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**Taiwan Fisheries for Yellowfin Tuna in the Central and Western
Pacific, 1994-96, and the statistics on yellowfin tuna sets
for the Tuna Purse Seine Fishery, 1988-96**

by

Chi-Lu Sun and Su-Zan Yeh

Institute of Oceanography
National Taiwan University
Taipei, Taiwan, R.O.C.

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Introduction

As we reported during the previous WPYRG meetings, Taiwan has three main fisheries for yellowfin tuna in the central and western Pacific Ocean. These are the distant-water longline fishery, the distant-water purse seine fishery and the offshore longline fishery. This paper briefly reviews the landings and vessel participation data from these fisheries for the period 1994-1996. Also reviewed are the yearly nominal catch rate data for the distant-water longline and purse seine fisheries. Finally, the statistics on yellowfin tuna sets for Taiwan purse seine fishery during 1988-1996 is also reviewed.

The Distant-Water Tuna Longline Fishery

The numbers of distant-water tuna longliners operating in the Pacific Ocean in 1994, 1995 and 1996 were 70, 67 and 56, respectively (Table 1). The total yearly yellowfin catches for the three years 1994-1996 in the central and western Pacific were 1,770, 1,544 and 977 mt, respectively (Table 2). In 1993, most of catch (78% of total catch) was from WPYF-3 and WPYF-4 areas. By contrast, 68% of the catch in 1994 was from both area WPYF-3 and area WPYF-4 (Table 3). The yearly nominal catch rate increased from 1.35 fish/1000 hooks in 1994 to 1.66 fish/1000 hooks in 1995.

The Distant-Water Tuna Purse Seine Fishery

The numbers of distant-water purse seiners operating in the western Pacific Ocean during 1994, 1995 and 1996 were 43, 42 and 42, respectively (Table 1). The landings of yellowfin tuna decreased from 45,840 mt in 1994 to 17,389 mt in 1996 (Table 2). The yearly nominal catch rate decreased from 10.31 mt/day in 1994 to 3.2 mt/day in

1996. The purse seine fleet is currently operating in the Exclusive Economic Zones (EEZ) of the Federated States of Micronesia and Papua New Guinea as well as the adjacent high seas (i.e. WPYF-3 and WPYF-4 areas). Of the total catch in 1996, 96% (16,693 mt) was from WPYF-3 area and 4% (696 mt) from WPYF-4 area.

The Offshore Tuna Longline Fishery

The number of Taiwanese offshore tuna vessels participating in the fishery decreased from 1,753 in 1994 to 1,274 in 1996 (Table 1). The landings of yellowfin tuna decreased from 8,136 mt to 6,242 mt over the same period (Table 2). Most of the offshore fleets which are based in Tungkang are currently operating in the WPYF-3 area.

Total Yellowfin Tuna Catch

The total annual catch of yellowfin tuna decreased from 55,798 mt in 1994 to 24,767 mt in 1996 (Table 2). The decrease in yellowfin catch was attributable to the overall decrease in landings by purse seine fishery.

Statistics on Yellowfin Tuna Sets for the Tuna Purse Seine Fishery, 1988-96

Yellowfin tuna is a secondary species in the purse seine fishery. Most of the yellowfin tuna are caught in mixed- species sets dominated by skipjack tuna. The fisheries statistics on purse seine sets containing the yellowfin tuna are shown in Table 4. The percentage of pure sets that caught only yellowfin tuna have increased since 1992. In 1996 they occupied about 40%. The pure set catches of yellowfin tuna ranged between 5,134 mt and 25,898 mt, while the mixed set catches were between 7,439 mt and 23,725 mt during the period of 1992 to 1996.

The mixed sets are divided into three categories according to the percentage composition of yellowfin and bigeye tuna in the catches. Category I had the tuna less than 40% in the catches. It occupied 62% in average of the total mixed sets and 44% in average of the total catches of the mixed sets during the period 1992 to 1996. Category II had the tuna between 40% and 60% in the catches. It occupied 27% of the total sets and 30% of the catches. Category III had the tuna more than 60%. It occupied 11% of the sets and 26% of the catches.

Table 1. Annual number of Taiwan tuna boats operating in the central and western Pacific, 1994-96.

Type of boat	1994	1995	1996
Longliner			
Distant-water	70	67	56
Offshore	1,753	1,603	1,274
Purse seiner	43	42	42

Table 2. Taiwan yellowfin catch (in mt) by type of fishery in the central and western Pacific, 1994-96.

Type of fishery	1994	1995	1996
Longliner			
Distant-water	1,770	1,544	977 *
Offshore**	8,136	9,650	6,242
Purse seiner	45,840	34,875	17,389
Other***	52	147	159
Total	55,798	46,216	24,767

* preliminary estimate

** landings at Tungkang fish port *(ie not incl. 15-boat)*

*** includes catches by troll, pole and line, etc.

Table 3. Taiwan distant-water longline catches (in mt) of yellowfin tuna in the central and western Pacific by month and by WPYF area, 1994.

Month	WPYF area							Total
	1	2	3	4	5	6	7	
1	-	-	173.4	30.8	42.9	0.9	3.9	251.9
2	-	-	80.5	46.7	36.8	0	10.4	174.4
3	-	-	49.0	73.7	31.4	0	14.6	168.7
4	-	-	42.7	54.8	26.2	0.6	13.3	137.8
5	-	-	38.2	80.6	8.2	2.1	22.6	151.8
6	-	-	33.7	195.7	33.2	1.4	38.2	302.2
7	-	-	0	29.6	37.2	10.4	23.8	101.1
8	-	-	0	29.1	15.2	19.4	43.5	107.2
9	-	-	0	59.6	5.1	15.2	39.0	118.9
10	-	-	0	56.1	18.7	0	6.3	81.1
11	-	-	0	80.6	13.1	0	0.8	94.4
12	-	-	0	56.5	24.5	0	0	81.0
Total	-	-	417.5	793.7	292.7	50.1	216.6	1514.0

'-' no data

'0' no yellowfin catch

Table 4. Sets containing yellowfin tuna (plus bigeye tuna) for the Taiwan tuna purse seine fishery in the central and western Pacific Ocean.

Year	YFT & BET Set (%)		YFT & BET Catch (mt)		Mixed Sets					
	Pure	Mixed	Pure	Mixed	< 40% YFT & BET		>=40%, <=60% YFT & BET		> 60% YFT & BET	
					(% Sets)	(% Catch)	(% Sets)	(% Catch)	(% Sets)	(% Catch)
1988	4.24	95.76	99	2,202	82.30	78.88	15.04	16.58	2.65	4.54
1989	26.72	73.28	1,205	2,350	55.88	51.23	40.88	38.77	3.24	10.00
1990	4.76	95.24	443	4,296	41.96	51.49	56.74	44.62	1.30	3.89
1991	5.67	94.33	979	5,911	60.51	60.70	37.66	31.67	1.83	7.63
1992	18.24	81.76	5,134	15,617	63.91	50.38	29.94	32.55	6.15	17.07
1993	36.95	63.05	22,843	23,725	59.29	43.09	30.28	32.76	10.43	24.15
1994	37.95	62.05	25,898	19,996	64.30	43.71	23.73	29.83	11.97	26.46
1995	42.85	57.15	19,732	15,144	59.42	42.00	27.58	32.01	11.42	25.99
1996	39.59	60.41	10,216	7,439	61.93	39.91	21.69	22.92	16.39	37.17