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**RECENT ANNUAL CATCH AND EFFORT ESTIMATES RELATING TO
CONSERVATION AND MANAGEMENT MEASURES
ADOPTED BY THE COMMISSION**

**WCPFC-SC3-2007/ST IP-4
(rev. 1)**

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Introduction

Certain conservation and management measures (CMMs) have been put in place by the WCPFC at the annual sessions in 2005 and 2006, responding largely to the status of yellowfin and bigeye tuna stocks. The key decisions taken by the Commission have attempted to limit overall levels of fishing mortality on yellowfin and bigeye tuna to recent levels. This has been done through a series of effort (in the case of purse seine) and catch or capacity (in the case of longline and “other” fisheries) restrictions generally restricting CCMs to either the 2004 level or the average of 2001-2004.

The purpose of this information paper is to provide recent annual catch and effort estimates relating to conservation and management measures adopted by the Commission.

Purse seine fishery

The key decisions that provide for limits in the purse seine fishery are CMM-2005-01 and CMM-2006-02. CMM-2005-01 paragraphs 8 and 10 pertain to purse seine fishing in waters under national jurisdiction in the WCPFC Convention Area (WCPFC-CA) between 20°N and 20°S. They state 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.*

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.*

CMM-2006-01 paragraph 3 on the other hand provides for limits to purse seine fishing on the high seas:

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.*

Together, these two CMMs indicate limits on purse seine fishing effort in the WCPFC-CA between 20°N and 20°S. However, CMM-2005-01 also contains two important exemptions. These are:

6. *Nothing in this decision shall prejudice the legitimate rights and obligations of those small island state Members and participating territories in the Convention Area seeking to develop their own domestic fisheries.*

and

Footnote 1:

Current level of fishing effort shall include fishing rights authorized under existing regional or bilateral fisheries partnership arrangements or agreements, provided these are registered with the Commission, and provided that the number of licences authorized under such arrangements does not increase. CCMs will register their bilateral agreements or arrangements with the Commission in advance of the Third Session of the Commission in 2006.

The interpretation of these exemptions is a legal rather than scientific matter; therefore, it is not possible at this stage to interpret CMM-2005-01 and CMM-2006-01 as providing definitive and measurable limits on purse seine effort or measures relating to other gears (see below). Therefore, in the tables that follow, we have simply attempted to document recent levels of purse seine effort in relation to the general guidance given by paragraphs 8 and 10 of CMM-2005-01, without consideration of the above exemptions, which at this point are unquantifiable.

[Table 1](#) provides estimated purse seine effort for 2001-2006 for EEZs in which purse seine effort occurred in the area 20°N-20°S, and shows the limits inferred from CMM-2005-01 paragraphs 8 and 10, without consideration of the exemptions noted above.

[Table 2](#) provides estimates of purse seine days fished in international waters by flag in the area 20°N-20°S, and shows the limits inferred from CMM-2006-01 paragraph 3, without consideration of the exemptions noted above.

Longline fishery

The key decision pertaining to the longline fishery is CMM-2005-01 paragraphs 17 and 18 and was designed to limit fishing mortality on bigeye tuna by the longline fishery:

17. *The catch of bigeye for each CCM for the next 3 years shall not exceed the average annual bigeye catch for the years 2001-2004 or the year 2004¹.*
18. *Paragraph 17 does not apply to CCMs that caught less than 2,000 tonnes in 2004. Each CCM that caught less than 2,000 tonnes of bigeye in 2004 shall ensure that their catch does not exceed 2,000 tonnes in each of the next 3 years.*

As for purse seine, the CMM-2005-01 exemptions mean that it is not possible to define definitive limits on bigeye tuna catch.

[Table 3](#) provides estimates of annual bigeye catches by flag for 2001-2005 and the bigeye tuna catch limits inferred by CMM-2005-01 paragraphs 17 and 18, without consideration of the exemptions noted above.

