### **4.2.5 Suggestions for Improving Common Standards of Purse Seine Transshipment Monitoring in Port**

The foregoing discussion provides an indication of the manner and level of transshipment monitoring in the five ports where information was collected during the study. On the basis of that information, which included interviews of observers, observer coordinators, shipping agents, and personnel at vessel operating companies, some suggestions are made here for areas where common operational standards could assist the efforts of PICs conducting

transshipment monitoring in port<sup>43</sup>. Not all suggestions apply to every port; in fact, some are taken from current practice that should be extended to all ports.

#### The Roles of PIC Fisheries Departments in the Port Entry and Clearance Process

- It is desirable for a representative of the Fisheries department or Authority responsible for tuna fisheries management to be a part of the official boarding party. This provides an opportunity to obtain first-hand information on the intended transshipment.
- A representative of the Fisheries department or Authority should also be involved in departure clearance to ensure all required documentation has been provided and to query any inconsistencies found, keeping in mind the estimated nature of transshipment documentation at that point.

#### Collection and Reporting on Transshipped Catches in PIC Ports

- Fisheries officers boarding the purse seine vessel for monitoring purposes should, on occasion, visit the carrier vessel and interact with the buyer's representative to see if there is any information available on the catch and transshipment operation that might be useful for catch documentation purposes. For example, a portion of the catch may be rejected for quality reasons and this needs to be accounted for in the transshipping records.
- Refrigerated fish carriers should be required to complete the SPC unloading form<sup>44</sup>. This form should be completed for all transshipment undertaken to the carrier and signed by the carrier captain before clearance is granted for departure.
  - An explanatory sheet describing the transshipment information required by the Fisheries department should be provided to the captain of the carrier upon its arrival and inward port clearance. The captain should sign an acceptance document certifying he has received the unloading form and instructions, and acknowledging that failure to submit a completed form prior to departure may be cause for delay. Assistance in completing the form may be sought from the buyer's representative onboard the carrier, as it is the best interest of the buyer to ensure the carrier's timely departure.
  - The presentation and collection tasks may be carried out by the ship's agent, but the document should originate with the Fisheries department.
- Transshipment records for each transshipment should be maintained by the Fisheries department on a logsheet that mirrors the SPC form and covers the entire transshipment process for each purse seiner. The logsheet should include both quantities of fish transshipped and rejected as well as space for comments and other relevant information. The totals transshipped on this logsheet should match those found on the Mate's receipt for the transshipment as well as the form to be completed by the carrier captain as described above.

#### Personnel Utilization

- It is desirable for each Fisheries department or Authority to designate officers responsible for compliance with all reporting requirements prior to, during and after the

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<sup>43</sup> These suggestions relate primarily to standardizing data collection rather than management of the data thus collected, which may be more port or country-specific. It is acknowledged that some further implementation of good data management practices, particularly those recommended at National Tuna Data Workshops held by SPC, would be beneficial.

<sup>44</sup> This is not a new idea. It has been proposed in various forms at several SPC National Tuna Data Workshops, including a workshop for FSM in March, 2010 and for the Marshall Islands in July 2011.

transshipment process. At minimum there should be a designated officer to attend to boardings and at least two other part-time officers (possibly observers or port samplers) who are trained and can substitute when necessary.

- Fisheries department officers engaged in the monitoring of transshipments should be based in relatively close proximity the ports where transshipment takes place. Officers should not have to travel by air or other means to reach ports where transshipment is undertaken.
- To assist Fisheries officers in port, observers arriving on the inbound purse seine vessel should not leave the vessel until all fish have been discharged.

#### Transshipment Verification Documentation

- Fisheries Departments should send the completed SPC unloading form from the carrier to SPC via the TUFMAN system. In this way, SPC can assist with the generation of reports detailing transshipment undertaken that may be required and/or useful to Fisheries departments, while at the same time lessening the work load in Fisheries Departments for those tasks.

### 4.3 MONITORING OF AT SEA TRANSSHIPMENTS WITHIN EEZS

The four PICs currently allowing at sea transshipments within their archipelagic waters or EEZs are Fiji, PNG, Palau and Kiribati. PNG, Palau, and Fiji allow the longline transshipment at sea for vessels based in their ports when the intention is to send the transshipped catch back to the PIC port for unloading. In the case of Kiribati, the transshipped catch is not returned to port in Kiribati but unloaded elsewhere.

Fiji reports that there is 100 percent observer coverage on carrier vessels undertaking in-zone transshipment. Transshipment trips originate and end in Suva and are relatively short, on the order of 4 to 5 days in duration. Transshipment forms are used to record the transferred catch, and observers also file a narrative trip report that complements the data collected. Carriers are not charged any fees, but the fishing companies undertaking transshipment reimburse all observer costs to the government.

