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South Pacific Albacore Fishery

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Paper prepared by the Secretariat
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Introduction

The following request was made by Te Vaka Moana at TCC7.

> Summary Report Para 20: Several CCMs associated with the Te Vaka Moana (TVM) group expressed concern about the expansion of the South Pacific ALB fishery which is vital to the economic development of some members. These CCMs highlighted limits contained in CMM 2009-03 on the number of vessels fishing for albacore south of 20 degrees and noted that as of 2011 CCMs are required to report target and bycatch catch figures for this fishery. These CCMs considered that further strengthening of the CMM may be required. The Secretariat was requested to prepare a paper for WCPFC8 containing all available catch and transshipment data by flag and by zone for South Pacific ALB and highlighting trends since the year 2000 in this fishery.

Data Presented

Tables 1, 2 and 3, detail catch of SPA from 2000 to 2010 (SPC).

Table 4 details high seas transshipments of SPA by month from July 2010 (Secretariat).

Attachment:1Examination of the time series of longliner VMS information in the South Pacific (SPC)

Discussion

Annual catch estimates of SPA from 2000 to 2010 have averaged 52,761 mt, ranging from a low of 32,362 mt in 2000, to a recent high of 71,429 mt in 2010.

High seas catch estimates represent around a third to a half (33%-50%) of the total SPA annual catch, and range from 12,134 mt in 2000, to 26,693 in 2002, and 24,059 mt in 2010 (Table 1).

China and Chinese Taipei have the highest catch estimates of SPA in 2010.

China has increased its catch of SPA in recent years, from an average of 4,453 mt in the years 2000 to 2007 (inclusive), to recent catches of 15,048 mt, 20,009 mt and 12,568 mt in 2008, 2009 and 2010 respectively (Table 1). Most of this recent catch was estimated to have been taken on the high seas.

Chinese Taipei had historically higher catch estimates on the high seas, taking 14,866 mt in 2002; following a subsequent decline in catches, there has been a recent increase in reported catches to 3,962 mt in 2010. This corresponds to the trends in their total catch figures, which showed a high in 2002 (16,034 mt) and a recent resurgence in their fishery with a 2010 total reported catch of SPA of 13,748 mt.

The trends in the SPA annual catch estimates for China and Chinese Taipei vessels over the past decade may be influenced by changes in targeting from bigeye tuna to albacore tuna, and vice-a-versa.

The catch of SPA in the Solomon Islands EEZ increased from 12,125 mt in 2009, to 20,140 mt in 2010, which was by far the largest catch in any EEZ for this year, with no other EEZ reported catches exceeding 5,000 mt in 2010 (Table 1). There were no reports of Solomon Islands fleet catches of SPA for the period 2006-2009 until 2010, when they caught 7,966 mt. The main reason for the large catch by this fleet in 2010 was the chartering of vessels from several countries, including China, Chinese Taipei, Korea and Fiji.

It is difficult to draw any conclusions on the transshipment data provided, which barely covers one year and is for high seas transshipments only. The apparent low level of transshipment in December may reflect logistical/operational demands during holidays, rather than fishing activity. It is noted that historically SPA would have been offloaded directly to canneries (e.g. Pago Pago, American Samoa, or Levuka, Fiji) rather than transshipped.

Over the past decade, SPA annual catch estimates have increased for some Pacific Island fleets (e.g. Cook Islands and Vanuatu), but declined for others (e.g. Samoa and Tonga).

Longline VMS data analysed by SPC (revised 20 March 2012) (Attachment 1) shows a clear increase in longliner activity within EEZs and on the high seas from 2009 - 2011. However, as indicated in their explanatory text, the data and analysis is subject to a number of caveats. For example the large increase of longline VMS activity within EEZs from 2009-2010 is partly attributable to longline activity in the tropical areas of EEZs that is not targeted at South Pacific albacore.

Table 1 of Attachment 1 shows an increase in longliner VMS days both in EEZs and in international waters, with a greater rate of increase in international waters. The proportion of

longliner VMS days in international waters vs EEZs has increased from 25.3% in 2009 to 31.5% in 2011.

The chart below visualizes the data for international waters presented in table 2 of attachment 1. It presents increases in the number of longliner VMS days at sea by international waters area and for comparative purposes the total VMS days at sea by year and within EEZs is included. Increases in all areas seen between 2009 and 2011, with the greatest activity apparently in areas I5 and I7 (see Fig 2 Attachment 1 for a map of the international waters areas). This may be partly due to the relatively large area of ocean included in these two areas.

