



**SCIENTIFIC COMMITTEE
FIFTH REGULAR SESSION**

10-21 August 2009
Port Vila, Vanuatu

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

WCPFC-SC5-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 2008, total tuna catch from longline fishery and purse seine fishery were estimated 33980 MT and 55554 MT respectively. There are total 199 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.

There are three scientific observers for Chinese deep longliners in 2008 and two scientific observers have been sent to high seas in the WCPFC Convention areas in 2009. The observers collect all fishery data and biological data.

Data coverage of catch and effort was 100%. Since Jan.1, 2009, 100% logbook coverage collection for longline fishery has been carried out and this shall promote China data collection quality.

ANNUAL REPORT TO THE COMMISSION

PART1 : INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

Xiaojie DAI, Yi TANG, Siqian TIAN and Liuxiong XU

Shanghai Ocean University, Shanghai, People's Republic of China

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, 2009	NO
If no, please indicate the reason(s) and intended actions: Compilation work for longline fisheries for 2008 was delayed. Longline fishery data are collected from logbook	

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. The four species catch were estimated 73723 MT and 69795 MT in 2006 and 2007 respectively. In 2008, catch of four species hit the historical record 83969 MT(See Tab. 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, the number of LL vessels go up to 212 and remained previous level in 2005. The number of vessels reduced to 157 in the 2006. But in 2007 the number of vessel continued to reduce to 86. But in 2008, the number of longline fishing vessels increased to 199.

The 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). The number of IFLL vessels is 145 and the number of DFLL vessels is 54 in 2008. Most of the DFLL vessels targeting bigeye tuna in the high seas and the EEZ of PIC, accounting for the 58% 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 at 8 and 9 in 2005 and 2006 respectively. The number of PS vessels in 2008 amounted to 12.

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 33980MT(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 are mainly composed of BET, YFT and ALB. The percentage of BET, YFT and ALB by LL are 42%, 9% and 29% respectively in 2007. However, in 2008, The percentage of BET, YFT and ALB by LL are 25.7%, 13.4% and 44.4% respectively

Table 3 shows non target species information, including striped marlin, blue marlin, other billfishes, blue shark and shortfin mako catch in 2008.

Fig.1-Fig4 show BET, YFT and SWO catch distribution during 2005-2008. Fig.5-Fig8 show China longline fishing effort distribution during 2005-2008. Fig.9-Fig.12, Fig.13-Fig16, Fig17-Fig20 and Fig.21-Fig.24 show BET, YFT and SWO quarterly catch distribution during 2005-2008 respectively..

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 2008, the main catch species by PS fishery are SKJ and YFT and juvenile bigeye tuna. The catch of yellowfin tuna was 11148 MT, increased by 79.9% compared with the 2007 catch(6196MT) . The catch of skipjack was 43406 MT, decreased by 9% compared with the 2007 catch(47745 MT) . Based on the port sampling of bigeye composition by Pacific Island countries , the catch of juvenile bigeye tuna by PS was estimated to 1000 MT.

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 are being sent to longline vessels in the high seas since early 2008. Observers collect fishery data of tunas and other pelagic fishes, collect size-frequency data of all pelagic fishes.

In June, 2009, two observers has been sent to longline fishing vessels operated in the high seas for collected more detailed information in the central Pacific Ocean. The observer shall collect the fishery data and biological data of target species and non target species. The areas shall cover within N10-S10, W160-W120.

In April, 2009, a joint seminar on observer was organized by Shanghai Ocean University and NOAA Pacific Island Fisheries Science Center. This seminar has facilitate the Chinese observer programme for data collection.

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%.

Since Jan.1, 2009, 100% logbook coverage collection for longline fishery has been carried out and this shall promote China data collection quality. In July 6-10, 2009, observer

training courses for purse seine fishery has been carried out and observers are ready for closed seasons during Aug.1 st – Sep.30, 2009.

Table 1 Number of Chinese tuna fishing vessels operating in the WCPFC Convention area in 2005-2008

Year	LL	PS	Total
2005	212	8	220
2006	157	9	166
2007	86	10	96
2008	199	12	211

Table 2 Nominal Catch of tuna and tuna-like species by the Chinese tuna fishery in the WCPFC Convention area in 2005-2008 Unit of Catch: MT in Round Weight

Year	Gear	ABL	BET	YFT	SWO	SKJ	BIL	OTH	Total
2005	LL	4103	6399	2367	608	0	479	1049	15005
	PS	0	0	9732	0	38928	0	0	48660
	Total	4103	6399	12099	608	38928	479	1049	63665
2006	IFLL	5826	2076	2135	260	0	475	2385	13157
	DFLL	1365	7714	1862	1024	0	339	672	12976
	PS	0	0	4968	0	47776	0	0	52774
	Total	7191	9790	8965	1284	47776	814	3057	78877
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

Table 3 Catch of non-target species by the Chinese LL tuna fishery in the WCPFC Convention Area in 2008 Unit of Catch: MT

Species	Striped marlin	Blue marlin	Other Billfishes (short bill etc.)	Blue shark	Shortfin mako
Catch	492	984	164	1181	295

