

# Data Summaries related to the tropical **LOGLINE** Transshipment Activity in the **WCPFC** Area

*Internal Document - Confidential*

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## 1. Introduction

In March 2021, WCPFC Members approved the “[SCOPE OF WORK FOR THE TRANSHIPMENT INFORMATION ANALYSIS IN SUPPORT OF THE REVIEW OF CMM 2009-06](#)”. The terms of reference for this study requires, *inter alia*, a Data Preparation stage (Phase 1) and a Data Compilation and Analysis stage (Phase 2), which are outlined in [Section 1.1 Specific Questions to be addressed by the Analysis](#) below.

This document responds to the requirements for Phase 1 and Phase 2 for the LONGLINE FISHERY (noting that a separate document deals with the purse seine fishery). This document is confidential and not aimed for widespread distribution; it’s purpose is to provide information and provide reference material necessary to proceed with Phase 3 of this study outlined in the scope of work document.

The approach taken is to present a very broad range of data summaries, graphs and maps to provide as much information as possible for consideration, to ensure it covers the requirements in the terms of reference for this study. This document also provides:

- (i) a description of the data sets compiled to assist in any additional analyses for this study; and
- (ii) examples of where the data summaries could be further expanded, as required. A range of data visualisation approaches have been provided herein and further graphs and maps can be provided based on requirements and preferences.

1.1. Specific Questions to be addressed by the Analysis

In line with the purpose and scope of the Review, and in considering and analyzing the information available to WCPFC and related to transshipment activity in the Pacific, the Analysis should address the following questions for the period from the entry into force of CMM 2009-06 to the end of 2019:

**Phase 2: Data Compilation and Analysis**

Criteria	Longline	
	Relevant	Tables/Figures
1. What are the reported quantities and species of both at-sea (for high seas and EEZs separately) and in-port transshipments within the scope of CMM 2009-06? Are there any apparent spatial, temporal, or species trends over time?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 1(a). Breakdown of Transshipment Events by broad area categories, 2010-2019</li> <li>– Table 1(b). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT, by species, 2015-2019</li> <li>– Table 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT by LONGLINE FLEET</li> <li>– Table 8. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS IN PORT, by LONGLINE FISHING FLEET</li> <li>– Table 9. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</li> <li>– Table 10. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</li> <li>– Table 11. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by FISHING FLEET</li> <li>– Table 12. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by CARRIER FLEET</li> <li>– Figure 1. Total ANNUAL longline catch TRANSHIPPED AT SEA compared to estimated catch UNLOADED in PORT</li> <li>– Figure 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT, by FLAG and species</li> <li>– Figure 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species for each CARRIER FLAG</li> <li>– Figure 9. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas (see Figure 8, by LONGLINE FISHING FLEET</li> <li>– Figure 10. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas, by CARRIER FLEET</li> <li>– Figures 11 (a)–(w). Annual Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 12 (a)–(u). Annual Spatial distribution of ALBACORE TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 13 (a)–(u). Annual Spatial distribution of SWORDFISH CATCH, for the following metrics by fishing-vessel FLAG</li> </ul>
2. What are the flag CCMs of the offloading and receiving vessels involved in at-sea and in-port transshipments in the WCPF Convention Area? Are there any apparent spatial, temporal, or species trends over time?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT by LONGLINE FLEET</li> <li>– Table 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species and CARRIER FLEET</li> <li>– Table 5. Frequency of transshipments, vessels and average total catch for longline TRANSHIPMENTS AT SEA, by LONGLINE FISHING FLEET</li> <li>– Table 6. Frequency of transshipments, vessels and average total catch for longline TRANSHIPMENTS AT SEA, by CARRIER FLEET</li> <li>– Table 8. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS IN PORT, by LONGLINE FISHING FLEET</li> </ul>