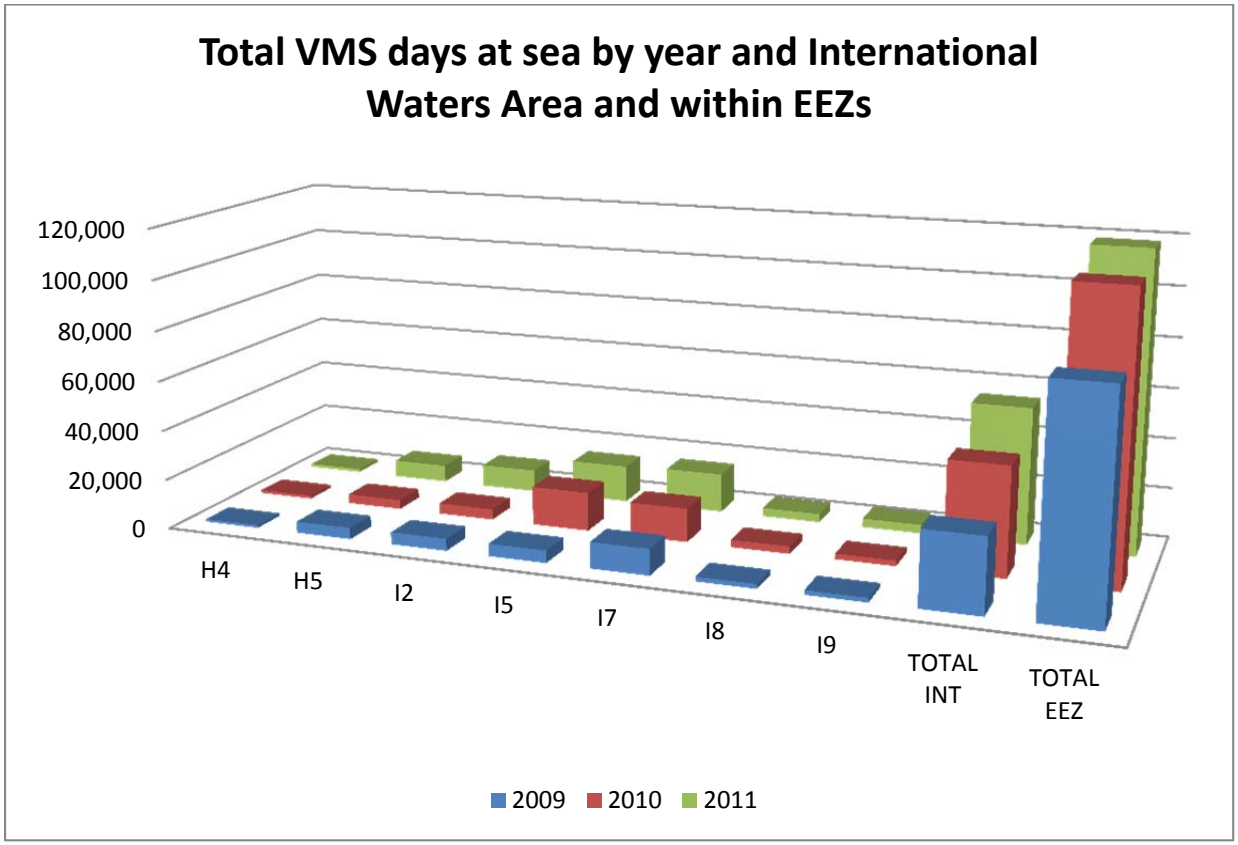


Table 1. Annual south Pacific ALBACORE catch estimates by EEZ, 2000–2010

Notes: Available operational and aggregate logsheet data raised to annual catch estimates. "EEZ" are approximate 200-mile boundaries; "High seas" is the high seas in the WCPFC Convention Area, south of the equator. Allocation of FLAG catch to EEZ may be approximate due to the lack of operational logsheet data in some cases.

