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

WCPFC-SC7-AR/CCM-03

CHINA

Summary

There are two types of tuna fisheries in the WCPFC Convention Areas: longline and purse seine fishery. And longline fishery consist of ice fresh tuna longline(IFLL) and deep frozen tuna longline(DFLL). In 2010, total tuna catch from longline fishery and purse seine fishery were estimated 31806 MT and 53716 MT respectively. There are total 244 longliners and 12 purse seiners. Catch by Chinese deep longline fishery for bigeye are exported to Japan for sashimi and catch by longline for albacore are sold for cannery products. Catch by purse seine fishery for skipjack are also sold for cannery products. During 2010, 4 observers are trained and dispatched to Chinese longline vessels in the high seas of Central and Eastern Pacific Ocean. The first observer trip collected fishery data and biological data from Aug 26, 2010 to Dec 19, 2010, covering the areas $N10^{\circ}21' \sim S9^{\circ}46'$, $E178^{\circ}58' \sim W152^{\circ}15'$. The second trip was taken from Sep 25, 2010 to Jan 17, 2011, covering areas $S03^{\circ}46' \sim S09^{\circ}26'$, $W149^{\circ}52' \sim W154^{\circ}19'$. The Third trip was taken from Oct 2, 2010 to Jan 13, 2011, covering the areas of $N6^{\circ}00' \sim S10^{\circ}49'$, $W169^{\circ}05' \sim W146^{\circ}50'$. And the fourth trip was taken from Oct 13, 2010 to Feb 19, 2011, covering the areas of $N4^{\circ}38' \sim S14^{\circ}45'$, $E178^{\circ}01' \sim W130^{\circ}07'$. Size data for BET, YFT and SWO has been submitted to WCPFC. Data coverage of catch and effort was 100%. 100% logbook coverage collection for longline fishery has been carried out and this shall promote China data collection quality.

ANNUAL REPORT TO THE COMMISSION

PART I : INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

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Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 30 April, 2011	YES
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1. Introduction

China began to develop its oceanic tuna fisheries in 1988 in the Pacific Ocean and this region is one of the earliest fishing grounds by China tuna fishery. There are currently two types of tuna fisheries in the WCPFC Convention area: tuna longline (LL) fishery, Purse Seine (PS) fishery. The catch of four main tuna species (skipjack, yellowfin tuna, bigeye tuna and albacore) by China in 2004 was 40165 MT. Catch of the four species hit the historical record 112260 MT in 2009, however, in 2010, catch of the four species decreased to 81938 MT (Table 2).

2. Fleet structure

2.1 LL

All the Chinese LL vessels operated in the high seas and EEZ Pacific Islands Countries (PIC). The number of LL fishing vessels has shown increase trend since the year 2000. By the year 2004, number of LL vessels went up to 212 and remained previous level in 2005. The number of vessels reduced to 157 in 2006, and in 2007 the number continued to reduce to 86. However, in 2008, the number of longline fishing vessels increased to 199, and then increased to 219 in 2009. And in 2010, the number of longline fishing vessels slightly increased to 244.

Size of the LL vessels ranged from 67 GRT to 742 GRT. There are two types of tuna longline vessels, ice fresh tuna longline (IFLL) and deep frozen tuna longline (DFLL). In 2009, the number of IFLL and DFLL vessel was 120 and 99, respectively, and in 2010, the number of IFLL and DFLL vessels is 155 and 89, respectively.

Most of the DFLL vessels targeting bigeye tuna in the high seas and the EEZ of PIC, accounting for the 60% of the total vessels. The IFLL vessels mainly operate in the EEZ of PIC, targeting

bigeye tuna and albacore. The major fishing grounds distributed among the EEZ of Federated States of Micronesia, Marshall Islands, Fiji etc.

2.2 PS

Purse seine fishery began in 2001 in WCPFC Convention area and has become very important tuna fishery in China. The number of PS vessels in 2004 was 6 and increased to 8 and 9 in 2005 and 2006, respectively, and then the number of PS vessels maintained at 12 from 2008 to 2010.

