



**SCIENTIFIC COMMITTEE
EIGHTH REGULAR SESSION**

7-15 August 2012
Busan, Republic of Korea

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

WCPFC-SC8-AR/CCM-06

FEDERATED STATES OF MICRONESIA

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Abstract

The current estimate of the total catch by the 33 FSM purse seine and longline vessels (national fleet) within the WCPFC Convention Area for the year 2011 is 28,663mt. Skipjack, yellowfin and bigeye the key target species accounted for 97% of the catches with the remaining 3% of non-target species catch. The total number of purse seine vessels employed by FSM is 7 purse seiners and 26 longline vessels in 2011. By species composition, skipjack accounted for 80% (22,905mt) with yellowfin at 14% (3,815) and bigeye 5% (1,690mt), and other species of 1% (322mt). In general, catch for our domestic fleet within the convention area has increased 18% generally in 2011.

Data for artisanal fishery is not available as these falls within the states responsibility. The total FSM EEZ catch in 2011 by all gear types is 170,400mt; longline accounted for (3,735mt), pole and line (4,284mt), and purse seine (162,382mt). Japan had the highest volume of catch by flag for longliners, Chinese Taipei for purse seiners, and Japan for Pole and line as it is the only flag doing this type of fishing in the FSM EEZ.

The FSM National Observer program operates with a pool of 78 observers and achieved 367 successful placements in 2011; with longliner accounting for 2 trip, 3 pole and line, and 362 purse seiners. Five senior observers received beginners debriefing training by the Secretariate of the Pacific Community (SPC) in late 2011 and are to become fully trained debriefers when they've met all SPC qualifications.

The Port Sampling coverage for 2011 sampled 124 purse seiners and 134 longliners. A total volume of 99,930mt mixed tuna was transshipped by purse seine vessels. Longlines had an unloading volume of 730mt. Most of the unloaded volume by longliners was by the FSM flagged, followed by China, and Chinese Taipei. The 2011 transshipment data for purse seines is still provisional and underestimate of the total volume and number of purse seine vessels. A total of 17,867 individual tuna were measured from 121 purse seine trips and 21,437 individual tuna were measured for 127 longline trips by port samplers in 2011.

1 Annual Fisheries Information

1.1 Flag-State Reporting

There were 33 FSM flagged vessels authorized to fish in the Convention Area in 2011. The processed 2011 logsheet data indicated that 26 FSM flagged longline vessels and 7 purse seine vessels submitted catch data for fish caught within the Convention Area. In 2011, 8 FSM flagged longline vessels operated and based out in the Republic of the Marshall Islands (RMI) and the catch is attributed to Marshalls. *Noting that the RMI based and operated FSM flagged longline vessels' catches for 2011 is included in the WCPFC FSM flagged vessels' total catches.*

The total catch of the three main target species, (YFT, BET and SKJ) by FSM flagged vessels for the year 2011 within the WCPFC Convention Area is estimated to be 28,410mt. By gear type, purse seiners accounted for 93% (26,505mt) and longliners 7% (1,905mt). Other species catch totals by purse seine is recorded as 0mt, while longline is accounted for 253mt (Table 1 and 2).

1.1.1 FSM Purse Seine Catch in the WCPFC Convention Area

In 2011, FSM purse seine vessels recorded a total catch of 26,505mt in the Convention Area, as illustrated in Table 1. Approximately 86% (22,905mt) of the total purse seine catch within the WCPFC Convention Area was skipjack and 12% (3,179mt) yellowfin tuna. There was an indication of bigeye tuna catch for 2% (421mt). Not shown in table 1 is species catch estimates and bycatch by observer data, 128mt silky sharks, 0mt blue shark, 0mt thresher shark, 0mt, oceanic whitetip shark, 0mt mako shark and 10mt on other shark/rays. *This report further note that effort by fishing days is sourced from logsheet data for all FSM flagged Purse Seine vessels within the WCPO area, including effort within the FSM's EEZ.*

FSM purse seiners concentrated most of their fishing effort in the lower equatorial region, mostly within the lower FSM waters in 2009 and dispersing into the upper waters of PNG, towards the south for 2010. This fishing pattern for 2011 appears to show FSM purse seiners concentrating mostly in the upper region of PNG, towards south of Solomon Islands (Figure 1). The total catch increased (over 3,000mt) over last year's catches.

Table 1. Annual catch and effort estimates for the FSM purse-seine fleet, by species in the WCPFC Convention Area, 2007-2011.