Other fisheries

CMM-2006-01 paragraphs 1 and 2 establish limits for “other fisheries” catching yellowfin and bigeye tuna in the WCPFC-CA:

¹ The year 2004 shall apply only to China and the United States.

1. *Beginning in 2007, CCMs shall take necessary measures to ensure that the total capacity of their respective other commercial tuna fisheries for bigeye and yellowfin tuna, including purse-seining that occurs 20 north and 20 south, but excluding artisanal fisheries and those fisheries taking less than 2,000 tonnes of bigeye and yellowfin, do not exceed the average level for the period 2001-2004 or 2004.*
2. *CCM's whose vessels operate in other commercial tuna fisheries for bigeye and yellowfin tuna in the Convention area will provide the Commission with complete and accurate data relating to the catch of these vessels.*

Again, the CMM-2005-01 exemptions mean that it is not possible to define definitive limits on bigeye and yellowfin tuna catch by “other fisheries”.

The best available estimates of bigeye and yellowfin catches by “other fisheries”, and the catch limits inferred by CMM-2006-01 paragraphs 1 and 2, without consideration of the exemptions noted above, are summarized in [Table 4](#) and [Table 5](#) , respectively.

Reference to the level of “*less than 2,000 tonnes*” mentioned in paragraph 1 has been assumed to mean that -

- (i) fisheries taking less than 2,000 t of bigeye should not exceed 2,000 t of bigeye, and
- (ii) fisheries taking less than 2,000 t of yellowfin should not exceed 2,000 t of yellowfin.

Table 1. Purse seine days fished in waters under national jurisdiction in the WCPFC-CA between 20°N and 20°S.

EEZ	2001	2002	2003	2004	Av. 2001- 2004	2005	CMM 2005/01	2006 (prov.)
Cook Islands	46	232	8	6	73	4	73	7
Fiji	9	5	9	27	13	37	27	8
Indonesia				?				
Philippines				?				
Samoa	7	12	3	4	7	3	7	1
Tokelau	98	401	27	67	148	127	148	35
USA	394	594	283	344	404	176	404	230
Vanuatu	2	2	0	23	7	1	23	0
PNA	26,423	28,304	32,234	32,033	29,749	35,289	32,033	35,876
TOTAL	26,979	29,550	32,564	32,504	30,399	35,637	32,715	36,157

Notes:

1. Source: Raised logsheet data.
2. The column labelled "CMM-2005-01" does not take into account paragraph 6 and footnote 1 of CMM 2005-01
3. 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.

Table 2. Purse seine days fished in international waters in the WCPFC-CA between 20°N and 20°S, by flag.

Flag	2001	2002	2003	2004	Av. 2001- 2004	2005	CMM- 2006-01	2006 (prov.)
China	95	124	149	434	201	428	434	227
European Community	0	0	0	0	0	0	0	0
FSM	238	161	169	275	211	191	275	124
Japan	1,802	1,584	2,090	2,341	1,954	2,290	2,341	1,692
Kiribati	40	52	40	37	42	45	42	40
Korea	1,297	885	1,153	1,236	1,143	837	1,236	706
Marshall Is	169	206	431	377	296	375	377	147
New Zealand	23	132	334	199	172	65	199	240
PNG	377	465	583	1,003	607	1,166	1,003	366
Philippines	13	52	128	364	139	303	364	167
Solomon Is	32	37	0	0	17	16	17	41
Chinese Taipei	1,901	1,669	1,484	1,900	1,739	1,227	1,900	1,204
USA	850	478	825	673	707	528	707	492
Vanuatu	59	131	181	551	231	305	551	312
TOTAL	6,896	5,976	7,567	9,390	7,457	7,776	9,446	5,758

Notes:

1. Source: Raised logsheet data.
2. The column labelled "CMM-2006-01" does not take into account paragraph 6 and footnote 1 of CMM 2005-01
3. 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.

Table 3. Reported longline catches of bigeye tuna in the WCPFC-CA, by flag. Numbers in red indicate estimates carried forward from the previous year.