PNG allows longline transshipment for domestic-based longline vessels.

Palau's bilateral longline access agreements set conditions on transfer of catches at sea, such as a 24 hour notice of intended operations. Transshipped catches must be returned to Palau for processing and/or export. The agreements provide for observer coverage of transshipment operations; however coverage is thought to be low on the fleets undertaking this type of transshipment.

### 4.4 MONITORING OF AT SEA TRANSSHIPMENT ON THE HIGH SEAS

The monitoring of at sea transshipment on the high seas began with implementation of CMM 2009-6. Little information is currently available in the public domain on the results of monitoring transshipping under this CMM. According to WCPFC (2011) monitoring of longline transshipments at sea began in 2011.

At the time (September, 2011) it was reported that it was not known if all carrier vessels transshipping at sea were carrying an observer, as it is impossible for the Commission

Secretariat to know how many carriers may be in the area, and how many of these intend to transship at sea. It was further noted that the limitations of the WCPFC VMS make it impossible for the Commission to track carriers throughout the Convention Area, ~~as~~ the VMS cannot differentiate between carriers that are intending to transship catch at sea and therefore requiring an observer.

The WCPFC Secretariat further reported that for the first six months of 2011, a total of 18 carriers had observers onboard, and those 18 had received a total of 27 observers during the period.

In its report, the Secretariat noted that a key monitoring problem was its inability to determine the intentions of a carrier and if an observer is required, if the carrier does not contact the Secretariat when it enters the Convention Area.

It is anticipated that more information on high seas transshipment will be forthcoming at the next meeting of the Technical and Compliance Committee.

## **5 ASSESSMENT OF OPPORTUNITIES TO INCREASE BENEFITS FROM TRANSSHIPMENT TO FFA MEMBER COUNTRIES**

In this Section, opportunities to increase PIC benefits from transshipment are viewed in two categories: those benefits that may accrue through the strengthening of monitoring and data collection efforts and those that come from increases in PIC gross revenue. The former refers to transshipment monitoring activities that enhance stock assessments discussed in the previous Section and is in addition to the earlier discussion on improving common standards of purse seine transshipment monitoring in port. The second category uses the discussion on estimated gross revenue in Section 3 as a basis for considering opportunities for increased benefits.

### **5.1 ENHANCING MONITORING AND DATA COLLECTION TO PROVIDE BENEFITS TO PICs**

One of the suggestions to assure common standards of purse seine transshipment monitoring in port is to require the SPC Unloading Form to be completed by each carrier prior to departure and forwarded to SPC via the TUFMAN electronic data transmission system. The benefits to PICs of doing so may not be readily apparent to PIC Fisheries departments, and there is a risk that low levels of transshipment data collection in some PICs will persist. Given that the need for transshipment data is region-wide, its absence from important transshipment ports greatly lessens the utility of data that may be received.

In order to alleviate this problem and improve on the current situation, one solution is to *require* all port states, including PICs and those elsewhere, to report to the Commission on transshipment activity in their ports. As was noted in Section 4, there currently are no requirements for port states to report on transshipment activity in their ports. At least two options for such reporting could be considered. The first would be for port states to comply by including totals transshipped in their ports as part of their Annual Report to the Commission. Requirements for this portion of the Annual Report should include certain information that would make using the SPC form desirable over other means of compilation. The second option would be to require port states to report to the Commission through periodic submission of information contained on the SPC unloading form in a manner suitable for its receipt and timely analysis.

These provisions or other options that might be identified could be addressed during the discussions within FFA and its members that are expected prior to the review of CMM 2009-6 at the next meeting of the WCPFC Technical and Compliance Committee.

#### **5.1.1 Implementation of a Catch Documentation Scheme**

A catch documentation scheme (CDS) has been seen by PICs as a comprehensive approach to validating catch and combating IUU fishing. The merits of a comprehensive catch documentation scheme have been cited and discussed over the past several years. The FFA Regional MCS Strategy noted establishment of such a scheme as ~~one~~ one of a number of possible approaches to improve catch monitoring and validation throughout the supply chain (FFA 2010).

The advantage of such a system is illustrated by the potential fish laundering situation where so-called "black boats" may conduct IUU fishing and then transfer their catch to legitimate vessels who then transship. Observers placed onboard fish carriers would not likely be able to detect such a situation, but a comprehensive CDS should be able identify the situation.

Useful aspects of a possible model are contained in the Catch Documentation Scheme of the Convention for the Conservation of Southern Bluefin Tuna. The scheme provides for tracking and validation of legitimate product flow from catch to the point of first sale on domestic or export markets.

