

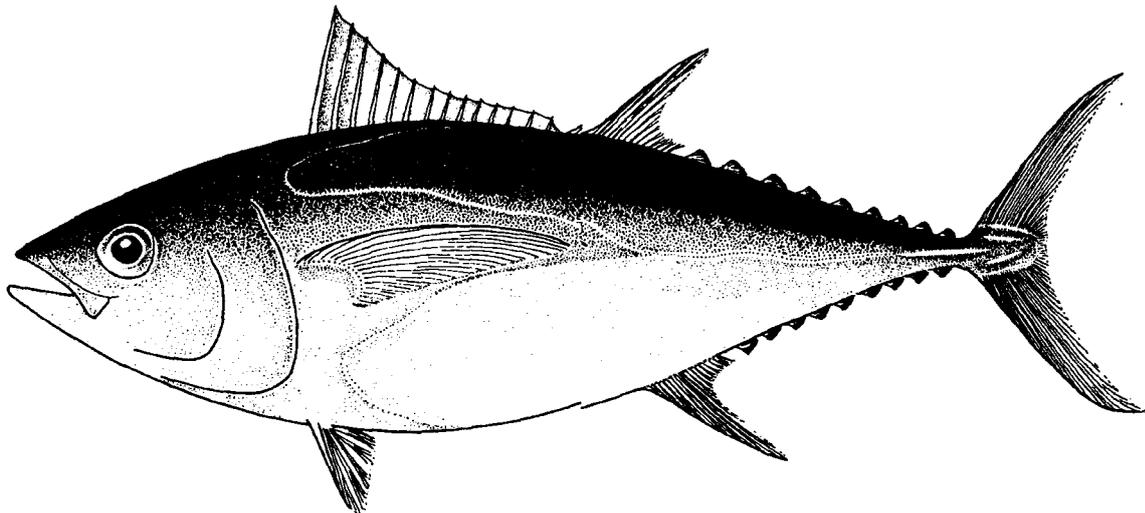


SCTB13 Working Paper

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1999 FSM Fisheries Review

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The current estimate of the 1999 total catch by the tuna fishery in the FSM EEZ from logsheet data in the SPC CES database is 128,040 mt. The estimated target tuna catch is 127,027 mt.

The three geartypes compose the total catch in the target tuna catch in the following descending order: purse seine 117,829 mt; longline 8,918 mt; and pole and line only 280 mt.

The total target tuna catch is 56% more than that of 1998. This total catch is still only 63% of the La Niña period in the mid 1990s, however represents a great recovery in the fishery in the FSM EEZ from the El Niño year of 1998.

I have my concerns with the CES data supplied as it under estimates the annual catch of earlier years. Therefore the figures need to be verified before quoted.

Figure 1. The annual total catch of the FSM tuna fishery by the three geartypes as a stacked histogram.

