



**SCIENTIFIC COMMITTEE
NINTH REGULAR SESSION**

6-14 August 2013
Pohnpei, Federated States of Micronesia

**ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS**

WCPFC-SC9-AR/CCM-06

FEDERATED STATES OF MICRONESIA

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Abstract

The current estimate of the total catch by the 29 FSM-flagged purse seine and longline vessels (national fleet) within the WCPFC Convention Area for the year 2012 is 37,764mt. Skipjack, yellowfin and bigeye are the key target species and accounted for 99% of the catches with the remaining 1% of non-target species catch. The total number of vessels authorized by the FSM to fish in the WCPFC area in 2012 was seven purse seiners and 22 longline vessels. By species composition, skipjack accounted for 84% (31,715mt) with yellowfin at 11% (4,187) bigeye 4% (1,661mt), and other species of 1% (201mt).

Data for the FSM artisanal fishery is not available as this falls within the responsibility of individual FSM states. The total FSM EEZ catch in 2012 by all gear types is 162,253mt; longline accounted for 3,354mt, pole and line 2,570mt and purse seine 158,269mt. Japan had the highest volume of catch by flag for both longliners and purse seiners, and also for pole and line (Japan is the only fleet conducting pole and line fishing in the FSM EEZ).

The FSM National Observer program operates with a pool of 84 observers and achieved 433 successful placements in 2012. Longline placements accounted for 18 trips, pole and line for 4 trips, and 415 trips for purse seiners. Ten newly recruited observers were hired in early 2012.

The FSM Port Sampling program is focused primarily on Pohnpei port. 227 purse seine and 76 longline vessels were sampled in Pohnpei in 2012. A total volume of 10,360mt of tuna was unloaded by 10 purse seine vessels and 32 longline vessels had an unloading volume of 179mt. There were no reported transshipment activities from the other FSM unloading ports over the last five years¹.

¹ 2012 unloading data for FSM is provisional

1 Annual Fisheries Information

1.1 Flag-State Reporting

There were 29 FSM flagged vessels authorized to fish in the Convention Area in 2012. The processed 2012 logsheet data indicated that 22 FSM flagged longline vessels and 7 purse seine vessels submitted catch data for fish caught within the Convention Area. In 2012, 6 FSM flagged longline vessels operated and based out of the Republic of the Marshall Islands (RMI) and the catch is attributed to FSM.

The total catch of the three main target species, (YFT, BET and SKJ) by FSM flagged vessels for the year 2012 within the WCPFC Convention Area is estimated to be 37,765mt. By gear type, purse seiners accounted for 95% , or 36,247mt and longliners at 5%, or 1,518mt. Other species catch totals by purse seine is recorded as 13mt, while longline is accounted for 188mt (Table 1 and 2).

1.1.1 FSM Purse Seine Catch in the WCPFC Convention Area

In 2012, FSM purse seine vessels recorded a total catch of (36,247mt) in the Convention Area, as illustrated in Table 1. Approximately 87% (31,715mt) of the total purse seine catch within the WCPFC Convention Area was skipjack and 10% (3,805mt) yellowfin tuna. There was an indication of bigeye tuna catch for 3% (713mt). Bycatch data not shown in table 1 for observer data encountered by FSM purse seiners had; 2mt silky sharks, 1mt blue marlin, with 2 turtles, 1 whale shark, and 0 birds respectively.

FSM purse seiners concentrated most of their fishing effort in the lower equatorial region, mostly within the lower FSM waters in 2012 and dispersing into the upper waters of Papua New Guinea (PNG) This fishing pattern for 2012 appears to show FSM purse seiners concentrating mostly in the South West and have extended toward the South East of Kiribati (Figure 1 and 2).

Table 1. Annual catch (mt) in the WCPFC Convention Area by species for the FSM PURSE SEINE fleet, 2008-2012.

SPECIES	2008	2009	2010	2011	2012
YELLOWFIN	2,350	2,344	2,887	3,154	3,805
BIGEYE	161	93	140	245	713
SKIPJACK	15,883	16,891	15,337	17,024	31,715
Other					13
Total					36,246

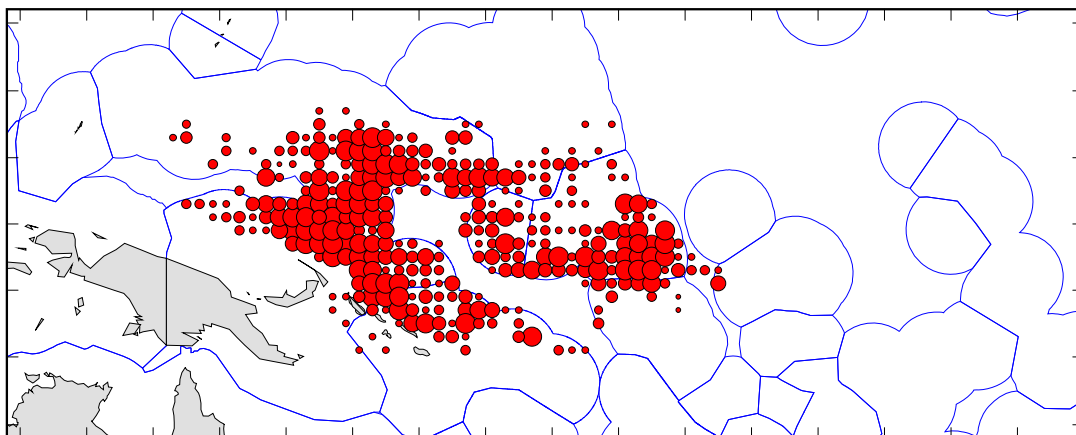


Figure 1: Annual distribution of FSM purse seine effort in 2012.