## 5.2 INCREASING PIC GROSS REVENUE RECEIVED FROM TRANSSHIPMENT ACTIVITIES

### 5.2.1 Increasing Transshipment Fees

Unlike fees for government services such as pilot fees and observer fees, transshipment fees are assessed as a revenue-generating mechanism more akin to access fees. Like access fees, they are not uniform across all PICs although they also represent payment for access to a resource, in this case a port in which to transship. Also like access fees, transshipment fees are intended to capture a portion of the economic rent in the fishery. Simply speaking, payment of access fees and transshipment fees by the industry come from the same pot: that being the amount of rent available to the industry in additional profits and to the PICs in additional access fees.

There is also an operational linkage between transshipment and access fees. For example, it is possible for transshipment to be reduced or even cease completely in a particular country's port(s) when VDS vessel days are no longer available and the fleet must move fishing activities elsewhere<sup>45</sup>. It is also possible that in some cases a port that is attractive for some of the reasons set out in Section 2 may still be able to capture some of the rent in the fishery through transshipment fees *without* the actual fishing having taken place in the country's EEZ.

Whether or not to increase purse seine transshipment fees is, of course, a national prerogative. Rather than advocate one course of action over another, it is more appropriate here to set out the arguments for and against so as to illuminate some of the important issues that PICs may face if this question is raised at the national or regional level.

#### The Case for Increasing Levels of Purse Seine Transshipment Fees

The current gross revenue obtained by the PICs from transshipment fees levied on transshipment operations is estimated in Section 3. With the exception of an increase in per transshipment fees from \$600 to \$1,500 in the Marshall Islands in 2010, transshipment fee levels in other ports have remained constant for at least the last 10 years or so<sup>46</sup>.

Overall, the levels of transshipment fees have hardly changed over the past 10- 15 years and continue to represent a very small percentage of catch value.

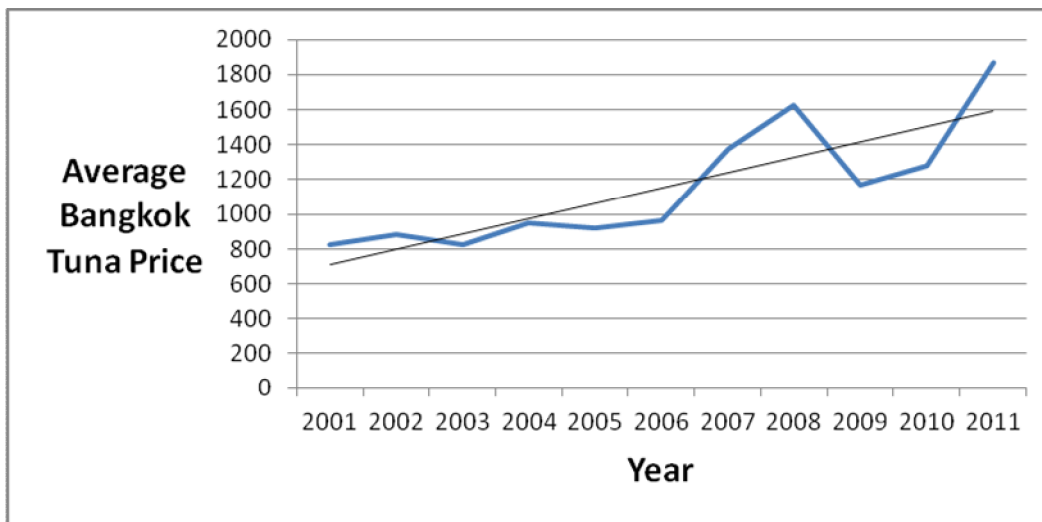
<sup>45</sup> This is reported by one local agent in Honiara to have occurred in there when Solomon Islands used up its vessel day allocation in 2011.

<sup>46</sup> In the case of Solomon Islands, the transshipment fee was noted as US\$2 as early as 1998 (McCoy and Gillett, 1998).

In 2010 the weighted CNF Bangkok price for purse seine tuna (80 percent skipjack, 20 percent yellowfin) is estimated to have been around \$1,284 per ton<sup>47</sup>. In 2011 this estimate increased to \$1,868. Those PIC governments that charged a per ton fee (Pohnpei, Kiribati, and Solomon Islands) were receiving about 0.10 to 0.23 percent of this value in direct financial benefits through such fees. The Marshall Islands, even though it charges on a per transshipment basis, falls in this range as well.

The prices paid for skipjack and yellowfin on world markets continues to trend upward and is forecast to continue to rise as a result of tightened supplies and higher energy costs. Figure 9 below depicts the trend in Bangkok tuna prices from 2001 to 2011, a period during which current PIC transshipment fees were in place but did not increase<sup>48</sup>.

**Figure 9 Average Bangkok Purse Seine Tuna Price, 2001—2011**



Data Source: FFA

Of course, tuna prices do not tell the entire story since some vessel operating costs, particularly fuel costs, also rose significantly during the period. A detailed analysis of all purse seine fishing costs in the WCPO is not possible here; however an indication of the overall economic health of the capture sector of the WCPO purse seine industry can be judged by assessing the increase in the number of vessels added to the fishery.