3. Catch by species for each type of Chinese tuna fisheries

3.1 LL

When China began to develop its oceanic tuna fisheries in 1988, only seven longliners were operating in the WCPFC Convention area, with total catch of 42 MT in round weight. Since then, the number of fishing vessels increased rapidly and reached 457 in 1994, with 14,062 MT of the nominal catch, the highest record level in the 1990's. The main species of the catch are bigeye tuna and yellowfin tuna, which accounted for 54% and 32% of the total catch respectively in 1994. After 1994, however, the number of boats and total catch went down. In 1998, there was a dramatic reduction in the number of Chinese tuna longliners in the WCPFC Convention Area. Only 66 longliners were operating in 1998, decreasing by 391 vessels compared with those of 1994. Total nominal catch in 1998 was 1,116 MT. Before 1998, catch of albacore accounted for a small part of the annual total catch, less than 15 MT for each year. However, the number of fishing vessels and the total catch rose again in 1999, with 117 fishing boats and 8,333 MT of catch in round weight. The main targeted species have become albacore tuna, bigeye tuna, yellowfin tuna and swordfish, accounting for 41.7%, 13.0%, 26.8%, and 4.8% of the total catch respectively. Longline fishery operated in 2000, with fishing effort 24,707 thousand hooks and total catch of 7,291 MT. In 2008, longline fishing effort amounted to 87556461 hooks with the total catch 33980 MT(18487 MT in 2007). Fishing effort increased by 50.1% compared with 2007 fishing effort (57986356 hooks).

After the year 2000, the catch of tuna and tuna-like species has shown increase trend. The catch in 2002 reached at 7941 MT. And the catch in 2004 amounted to 22121 MT. The catch reduced to 15005 MT in 2005 and increased to 26133MT. The catch by LL decreased in 2007, amounting to

18487 MT . But the LL catch increased and amounted to 33980 MT, mainly due to albacore catch increase.

The catch mainly consisted of BET, YFT and ALB. The percentage of BET, YFT and ALB by LL were 23.6%, 15.2% and 47.9%, respectively, in 2009, while in 2010, the percentage of BET, YFT and ALB by LL were 28.0%, 7.4% and 53.4%, respectively.

Table 3 shows catch of non target species, including striped marlin, blue marlin, other billfishes, blue shark and shortfin mako catch in 2010.

3.2 PS

The total catch by Chinese PS in the WCPFC Convention area are shown Table 2. The catch by PS has increased since the year 2001. The catch was only 3090 MT in 2001 and amounted to 55554 MT in 2008, slightly more than the catch of 54941 MT in 2007. In 2010, the main catch species by PS fishery are SKJ and YFT and juvenile bigeye tuna. The catch of yellowfin tuna was 9925 MT, 40.3% increase as compared with the 2009 catch (7073MT), whereas still 11.0% lower than the 2008 catch (11148MT). The catch of skipjack was 42255 MT, 37.5% decrease as compared with the 2009 catch (67635MT), but close to the 2008 catch (43406 MT). Based on the port sampling of bigeye composition by Pacific Island countries, the catch of juvenile bigeye tuna by PS was estimated to 1536 MT in 2010.

4. Disposal of Catch

Bigeye tuna and yellowfin tuna caught by longline vessels operated in the Exclusive Economic Zone (EEZ) of Pacific Island Countries and high seas were exported to Japan sashimi market. Other species caught as by-catch are sold to local market of operating ports. Albacore catch were landed at Fiji for canning. Catch by PS fishery were mostly transhipped to Thailand for canning.

5. Research and Statistics

5.1 Observer programme

Scientific observer programme have been carried out and three observers have being sent to longline vessels in the high seas since June 2009. Observers are strictly trained for collecting fishery data of tunas and other pelagic fishes, collecting size-frequency data of all pelagic fishes as well as sea turtle information. During 2010, 4 observers are trained and dispatched to Chinese

longline vessels in the high seas of Central and Eastern Pacific Ocean. The first observer trip collected fishery data and biological data from Aug 26, 2010 to Dec 19, 2010, covering the areas N10°21'~S9°46', E178°58'~W152°15' (Figure 1), with the 91 sets (total hooks 240988) and 2763 individuals of sampled fish. The second trip was taken from Sep 25, 2010 to Jan 17, 2011, covering areas S03°46'~S09°26', W149°52'~W154°19' (Figure 2), with the 99 sets (total hooks 287142) and 1912 individuals of sampled fish. The Third trip was taken from Oct 2, 2010 to Jan 13, 2011, covering the areas of N6°00'~S10°49', W169°05'~W146°50' (Figure 3), with the 83 sets (total hooks 241110) and 1884 individuals of sampled fish.. And the fourth trip was taken from Oct 13, 2010 to Feb 19, 2011, covering the areas of N4°38'~S14°45', E178°01'~W130°07' (Figure 4), with the 93 sets (total hooks 250359) and 665 individuals of sampled fish.. The observers collected all the data of catch captured by longline fishing gear. Observer also measured bycatch information including discards.