EEZ / high seas	ANNUAL SOUTH PACIFIC ALBACORE CATCH ESTIMATES BY EEZ										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
American Samoa	626	3,233	5,951	3,931	2,462	2,936	4,078	5,183	3,550	3,885	3,947
Australia	359	554	505	391	587	622	2,526	1,867	1,256	1,471	706
Cook Islands		2	499	1,359	1,874	2,265	1,999	2,706	2,052	4,087	4,898
Fiji	4,796	7,470	6,530	4,291	5,862	3,960	5,126	3,613	2,485	3,902	3,466
French Polynesia	3,437	4,261	4,555	3,813	2,210	2,287	2,849	3,924	3,064	3,560	3,382
HIGH SEAS	12,134	20,876	26,693	24,455	23,013	19,692	17,121	14,546	20,514	24,153	24,059
Kiribati	268	741	758	644	835	232	271	786	239	599	599
Mathew and Hunter	4	6	4	19	11	9	4	5	13	115	54
New Caledonia	885	1,015	1,160	1,087	1,367	1,579	1,348	1,312	1,484	1,611	1,914
New Zealand	1,334	2,593	2,522	2,936	1,246	602	496	277	382	422	456
Niue						55	261	126	0	98	224
Papua New Guinea	159	124	142	857	1,681	2,257	1,866	1,965	537	972	914
Samoa	4,067	4,820	4,205	2,253	1,233	1,263	2,113	3,113	2,342	2,816	2,347
Solomon Islands	335	176	1,060	941	2,248	3,159	6,968	5,461	8,248	12,125	20,140
Tonga	858	1,074	845	318	179	256	405	354	220	124	57
Tuvalu	241	117	186	50	223	257	8	307	126	249	174
Vanuatu	2,859	2,803	2,435	2,552	3,229	5,585	7,836	5,364	5,167	5,441	4,089
Wallis et Futuna											6
Total	32,362	49,865	58,049	49,898	48,262	47,015	55,275	50,909	51,678	65,630	71,429

Table 2. Annual south Pacific ALBACORE catch estimates by Vessel Nation, 2000–2010

Notes: Available operational and aggregate logsheet data raised to annual catch estimates. "EEZ" are approximate 200-mile boundaries; "High seas" is the high seas in the WCPFC Convention Area, south of the equator. Allocation of FLAG catch to EEZ may be approximate due to the lack of operational logsheet data in some cases.

FLAG	FLAG CODE	ANNUAL SOUTH PACIFIC ALBACORE CATCH ESTIMATES BY FLAG										
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Australia	AU	381	591	553	490	667	743	2,591	1,925	1,277	1,523	745
Belize	BZ	163	3,985	1,461	809	353	7	0	164	7	26	10
Cook Islands	CK		2	489	1,347	1,869	2,370	2,199	2,639	2,224	1,549	2,421
China	CN	2,030	2,495	2,704	6,003	5,828	4,026	7,117	5,424	15,048	20,009	12,568
Spain	ES					3	2	0	0	33	35	4
Fiji	FJ	6,065	7,971	8,026	6,881	11,274	8,901	11,802	7,145	7,645	7,141	7,248
FSM	FM	0	0		0	0	0	0	0	0	0	1
Japan	JP	2,234	3,290	2,547	3,040	3,945	4,577	3,324	2,761	2,381	2,892	3,180
Kiribati	KI	0	0		0					0		66
Korea	KR	318	781	1,225	333	323	420	506	638	768	660	660
New Caledonia	NC	895	1,020	1,165	1,111	1,468	1,590	1,358	1,324	1,506	1,649	1,930
Niue	NU						55	213	137	7	147	97
New Zealand	NZ	1,344	2,614	2,545	2,971	1,248	602	496	357	382	422	456
French Polynesia	FP	3,437	4,261	4,555	3,831	2,210	2,297	2,855	3,924	3,066	3,560	3,383
PNG	PG	159	124	142	857	1,681	2,256	1,811	1,598	463	906	883
Samoa	WS	4,067	4,820	4,205	2,253	1,233	1,263	2,113	3,113	2,342	2,816	2,347
Solomon Islands	SB	224	54	121	95	207	0					7,966
Tonga	TO	862	1,268	1,189	596	182	283	414	390	220	124	57
Chinese Taipei	CT	9,558	12,758	16,034	12,111	7,957	8,147	8,246	8,283	7,271	11,831	13,748
USA	US	626	3,233	5,951	3,995	2,462	2,936	4,078	5,183	3,550	3,885	3,947
Vanuatu	VU		599	5,138	3,174	5,352	6,541	6,153	5,904	3,489	6,455	9,714
Total		32,362	49,865	58,049	49,898	48,262	47,015	55,275	50,909	51,678	65,630	71,429

Table 3. Annual south Pacific ALBACORE catch estimates by EEZ and Vessel nation, 2000–2010

Notes: Available operational and aggregate logsheet data raised to annual catch estimates. "EEZ" are approximate 200-mile boundaries; "High seas" is the high seas in the WCPFC Convention Area, south of the equator. Allocation of FLAG catch to EEZ may be approximate due to the lack of operational logsheet data in some cases.

