



**STATISTICS SPECIALIST WORKING GROUP  
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**DATA RELATING TO PURSE SEINE EFFORT ON THE HIGH SEAS  
AND IN THE ZONES OF NON-PNA MEMBER CCMs**

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**WCPFC/SC4/ST-SWG/2008/WP-4  
25<sup>th</sup> July 2008**

**Introduction**

1. Para. 325(d) of the Summary Record of the Fourth Regular Session of the Commission (WCPFC4) states:

“the Executive Director will commence a process in early 2008 to support the implementation of similar measures [*sic.* VDS] to limit purse seine effort on the high seas, consistent with paragraph 9 of CMM 2005-01, and in waters under the national jurisdiction of non-PNA members of the Commission, consistent with paragraph 10(ii) of CMM-2005-01;”

2. The completion of this task requires consideration of:

- a. the unit of measurable fishing effort to apply to purse seine vessels; and
- b. the availability of data for a suggested unit of purse seine effort in the high seas and the waters under the national jurisdiction of non-PNA members of the Commission.

3. This paper considers the possibilities for the units to be used to measure purse seine effort in the WCPF Convention Area on the high seas and in waters under the national jurisdiction of non-PNA members of the Commission. It also presents the data that is currently available for purse seine effort, in fishing days, for the high seas and for the zones of non-PNA members of the Commission.

4. The Statistics Specialist Working Group (ST-SWG) is invited to verify that this data represents the best assessment of purse seine fishing effort on the high seas and in the zones of non-PNA members of the Commission currently available for the purpose described in paragraph 325 (d) of the WCPFC4 Summary Record.

**CMM-2005-01 and CMM 2006-01**

5. Conservation and Management Measure 2005-01 provides, *inter alia*, that:

8. *CCMs shall take necessary measures to ensure that purse seine effort levels do not exceed either 2004 levels, or the average of 2001 to 2004 levels, in waters under their national jurisdiction, beginning in 2006.*
9. *The Commission shall implement compatible measures as required under Article 8 of the Convention, to ensure that purse seine effort levels do not exceed 2004 levels on the high seas in the Convention Area or the total fishing capacity will not increase in the Convention Area.*
10. (i) *For those FFA Member Countries who are Parties to the Nauru Agreement, the provisions of paragraph 8 will be implemented as a Vessel Day Scheme that will limit days fished to a level no greater than 2004 levels and will be fully implemented by 1 December 2007. Until that time, the current measures under the Palau Arrangement shall remain in force.*
- (ii) *Other non-PNA member countries shall implement similar measures to limit purse seine effort in waters under their jurisdiction to no greater than 2004 levels, or to the average of 2001 to 2004 levels.*
6. Further, for the purse seine fishery between 20°N and 20°S, CMM-2006-01 requires:

*“3. Beginning in 2007, CCMs shall take necessary measures to ensure that the level of purse seine fishing effort by their vessels in areas of the high seas does not exceed 2004 levels or the average of 2001-2004.”*

### **Options to support “similar” measures**

7. The Vessel Day Scheme (VDS) uses “fishing days” as the unit of effort. Effort is scaled across three vessel length classes: those less than 50 meters (m) for which each fishing day is assigned 0.5 fishing days, those between 50 and 80m for which one fishing day is assigned one fishing day and those greater than 80m for which, for the purposes of the VDS, one fishing day is recorded as being equivalent to 1.5 fishing days. The data required to support the implementation of the VDS by PNA CCMs, as the means to comply with CMM 2005-01, is available for the period 2001-2004. Monitoring this Scheme is achieved through the FFA satellite-based vessel monitoring system (VMS).

8. The requirements of CMM 2005-01 paragraph 8, 9 and 10 (ii) is that total capacity will not increase in the Convention Area, or that purse seine fishing effort levels do not exceed 2004 levels on the high seas and that purse seine fishing effort in waters under national jurisdiction do not exceed 2004 or the average of 2001-2004 levels. CMM-2006-01 requires CCMs to ensure that level of purse seine fishing effort by their vessels in areas of the high seas does not exceed 2004 levels or the average of 2001-2004 for the area between 20°N and 20°S.

9. Paragraph 10 (ii) requires an appraisal of alternatives for achieving a “similar” outcome as envisaged at paragraph 10(i). This requires consideration of the form of a “similar” measure and whether or not adequate data is available to support the application of that measure. The only apparent alternative to using vessel days, as it applies in the VDS, is vessel numbers.

11. With the exception of certain purse seine fleets (Korea, Chinese Taipei, US, New Zealand and fleets fishing under the FSM Arrangement), the Commission’s Data Services Provider, the SPC-OFP, has not received vessel specific data (e.g. logsheets) for high seas fishing operations. Aggregated data provided by Japan and others do not reference vessels, so it is not possible to

construct estimates by vessel size class for these fleets for the high seas. This would only be possible if data is reported by vessel (e.g. as logsheet data), or grouped by vessel size class.

12. Estimates of effort limits, in fishing days, based on the data available to the SPC-OFP, are presented in Table 1. The rationale for estimates for non-WCPFC CCMs on the high seas in the WCPF Convention Area, Indonesian fleets in national waters and on the high seas and Philippine fleets in national waters is presented at Attachment A.