5.2 Data collection system

Bureau of Fisheries, Ministry of Agriculture of China has been very much concerning the quality of tuna data collection. National-wide meeting on tuna data collection had been organized at least once a year during past years. Participants are managers of tuna fishing companies and tuna-related fishery enterprises. In addition, each vessel of all the companies engaged in tuna fishing and tuna fisheries has been required to submit their fishery data (such as catch and fishing effort by species, month, gear, area etc.) to China Fisheries Association, a nongovernmental organization, before the set dead line every year. Data coverage of catch and effort was 100%. Size data for BET, YFT and SWO in 2010 fishery has been sent to WCPFC. Since Jan.1, 2009, 100% logbook coverage collection for longline fishery has been carried out and this shall promote China data collection quality.

Table 1 Number of Chinese tuna fishing vessels operating in the WCPFC Convention area in 2007-2010

Year	LL	PS	Total
2007	86	10	96
2008	199	12	211
2009	219	12	231
2010	244	12	256

Table 2 Nominal Catch of tuna and tuna-like species by the Chinese tuna fishery in the WCPFC Convention area in 2007-2010 Unit of Catch: MT in Round Weight

Year	Gear	ALB	BET	YFT	SWO	SKJ	BIL	OTH	Total
2007	IFLL	4835	2024	183	1221	0	570	254	9087
	DFLL	618	5797	1397	892	0	185	511	9400
	PS	0	1000	6196	0	47745	0	0	54941
	Total	5453	7821	7776	2113	48745	755	765	73428
2008	LL	15092	8761	4562	2192	0	1640	1733	33980
	PS	0	1000	11148	0	43406	0	0	55554
	Total	15092	9761	15710	2192	43406	1640	1733	89534
2009	LL	19906	9793	6318	1569	0	1335	2598	41519
	PS	0	1535	7073	0	67635	0	406	76649
	Total	19906	11328	13391	1569	67635	1335	3004	118168
2010	LL	16970	8895	2356	929	0	1255	1401	31806
	PS	0	1536	9925	0	42255	0	0	53716
	Total	16970	10431	12281	929	42255	1255	896	85017

Note: Billfish included striped marlin, blue marlin and black marlin;
Other included sharks and other species.

Table 3 Catch of non-target species by the Chinese LL tuna fishery in the WCPFC Convention Area in 2010 Unit of Catch: MT

Species	Striped marlin	Blue marlin	Black marlin	Blue shark	Shortfin mako	Oceanic Whitetip
Catch	132	1094	29	506	133	532