The number of purse seiners operating in the fishery was reported to be relatively stable up until 2006: in the range of around 180- 220 vessels. The succeeding four years saw a large increase in vessel numbers to a point where there were a reported 280 vessels operating in the Convention Area in 2010 (Williams and Terawasi, 2011). There were 28 vessels that were built and entered the fishery after 2005, representing an estimated investment of more than \$400 million.

As discussed in Section 2, shipping agents in ports where transshipment fees were charged did not consider that current fees were hindering the port's ability to attract transshipment business.

<sup>47</sup> Prices in the FFA Canning Grade Tuna Database Summary are indicative only, reflecting mid-point estimates of prices paid as obtained from a range of sources.

<sup>48</sup> The exception being the Marshall Islands which increased fees in 2010.



The fact that there is not a large variation in charges among the four major ports where fees are in place probably contributes to this situation. Thus if transshipment fees are increased, large increases imposed unilaterally by one port should probably be avoided.

### The Case Against Increasing Levels of Purse Seine Transshipment Fees

Even though there appears to have been adequate justification for PICs to adjust transshipment fees upwards for at least the last 5 years, there seems to have been little attempt to do so. Three major reasons for this situation were cited or implied by fisheries officials in several countries during the course of the study:

- Resistance from the industry to any increase in transshipment fee level
- Concern of losing business to other ports with lower fees
- Lack of authority for imposition of transshipment levies by the department or ministry in charge of fisheries

Taken individually, these three concerns do not appear to be overly difficult to overcome. They are however intertwined, and taken together it is understandable that they might discourage PIC attempts to increase fees on a unilateral basis.

The fishing industry's resistance to an increase in their costs from a discretionary fee such as that for transshipment is to be expected. The concern of the individual PICs of losing transshipment business should be tempered by consideration of the multiple reasons for the industry's choice of transshipment port that were described in Section 2. When the industry ceases to utilize a particular port for transshipment as was the case in Chuuk in the mid-1990s, the transshipment fee level alone was likely not the sole reason. Other considerations in the Chuuk case were linked to a lack of port efficiency, security, unfavorable logistics and lack of available amenities as all likely contributors to such a decision.

The concern of a PIC in potentially losing business to other ports on the basis of transshipment fee levels could be eliminated by an agreement among the relevant PICs to standardize and charge transshipment fees at the same level in all ports, even those that may be experiencing very little or no transshipment at present. This approach would require an arrangement at the multi-national level such as a PNA subsidiary arrangement that would ensure adherence of all parties to the arrangement. A significant hurdle is that one country, PNG, does not charge any transshipment fees at present and would have to be persuaded to do so at the level(s) agreed by the other parties.

There are other problems as well that may surface due to the nature of port administration in the various PICs. Most, but not all, ports are managed nationally by statutory authorities. In countries where an entity other than a national one exerts control over port management, it may be difficult for the national government to guarantee adherence to any regional arrangement on transshipment fee levels.

### **5.2.2 Require Landing of all Purse Seine Catch for Processing or Transshipment in PIC Ports**

As noted in Section 2, there were 229,532 tons of DWFN purse seine-caught tuna that were not unloaded at PIC ports in 2010. This represents about 19 percent of all tuna unloaded by DWFN purse seiners in 2010.

From the unloading data held by SPC, it is highly likely that all of the unloadings outside PICs described in Section 2.1.7 were at processing ports. Redirecting the largest amounts of those unloadings to PIC ports would require significant political leverage and/or resolve with Japan (64 percent of unloadings) and the US (28 percent) that is beyond the scope of this report to address.

With respect to unrealized gross revenue from transshipment, the volume unloaded at all ports outside the PICs equates to about \$372,000 in PIC government transshipping fees at the average of \$1.62 per ton described in Section 3. At an average of 712 tons per transshipment, the volume unloaded outside the PICs equates to about 322 additional transshipments. Total gross revenue lost by these transshipments could be from \$837,000 up to \$4.7 million, depending on which of the four ports charging transshipment fees might have been used. Any transshipment in PNG ports where no transshipment fees are charged would lower the revenue accordingly.

### 5.2.3 Compulsory Longline Transshipment in Port

If compulsory in port transshipment is required of longliners, the major income streams to PIC unloading ports would initially be those from government-related port fees and transshipment fees. In the case of DWFN longliners, private sector gross revenue would not be greatly increased because as is the situation with purse seine transshipment, the carriers that currently provide all necessary supplies would continue to do so in the short to medium term.

It is not possible to estimate the potential gross revenue that might be realized by PICs with any degree of accuracy because the operating economics of the fleets concerned are not well known, and except for one PIC there are no established transshipment fees for longline catch.