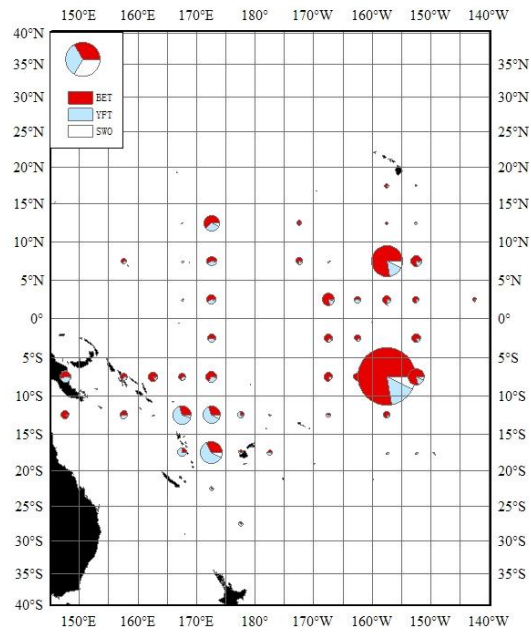


Fig. 1 2005 China LL catch distribution (BET, YFT and SWO)

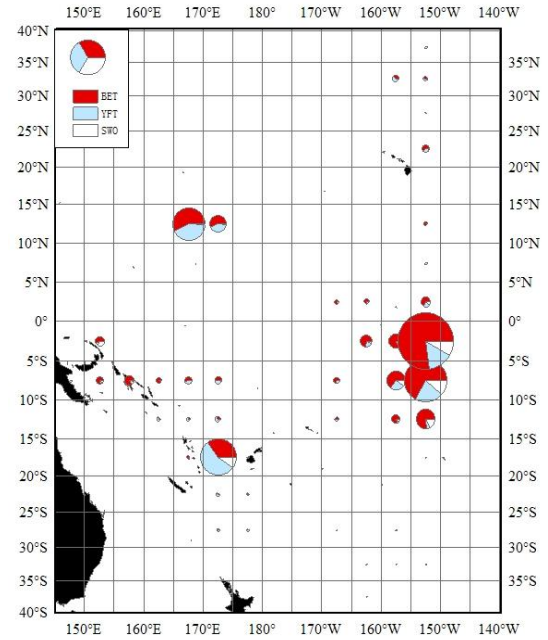


Fig. 2 2006 China LL catch distribution (BET, YFT and SWO)

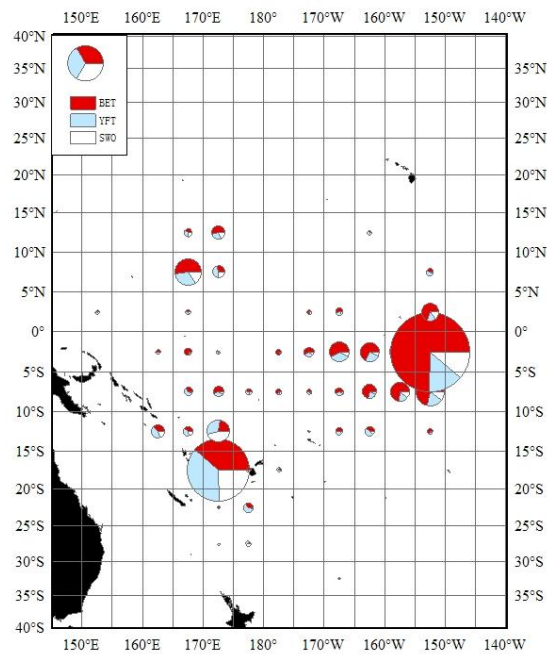


Fig. 3 2007 China LL catch distribution (BET, YFT and SWO)

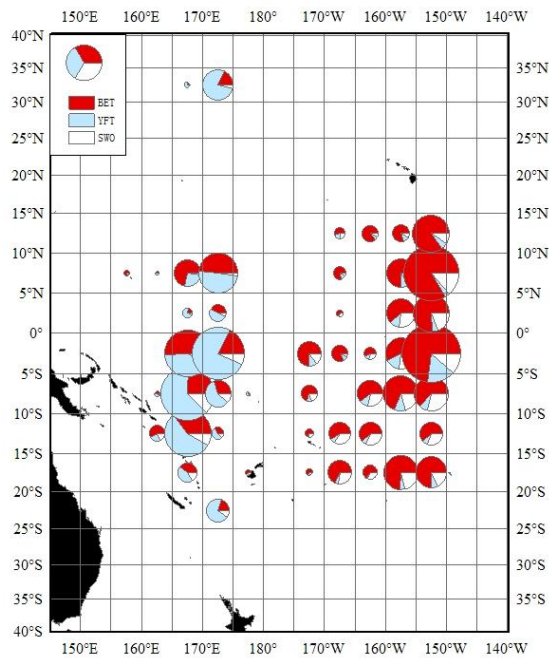


Fig. 4 2008 China LL catch distribution (BET, YFT and SWO)