EEZ / high seas	FLAG	ANNUAL SOUTH PACIFIC ALBACORE CATCH ESTIMATES BY EEZ AND FLAG										
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
American Samoa	US	626	3,233	5,951	3,931	2,462	2,936	4,078	5,183	3,550	3,885	3,947
Australia	AU	359	554	505	391	587	622	2,526	1,867	1,256	1,471	706
Cook Islands	CK		2	488	1,333	1,866	2,265	1,999	2,384	1,982	1,368	2,245
	FJ										51	66
	NU								11	7	136	
	CT			11	12	0		0	311	64	887	160
	VU				15	8					1,645	2,426
Fiji	CK						15					
	CN			4	14	14	45	19	49	83	1,149	107
	FJ	4,595	7,265	6,200	4,139	5,804	3,900	5,102	3,475	2,393	2,744	3,358
	NZ								80			
	CT	202	19	17	19	15		1	9	7	9	0
	VU		187	309	120	29	1	4		2		1
HIGH SEAS	AU	22	37	48	99	80	121	65	58	21	52	39
	BZ		2,734	1,461	799	2	7	0	19	0	2	
	CK			0	14	3	6	85	158	156	31	13
	CN	2,029	2,413	2,683	5,839	5,629	2,691	5,285	4,600	13,446	14,346	10,120
	ES					3	2	0	0	33	35	4
	FJ	315	231	697	1,250	1,854	1,601	2,006	1,023	1,119	1,305	1,325
	FM	0	0		0	0	0	0	0	0	0	1
	JP	2,049	3,102	2,376	2,804	3,918	4,455	2,040	1,715	1,399	1,653	1,759
	KR	38	123	273	38	24	40	48	54	71	114	114
	NC	8	1	4	23	94	10	8	12	22	38	16
	NU							2				
	NZ	10	21	23	35	2	0	0	0	0	0	0
	PF				19	0	11	6		1		1
	SB	3	0		0	0						
	TO	4	194	344	278	3	27	9	36			
	CT	7,657	11,801	14,866	11,638	7,332	5,836	3,647	2,633	1,783	2,541	3,962
	US				64							
	VU		220	3,917	1,556	4,071	4,885	3,921	4,238	2,462	4,036	6,706
Kiribati	BZ					351						
	CN	1	82		48	22	0	0	0	1	78	0
	JP	42	83	44	40	27	11	2			10	
	KI	0	0		0					0		66
	KR	224	576	692	262	234	134	131	186	124	128	128
	CT	1	0	22	64	116	28	14	362	47	41	0
	VU				230	85	60	124	239	67	342	404

Table 3. (continued)

EEZ / high seas	FLAG	ANNUAL SOUTH PACIFIC ALBACORE CATCH ESTIMATES BY EEZ AND FLAG										
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Mathew and Hunter	CN									1	74	49
	FJ	2	2	2	17	4	8	2	2	6	7	5
	NC	2	4	1	1	7	0	2				
	CT									5	22	
	VU				1		2	0	3	0	11	
New Caledonia	NC	885	1,015	1,160	1,087	1,367	1,579	1,348	1,312	1,484	1,611	1,914
Niue	CK							49			87	127
	NU						55	211	126	0	11	97
New Zealand	NZ	1,334	2,593	2,522	2,936	1,246	602	496	277	382	422	456
French Polynesia	PF	3,437	4,261	4,555	3,813	2,210	2,287	2,849	3,924	3,064	3,560	3,382
Papua New Guinea	JP	0		0	0	0	1	7	4	2	7	20
	PG	159	124	142	857	1,681	2,256	1,811	1,598	463	906	883
	CT							49	363	71	59	11
Samoa	WS	4,067	4,820	4,205	2,253	1,233	1,263	2,113	3,113	2,342	2,816	2,347
Solomon Islands	BZ				10	0			145	7	24	10
	CK									12	17	1
	CN			17	102	164	422	834	285	778	2,250	1,087
	FJ	9	2	200	177	886	715	1,198	798	2,039	1,687	1,134
	JP	103	69	126	193		110	1,276	1,042	980	1,223	1,401
	KR		0	76	16	24	83	320	226	460	299	299
	SB	221	54	121	95	207	0					7,966
	CT	2	50	213	42	297	1,383	2,505	2,552	3,559	6,364	8,112
	VU			307	306	671	446	836	412	413	262	130
Tonga	TO	858	1,074	845	318	179	256	405	354	220	124	57
Tuvalu	CK								42	11	43	24
	FJ				29	179	80	1	1	1	74	21
	JP	41	36	2	3	0		0		0		
	KR	55	82	184	18	41	162	6	171	113	119	119
	CT	145	0			4	15	0		1		0
	VU								92		13	10
Vanuatu	BZ	163	1,251									
	CK						84	66	56	64	3	11
	CN						869	979	490	740	2,112	1,205
	FJ	1,145	472	927	1,270	2,547	2,598	3,493	1,846	2,086	1,273	1,332
	CT	1,552	889	903	336	194	886	2,029	2,052	1,733	1,908	1,504
	VU		192	605	946	488	1,148	1,268	920	544	145	37
Wallis et Futuna	FJ											6