Year	Catch (Metric tonnes)			
	SKJ	YFT	BET	Total
2007	11,853	1,448	196	13,497
2008	15,933	1,899	294	18,126
2009	16,784	1,807	545	19,136
2010	19,395	2,858	195	22,448
2011	22,905	3,179	421	26,505

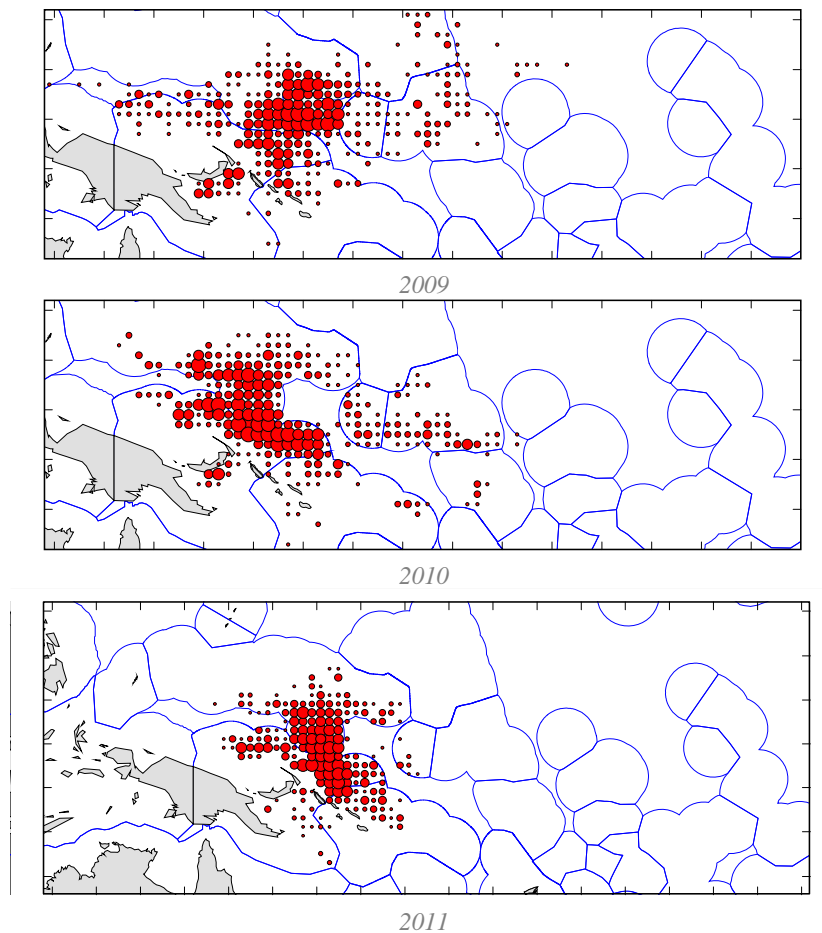


Figure 1. Annual distribution of effort (days fishing and searching) for the FSM purse seine fleet, 2009, 2010 and 2011

1.1.2 FSM longline Catch in the WCPFC Convention Area

The total catch for all species in the WCPFC Convention Area for the FSM flagged longline vessels was reported to be 2,158mt in 2011. Effort data showed all (26) vessels fished actively. There were 20 vessels showing fishing effort within FSM EEZ, while 8 vessels were mainly fishing out in RMI's EEZ for the whole 2011 period. The total catch by the 26 active vessels is comprised of 59% (1269mt) bigeye, 30% (636mt) yellowfin, and 11% (231mt) of billfish. Other species and incidental catches is recorded as 22 mt. Species catch estimates for sharks are not yet available at this stage, but species composition and discard rates from observers are provided. The species composition of the longline shark catch is Blue shark: 83%; silky shark: 11%; oceanic whitetip shark: 4%; Thresher shark: 2%, respectively. The discard rate of the longline shark catch is Blue shark: 90%; silky shark: 28%, oceanic white tip: 12% and thresher: 95%, respectively.

Effort for the (26) active FSM longline vessels is more pronounced within the eastern-mid section of the EEZ, towards, Pohnpei area, and increases towards the lower region of RMI waters for 2011. 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. Eight of the FSM flagged longline vessels are based and operating in RMI waters, dispersed effort towards lower and north eastern region of RMI waters (figure 2, bottom).

Table 2. Annual catch and effort estimates for the FSM longline fleet, by species in the WCPFC Convention Area, 2006-2011

Year	Vessels	Days	Catch (Metric tonnes)								TOTAL
			ALB	BET	SKJ	YFT	BLM	BUM	MLS	SWO	
2006	7	1,101	0	172	0	270	9	27	2	13	493
2007	13	1,063	0	1,395	0	548	40	117	10	57	2,167
2008	15	2,647	0	970	0	328	5	192	1	20	1,516
2009	25	2,404	40	1,395	0	583	24	245	0	26	2,313
2010	23	4,008	49	899	0	406	12	185	0	15	1,566
2011	26	1,092	22	1269	0	636	37	175	3	16	2,158