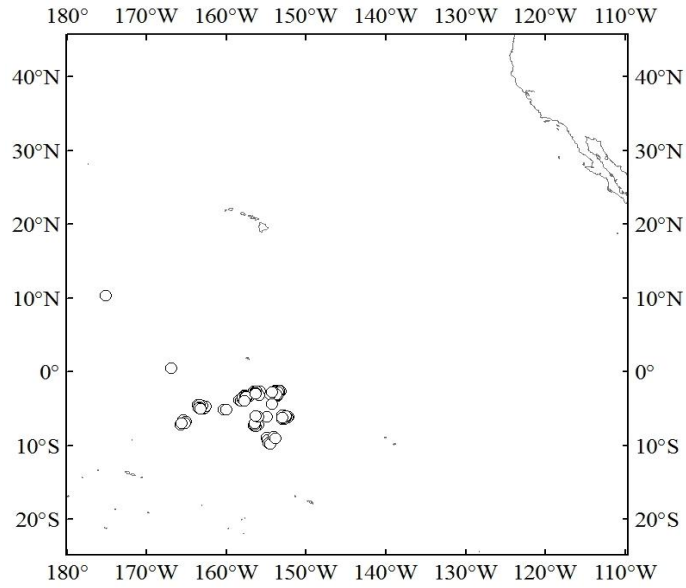


Figure 1 Survey areas by one Chinese observer from Aug 26, 2010 to Dec 19, 2010

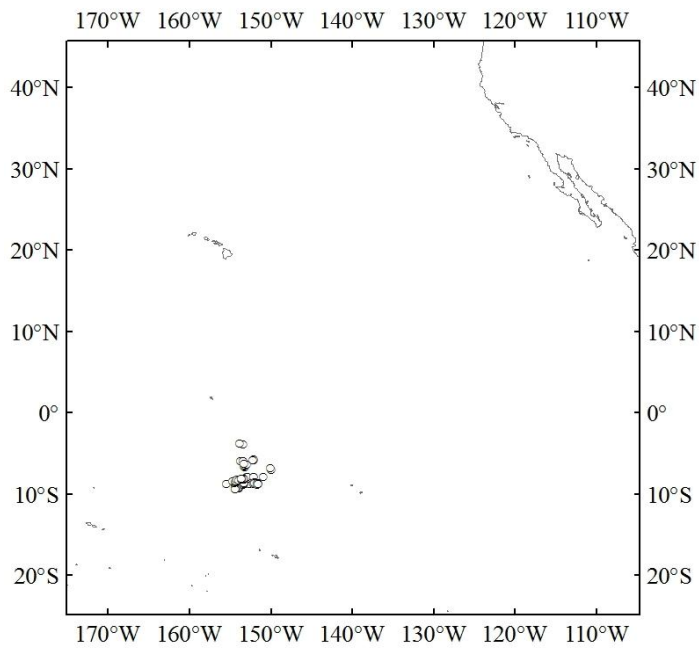


Figure 2 Survey areas by Chinese observer from Sep 25, 2010 to Jan 17, 2011

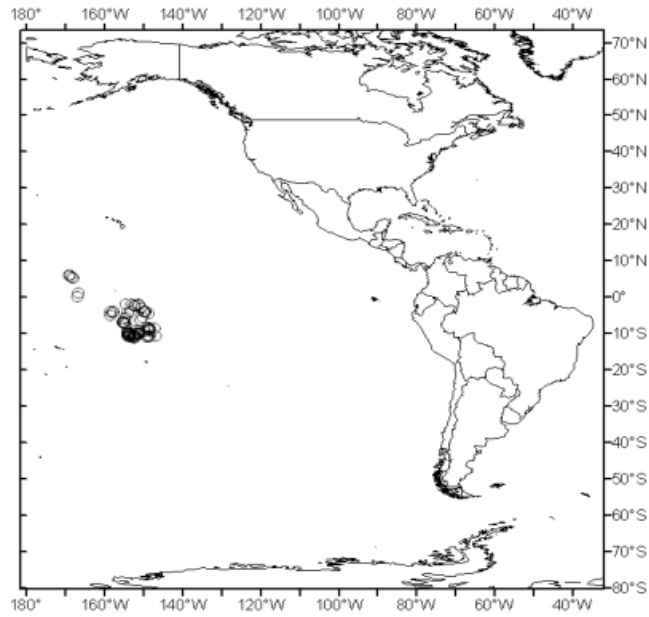


Figure 3 Survey areas by Chinese observer from Oct 2, 2010 to Jan 13, 2011

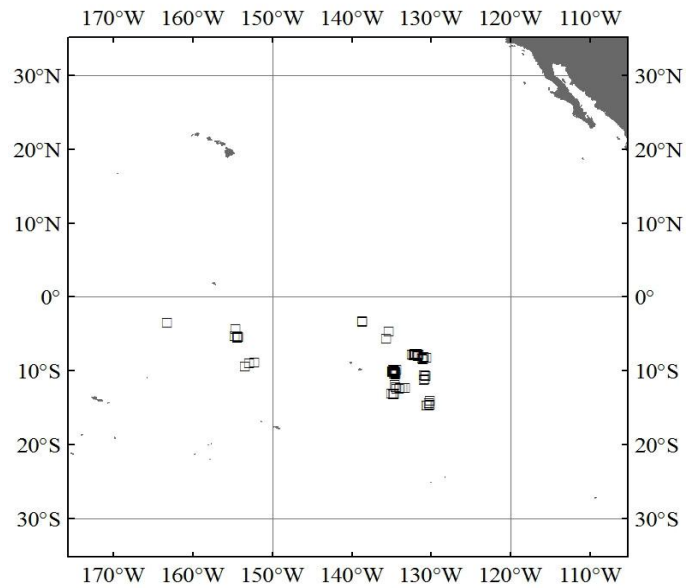


Figure 4 Survey areas by Chinese observer from Oct 13, 2010 to Feb 19, 2011