Table 4. High Seas transshipment data for SPA, by flag and month from July 2010

Notes: 1. The requirement to report (within 15 days of transshipment) high seas transshipment commenced in July 2010, 2. It is anticipated that totals from August 2011 onwards will increase as more data are provided,3. the data refer to high seas transshipments, but a proportion of the catches will likely have been caught within EEZs.

Flag	Jul 10	Aug 10	Sep 10	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11	Oct 11
BZ		7.5			2.8		2.0			36.0						
CH		10.6	367.0	257.6	113.7	17.1	7.1	39.7	33.4	5.9	31.7	21.5	10.0		21.2	
FM																
ID					44.2	0.9					8.3				8.3	7.8
JP		0.9	30.0	33.1	35.4		13.7	79.9	36.0		1.9	1.4				
KR	9.911		14.6	41.9		6.4	92.9	3.7	55.1	99.0	5.6	31.9	3.8		4.7	
PH			12.9	7.5		4.8				0.5						
PI																2.0
CT		280.0	480.9	160.1	187.9	9.8	1444.6	237.6	528.6	13.8	52.1	44.4	115.6	12.5	79.0	
VU		1513.9	185.6	282.3	521.6	8.8	3.5			3.3	0.6	253.0	260.0			
Grand Total	**9.911**	**1812.9**	**1091.0**	**782.5**	**905.7**	**47.8**	**1563.8**	**360.8**	**653.1**	**158.4**	**100.1**	**352.2**	**389.4**	**12.5**	**113.3**	**9.8**

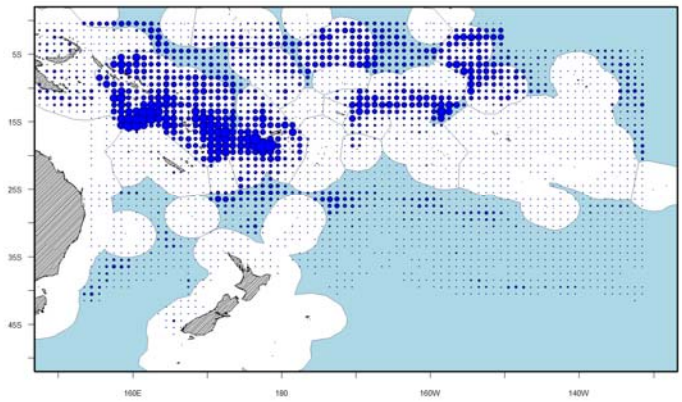
Attachment 1

Examination of the time series of longliner VMS information in the South Pacific

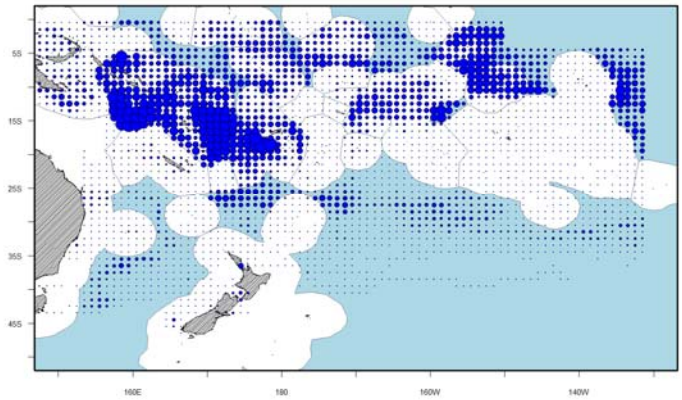
This analysis summarises the longline VMS information available to SPC through the FFA and WCPFC over the period 2009-2011, by geographic region of the South Pacific. Effort in that database corresponds to days at sea (i.e. includes fishing and transiting). Please note:

- Effort represents total longline effort, not just that targeted at South Pacific albacore;
- VMS effort presented for EEZs includes that in archipelagic waters;
- Effort data for some countries (e.g. those with domestic longliners not on FFA VMS) will not be included within EEZ patterns;
- Effort for some countries (e.g. New Caledonia; French Polynesia) may be incomplete;
- Some trends may result from improved VMS coverage of vessels over time;
- EEZ effort excludes the Indonesian EEZ;
- High seas areas for the South Pacific areas are (Figure 2):
    - H4 = International waters between Tuvalu, Phoenix and Tokelau
    - H5 = International waters between Phoenix and Line groups
    - I2 = Doughnut hole between FSM, Solomon Islands, Kiribati, RMI, Nauru and Tuvalu
    - I5 = International waters between Phoenix and Line groups
    - I7 = high seas area to the east of Australia and New Zealand
    - I8 = high seas pocket between Fiji and Vanuatu
    - I9 = high seas pocket between the Cook Islands and French Polynesia

2009



2010



2011

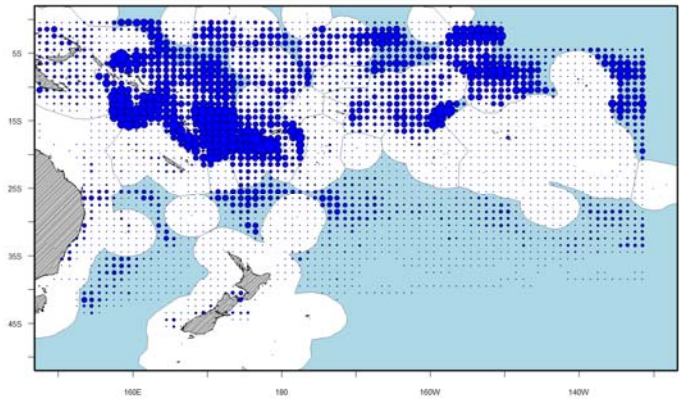


Figure 1. Distribution of longline VMS days at sea in south Pacific EEZs and International Waters at 1°x1°. Max circle size = 1,266 days.

Table 1. Total VMS days at sea by year and geographic area

	2009	2010	2011
EEZ	87,298	112,526	118,692
International waters	29,644	43,449	54,690
Total	**116,942**	**155,975**	**173,382**
% EEZ	74.7%	72.1%	68.5%
%IW	25.3%	27.9%	31.5%

Table 2. Total VMS days at sea by year and International Waters area (see Figure 2 for details)

International Waters Code	2009	2010	2011
H4	1,066	1,210	1,254
H5	4,580	3,733	6,902
I2	4,863	4,272	8,993
I5	4,990	15,563	14,874
I7	10,475	13,507	15,685
I8	1,871	2,944	3,460
I9	1,799	2,220	3,521
TOTAL	**29,644**	**43,449**	**54,690**

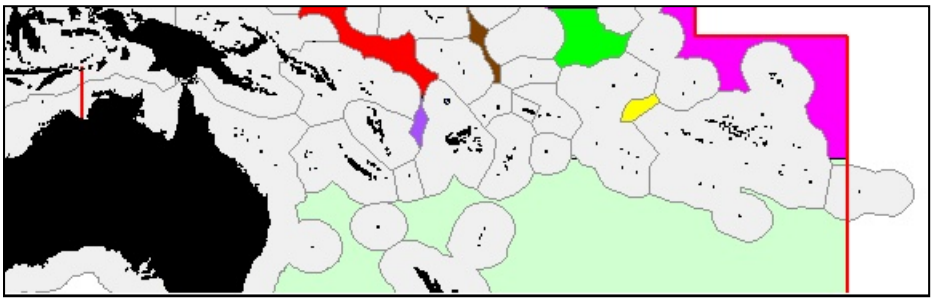


Figure 2. Map of International Waters in the southerly WCPFC-CA

Key:

Code	Area	Colour
H4	International waters between Tuvalu, Phoenix and Tokelau	Brown
H5	International waters between Phoenix and Line groups	Bright green
I2	Doughnut hole between FSM, Solomon Islands, Kiribati, RMI, Nauru and Tuvalu	Red
I5	International waters between Phoenix and Line groups and east of Line group	Pink
I7	High seas area to the east of Australia and New Zealand	Light green
I8	High seas pocket between Fiji and Vanuatu	Purple
I9	High seas pocket between the Cook Islands and French Polynesia	Yellow