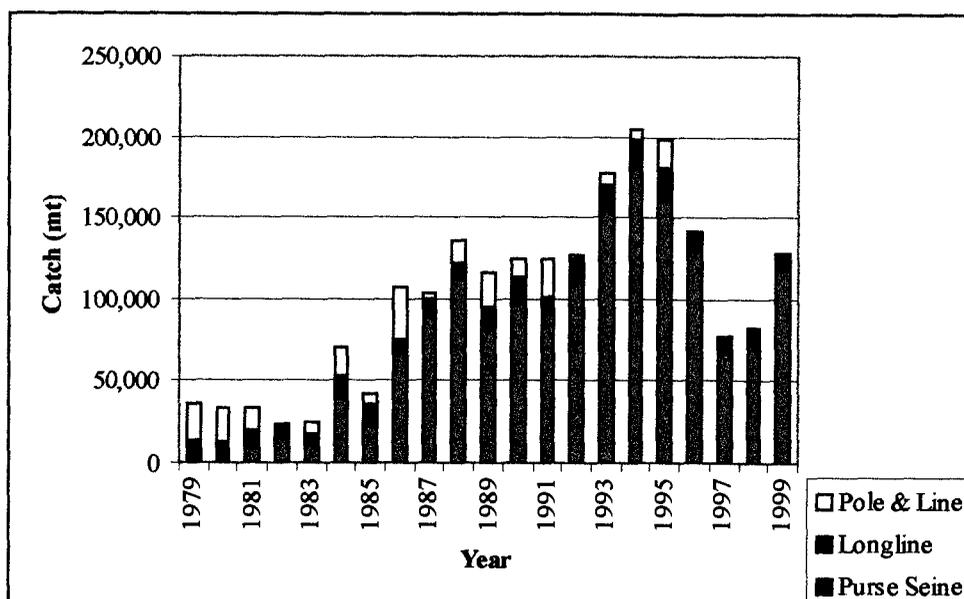


Table 1. The 1998 target tuna catch of the three geartypes and the combined target catch.

Year	Purse Seine	Longline	Pole & Line	Total
1991	90,972	9,944	23,405	124,321
1992	109,967	12,645	3,141	125,752
1993	153,716	14,830	6,560	175,106
1994	179,934	15,710	6,280	201,924
1995	159,684	18,639	17,974	196,297
1996	128,786	11,004	998	140,788
1997	66,382	9,514	997	76,892
1998	71,027	9,163	983	81,172
1999	117,829	8,918	280	127,027

Purse Seine Catch

The SPC CES data indicated that in 1999 the purse seine catch comprised 93% of the combined total catch and the recovery in total catch in the FSM is largely due to a recovery in the purse seine catch.

The following data are based on the MMA licensing database, which while the most current, does not differentiate between catches in the FSM and those from elsewhere.

The 1999 vessels of the purse seine fishery were composed of 5 different flags. The largest fleet in 1998 was the Taiwanese fleet, composed of 40 licensed vessels. There data indicted they caught 44% of the catch that was reported to MMA. Japanese vessels were the next largest fleet with 35 vessels. Since the Japanese only report catches made within the FSM to MMA, our catch data is biased downward in the following figure.

The domestic fleet from our data has the least effort and catches in the FSM. Our database records the FSM fleet as fishing only 45 days in the FSM EEZ for only 685 mt of target tuna.

Table 2. The 1999 purse seine catch volumes by flag. The data is from all logsheets submitted to the MMA and includes data outside the FSM EEZ

Flag	Boats	Trips	Days	SKJ	YFT/BET	OTHER	Total
JP	35	174	7,275	43,339	12,935	359	56,633
KR	23	155	77,081	63,113	22,364	835	86,312
FM	1	2	45	438	247	0	685
TW	40	203	9,450	99,616	28,655	4	128,275
VU	8	28	1,292	13,653	3,507	0	17,160
Total	107	562	95,143	220,159	67,708	1,198	289,065

FSM Domestic Purse Seine Catch

The FSM domestic purse seiners mostly transshipped in ports outside the FSM, therefore their data are not present for these trips on the MMA database. Thus our estimate for their catches is only 685 mt tonnes for the three vessels for the year.

The fishing company records indicated that the vessels did indeed have a greater effort and catch. From these records the three domestic purse seiners caught a total of 9,977mt of target tuna.

Table 3. Fisheries statistics for FSM domestic purse seiners from their own records.

Boats	Trips	SKJ	YFT	BET	Other	Reject	TOTAL
3	26	6,558	3,190	201	23	4	9,977

Longline

The SPC CES data indicate that there was a small decline in the longline catch in 1999. A review of the data submitted to MMA in the licensing database indicates the catch to be higher and similar to 1998.

The longline fleet in the FSM was composed of vessels of 4 flag-types. The following summary is from all the logsheets currently submitted to the MMA. The data do not discriminate between catches made within the FSM EEZ or elsewhere.

The dominant vessels in the fleet were the Japanese vessels. The combined number of the smaller ice slurry and larger freezer vessels comprised almost half the total longline fleet and caught 75% of the total longline catch. Data received from the Taiwanese vessels indicated that they were the next most numerous and contributed 12% of the total catch.

The domestic fleet increased in size with the acquisition of additional vessels by domestic companies this resulted in an increased catch for the year.