CCM	2001	2002	2003	2004	Av. 2001-2004	2005	CMM-2005-01	2006 (prov.)
Australia	1,307	1,002	1,024	892	1,056	791	2,000	437
China	2,227	2,312	8,965	9,314	5,705	6,399	9,314	6,399
Cook Is	1	58	198	295	138	214	2,000	186
European Community				42	42	17	2,000	62
FSM	651	759	656	542	652	182	2,000	182
Fiji	662	853	889	1,254	915	423	2,000	587
French Polynesia	745	649	439	495	582	606	2,000	498
Indonesia	659	711	625	7,603	2,400	7,719	2,400	7,719
Japan	27,466	29,574	26,023	29,348	28,103	24,257	28,103	24,257
Kiribati	0	0	0	0	0	0	2,000	0
Korea	22,172	28,533	17,151	17,941	21,449	15,622	21,449	12,489
Marshall Is	0	0	0	1	0	0	2,000	0
Nauru	6	3	10	0	5		2,000	
New Caledonia	128	189	142	90	137	76	2,000	35
New Zealand	481	201	204	177	266	175	2,000	177
Niue	0	0	0	0	0	10	2,000	0
Palau	21	1	1	7	8		2,000	
PNG	240	318	390	392	335	211	2,000	135
Philippines	264	310	394	403	343	729	2,000	445
Samoa	185	137	109	103	134	64	2,000	128
Solomon Is	187	393	967	357	476	357	2,000	357
Chinese Taipei	12,435	16,645	13,345	20,992	15,854	15,498	15,854	14,295
Tonga	191	215	94	40	135	125	2,000	117
USA	2,493	4,592	3,860	4,408	3,838	4,571	4,408	4,562
Vanuatu	17	396	841	1,862	779	1,558	2,000	2,145
Total	72,538	87,851	76,327	96,558	83,350	79,604	119,528	75,212

Notes:

1. Source: Annual catch estimates, WCPFC Tuna Fishery Yearbook 2006.
2. Catch estimates in red have been carried over from previous years.
3. Indonesia has recently revised the proportion of catch taken by gear type for their domestic fisheries which has resulted in a much larger allocation to their longline (at the expense of catches in the “unclassified” fisheries) since 2004 than has been reported in previous years.
4. The column labeled “CMM-2005-01” does not take into account paragraph 6 and footnote 1 of CMM 2005-01.
5. 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.

Table 4. Estimates of total annual catches of bigeye tuna in the WCPFC Statistical Area for fisheries other than longline and tropical purse seine.

GEAR	FLAG	BIGEYE							
		2001	2002	2003	2004	Av. 2001-2004	2005	CMM-2006-01	2006 (prov.)
Handline	Indonesia	881	951	835	835	876	835	2,000	835
	Philippines	4,008	4,610	5,909	5,811	5,085	10,774	5,811	10,774
	Total	4,889	5,561	6,744	6,646	5,960	11,609	7,811	11,609
Pole-and-line	Fiji	0	0	0	0	0	0	2,000	0
	Indonesia	972	1,048	921	5,350	2,073	5,432	5,350	5,432
	Japan	1,377	1,757	857	3,393	1,846	1,322	3,393	1,322
	French Polynesia	1	2	2	2	2	0	2,000	0
	Solomon Islands	0	0	0	0	0	0	2,000	0
	USA	0	0	0	0	0	0	2,000	0
Total	2,350	2,807	1,780	8,745	3,921	6,754	16,743	6,754	
Purse seine	Japan	801	963	1,341	1,110	1,054	538	2,000	584
Ringnet	Philippines	1,235	159	1,665	1,346	1,101	1,455	2,000	1,455
Troll	USA	226	586	237	521	393	246	2,000	222
Unclassified	Indonesia	6,275	6,768	5,945	12,391	7,845	8,013	12,391	8,013
	Japan	211	162	142	109	156	109	2,000	109
	Philippines	117	140	190	174	155	316	2,000	316
	Total	6,603	7,070	6,277	12,674	8,156	8,438	16,391	8,438
Total "other fisheries"		16,104	17,146	18,044	31,042	20,584	29,040	46,945	29,062
Percentage of total WCPFC-SA		14	13	16	20	16	21		22