The number of vessels that might transship is also difficult to estimate. For the DWFN fleets engaged in the tropical distant-water bigeye/yellowfin target longline fishery described in Section 2, it is possible that 300- 400 or more Korean, Taiwanese, Chinese and Japanese DWFN longline vessels might be expected to transship in port under compulsory conditions. This could result in more than 1,000 port calls, assuming that patterns and frequency of operation are not greatly affected by such a requirement, a situation that is not assured by any means.

Even if compulsory in port transshipment resulted in only 500 port calls by DWFN longliners, that figure represents a significant increase in overall port activity and resultant fees. Using a highly conservative figure of half the PIC gross revenue generated in port by purse seiners utilizing the PIC port with the lowest gross revenue in 2010, it is estimated that 500 longline in port transshipments would generate gross revenue exclusive of transshipment fees in the range of \$650,000 to \$1.7 million. Transshipment fees would add to those amounts.

In the longer term, some PIC ports could benefit from containerization of transshipped fish from DWFN longliners. The requirements to attract such operations include:

- sufficient available wharf space for unloading catches and filling containers
- adequate storage space for containers
- sufficient and reliable electricity
- sufficient commerce to induce the required overseas shipping
- competitive shipping costs to processing or marketing destinations

Transshipment in ports with sufficient infrastructure to support containerized shipments could increase, but at the expense of catch that would otherwise be transshipped to carriers in other ports.

It should be recognized that a complete ban on at sea transshipment by longliners could adversely affect domestic opportunities for development. For example, in addition to the domestic-based longline operations that consider at sea transshipment a necessity as described in Section 2, some Fiji-based longline operators foresee a time when they could enter the southern swordfish longline fishery where transshipment at sea would be an advantage.

#### **5.2.4 Use of Local Shipping Agents**

The use of shipping agents is an integral part of the transshipping business. Insuring that businesses operating in the shipping agency sector are competent and that the local economy retains the maximum benefit from their activities is one way to increase PIC gross revenue.

In some ports, it is reported that foreign investors who may not be associated with the fishing industry operate shipping agencies for only vessels of their nationality as a side line to their core business. Some foreign companies that operate vessels or shore based facilities also set up agency businesses, alleviating the need for reliance on established local agents. This is currently the situation in only two PIC transshipment ports, but there are larger implications for gross revenue as more processing is developed onshore.

In one PIC port the Port Authority periodically authorizes agents who are eligible to service international shipping as well as the fishing industry. The intention is to maintain high professional standards and with them the reputation and attractiveness of the port to the shipping business. A Port Authority official in another country expressed the desire to have the same kind of authorization power. His justification was that there are too many non-citizens who do not understand the rules and regulations of the port and who do not know much about the shipping business, and yet they were acting on behalf of transshipping foreign fishing vessels,

## 6 CONCLUDING COMMENTS

### 6.1 MAJOR ISSUES ADDRESSED IN THE STUDY

#### Legal Framework

The legal framework for the regulation of transshipment is still evolving, particularly at the WCPFC level where contentious issues still surround high seas longline transshipment. The results from the past two years or so of monitoring high seas transshipment and the resultant reporting by flag states is likely to have a large impact on how this issue is handled in the near term.

If, as some expect, detailed reporting of high seas longline transshipment by flag states is poor and observer coverage does not result in significantly better understanding of the catches in the fishery, efforts will likely be made to ban high seas longline transshipment and require all transshipping to be done in EEZs or in port.

Possible revisions to CMM 2009-6 discussed in the coming months should be made considering the development opportunities for PIC-based longline activities that may require transshipment at sea to ensure their economic viability. Discussions should also include the desires of some PICs to expand their current domestic fleets into high seas fishing, such as the southern swordfish fishery that may require at sea transshipment for economic viability as well.

#### Transshipment Activities

Purse Seine transshipment activities by DWFN vessels have coalesced around 5 main ports and are not expected to greatly expand. It is possible that Fiji could see increased purse seine transshipment by purse seiners fishing in the eastern portion of the Convention Area, owing to the services and supplies available in that port.

From reports to WCPFC and elsewhere it is generally understood that the high seas longline fleets described as %large scale+ are undergoing attrition due to unfavorable operating economics. At the same time smaller, newer vessels with the same or greater fishing capacity are entering both the southern albacore fishery, as well as the tropical bigeye/yellowfin target fishery.

These developments need to be closely monitored and better understood, because transshipment at sea as well as in port is essential for the newer and smaller vessels to remain financially viable.