Table 4. The 1999 longline effort and catch by flag. The data are summarized from logsheets submitted to the MMA. These data may not be necessarily confined to the FSM EEZ. Weights are in metric tonnes

Flag	Boats	YFT	BET	Tuna	Billfish	Shark	Other	Total
CH	55	380	564	950	6	0	0	956
FM	24	154	534	689	16	19	5	730
JP	115	2,212	4,807	7,140	486	6	9	7,640
TW	73	489	471	962	309	20	39	1,329
Total	267	3,236	6,376	9,740	817	45	52	10,655

Pole and Line

The pole and line fleet is composed entirely of Japanese vessels. The fleet size and effort by the pole and line fleet have declined in the FSM EEZ over the past decade. The 1999 effort and catch were the 50% higher than that recorded in 1998, the poorest year recorded for the fishery.

Table 5. The 1999 pole and line effort and catch. The data are summarized from logsheets submitted to the MMA. These data may not be necessarily confined to the FSM EEZ. Weights are in metric tonnes

Boats	Trips	Days	SKJ	YFT	Other	Total
25	58	2,884	1,405	18	2	1,424

Transshipment Summary

Purse Seine Transshipments

With an increase in the purse seine activity in waters within and around the FSM EEZ in 1999, the level of transshipment activity increased at the main ports in the FSM. The total volume of transshipments at FSM ports in 1999 was 135,850 mt. This was a three-fold increase on the 1998 total volume of 46,155 mt.

The port with the most activity was Chuuk with 71 vessels making 177 transshipments during the year. The Taiwanese purse seiners exclusively used Chuuk for offloading in the FSM. Korean and other foreign and domestic vessels also used Chuuk.

In 1999 Pohnpei recorded its record number of transshipments by purse seiners at the port. There were 63 transshipments made by 24 vessels during the year, 53 of these were made by Korean vessels.

Kosrae and Yap also received more transshipments than in 1998. Korean vessels did most of these.

Japanese vessels all transhipped outside FSM ports.

Table 6. Annual purse seine transshipment volumes at the FSM principal ports.

Port	Year	Vessels	Unloadings	SKJ	YFT	Mixed	Total
CHUUK	1993	81	295	43,726	26,661	35,738	106,125
	1994	85	528	143,528	42,562	44,003	230,093
	1995	89	402	123,784	30,407	13,263	167,454
	1996	35	55	20,413	2,968	5,020	28,401
	1997	51	103	36,251	12,265	4,990	53,506
	1998	37	70	29,579	5,133	4,693	39,405
	1999	71	177	54,555	14,857	16,423	85,835
KOSRAE	1993	25	48	12,010	7,633	1,920	21,563
	1994	7	8	1,992	967	0	2,959
	1998	10	14	3,375	2,565	260	6,200
	1999	11	19	6,555	2,335	0	8,890
POHNPEI	1994	5	11	1,000	683	535	2,218
	1995	1	1	300	0	0	300
	1997	4	9	778	206	2,640	3,624
	1998	0	0				0
	1999	24	63	16,065	7,790	8,175	32,030
YAP	1996	17	25	8,051	253	3,860	12,164
	1997	14	18	4,750	1,040	1,310	7,100
	1998	1	1	0	50	500	550
	1999	11	15	6,808	1,307	980	9,095

Table 7. Volume and number of purse seine transshipments at Chuuk Harbour in 1999 by month.

The table outlines the number of transshipments at Chuuk by flag and the volume by species in metric tonnes.

Month	Skipjack (mt)	Yellowfin (mt)	Mixed (mt)	Total (mt)	Flag (No. of Deliveries)					
					FM	KR	TW	US	VU	TOTAL
January	1,872	38	335	2,245	1		4			5
February	7,300	2,317	3,690	13,307	2	8	15	1	4	30
March	9,045	1,585	330	10,960	1	5	17	1		24
April	7,025	1,105	1,485	9,615		1	14	1	1	17
May	8,848	2,246	1,728	12,822		4	17	4		25
June	4,885	1,167	4,045	10,097		5	11	1	1	18
July	1,295	1,590	1,575	4,460	2	6	4			12
August	4,978	1,662	335	6,975	2	6	6			14
September	2,275	1,445	0	3,720			3		2	3
October	770	160	0	930					1	1
November	6,382	2,442	1,790	10,614	2		19		1	22
December	2,925	705	1,110	4,740	3	2	5			10
Totals	57,600	16,462	16,423	90,485	13	37	112	8	7	181
					No. of trans. = 181		Mean trans. = 499.92 mt			

Table 8. Volume and number of purse seine transshipments at Kosrae Harbour in 1998 by month.