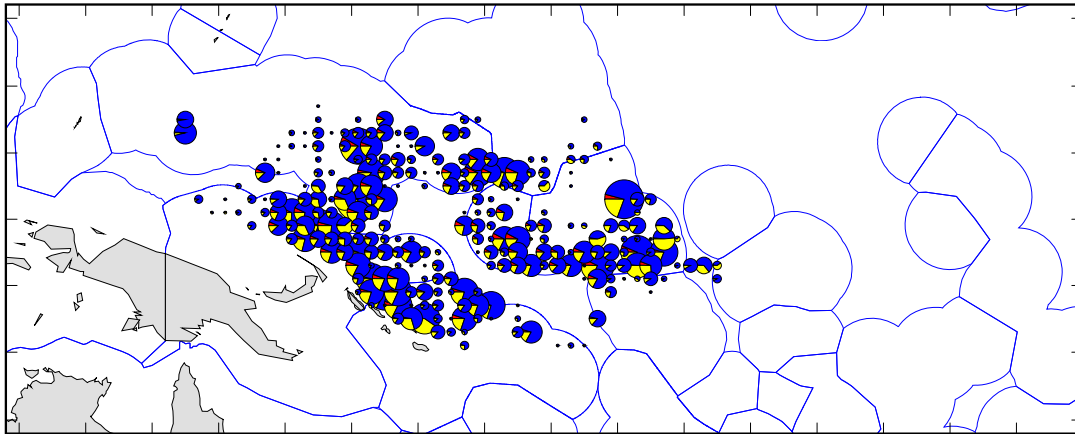


Figure 2. Annual distribution of FSM purse seine by species effort by in 2012.

1.1.2 FSM longline Catch in the WCPFC Convention Area

The total 2012 catch for all species in the WCPFC Convention Area for the FSM flagged longline vessels was reported to be 1,518mt. Effort data showed all (22) vessels fished actively. There were 22 vessels showing fishing effort within FSM EEZ, while 10 vessels were mainly fishing in RMI’s EEZ for the whole of 2012. The total catch by the 22 active vessels is comprised of 68% (948mt) bigeye, 29% (382mt) yellowfin, and 3% (44mt) of albacore. Other species and incidental catches is recorded as 181 mt (Table 2). Species catch estimates for sharks in 2012 has not yet been entered into the database from observer data.

Effort for the 22 active FSM longline vessels is more pronounced within the eastern section of FSM EEZ and South East of the Republic of the Marshall Islands (RMI) for 2012 (Figure 3 and 4). Most of the FSM flagged longline vessels are iced-operated, and can only stay out for a fishing period of two weeks before returning to port for unloading. Beginning June 2011, the majority of the FSM longline vessels switched from ice-operated to frozen operations.

Table 2. Annual catch and effort estimates for the FSM longline fleet, by species in the WCPFC Convention Area, 2008-2012

SPECIES	2008	2009	2010	2011	2012
YELLOWFIN	346	659	454	442	382
BIGEYE	976	1,656	975	930	948
BLUE MARLIN	109	293	176	77	111
BLACK MARLIN	112	25	46	97	21
SKIPJACK	0	0	1	0	0
ALBACORE	18	53	54	17	44
PACIFIC BLUEFIN TUNA	0	0	0	0	0
STRIPED MARLIN	0	0	0	1	0
SWORDFISH	21	30	16	13	12
Total	1,582	2,716	1,722	1,577	1,518

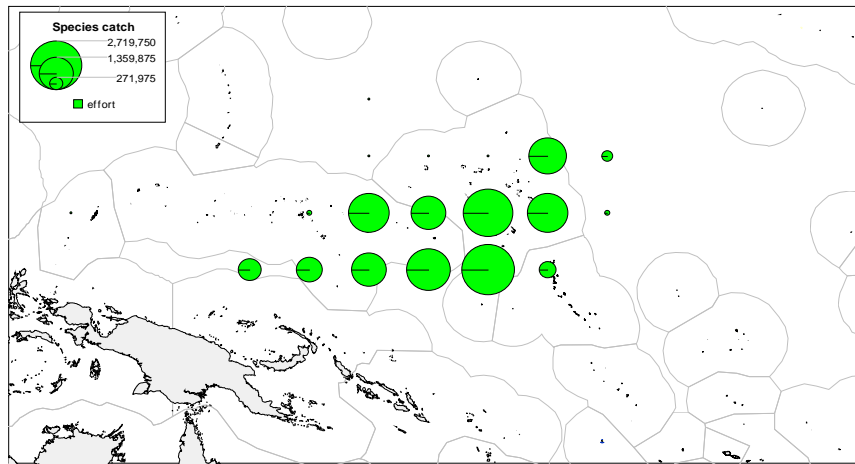


Figure 3. Annual distribution of FSM national longline fleet by target species effort, 2012.