Notes:

1. Catch estimates in **red** have been carried over from previous years.
2. French Polynesia 'pole-and-line' catches include the *bonitier* and *poti marara* fleets; both use various gear types (pole-and-line, troll, handline, harpoon, gill net).
3. Japan purse seine is north of 20°N.
4. Reference to the level of "less than 2,000 tonnes" mentioned in CMM-2006-01 paragraph 1 has been assumed to mean that fisheries taking less than 2,000 t. of bigeye should not exceed 2,000 t. of bigeye.
5. The column labeled "CMM-2006-01" does not take into account paragraph 6 and footnote 1 of CMM 2005-01

Table 5. Estimates of total annual catches of yellowfin tuna in the WCPFC Statistical Area for fisheries other than longline and tropical purse seine.

GEAR	FLAG	YELLOWFIN							
		2001	2002	2003	2004	Av. 2001-2004	2005	CMM-2006-01	2006 (prov.)
Handline	Indonesia	9,368	10,104	8,875	1,041	7,347	1,057	7,347	1,057
	Philippines	47,818	55,354	70,317	72,073	61,391	69,841	72,073	69,841
	Total	57,186	65,458	79,192	73,114	68,738	70,898	79,420	70,898
Pole-and-line	Fiji	44	44	44	44	44	44	2,000	44
	Indonesia	8,744	9,432	8,285	11,449	9,478	11,623	11,449	11,623
	Japan	3,136	3,375	2,868	3,040	3,105	3,600	3,105	3,600
	French Polynesia	348	406	280	509	386	344	2,000	545
	Solomon Islands	153	405	655	257	368	196	2,000	734
	USA	2	2	23	23	13	68	2,000	3
Total	12,427	13,664	12,155	15,322	13,392	15,875	22,554	16,549	
Purse seine	Japan	2,549	2,289	3,555	2,668	2,765	3,110	2,765	1,523
Ringnet	Philippines	11,803	8,635	16,738	19,739	14,229	25,881	19,739	25,881
Troll	USA	865	630	723	744	741	649	2,000	439
Unclassified	Indonesia	56,472	60,913	53,504	18,215	47,276	18,492	47,276	18,492
	Japan	3,137	2,841	3,065	2,594	2,909	2,594	2,909	2,594
	Philippines	1,236	1,420	1,798	1,849	1,576	1,775	2,000	1,775
	Total	60,845	65,174	58,367	22,658	51,761	22,861	52,185	22,861
Total "other fisheries"		145,675	155,850	170,730	134,245	151,625	139,274	178,663	138,151
Percentage of total WCPFC-SA		34	38	39	35	37	31		33

Notes:

1. Catch estimates in **red** have been carried over from previous years.
2. French Polynesia 'pole-and-line' catches include the *bonitier* and *poti marara* fleets; both use various gear types (pole-and-line, troll, handline, harpoon, gill net).
3. Japan purse seine is north of 20°N.
4. Unclassified Indonesian catches of yellowfin in 2004 are considerably reduced because these catches were attributed to other gear types, mainly purse seine. This may suggest that unclassified catches prior to 2004 also contain large components by purse seine.
5. Indonesia has recently revised the proportion of catch taken by gear type for their domestic fisheries which has resulted in a much larger allocation to their domestic purse seine and longline (at the expense of catches in the "unclassified" fisheries) since 2004 than has been reported in previous years.
6. Reference to the level of "less than 2,000 tonnes" mentioned in CMM-2006-01 paragraph 1 has been assumed to mean that fisheries taking less than 2,000 t. of yellowfin should not exceed 2,000 t. of yellowfin.
7. The column labeled "CMM-2006-01" does not take into account paragraph 6 and footnote 1 of CMM 2005-01