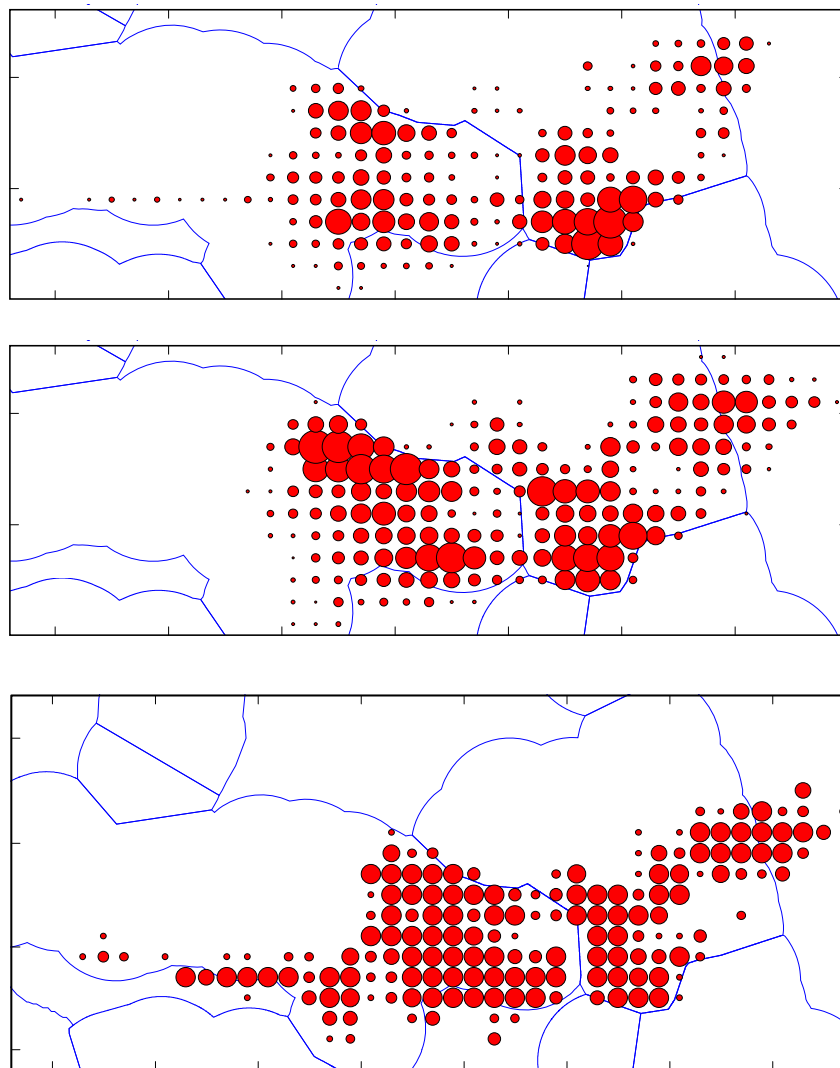


Figure 2. Annual distribution of effort (100s of hooks) for the FSM longline fleet throughout the WCPFC Convention Area for 2009 (top), 2010 (middle) and 2011 (bottom)

1.2 Coastal State Reporting

1.2.1 Fleet Structure

In 2011, a total of 283 longline, pole and line and purse seine fishing vessels were licensed to fish in the FSM EEZ which were predominantly foreign fishing vessels (Table 3). By gear type, longliners accounted for 100, pole and line 24, and purse seiners 163. Of the 100 longliners, Japan accounted for 43 followed by China of 18, Chinese Taipei with 13, and FSM of 26 vessels. In terms of 163 purse seiners, United States accounted for 36 vessels, Japan of 35, Chinese Taipei of 30, China of 9, Korea 28, Philippines 1, and the remaining 24 vessels (FSM 10, Kiribati 4, and Marshall Islands 10) were from Pacific Island countries. Japan was the only country employing the pole and line gear with 24 licensed in 2011.

Table 3. Annual Number of Foreign Fleet Vessels (by Flag and Gear-type) Licensed to Fish in the FSM EEZ, 2007-2011

Country	Longline					Pole & Line					Purse Seine				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Chinese, Taipei	27	40	52	32	13						34	38	32	30	30
South Korea											28	30	27	28	28
United States											21	32	37	37	36
Japan	66	58	43	43	43	8	25	27	27	24	35	35	37	35	35
Peoples Republic of China	11	7	8	37	18						10	11	10	10	9
Vanuatu											14	15	3	3	-
Papua New Guinea											10		1	21	-
Tuvalu												-		1	-
Kiribati											1				4
FSM	29	21	21	23	26						4	5	6	7	10
Rep. of Marshall Islands											4	5		4	10
New Zealand												-		0	-
Philippines												-	1	2	1
Solomon														0	-
Total	133	126	124	135	100	8	25	27	27	24	162	171	179	146	163

1.2.2 Catch in FSM EEZ

The 2011 catch by the tuna fishery in the FSM EEZ by logsheets is estimated to be 170,400mt, an increase in catch by all gear types within the FSM waters. Purse seine accounted for 162,382mt followed by longliners 3,735mt with 4,284mt catch by the pole and line vessels. Total EEZ catch in 2011 shows a slight increase of total EEZ catches over the last two years by all gear types. The 2011 increased total EEZ catch is primarily due to a significant increasing of fishing effort amongst the purse seine fleets as well as the longliners for this period, compared to the last two years.