Month	Skipjack (mt)	Yellowfin (mt)	Mixed (mt)	Total (mt)	Flag (No. of Deliveries)		
					KR	US	TOTAL
JAN	580	285	0	865	2		2
MAY	285	335	0	620	1		1
AUG	2,175	365	0	2,540	5	1	6
SEP	2,810	255	0	3,065	6		6
NOV	260	520	0	780	1	1	2
DEC	445	575	0	1,020	2		2
Totals	3,040	985	0	8,890	17	2	19
				No. of trans. = 19	Mean trans. = 467.9 mt		

Table 9. Volume and number of purse seine transshipments at Pohnpei Harbour in 1999 by month.

Month	Skipjack (Mt.)	Yellowfin (Mt.)	Mixed (Mt.)	Total (Mt.)	Flag (No. of Deliveries)		
					KR	US	Total
MAY	1,425	425	1,630	3,480	5	1	6
JUN	1,330	535	580	2,445	4		4
JUL	2,860	1,470	0	4,330	9	1	10
AUG	0	0	1,280	1,280	1	1	2
SEP	5,970	350	1,400	7,720	10	3	13
OCT	2,795	2,125	920	5,840	11		11
NOV	1,180	2,780	1,725	5,685	14	1	15
DEC	505	105	640	1,250	2		2
Subtotals	16,065	7,790	8,175	32,030	53	7	63
Total	32,030		No. of trans. = 63	Average Off-loading = 508.41mt			

Table 10. Volume and number of purse seine transshipments at Yap Harbor in 1999 by month.

Month	Skipjack (Mt.)	Yellowfin (Mt.)	Mixed (Mt.)	Total (Mt.)	Flag (No. of Deliveries)		
					KR	US	Total
FEB	745	235	980	1,960	2		2
MAR	1,550	590	0	2,140	3		3
APR	4,513	482	0	4,995	9	1	10
Subtotals	6,808	1307	980	9,095	14	1	15
Total	9,095		No. of trans.=12	Average Off-loading= 606.33mt			

Longline Transshipments

The Chinese vessels are the most numerous of the fleets that transship at FSM ports. They also tend to be based in the FSM for most of their 1-year agreement period. These factors meant that the Chinese had the greatest number of transshipments and the highest total volume offloaded in FSM ports in 1999. They were based in Pohnpei and Kosrae at different times of the year.

During 1999 there was a significant movement of the smaller Japanese vessels that had been based at FSM ports to operate from Guam. Most of the Taiwanese longliners were also operating from Guam. This creates a problem, as there appears to be poor reporting of the transshipment activity by the vessels that operate from Guam.

Each fishing company is required to submit monthly transshipment summaries. An audit of the degree of transshipment reporting by comparing transshipment summaries to logsheet revealed that overall less than 2/3 of the transshipments were reported. The level of under-reporting is currently being assessed.

Table 11. Parameters of longline transshipments in the FSM ports for 1997.

Flag of vessel groups transshipments in the table. Transshipment volume is the total amount offloaded in mt including air freighted and rejected fish. Number of vessels is the actual number of individual vessels that transhipped not totals across columns.

Flag	Parameter	Ports				Total
		Chuuk	Kosrae	Pohnpei	Yap	
CN	No. Boats		56	45		101
	No. Trans.		381	401		782
	Volume		600.8	636.7		1,237.5
FM	No. Boats	11		20		31
	No. Trans.	41		108		149
	Volume	102.2		105.2		207.4
JP	No. Boats	6				6
	No. Trans.	12				12
	Volume	55.3				55.3
TW	No. Boats	42	2	1	4	49
	No. Trans.	62	16	3	4	85
	Volume	174.3	26.6	6.7	3.1	210.7
Total	No. Boats	59	58	66	4	187
	No. Trans.	115	397	512	4	1,028
	Volume	331.9	108.5	590.6	41.0	1,072

Species Composition

The volume of bigeye transhipped in 1999 was again more than that of yellowfin. This reflects a shift in the longline fishery to vessels targeting the more valuable bigeye. In addition, the proportion of the bigeye that was accepted for export (90.6%) was greater than yellowfin (79.8%).