#### The Opportunities to Increase Benefits from Transshipment

The intention of this study was to measure a specific benefit, gross revenue to government and the private sector, across the major transshipment ports. Several estimates of expenditures in port by purse seine vessels engaged in transshipping have been made by FFA studies since the institution of the bans on at sea transshipment<sup>49</sup>. Those studies, while not uniform in nature or covering all ports used in transshipment, provide useful aggregate estimates of the various

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<sup>49</sup> In chronological order: Forau (1995) Tong and Rodwell (1995), SPPF (2002) and Hamilton et al. (2009).

government fees and charges relating to transshipment as well as revenue in the private sector from the sale of goods and services.

When the estimates from previous studies are adjusted for US dollar inflation, all except FSM fall within the range of estimated gross revenue for the ports studied in this report. This leads one to conclude that there has not been any real increase in monetary benefits from transshipment in port over the last 18 or so years (Table 6).

**Table 6 Comparison of Past Estimates of non-Fuel PIC Monetary Benefits and Estimated Gross Revenue Range from this Study**

Study	Port Studied/Data Year	Estimated PIC Monetary Benefits Per Transshipment (USD)	Adjusted for US Dollar Inflation to 2012	This Study Estimated Gross Revenue Range (USD)
Forau (1995)	Honiara/1994	\$3,914	\$6,076	\$5,456- \$7,956
Tong and Rodwell (1995)	Chuuk/1995	\$3,610	\$5,596	\$6,293- \$9,093 <sup>a</sup>
SPPF (2002)	Majuro	\$9,245	\$11,810	\$9,500- \$14,500
Hamilton (2009)	Majuro	\$9,430	\$10,101	\$9,500- \$14,500

<sup>a</sup>Pohnpei

This demonstrates that not only have the levels and resultant revenue from transshipment fees not increased, but gross revenue from other government fees and that in the private sector have also not increased in real terms.

This is not necessarily a negative for PICs, because at \$9.7 million to \$15.9 million the range of total gross revenue from transshipment is still very large, and is certainly larger than overall figures in the past due to increases in fleet sizes and resultant increases in transshipment activity.

People in PICs involved in transshipment such as agents and others in the industry, Fisheries departments, and port authorities are often keenly aware of the magnitude of total gross revenue generated by transshipment in port. Some policy makers and politicians in PICs are not fully cognizant of the levels of gross revenue generated, or if they are aware tend to become complacent and expect that revenue levels will be maintained irrespective of the multiple factors that determine transshipment location and activity.

There thus needs to be some publicity and information dissemination on the revenue from transshipment, for one author has noted when discussing transshipment in the context of overall benefits from fisheries:

ō this highlights an important issue in fishery benefits of the region: the sector is not active in most countries at advertising its importance. In the tourism sector it is likely

that a benefit of the magnitude of that from transshipping would be publicized with enthusiasm (Gillett 2009).

The fact there has been a lack of any significant increases in gross revenues from in port transshipment over an 18 year period demonstrates that there is not much more in terms of goods or services from the private sector that PIC ports can offer<sup>50</sup>.

At the national level, gross revenue may increase or decrease from time to time depending on fishing conditions and other factors that determine the choice of transshipment port. With the VDS limiting overall effort in the purse seine fishery, it is highly unlikely PICs will see any aggregate increases to gross revenue unless there are increases in transshipment fees and other government fees.

The potential for some sort of agreement on standardizing and charging transshipment fees at the same level in all ports seems remote given the obstacles described in Section 5 and the preoccupation of PNA with other issues and initiatives. Since transshipment fees come from economic rent in the fishery and there already exists a mechanism (VDS) to capture as much of that rent as possible, it does not appear likely that PICs would pursue transshipment fee standardization as a group.

The assumed inability to pursue an agreement among PICs on the means to standardize transshipment fee levels is unfortunate for at least one reason. Some PICs use a portion of transshipment fees to support monitoring and other fisheries management efforts. Re-directing a larger portion of the rent to transshipment fees is a way to increase financial support to those efforts.

#### Monitoring of Transshipment:

At the present time, transshipment volumes are diligently recorded from the documentation described in Section 4 by at least one department in each PIC when the data are used for the calculation of fees. Obtaining that information in some usable form from some PICs, however, can be a challenge.

When transshipment fees are not charged (PNG) or done on a per transshipment basis (Marshall Islands), internal systems are in place that insure the data are provided before the monitors are paid.

It is highly unlikely that Fisheries departments will obtain the necessary manpower to actually monitor all purse seine transshipments in port by tallying each cargo net on a given transshipment. The monitoring function will likely continue to consist primarily of the collection of transshipment documentation, and checking, comparing, or copying multiple documents that are supposed to contain the same level of data.

It is worth exploring technologies that may become available that would lessen the level of human input in the monitoring process. An example would be the use of cargo scales with recording memories that could be downloaded and alleviate the need for constant tallying.