Figure 3. Trend of Catch by all gear-types in FSM Waters, 1995-2011

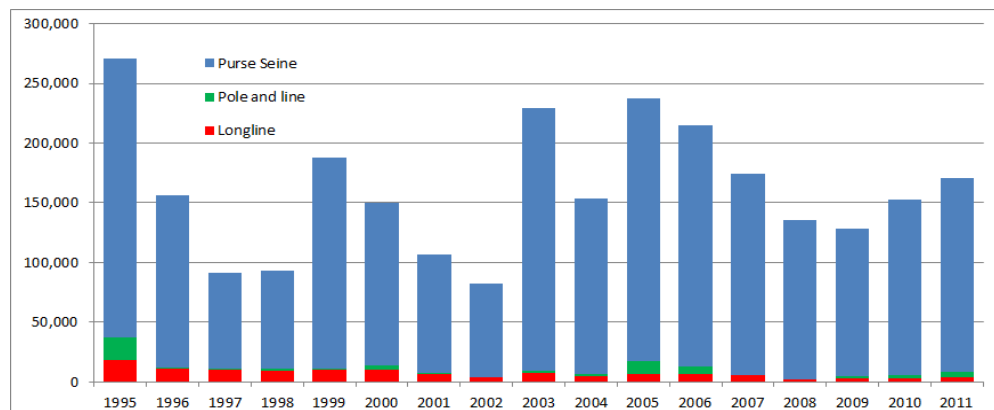


Table 4. Annual Catch Records for all Gear-types within FSM EEZ, 1995-2011

	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

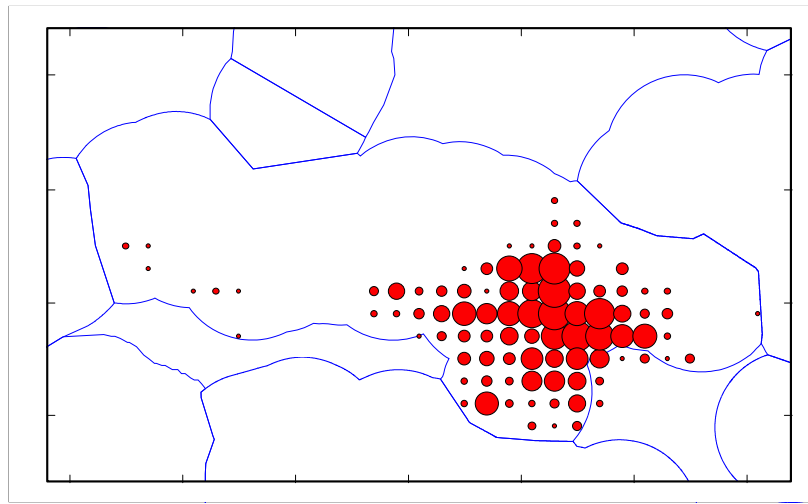
1.2.3 Purse Seine Catch in FSM Waters

The 2011 total catch by purse seine gear type within the FSM EEZ is recorded as 162,382mt. The purse seine total catch has increased over the last two years (2008-2010) catches. Over the last decade, the purse seine total catch within the EEZ has fluctuated between 50,000 to 200,000mt with an overall average of 170,000mt annually over the past 14 years.

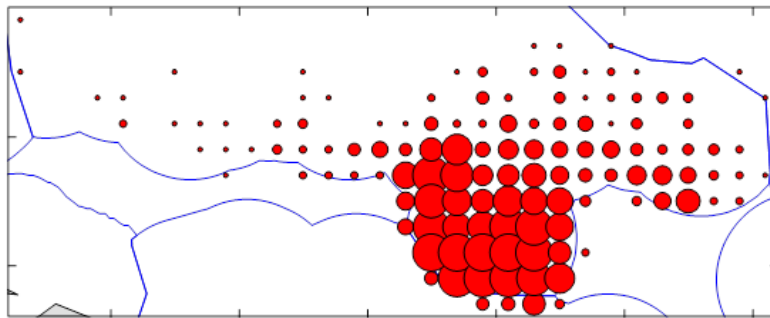
There is a higher volume of catch by the Chinese Taipei followed by Japan and the FSMA vessels as indicated by Table 5. The China vessels showed an increase catch of 4,000mt in 2011 in the FSM EEZ. In Figure 4 displays the three main purse seine fleets and their areas of concentrated fishing days within the EEZ in 2011. Two purse seine fleets were fishing in the mid-eastern section Chinese Taipei and FSMA fleet, while Japan was fishing in the lower to western section of FSM.

Table 5. Historical Annual catches by major purse seine fleets in the FSM EEZ, by flag and species, 2007-2011.