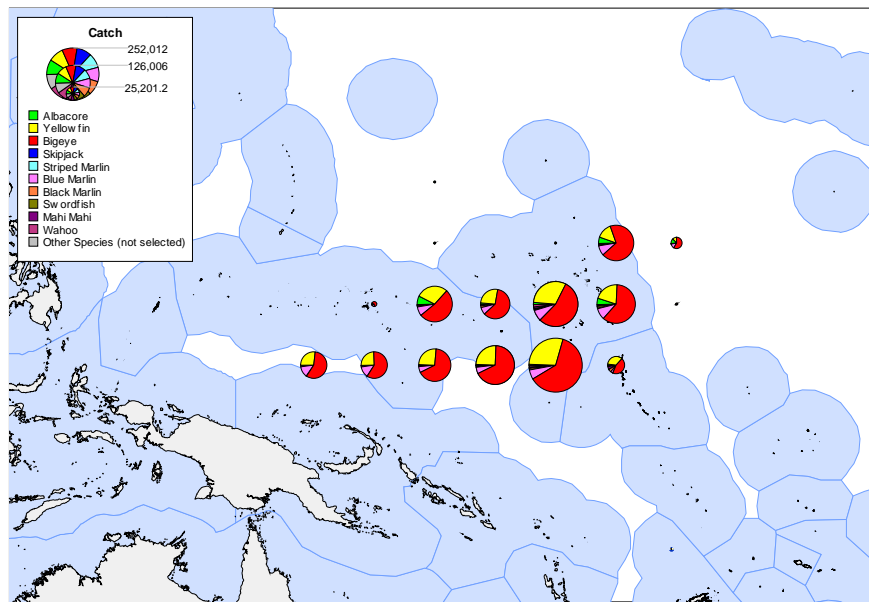


Figure 4. Annual distribution by FSM national longline fleet catch by target species, 2012.

1.2 Coastal State Reporting

1.2.1 Fleet Structure

In 2012, a total of 328 longline, pole and line and purse seine fishing vessels were licensed to fish in the FSM EEZ predominantly foreign fishing vessels (Table 3). By gear type, longliners accounted for 103, pole and line 25, and purse seiners 200. Of the 103 longliners, Japan accounted for 46 followed by China with 23, Chinese Taipei with 22, and FSM with 22 vessels. For purse seiners, the majority of the licensed purse seiners were from distant water fishing countries United States accounted for 39 vessels, majority of the licensed purse seiners were from distant water countries; Japan with 36, Chinese Taipei with 28, and South Korea with 31. For the 200 purse seine vessels in 2012 includes the FSMA fleet flags they were fishing under. Japan was the only country employing the pole and line gear with 25 licensed vessels in 2012.

Table 3. Annual Number of Foreign Fleet Vessels (by Flag and Gear-type) Licensed to Fish in the FSM EEZ, 2008-2012.

Country	Longline					Pole & Line					Purse Seine				
	2008	2009	2009	2011	2012	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Chinese, Taipei	40	52	32	13	22						38	32	30	30	28
South Korea											30	27	1		31
United States											32	37	37	36	39
Japan	58	43	43	43	46	25	27	27	24	25	35	37	35	32	36
Peoples Republic of China	7	8	37	18	23						11	10	10	9	13
Vanuatu											15	3	3		
Papua New Guinea												1	21		10
Tuvalu													1		
Kiribati															8
FSM	21	21	23	26	22						5	6	7		7
Rep. of Marshall Islands											5		4		10
Philippines												1	2	1	5
Vanuatu															13
Total	126	124	135	100	103	25	27	27	24	25	171	179	146	151	200

1.2.2 Catch in FSM EEZ

The 2012 catch by the tuna fishery in the FSM EEZ by logsheets is estimated to be 162,253mt, a decrease in catch by all gear types within the FSM waters (Table 4). Purse seine accounted for 158,269mt followed by longliners 3,354mt with 2,570mt catch by the pole and line vessels. Total EEZ catch in 2012 shows a decreased by 8,00mt of total EEZ catches over the last year, however, this is still based on provisional data.