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		<ul style="list-style-type: none"> <li>– Table 9. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</li> <li>– Table 10. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</li> <li>– Table 11. Frequency of transhipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by FISHING FLEET</li> <li>– Table 12. Frequency of transhipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by CARRIER FLEET</li> <li>– Figure 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT, by FLAG and species</li> <li>– Figure 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species for each CARRIER FLAG</li> <li>– Figure 5. Frequency of transhipments (top–stacked bar plot) and average transhipped catch</li> <li>– Figure 6 Frequency of transhipments (top–stacked bar plot) and average transhipped catch</li> <li>– Figure 9. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas (see Figure 8, by LONGLINE FISHING FLEET</li> <li>– Figure 10. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas, by CARRIER FLEET</li> <li>– Figures 11 (a)–(w). Annual Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 12 (a)–(u). Annual Spatial distribution of ALBACORE TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 13 (a)–(u). Annual Spatial distribution of SWORDFISH CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 14 (a)–(d). Quarterly Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH for selected fishing FLEETS</li> <li>– Figures 15 (a)–(d). Quarterly Spatial distribution of ALBACORE TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 16 (a)–(d). Quarterly Spatial distribution of SWORDFISH CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 17 (a)–(d). Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 18 (a)–(d). Spatial distribution of ALBACORE TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 19 (a)–(d). Spatial distribution of SWORDFISH CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 20 (a)–(e). Spatial distribution of Longline AT SEA TRANSHIPPED catch by CARRIER-vessel FLAG and SPECIES</li> </ul>
3. What are the reported quantities, locations and frequency of at-sea transshipments inside the Convention Area? Are there any hotspots and/or apparent temporal trends?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT by LONGLINE FLEET</li> <li>– Table 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species and CARRIER FLEET</li> <li>– Table 5. Frequency of transhipments, vessels and average total catch for longline TRANSHIPMENTS AT SEA, by LONGLINE FISHING FLEET</li> <li>– Table 6. Frequency of transhipments, vessels and average total catch for longline TRANSHIPMENTS AT SEA, by CARRIER FLEET</li> <li>– Table 8. Frequency of transhipments, vessels and catch by species for longline TRANSHIPMENTS IN PORT, by LONGLINE FISHING FLEET</li> <li>– Table 9. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</li> <li>– Table 10. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</li> </ul>

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4. What are the reported quantities, locations and frequency of at-sea transshipments outside the Convention Area? Are there any there any hotspots and/or apparent temporal trends?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 1(a). Breakdown of Transshipment Events by broad area categories, 2010-2019</li> <li>– Table 9. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</li> <li>– Table 10. Frequency of transhipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</li> </ul>

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5. What is the proportion of EEZ vs high seas catch of at-sea transshipments covered by CMM 2009-06? What proportion of transshipment in the Convention Area occurs in each of the high seas pockets, each year? What are the flag CCMs of the offloading and receiving vessels that transship in the high seas pockets? Are there any apparent trends over time?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <p>Table 1(a). Breakdown of Transshipment Events by broad area categories, 2010-2019</p> <p>Table 9. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</p> <p>Table 10. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</p> <p>Table 11. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by FISHING FLEET</p> <p>Table 12. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by CARRIER FLEET</p> <p>Figure 1. Total ANNUAL longline catch TRANSHIPPED AT SEA compared to estimated catch UNLOADED in PORT</p> <p>Figure 9. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas (see Figure 8, by LONGLINE FISHING FLEET</p> <p>Figure 10. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas, by CARRIER FLEET</p> <p>Figures 11 (a)–(w). Annual Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics by fishing-vessel FLAG</p> <p>Figures 12 (a)–(u). Annual Spatial distribution of ALBACORE TUNA CATCH, for the following metrics by fishing-vessel FLAG</p> <p>Figures 13 (a)–(u). Annual Spatial distribution of SWORDFISH CATCH, for the following metrics by fishing-vessel FLAG</p>
6. Are there discrepancies in the quantities, locations, or frequencies of transshipments as reported to the Secretariat?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 7. Coverage of longline logsheet trips linked to AT SEA TRANSHIPMENT events by LONGLINE FLEET</li> <li>– Figure 7. Coverage (%) of longline logsheet trips linked to AT SEA TRANSHIPMENT events by LONGLINE FLEET</li> <li>– Figure 26. Example tracks of longline carrier trips with potential missing or erroneous transshipment events</li> <li>– Figure 27. Example tracks of longline carrier trips with potential missing VMS data or erroneous transshipment event data</li> <li>– Figure 28. Annual frequency of “potential” at sea transshipments not reported to the WCPFC</li> <li>– Figure 29. Comparison of ALBACORE TUNA catch reported by (i) carrier as transhipped catch and (ii) vessel logsheet</li> <li>– Figure 30. Comparison of BIGEYE TUNA catch reported by (i) carrier as transhipped catch and (ii) vessel logsheet</li> <li>– Figure 31. Comparison of YELLOWFIN TUNA catch reported by (i) carrier as transhipped catch and (ii) vessel logsheet</li> <li>– Figure 32. Example VMS tracks of a carrier vessel (red) and longline vessels (blue), linked to a reported at-sea transshipment event</li> <li>– Figure 33(i)–(vii). Examples of VMS tracks of a carrier vessel (red) and longline vessels (blue), for potential non-reported at-sea transshipment events</li> </ul>