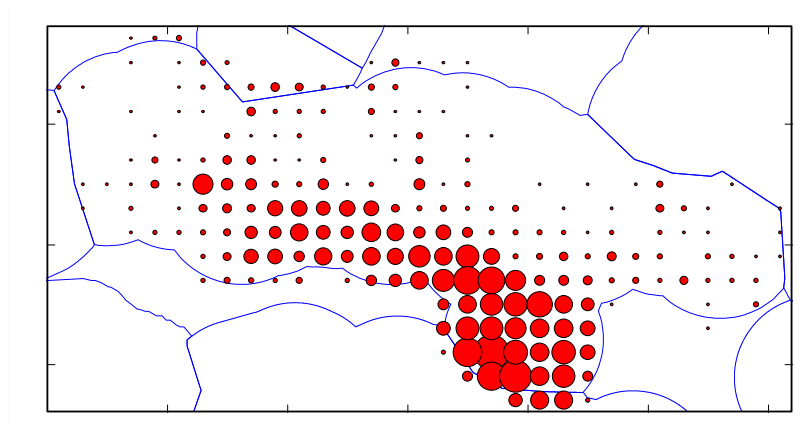
FLAG	Year	Catch (Metric tonnes)			
		SKJ	YFT	BET	TOTAL
CHINA	2007	11,461	2,228	245	13,935
	2008	5,346	1,399	233	6,978
	2009	11,075	1,781	485	13,341
	2010	4,337	890	160	5,387
	2011	7,259	1,650	375	9,284
CHINESE TAIPEI	2007	45,453	7,876	2,084	55,412
	2008	21,602	6,312	1,367	29,282
	2009	23,215	4,264	1,553	29,033
	2010	19,258	3,622	1,254	24,133
	2011	37,310	10,809	2,125	50,244
FSM ARRANGEMENT	2007	26,226	4,516	834	31,576
	2008	14,210	3,849	772	18,830
	2009	15,259	2,683	651	18,594
	2010	24,796	4,914	1,460	31,170
	2011	21,827	4,288	1,068	27,183
JAPAN	2007	44,217	4,394	678	49,288
	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
KOREA	2007	9,307	1,541	242	11,090
	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
USA	2007	2,647	434	69	3,150
	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
VANUATU	2007	3,484	382	67	3,934
	2008	2,535	512	21	3,068
	2009	1,222	161	44	1,428
	2010	1,947	327	118	2,391
	2011	3,673	691	85	4,449
TOTAL	2007	142,794	21,370	4,220	168,384
	2008	107,558	21,823	4,335	133,715
	2009	102,112	16,940	4,083	123,135
	2010	123,862	18,224	4,780	146,865
	2011	127,069	30,199	5,114	162,382



CHINESE TAIPEI



FSMA



JAPAN

Figure 4. Annual distribution of effort by the main foreign purse seine fleets active in the FSM EEZ, 2011

1.2.4 Longline Catch in FSM Waters

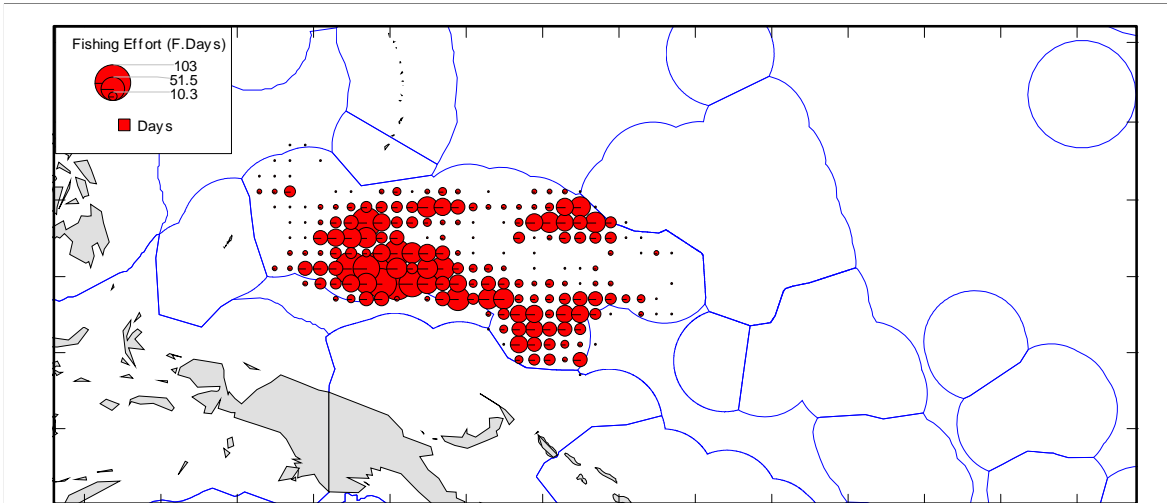
The total longline catch targeting yellowfin and bigeye tuna in the FSM EEZ by the four fleets was 3,613mt. Catch by flag, Japan accounted for 45% (2,002mt) of the total catch while the Pohnpei based Chinese longline fleet accounted for 8% (284mt). The catch of the domestic based- Chinese Taipei longliners decreased compared to last year accounting for 10% (322mt) while FSM accounted for 28% or (1,005mt) (Table 6). In contrast, the Japan-Guam based longline vessels had the most catch in zone, followed by FSM, Chinese Taipei and China.