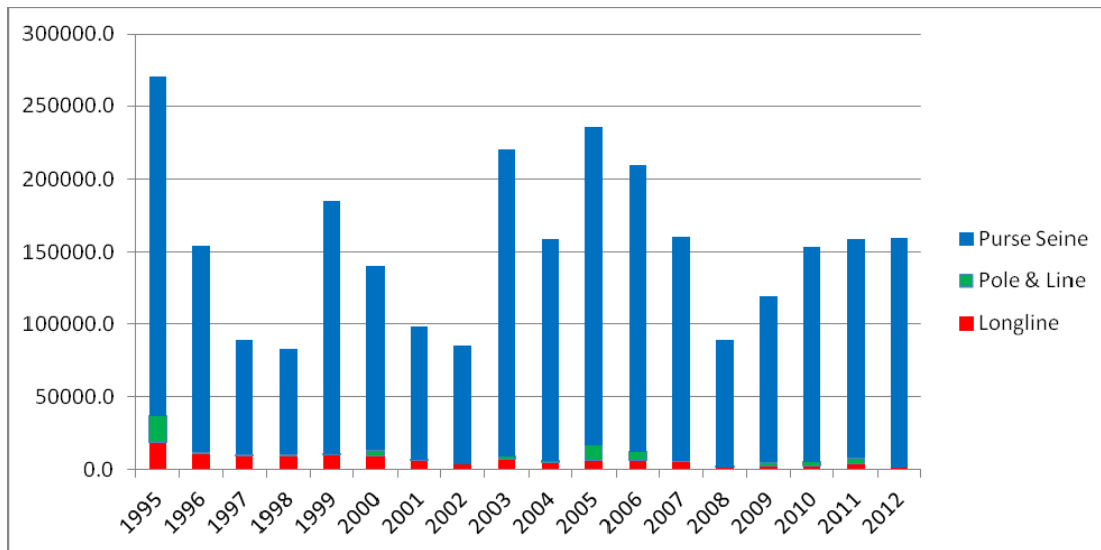


Figure 5. Trend of Catch by all gear-types in FSM Waters, 1995-2012.

Table 4. Annual Catch Records for all Gear-types within FSM EEZ, 1995-2012.

Year	Catch (Metric tonnes)			Total
	Longline	Pole and line	Purse Seine	
1995	18,698	18,147	233,838	270,683
1996	11,144	1,054	143,691	155,889
1997	9,742	1,003	80,998	91,743
1998	9,622	1,026	82,939	93,587
1999	10,118	555	176,758	187,431
2000	9,745	3,845	136,499	150,089
2001	6,574	689	99,140	106,403
2002	3,487	0	78,653	82,140
2003	7,057	2,577	219,249	228,883
2004	5,084	1,405	147,383	153,872
2005	6,340	11,086	220,203	237,629
2006	6,539	6,023	202,242	214,804
2007	5,447	572	168,384	174,404
2008	1,799	5	133,882	135,686
2009	2,790	2,138	123,135	128,063
2010	2,875	2,824	146,866	152,564
2011	3,735	4,284	162,382	170,400
2012	3,354	2,570	158,269	162,253

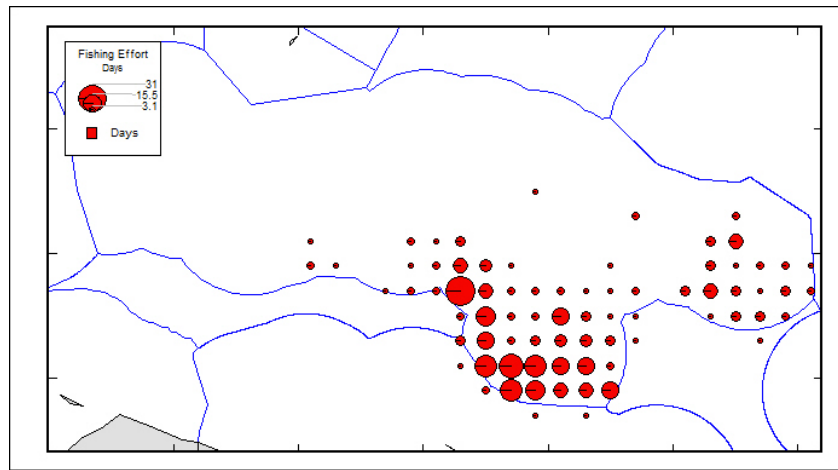
1.2.3 Purse Seine Catch in FSM Waters

The 2012 total catch by purse seine gear type within the FSM EEZ is recorded as 158,269mt (Table 4). The purse seine total catch decreased by about 8,000mts compared to last year. Over the last decade, the purse seine total catch within the EEZ has fluctuated between 50,000 to 200,000mt over the past 15 years (Figure 5).

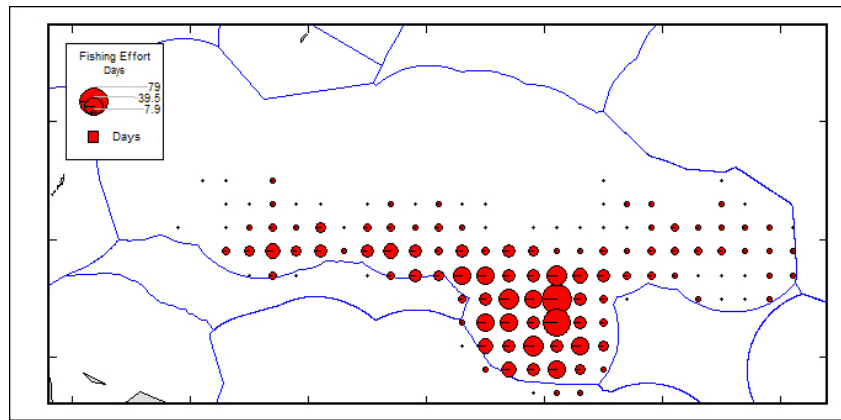
There is a higher volume of catch by Japan followed by Chinese Taipei and Korean vessels as indicated in Table 5. The Korean and Chinese vessels concentrated their fishing efforts mostly at the Southern part of the FSM EEZ unlike Chinese Taipei and Japan vessels which fished South West of the FSM EEZ. Figure 6 displays the four main purse seine fleets and their areas of concentrated fishing days within the EEZ in 2012.