Table 12. Longline transshipments among FSM ports by species and destination.

(‘Exported’ to Japan or ‘Rejected’ and sold locally). Weights are in metric tonnes.

Species	Grade	Port				Total
		Chuuk	Kosrae	Pohnpei	Yap	
Yellowfin	Export	85.6	234.6	258.1	0.6	579
	Reject	11.3	53.2	81.0	3.3	149
	Total	97.0	287.9	339.1	0.6	725
Bigeye	Export	216.7	288.6	600.8	2.2	1,108
	Reject	7.2	23.3	84.4	1.3	116
	Total	223.9	312.0	685.3	2.2	1,223
Billfish	Export	7.6	0.3	3.4	0.3	12
	Reject	0.7	27.0	11.0	0	39
	Total	8.3	27.4	14.4	0.3	50
Other	Export	2.6	0	7.7	0	10
	Reject	0.0	0	6.4	0	6
	Total	2.6	0	14.2	0	17
Total	Export	312.6	523.7	870.3	3.1	1,710
	Reject	19.3	103.8	183.1	4.7	311
	Total	331.9	627.5	1,053.5	3.1	2,016

Observer Report

The MMA’s Fisheries Observer Program has been operating since the MMA began in 1979. With the expansion and diversification of the fleets in the FSM, the program was expanded in 1992.

In 1999 the MMA FOP made 47 trips on the three main gear types. There were 29 purse seine trips, 16 longline trips and 2 pole and line trips.

The total number of trips in 1999 was less than that of 1998, but there were far more placements made on purse seine vessels. This increased the number of sea-days made in 1999 compared with 1998.

Table 13. Number of 1999 observer placements by flag and gear-type.

Flag	LL	PL	PS	Total
CH	4			4
CN	4			4
FM		2	2	4
JP		2	3	7
KR			10	10
TW	4		13	17
VT			1	1
Total	16	2	29	47

Table 14. Number of 1999 observer sea-days by flag and gear-type.

Flag	LL	PL	PS	Total
CH	100			100
CN	37			37
FM	25		47	72
JP	52	100	108	260
KR			262	262
TW	67		466	533
VT			24	24
Total	281	100	907	1,288