TUFMAN record is indicating most of the fishing effort by Japan Guam-based longline fleet, scattered effort within the lower western and eastern section of the FSM waters. The Chinese Taipei operating out of Pohnpei, FSM is indicating the most effort spent in the middle and lower-eastern part of the EEZ, towards Kapingamarangi atoll area, whereas the China fleet is focused towards the very eastern area of the EEZ (Figure 5).

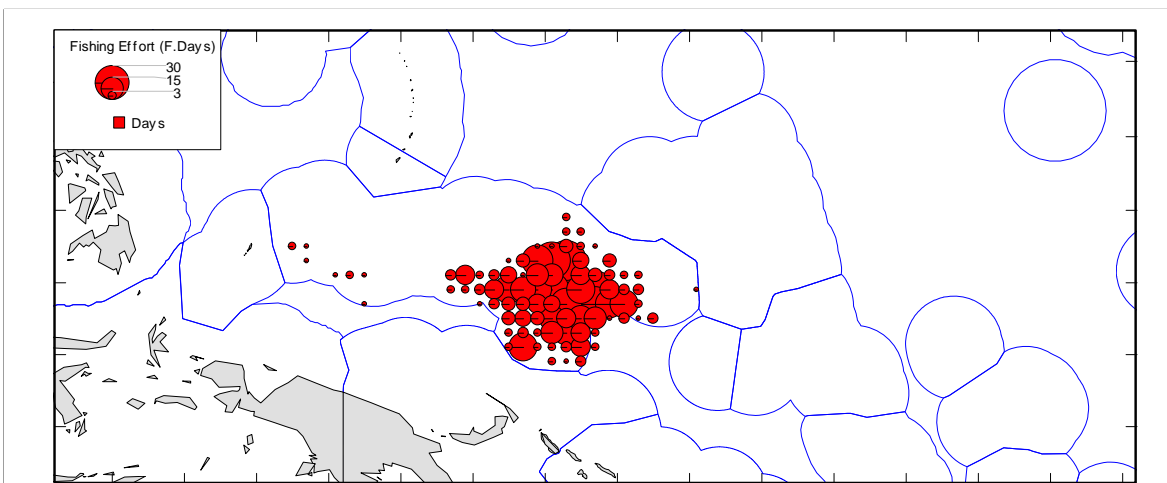
Table 6. Estimated Annual tuna catches by longline fleets in the FSM EEZ, by flag and species, 2007-2011.

Fleet	Year	Catch (Metric tonnes)		
		YFT	BET	Total
China	2007	922	310	1,232
China	2008	258	74	333
China	2009	282	105	387
China	2010	175	72	247
China	2011	233	51	284
FSM	2007	188	93	281
FSM	2008	535	183	718
FSM	2009	647	275	921
FSM	2010	435	204	640
FSM	2011	629	376	1,005
Chinese Taipei	2007	440	187	627
Chinese Taipei	2008	149	31	180
Chinese Taipei	2009	409	201	610
Chinese Taipei	2010	376	320	696
Chinese Taipei	2011	173	149	322
Japan	2007	1,883	1,378	3,261
Japan	2008	380	160	540
Japan	2009	452	390	842
Japan	2010	645	587	1,232
Japan	2011	1,311	691	2,002
Total EEZ	2007	3,691	1,968	5,659
	2008	1,322	448	1,770
	2009	1,790	971	2,761
	2010	1,631	1,183	2,814
	2011	2,346	1,267	3,613

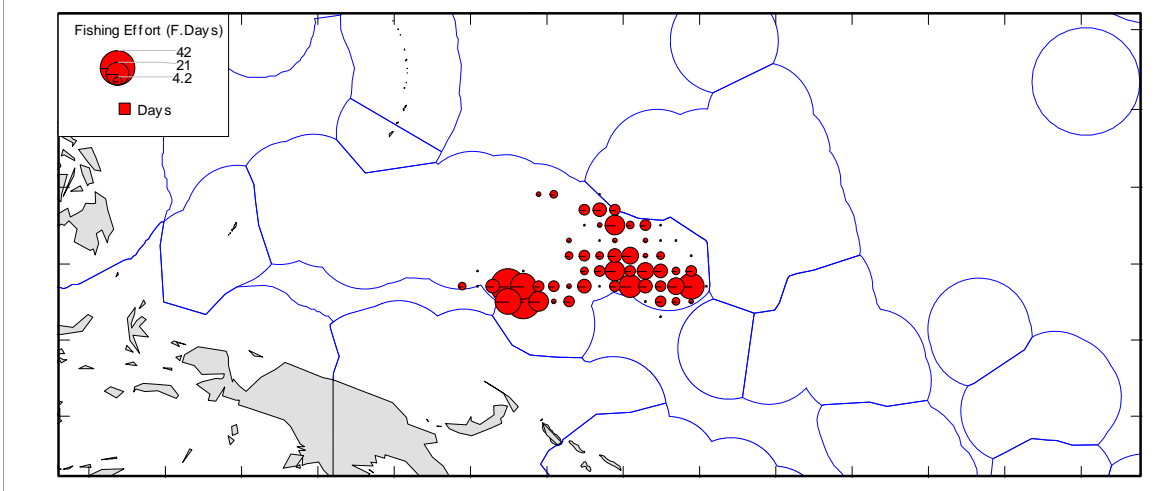
Figure 5. Annual distribution of effort by the main foreign longline fleets active in the FSM EEZ for 2010