Table 5. Historical Annual catches by major purse seine fleets in the FSM EEZ, by flag and species, 2008-2012.

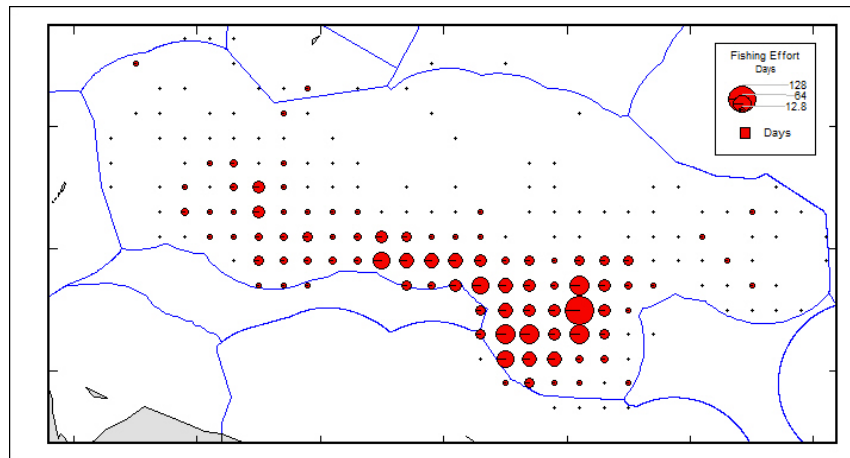
FLAG	Year	Catch (Metric tonnes)			TOTAL
		SKJ	YFT	BET	
CHINA	2008	5,346	1,399	233	6,978
	2009	11,075	1,781	485	13,341
	2010	4,337	890	160	5,387
	2011	7,259	1,650	375	9,284
	2012	6,677	542	171	7,390
CHINESE TAIPEI	2008	21,602	6,312	1,367	29,282
	2009	23,215	4,264	1,553	29,033
	2010	19,258	3,622	1,254	24,133
	2011	37,310	10,809	2,125	50,244
	2012	26,837	1,687	92	28,617
JAPAN	2008	52,762	5,875	1,493	60,130
	2009	30,530	4,891	401	35,822
	2010	45,469	3,524	233	49,226
	2011	37,447	7,604	711	45,763
	2012	55,845	4,818	836	61,499
KOREA	2008	3,965	1,659	145	5,770
	2009	3,606	658	80	4,344
	2010	9,359	1,637	360	11,356
	2011	8,913	3,326	171	12,410
	2012	10,214	1,870	41	12,125
USA	2008	7,137	2,216	303	9,656
	2009	17,204	2,501	868	20,574
	2010	18,695	3,311	1,195	23,201
	2011	10,638	1,830	579	13,048
	2012	6,783	612	48	7,443
TOTAL EEZ	2012	10,060	9,529	1,188	117,074



CHINA



CHINESE TAIPEI



JAPAN

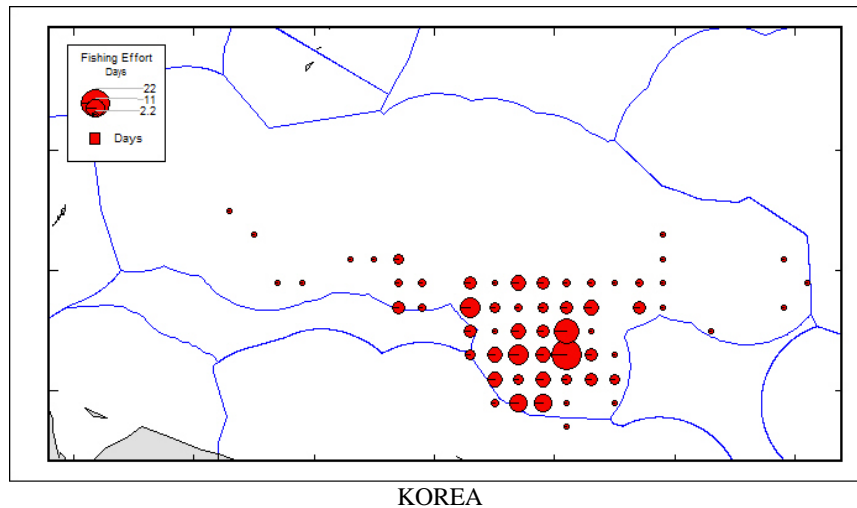


Figure 6. Annual distribution of effort by the main foreign purse seine fleets active in the FSM EEZ, 2012.