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<sup>50</sup> This is not to say that the private sector has failed to respond to all opportunities presented by transshipment; however in many cases (such in the example of the provision of salt) the private sector responses were uncompetitive and resulted in inefficiencies that were reduced or eliminated by direct involvement of the tuna industry.

There are some diligent individuals in some Fisheries departments who faithfully collect and enter transshipment data into data bases maintained at the national level. They are often discouraged because their supervisors and heads of departments take no interest in the data, do not ask for analyses or summaries and generally ignore its existence. It is believed that this is not because the data has no use, but rather is given a lower priority than it should have for fishery management purposes. The implementation of recommendations made in Section 4 would be greatly enhanced if supervisors and heads of departments in Fisheries departments took an interest in the data produced and directed efforts towards correcting quality problems that might be found.

## 6.2 DEVELOPMENTS IN THE FUTURE THAT MAY AFFECT TRANSSHIPMENT

There are several ongoing developments that may affect transshipment that bear watching and increased understanding on the part of PICs.

### Increases to Longline Transshipment by Container

Several ports are improving infrastructure that will enable the use of containers for the transshipment of frozen longline-caught fish. The largest scale development may occur at Noro in Solomon Islands. Two other ports, Majuro and Tarawa, are improving their capabilities to handle refrigerated containers exclusively for fisheries transshipment. Whether or not smaller ports can provide economically-viable containerized transshipment remains to be seen.

The increase in transshipments by container is linked to changes in the operational patterns of some fleets in the South Pacific offshore albacore fishery. The introduction of a newer generation of smaller longline vessels that possess many of the capabilities of much larger vessels has contributed to this trend. The changes are driven by both operating economics and emergence and expansion of demand for a semi-ULT tuna product of -40 to -45 degrees C. Most new Chinese vessels also hold some of the catch in refrigerated seawater (RSW) from the last 7 to 10 sets as fresh. Many of these newer vessels are operated by Chinese companies based in Suva. They are prohibited from transshipping at sea, however may unload into containers held at semi-ULT temperatures for export.

### Shark Ban/Sanctuary Impacts

Some PICs have declared a shark sanctuary within their EEZ that prohibits certain types of gear onboard longline vessels and the retention of any sharks. PICs that do so but also continue to allow longline transshipment at sea would appear to be working at cross-purposes. The financial incentives for vessels to retain sharks are strong, and enabling transshipment appears to encourage rather than deter the retention of sharks.

Agents in one PIC that recently declared their EEZ a shark sanctuary and prohibits any sharks or shark parts onboard fishing vessels said that initial plans for in port transshipment and rest between trips by Taiwanese longliners had been scrapped. The ban also caused the cessation of visits by DWFN longliners from Japan to change crews and obtain supplies in that port.

Shark bans can also have an impact on purse seine transshipment. In June, 2012 three purse seine vessels were charged with possession of shark fins and prosecuted in Majuro. While the level of fines was not large, \$55,000 for one Spanish seiner is an example, the desire of vessels

to retain fins (and in the case of Spain likely the carcasses as well) may be enough to make them chose an alternative transshipment site in the future.

#### MSC Chain of Custody Activities for Certification of PNA Free School Skipjack

According to the PNA Office in Majuro, observers onboard vessels that intend to have the catch certified under the PNA free school skipjack provisions, must stay and monitor the entire transshipment for Marine Stewardship Council certification purposes.

#### Impact of VDS on Transshipment

Reference has already been made in an earlier Section on the impact on transshipment in one PIC port because of a lack of vessel days for the country and a subsequent lack of transshipping. How fishery access obtained through VDS may affect other ports, or indeed if it will have any impact at all, is highly speculative at present.

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## APPENDIX 1 Transshipment Provisions Contained in the WCPF Convention

### PART I GENERAL PROVISIONS

#### *Article 1* *Use of terms*

(h) “transshipment” means the unloading of all or any of the fish on board a fishing vessel to another fishing vessel either at sea or in port.

### PART VII REGIONAL OBSERVER PROGRAMME AND REGULATION OF TRANSHIPMENT

#### *Article 29* *Transshipment*

1. In order to support efforts to ensure accurate reporting of catches, the members of the Commission shall encourage their fishing vessels, to the extent practicable, to conduct transshipment in port. A member may designate one or more of its ports as transshipment ports for the purposes of this Convention, and the Commission shall circulate periodically to all members a list of such designated ports.

2. Transshipment at a port or in an area within waters under the national jurisdiction of a member of the Commission shall take place in accordance with applicable national laws.

3. The Commission shall develop procedures to obtain and verify data on the quantity and species transhipped both in port and at sea in the Convention Area and procedures to determine when transshipment covered by this Convention has been completed.

4. Transshipment at sea in the Convention Area beyond areas under national jurisdiction shall take place only in accordance with the terms and conditions set out in article 4 of Annex III to this Convention, and any procedures established by the Commission pursuant to paragraph 3 of this article. Such procedures shall take into account the characteristics of the fishery concerned.