Japan Longline Fleet fishing effort (by fishing days) in 2011



Chinese Taipei Longline fishing effort (fishing days) in 2011



China longline fishing effort (by fishing days) in 2011

1.2.5 Pole and Line Catch in the FSM Waters

Pole and line catch within the FSM' EEZ for 2011 is indicating a total of 4,284mt of tuna species. Current catch record in Table 7 is showing the break-down of the three target species, (BET 0mt, YFT 14mt, and SKJ 4,270mt). Japan is the only pole and line flag country fishing in the FSM EEZ. 2011 Pole and Line catch in FSM's EEZ increased by 2,000mt. The pole and line fishing effort is mainly in the eastern section of the FSM' EEZ.

Table 7. Annual catches by foreign pole-and-line fleets in the FSM EEZ, by flag and species, 2006-2011

Fleet	Year	Days	Vessels	Catch (Metric tonnes)				TOTAL
				BET	SKJ	YFT	OTH	
Japan	2006	694	27	0	6,013	10	1	6,024
	2007	108	7	1	569	3	0	572
	2008	7	5	0	5	0	0	5
	2009	57	10	0	89	3	0	92
	2010	345	25	0	2,795	4	0	2,800
	2011	-	27	0	4,270	14	0	4,284

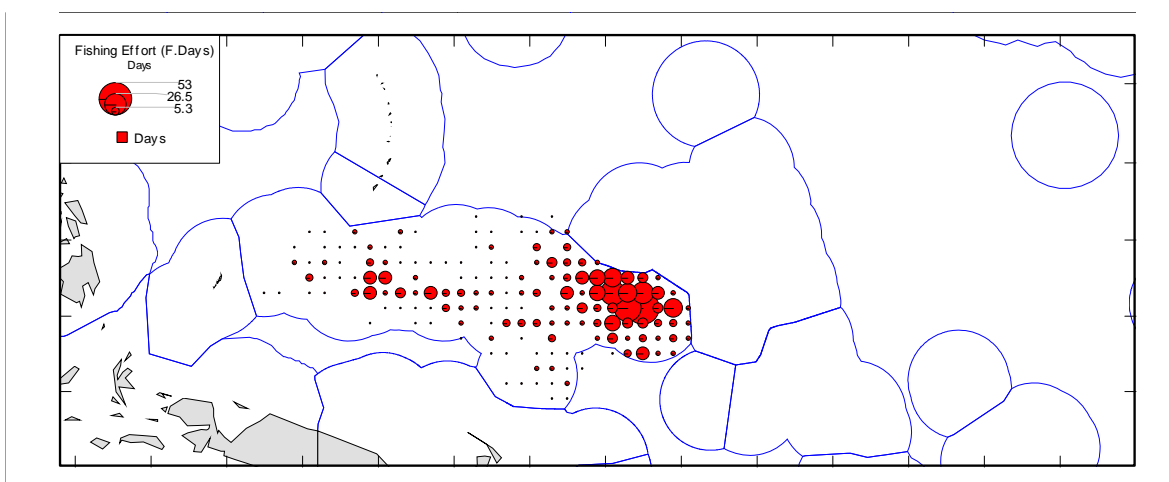


Figure 6. Japan Pole and Line Catch and Effort, 2011

2 Research and Statistics

2.1 The FSM Fisheries Observer Program

The FSM's National Fisheries Observer Program (NFOP) has been operating since the Authority began in 1979. With the expansion and diversification of the fleets in the FSM, NFOP was expanded to a maximum pool of 12 personnel. Since 1995, NFOP has been operating with 10-12 observers under contractual services. In early 2009, the FSM's NFOP recruited over 40 observers after hosting two Regional Observer Trainings with the assistance from the Secretariate of the Pacific Community (SPC) and Forum Fisheries Agency (FFA), to a pool of 52 observers, and recently hosted another regional training, in early 2010. In late 2011, 4 newly recruited observers were added to the pool of 74 fisheries observers, employing a total of 78 fisheries observers in 2011.

The FSM NFOP completed a review and debriefers training for 5 senior observers in the month of November 2011 by SPC. The 5 senior observers will be assessed accordingly to their debriefing skills and upgraded to full debriefers after next scheduled SPC debriefers training. The FSM NFOP has continued to provide observers for the WCPFC for 100% observer coverage, FAD Closure periods, and the 3rd Implementing Agreement.