1.2.4 Longline Catch in FSM Waters

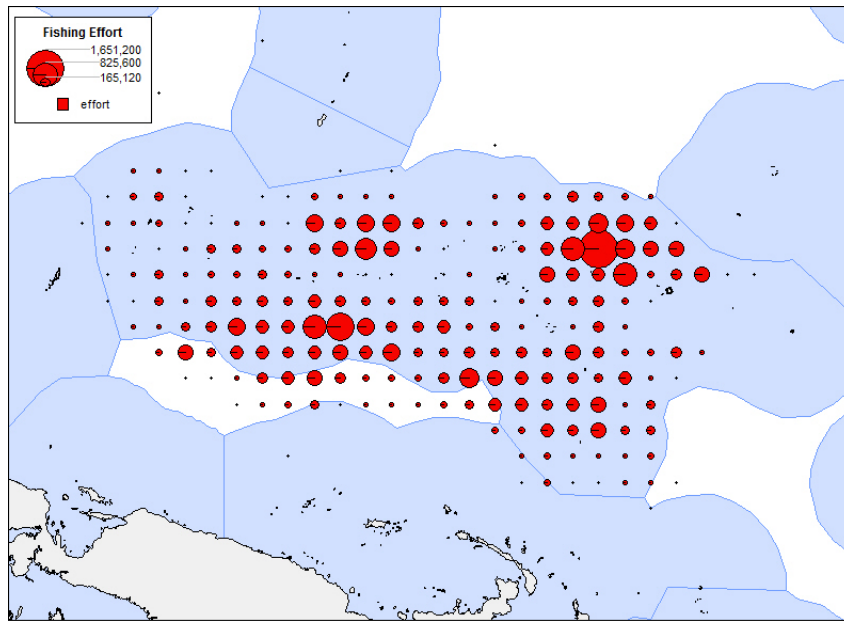
The total longline catch targeting yellowfin and bigeye tuna in the FSM EEZ by the four fleets was 3,354mt. Catch by flag, Japan-Guam based accounted for 66% (2,210 mt) of the total catch while the Pohnpei based Chinese longline fleet accounted for 8% (256mt). The catch of the domestic-based- Chinese Taipei longliners decreased compared to last year accounting for 4% (138mt) while FSM accounted for 22% (750mt) (Table 6).

TUFMAN record is indicating most of the fishing effort by the Japan Guam-based longline fleet, is within the western and eastern section of the FSM EEZ. The longline fleets Chinese Taipei and China operating out of Pohnpei, FSM is indicating the most effort spent in the South Eastern part of the EEZ (Figure 7).

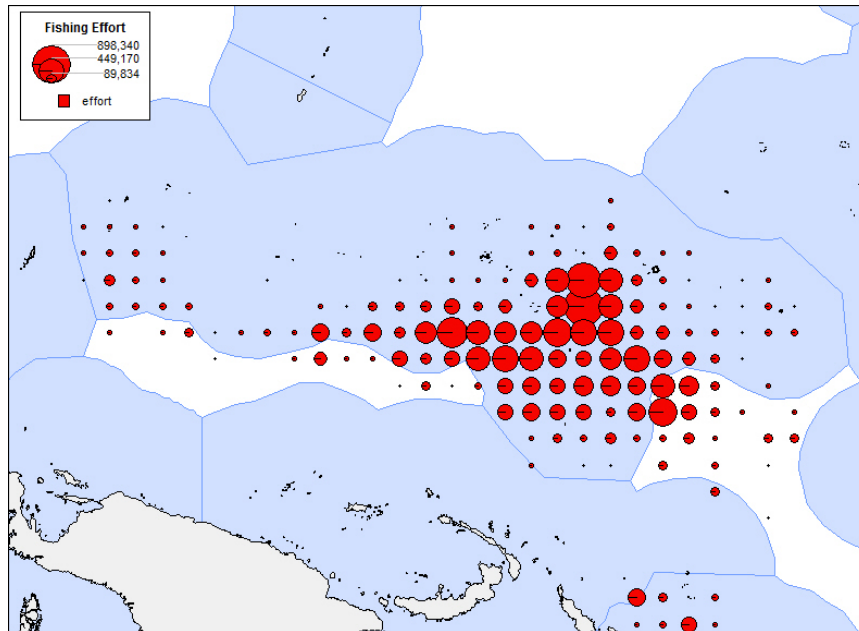
Table 6. Estimated Annual tuna catches by longline fleets in the FSM EEZ, by flag and species, 2008-2012.

Fleet	Year	Catch (Metric tonnes)		
		YFT	BET	Total
China	2008	258	74	333
China	2009	282	105	387
China	2010	175	72	247
China	2011	233	51	284
China	2012	213	43	256
FSM	2008	535	183	718
FSM	2009	647	275	921
FSM	2010	435	204	640
FSM	2011	629	376	1,005
FSM	2012	194	556	750
Chinese Taipei	2008	149	31	180
Chinese Taipei	2009	409	201	610
Chinese Taipei	2010	376	320	696
Chinese Taipei	2011	173	149	322
Chinese Taipei	2012	54	84	138
Japan	2008	380	160	540
Japan	2009	452	390	842
Japan	2010	645	587	1,232