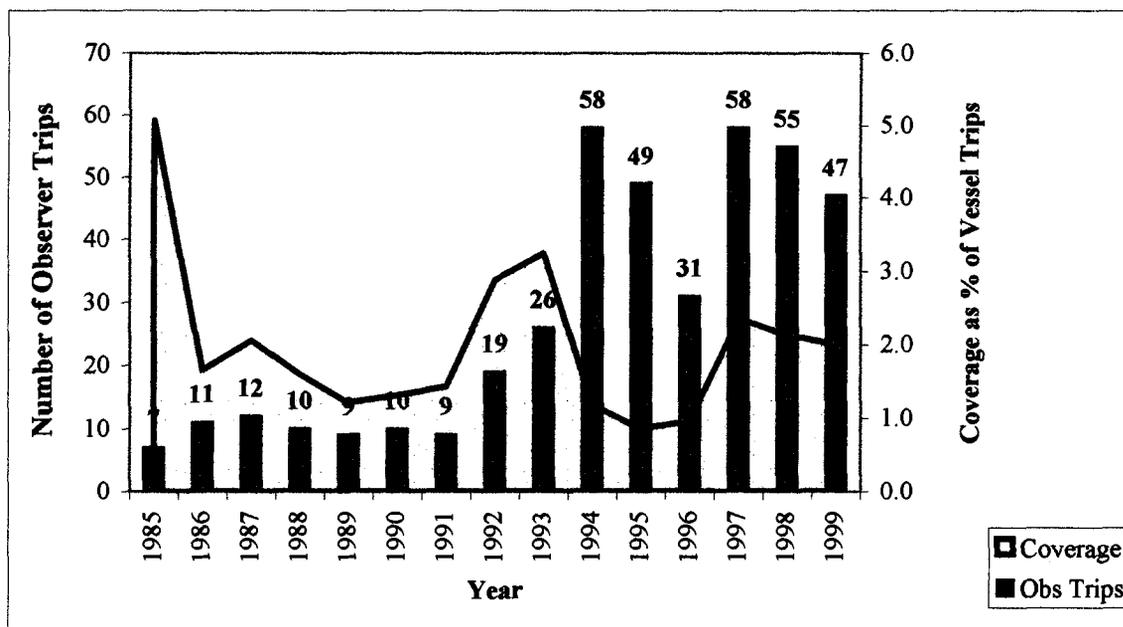
Coverage

The observer coverage is restricted each year by observer program logistics such as the budget and by an M.O.U. that limits the number of trips made on Japanese vessels to 6 longline 5 purse seine and 2 pole and line trips per agreement year.

The MMA FOP covered 2.0% of the number of trips recorded by vessels on their logsheets. It is imperative that this be increased.

In particular, the Japanese longliners are the most numerous and contribute the most to the total effort and catch in the FSM, yet their coverage is poor. Unfortunately, the association has not acted on MMA requests for placements on their larger freezer vessels. The migration of the smaller vessels to Guam has also lead to greater difficulty in placements. The MOU with the Japanese agrees for the full reimbursement of observer costs by the association. The current problems of placement may be a function of the increased cost of placement.

Figure 2. The MMA Fisheries Observer Program: number of placements and percentage coverage.



The coverage is calculated as the total number of placements made divided by the total number of trips made by vessels as recorded in their logsheets. The number of trips is not only within the FSM. The data do not include US Observer placements nor US PS vessel trips. The coverage was 2% when calculated this way but slightly higher when calculated as a percentage of sea-days.

The coverage on purse seine placements was the highest at 5.2% due to a focus on these vessels in 1999.

Table 15. Observer coverage as a percentage of trips made by the vessels, by association.

Assoc.	LL	PL	PS	Total
CHK	0.0			0.0
CHM	1.3			1.3
FMA	0.0			0.0
FMF			100.0	100.0
FMH	0.0			0.0
FMM	0.9			0.9
FMN	1.8			1.8
FMP	0.0			0.0
FMT	0.0			0.0
GUU	0.0			0.0
JPF			1.8	1.8
JPK	0.4	0.0		0.4
JPN	0.0	3.9	0.0	3.1
KRT			5.8	5.8
TWF			33.3	33.3
TWP	1.8			1.8
TWT			6.5	6.5
TWY	16.7			16.7
VUN			0.0	0.0
VUT			12.5	12.5
Total	0.9	3.4	5.2	2.0

Other Issues

Changes to FSM Fisheries Law

The bill presented before FSM congress with proposed changes to the FSM Title 24 (Fisheries Law) has not yet been passed but is undergoing review by the Asian Development Bank Technical Assistance at MMA. The purposes of the amendments are mainly to update the wording of the law to bring the law into line with recent arrangements such as the Palau Arrangement. It also defines fishing better and grants the MMA Executive Director more authority to review permits and it allows for extended foreign access agreements.

Referendum on the Constitutional Amendment

The referendum last July proposed to amend parts of the FSM Constitution to give sovereignty of the EEZ to the states was defeated. The FSM National Government retains sovereignty over the EEZ.

The second part of the amendment to change the proportion of DWFN licensing revenue given to the states was also defeated.

Technical Consultation

An Asian Development Bank grant for a technical consultation began mid 1999 at the MMA. The consultancy was won by Gillette, Preston and Assoc. and is for fisheries management and policy review. The consultation is now about half completed.

Guam

A grant was generously provided by the SPC for MMA to establish a pilot program port sampling FSM licensed vessels that offload in Guam. The purpose of the project was to prevent the loss of the important fishery and biological data from the vessels that comprise most of the FSM longline fishery. The pilot is almost complete and more funding is being sought for continuation of the project.

Compliance

In 1999 two longliners were arrested and convicted of illegal fishing practices. To date in 2000 there are four cases pending against longliners.