Criteria	Longline	
	Relevant	Tables/Figures
7. Provide an evaluation as to whether data indicate that unreported at-sea transshipment has or may have occurred in the Convention Area?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Figure 26. Example tracks of longline carrier trips with potential missing or erroneous transshipment events</li> <li>– Figure 27. Example tracks of longline carrier trips with potential missing VMS data or erroneous transshipment event data</li> <li>– Figure 28. Annual frequency of “potential” at sea transshipments not reported to the WCPFC</li> <li>– Figure 32. Example VMS tracks of a carrier vessel (red) and longline vessels (blue), linked to a reported at-sea transshipment event</li> <li>– Figure 33(i)–(vii). Examples of VMS tracks of a carrier vessel (red) and longline vessels (blue), for potential non-reported at-sea transshipment events</li> </ul>
8. What is the gear-type and species of fish transshipped? Are there any hotspots and/or apparent spatial, temporal, or species trends over time?	YES	<p>Tables and Figures specifically responding to this criterion include,</p> <ul style="list-style-type: none"> <li>– Table 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT by LONGLINE FLEET</li> <li>– Table 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species and CARRIER FLEET</li> <li>– Table 8. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS IN PORT, by LONGLINE FISHING FLEET</li> <li>– Table 9. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by FISHING FLEET</li> <li>– Table 10. Frequency of transshipments, vessels and catch by species for TRANSHIPMENTS AT SEA in HIGH SEAS, by CARRIER FLEET</li> <li>– Table 11. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by FISHING FLEET</li> <li>– Table 12. Frequency of transshipments, vessels and catch by species for longline TRANSHIPMENTS AT SEA in EEZs, by CARRIER FLEET</li> <li>– Figure 2(a)–(e). Total ANNUAL longline catch TRANSHIPPED AT SEA and UNLOADED in PORT, by FLAG and species</li> <li>– Figure 4(a)–(g). Total ANNUAL longline catch TRANSHIPPED AT SEA, by species for each CARRIER FLAG</li> <li>– Figure 9. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas (see Figure 8, by LONGLINE FISHING FLEET</li> <li>– Figure 10. Frequency of longline TRANSHIPMENTS AT SEA in HIGH SEAS areas, by CARRIER FLEET</li> <li>– Figures 11 (a)–(w). Annual Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 12 (a)–(u). Annual Spatial distribution of ALBACORE TUNA CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 13 (a)–(u). Annual Spatial distribution of SWORDFISH CATCH, for the following metrics by fishing-vessel FLAG</li> <li>– Figures 14 (a)–(d). Quarterly Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH for selected fishing FLEETS</li> <li>– Figures 15 (a)–(d). Quarterly Spatial distribution of ALBACORE TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 16 (a)–(d). Quarterly Spatial distribution of SWORDFISH CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 17 (a)–(d). Spatial distribution of BIGEYE AND YELLOWFIN TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 18 (a)–(d). Spatial distribution of ALBACORE TUNA CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 19 (a)–(d). Spatial distribution of SWORDFISH CATCH, for the following metrics for selected fishing FLEETS</li> <li>– Figures 20 (a)–(e). Spatial distribution of Longline AT SEA TRANSHIPPED catch by CARRIER-vessel FLAG and SPECIES</li> </ul>

Criteria	Longline	
	Relevant	Tables/Figures
		<ul style="list-style-type: none"> <li>– Figure 22. Example tracks of longline carrier trips with at sea transshipments events in central-eastern tropical WCPFC high seas areas</li> <li>– Figure 23. Example tracks of longline carrier trips with at sea transshipments events in EEZ and high seas in central-eastern tropical WCPFC area.</li> <li>– Figure 24. Example tracks of longline carrier trips with at sea transshipments events in high seas in southern WCPFC areas</li> <li>– Figure 25. Example tracks of longline carrier trips with at sea transshipments events in the high seas in the western tropical WCPFC area</li> <li>– Figure 28. Annual frequency of “potential” at sea transshipments not reported to the WCPFC</li> </ul>