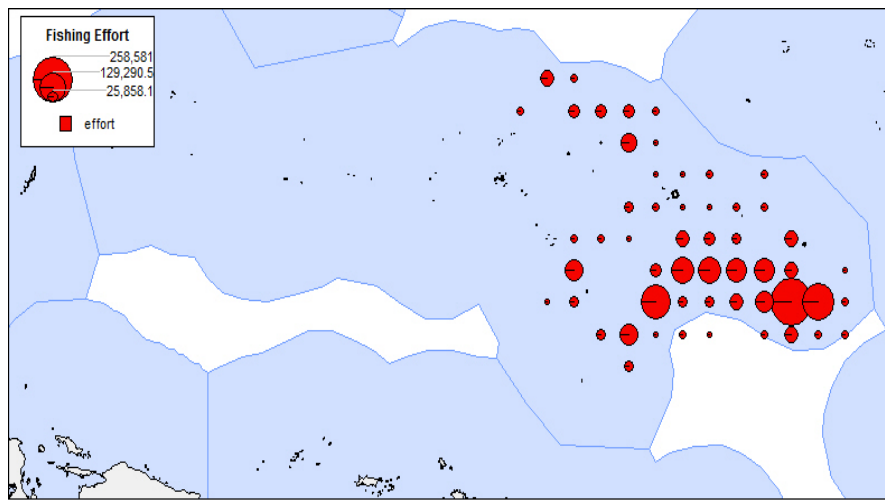
Japan	2011	1,311	691	2,002
Japan	2012	620	1,590	2,210
Total EEZ	2012	1,081	2,273	3,354



Japan Longline Fleet fishing effort



Chinese Taipei Longline fishing effort



China longline fishing effort

Figure 7. Annual distribution of effort by the main foreign longline fleets active in the FSM EEZ for 2012.

1.2.5 Pole and Line Catch in the FSM Waters

Pole and line catch within the FSM' EEZ for 2012 is indicating a total of 2,570mt of tuna species. Current catch record in Table 7 is showing the break-down of the three target species, (BET 8mt, YFT 10mt, and SKJ 2,552mt). The pole and line fishing effort is mainly focused North East of the FSM' EEZ for the year, 2012.

Table 7. Annual catches by foreign pole-and-line fleets in the FSM EEZ, by flag and species, 2008-2012.

Fleet	Year	Days	Vessels	BET	SKJ	YFT	OTH	TOTAL
Japan	2008	7	5	0	5	0	0	5
	2009	57	10	0	89	3	0	92
	2010	345	25	0	2,795	4	0	5
	2011	737	27	0	4,782	37	0	4,819
	2012	530	24	8	2,552	10	0	2,570

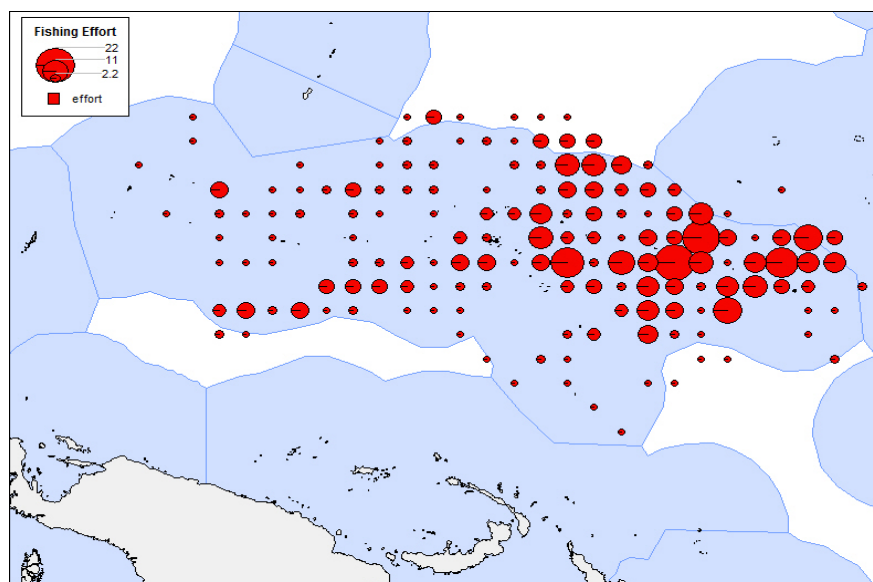


Figure 8. Japan Pole and Line Catch and Effort, 2012.

2 Research and Statistics

2.1 The FSM Fisheries Observer Program

The FSM's National Fisheries Observer Program (NFOP) has been operating since 1979. With the expansion and diversification of the fleets in the FSM, NFOP was expanded to a maximum pool of 12 personnel in 1995 under contractual services. Since 1995-2012, the FSM's NFOP has contracted over 70 fisheries observers. In early 2012, SPC conducted a basic fisheries observer training in Pohnpei, FSM adding 10 newly recruited observers for a total pool of 84 fisheries observers in 2012.

The NFOP achieved 433 observed trips in 2012 covering longline, pole and line, and purse seine vessels. Of the 433 observer placements, 415 trips were on purse seiners, 18 trips on longlines, and 4 pole and lines (Table 8). The top three flag vessels for observer placement were with Japan at 153, 82 on FSMA vessels, and Chinese Taipei at 70 placements. Observer coverage for the purse seine fleet is 100% for each of the fleets and 5% observer longline coverage began in early 2012.