5. Notwithstanding paragraph 4 above, and subject to specific exemptions which the Commission adopts in order to reflect existing operations, transshipment at sea by purse-seine vessels operating within the Convention Area shall be prohibited.

### ANNEX III. TERMS AND CONDITIONS FOR FISHING

#### *Article 4* *Regulation of transshipment*

1. The operator shall comply with any procedures established by the Commission to verify the quantity and species transhipped, and any additional procedures and measures established by the Commission with respect to transshipment in the Convention Area.

2. The operator shall allow and assist any person authorized by the Commission or by the member of the Commission in whose designated port or area a transshipment takes place to have full access to and use of facilities and equipment which such authorized person may determine is necessary to carry out his or her duties, including full access to the bridge, fish on board and areas which may be used to hold, process, weigh and store fish, and full access to the vessel’s records, including its log and documentation for the purpose of inspection and photocopying. The operator shall also allow and assist any such authorized person to remove samples and gather any other information required to fully monitor the activity. The operator or any member of the crew shall not assault, obstruct, resist, delay, refuse boarding to, intimidate or interfere with any such authorized person in the performance of such person’s duties. Every effort should be made to ensure that any disruption to fishing operations is minimized during inspections of transshipments.

**Appendix 2 Ranges of Estimated Gross Revenue from Purse Seine Transshipment in 5 PIC Ports, 2010**

	<b>Honiara</b>	<b>Rabaul</b>	<b>Majuro</b>	<b>Pohnpei</b>	<b>Tarawa</b>
Avg Per trip Transshipment Fee	1,456	0	1500	893	2,571
Other government fees and charges (\$)	2,000- 3,000	600- 2,200	4,000- 5,000	3,000- 4,000	4,000- 6,000
Private Sector Goods and Services	2,000- 3,500	2,000- 4,500	4,000- 8,000	2,400- 4,200	1,000- 2,000 <sup>a</sup>
<b>RANGE</b>	<b>\$5,456- \$7,956</b>	<b>\$2,600- \$6,700</b>	<b>\$9,500- \$14,500</b>	<b>\$6,293- \$9,093</b>	<b>\$8,571- \$10,571</b>

<sup>a</sup>For 3 trips or about 3 percent of transshipments in 2010, the amount of private goods and services increased by about \$10,000 to \$12,000 because of the use of stevedores by Spanish vessels.

**Appendix 3 Solomon Islands Purse Seiner Transshipment Logsheets**  
**FISHERIES DIVISION**

Licensing, Surveillance and Enforcement Section

**SOLOMON ISLANDS GOVERNMENT**

**PURSE SEINER TRANSSHIPMENT LOGSHEET**

VESSEL NAME: í í í í í í í í í í í í . RADIO CALL  
 SIGN: í í í í í í í í í í í í

COUNTRY OF ORIGIN: í í í í í í í í í í .. REGIONAL REGISTER  
 NUMBER: í í í í í í ...

**FISHING TRIP DETAILS:** START:..... END:.....

**TRANSHIPMENT:** PORT: í í í í í í í í COMMERCEMENT DATE AND TIME: í í í í í í .  
 COMPLETION DATE AND TIME: í í í í í í í í í í .....

**TRANSHIP TO:** CARRIER VESSEL NAME: í í í í í í í í í .....

RADIO CALL SIGN: í í í .....  
 REGIONAL REGISTER NO: í í í í í í í í í .....

AGENT: .....

NAME AND ADDRESS OF COMPANY ACCEPTING FISH:  
 í

í ..

DESTINATION OF FISH: í ..

QUANTITY TRANSSHIPPED

	SKJ	YFT		BET		OTHERS	TOTAL
		Ö9kgs	>9kgs	Ö9Kgs	>9Kgs		
ACCEPTED							
REJECTED							

REASON FOR REJECTION (SPECIFY) í

SIGNATURES:

VESSEL MASTER  
 MASTER

FISHERIES OFFICER

CARRIER VESSEL



## **Appendix 5 SPC Explanation of the Benefits of Collecting Transshipment Data**

- Unloadings data provide an independent accounting of the catch taken during a fishing trip and can therefore be used to verify and correct logsheet data
- The commercial value of total unloaded catch can be determined
- Discourages illegal transshipments
- Can be used to cross-check transshipped amounts to expected revenue associated with the transshipment fee
- Can provide a means of estimating total catch of a fleet in the absence of logsheet data
- Can assist in showing the benefits to the local economy
- In the longline fishery, unloading at port are usually the actual weighed catch, which is more accurate than logsheet data (visual estimates)

Source: Presentation by SPC at the Sixth Tuna Data Workshop (TDW-6), 23-27 April 2012, SPC, Noumea, New Caledonia