### **Recommendation**

13. The Statistics Specialist Working Group (ST-SWG) is invited to verify that the data presented in Table 1 represents the best assessment of purse seine fishing effort on the high seas and in the zones of non-PNA members of the Commission currently available for the purpose described at paragraph 325 (d) of the WCPFC4 Summary Record.

**Table 1. Limit estimates for the high seas and the zones of non-PNA CCMs (and non-WCPFC members) established by CMM-2005-01 and CMM-2006-01 between 20°N and 20°S (average vessel days 2001-2004 or 2004).**

Entity	Vessel days			
	National Waters		High Seas	
	2004	2001-2004	2004	2001-2004
American Samoa	-	-	-	-
Australia	-	-	-	-
Canada	-	-	-	-
China	-	-	428	200
Chinese Taipei	-	-	1,913	1,809
CNMI	-	-	-	-
Cook Islands	6	73	-	-
EU	-	-	-	17
Fiji	27	13	-	-
French Polynesia	-	1	-	-
FSM	-	-	383	257
Guam	-	-	-	-
Indonesia	6,363	-	500	-
Japan	-	-	2,321	1,949
Kiribati	-	-	35	42
Korea	-	-	1,234	1,230
Marshall Islands	-	-	398	303
Nauru	-	-	-	-
New Caledonia	-	-	-	-
New Zealand	-	-	210	224
Niue	-	-	-	-
Palau	-	-	-	-
Philippines	5,477	-	452	239
PNG	-	-	1,005	634
Samoa	4	6	-	-
Solomon Islands	-	-	-	17
Tokelau	67	149	-	-
Tonga	1	1	-	-
Tuvalu	-	-	-	-
USA	342	396	987	1,038
Vanuatu	23	7	571	245
Wallis and Futuna	-	3	-	-
<i>Non-WCPFC CCMs</i>	-	-	-	96
<b>LIMIT ESTIMATE</b> [CMM-2005-01]	12,519		10,639	

**Notes:**

Source: Raised logsheet data.

Subject to interpretation of paragraph 6 and footnote 1 of CMM 2005-01

Catches and effort of vessels operating under charters and similar arrangements have been attributed to host island states or territories in accordance with paragraph 5 of CMM 2005-01 using the best information available to SPC-OFP.

Rationale for accommodating uncertainties explained at Appendix A

**Rationale for assigning effort limits for the national waters of non-PNA countries and the high seas where data was uncertain or incomplete at the time CMM-2005-01 was adopted by the Commission.**

**Indonesia**

WCPFC (SPC-OFP) does not have any operational catch/effort data for the Indonesia domestic purse seine fleet to determine the extent of activities by area, so the following methods have been used in the absence of the data.

*1. National waters*

For 2004, the average CPUE (SKJ+YFT+BET)/days = 24 MT/day in the tropical waters of the WCPFC Convention Area. Applying this to the total purse seine catch estimates for domestic Indonesia purse seine fishery in 2004 (164,721 mt) gives 6,363 days (after subtracting an arbitrary estimate of 500 days for activities on the high seas – see below).

*2. High seas*

WCPFC (SPC-OFP) doesn't have any effort data for the Indonesia domestic purse seine fleet but presumably they fish in the high seas enclave between FSM, PNG, Palau and Indonesia. If this effort is assumed to be similar to the effort of the Philippines fleet based in PNG, a value of 500 days could possibly be attributed to fishing in the high seas by the Indonesian fleet.

**Philippines**

WCPFC (SPC-OFP) does not have any operational catch/effort data for the Philippines domestic purse seine fleet to determine the extent of activities by area, so the following methods have been used in the absence of the data.

*National waters*

For 2004, the average CPUE (SKJ+YFT+BET)/days = 24 MT/day in the tropical waters of the WCPFC Convention Area. Applying this to the total purse seine catch estimate (131,439 mt) for domestic Philippine purse seine fishery in 2004 gives 5,477 days.

*High Seas*

Previously determined to be 452 days for the Philippines fleet based in PNG from logsheet data. At this stage, from available data (or lack of it) it is not possible to estimate the annual effort of the Philippines domestic purse seine fleet on the high seas in

the WCPF Convention Area. This is a priority activity under the Indonesia Philippines Data Collection project.

### ***Non-WCPFC CCM***

This relates to fleets based in the Eastern Pacific Ocean or IATTC-member country fleets providing data to IATTC<sup>1</sup>. Other fleets that may support purse seine effort on WCPO tuna stocks may include Malaysia and Vietnam but data are not available to include consideration of this possible effort here.

#### *Days in national waters within the WCPFC Convention Area.*

None of these fleets were licensed to fish in national waters according to information currently available, so no fishing activity by non-WCPFC CCM fleets has been attributed to national waters. (0 days)

#### *High Seas*

From IATTC data, after removing Spain and Vanuatu fleet effort (which are already counted), the effort in 2004 for these fleets fishing in the WCPFC Convention Area was greater than the average effort for 2001-2004. The number of days effort in the WCPFC Convention Area was 96 days, according to aggregate data provided by IATTC data. (96 days).

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<sup>1</sup> Assumes that Vanuatu, for example, has provided the same data for fishing in the WCPF Convention Area to IATTC and to the WCPFC, so this effort should not be counted again in this category.