The NORMA FOP achieved 367 observed trips in 2011 nearly 18 trips less than 2010 covering longline, pole and line, and purse seine vessels. In the 367 observer placement coverage, 362 trips were on purse seines, 2 trips on long liners, and 3 for pole and lines (Table 8). The top three flag vessels for observer placement was for Japan at 156 placements, RMI 82 placements, and followed by Chinese Taipei at 31 placements. Observer coverage for the purse seine fleet is 100% by the observers for each of the fleets. However this need to be viewed cautiously as some observer trips may have occurred outside the FSM's waters, in other country's EEZs.

Table 8. Observer Trip Coverage per Flag and Gear-type, 2011

Gear Type	Trips	Flag
Longline		
	0	China
	0	FSM
	0	Chinese Taipei
	2	Japan
Purse Seine		
	19	China
	23	FSM +(FSMA)
	156	Japan
	19	Korea
	31	Chinese Taipei
	82	RMI
	29	USA
	2	Tuvalu
Pole and Line		
	3	Japan
Longline	2	
Purse Seine	362	
Pole and Line	3	
Grand Total	367	

The 2011 coverage for the FSM National Observer Program remains 100% on the purse seine and less coverage on the longline gear type. The observer program continuously provide observers to four countries in 2011 as it was in 2010 to their purse seine vessels for the 100% Observer Coverage period; Japan, Chinese Taipei, Republic of the Marshall Islands, and the FSMA fleet. The 3rd Implementing Agreement; 100% Observer Coverage requirement carries a greater load of placement of observers by the FSM NFOP to purse seine gear type, thus only 2 longline placement was made for the entire 2011 period.

FSM and RMI continued with an agreement for a reciprocal placements of observers on their vessels, basically to allow RMI vessels to be covered by FSM national observers and visa verse. The Reciprocal Arrangement was successfully carried out by both parties to obtain 100% coverage for both countries, FSM and RMI. A total of 82 observer placements were done for RMI vessels in 2011.

2.2 The FSM Port Sampling Program

The National Oceanic Resources Management Authority (NORMA) continues to coordinate its port sampling program and monitor the continuous unloading and transshipment activities within FSM ports. In addition, NORMA continues to use its observer program to assist in conducting port sampling activities within its active port of transshipments and unloading. Over the last five years reported transshipment /unloading activities were mainly from one port, Pohnpei. In late 2011, transshipment operations were done for 6 longline China flag vessels at Kosrae port. A total of 17,867 individual tuna were measured from 121 purse seine trips and 21,437 individual tuna were measured for 127 longline trips by port samplers in 2011.

FSM has continued sampling the United States purse seine vessels that transshipped in FSM port throughout 2011. This is in accordance to the in-country support and training provided by the US in 2010 for port sampling program and port sampling data collection from the UST vessels transshipping in FSM ports.

2.3 Purse Seine Unloading in FSM

The 2011 purse seine unloading in Pohnpei port is 124 vessels. This report notes the volume of 99,930mt of mixed tuna from 124 vessels. Tables 10 present summaries of the purse seine transshipment activities in FSM for year 2011 by total volume and mixed tuna species. Transshipment data for 2011 is still provisional and is under estimate of the total volume of purse seine vessel unloading in Pohnpei port. During the last five years, Pohnpei port has remained the only active purse seine port of transshipments and the only active port of purse seine unloading.

Table 10. Purse Seine Transshipment Activities in FSM, 2011

Port	Flag	2011 Records in MT				Unloading
		SKJ	YFT	Mixed	Total	
Pohnpei	CN	-	-	mix	3,843	6
	KI	-	-	mix	1,916	3
	KR	-	-	mix	11,710	16
	TW	-	-	mix	20,536	30
	FM	-	-	mix	5,531	10
	VU	-	-	mix	4,686	7
	USA	-	-	mix	19,155	30
	JPN	-	-	mix	16,277	22
TOTAL					99,930	124

Source: NORMA Records

2.4 Longline Unloading in FSM

The 2011 unloading record is showing a total of 108 unloading are in Pohnpei port and unloading volume of 730mt of tuna and other species by the three longline fleets (Table 11). In the 108 total unloading's 6 unloading was done in Kosrae port at the end of 2011 with 6 China flag vessels. The 108 number of unloading reported for the year had 89 FSM, 17 China, and 2 Taiwan vessels.

The 2011 unloading records by TUFFMAN showed a total of 14 longline vessels, unloading a total volume of 730mt 44% (317) BET, 33% (238) YFT, and 23% (175) other species). Majority of the unloaded total was by the FSM flagged longline vessels. The 14 longline unloading vessels are still provisional and may not match the unloading number of all vessels unloaded in Pohnpei port compared to the port sampling.

Table 11. Longline Unloading in FSM, 2011

Port	Year	Flag	Species	Mt	Unloading
POHNPEI	2011				
		CN	BET	44	17
		CN	YFT	22	
		CN	OTH	25	
		TW	BET	3	2
		TW	YFT	3	
		TW	OTH	0	
		FM	BET	270	89
		FM	YFT	213	
		FM	OTH	152	
Total				730	108

Source: NORMA Records