Table 8. Observer Trip Coverage per Flag and Gear-type, 2012

Gear Type	Trips	Flag
Longline		
	9	China
	0	FSM
	5	Chinese Taipei
	4	Japan
Purse Seine		
	12	China
	104	FSM +(FSMA)
	153	Japan
	36	Korea
	70	Chinese Taipei
	40	USA
Pole and Line		
	4	Japan
Pole and Line	4	
Longline	18	
Purse Seine	415	
Pole and Line	4	
Grand Total	433	

The FSM observer program provided observers to over five distant water fishing countries in 2012; e.g. Chinese Taipei, USA, China, Japan and the FSMA fleet. The PNA 3rd Implementing Agreement's, 100% observer coverage requirement results in a greater number of observers being placed on purse seine vessels. Only 18 longline placements were made for the entire 2012 period.

FSM and RMI continued with a bilateral arrangement for reciprocal placements of observers on their respective vessels. The Reciprocal Arrangement was successfully carried out by both parties to obtain 100% coverage for both countries. A total of 83 observer placements from the FSM NFOP were made for RMI vessels in 2012.

2.2 The FSM Port Sampling Program

The National Oceanic Resources Management Authority (NORMA) operates a port sampling program and continuously monitors unloading and transshipment activities within FSM ports. In addition, NORMA continues to use its observer program to assist in conducting port sampling activities. FSM's main port for unloading and transshipment is in Pohnpei and there was one longline reported transshipment activity in Kosrae port that was unobserved and unsampled. NORMA's current sampling records show that 227 purse seine vessels transshipped 171,466mt and 76 longliners transshipped 311 mt (Table 9 and 10). Please note that the estimated transshipment volume is not the estimated amount unloaded in Pohnpei port, but an estimated volume of what each vessel had when it entered Pohnpei port. Table 9 and 10 in Section 2.3 provide more detail on unloaded tonnage. There were 25 FSM purse seiners sampled that had a total of 16,118 mt whereas 56 FSM longliners sampled had 290mt of tuna in 2012.

FSM has continued sampling the United States purse seine vessels that transshipped in FSM since 2010 to 2012 in accordance with contractual services between FSM and the National Oceanic and Atmospheric Administration (NOAA). The contractual services include port sampling program and port sampling data collection for the UST vessels transshipping in FSM ports.

Table 9. Purse Seine port sampling activities in FSM, 2012.

Purse Seine Port Sampling 2012			
Port	Flag	No. of Vessels	Tonnage (mt)
Pohnpei	Japan	36	26,345
	Taiwan	52	38,636
	Korea	51	39,866
	China	17	12,643
	USA	26	22,174
	FSM	25	16,118
	Vanuatu	11	10,444
	Kiribati	9	5,240
Total		227	171,466

Source: NORMA Records

Table 10. Longline port sampling activities in FSM, 2012.

Longline Port Sampling 2012			
Port	Flag	No. of Vessels	Tonnage (mt)
Pohnpei	China	6	20
	FSM	56	290
	Taiwan	N/A	N/A
Total		76	311

Source: NORMA Records

2.3 Purse Seine Unloading in FSM

In 2012, a total of ten purse seine vessels unloaded their catch in Pohnpei port with a total volume of 10,363mt. Table 9 shows summaries of the purse seine unloading activities in FSM for 2012 by total volume and target tuna species. Unloading data for 2012 is still provisional and is an under-estimate of the total volume of purse seine vessel unloading in Pohnpei port. A majority of the 2012 unloading data is pending reconciliation.

Table 9. Purse Seine unloading activities in FSM, 2012.

Port	Flag	2012 Records in MT				Total	Unloading
		SKJ	BET	YFT	Mixed		
Pohnpei	CN	-	-	-	-	-	0
	KI	-	-	-	-	-	0
	KR	1,145	25	320	-	1,490	2
	TW	1,530	0	120	-	1,650	2

	FM	375	0	140	-	515	1
	VU	-	-	-	-	4,686	0
	USA	-	-	-	-	-	0
	JPN	1,753	24	245	-	2,022	5
TOTAL						10,363	10

Source: NORMA Records

2.4 Longline Unloading in FSM

The 2012 longline unloading record is showing a total of 32 unloadings in Pohnpei port with a volume of 179mt of tuna and other species by the three longline fleets (Table 10). The 32 unloadings reported for the year had 26 FSM, 5 China, and 1 Chinese Taipei vessels. The 32 longline unloading data are still provisional and may not match the unloading number of all vessels unloaded in Pohnpei port compared to the port sampling².

Table 10. Longline unloading in FSM, 2012.

Port	Year	Flag	Species	Mt	Unloading
POHNPEI	2012				
		CN	BET	13	5
		CN	YFT	4	
		CN	OTH	0	
		TW	BET	1	1
		TW	YFT	0	
		TW	OTH	0	
		FM	BET	95	26
		FM	YFT	28	
		FM	OTH	38	
Total				179	32

Source: NORMA Records

² Longline unloadings data are still provisional and compared with port sampling data may not match the number for all vessels that unloaded in Pohnpei port.