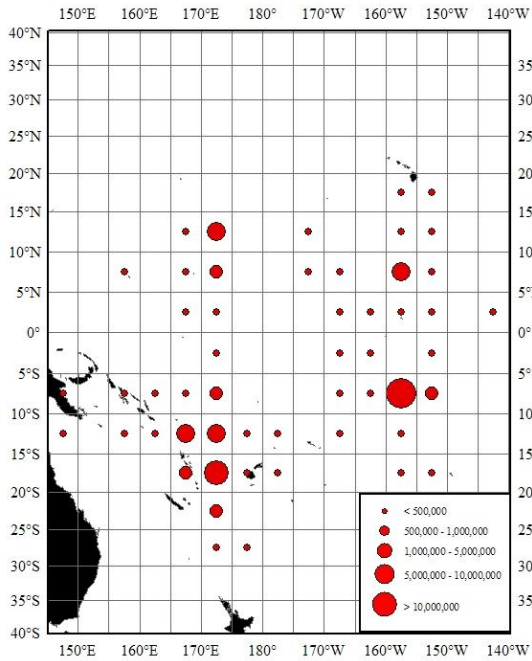


Fig. 5 2005 China LL fishing effort distribution

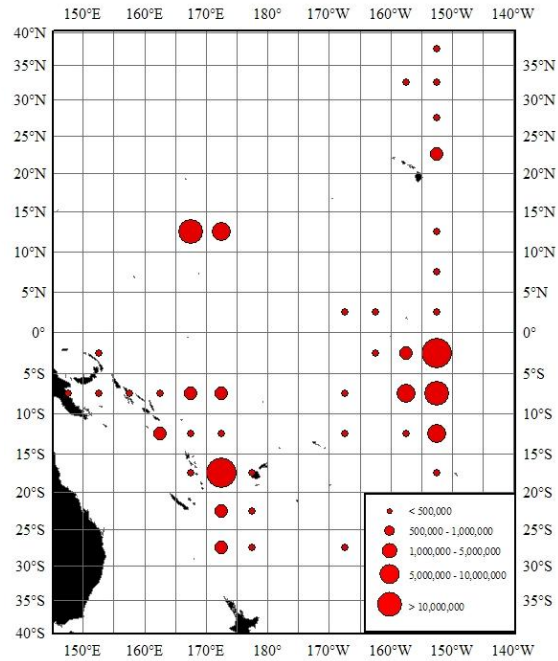


Fig. 6 2006 China LL fishing effort distribution

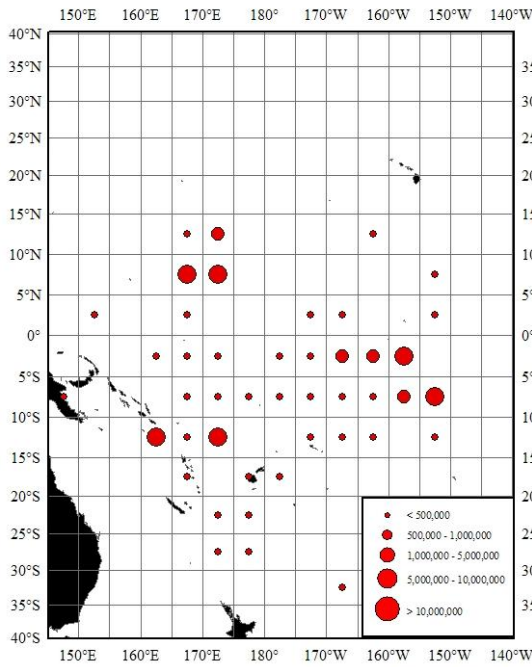


Fig. 7 2007 China LL fishing effort distribution

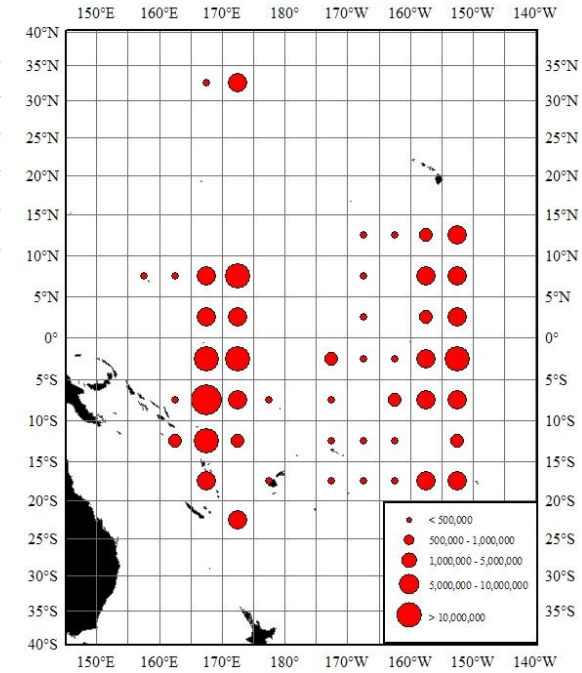


Fig. 8 2008 China LL fishing effort distribution

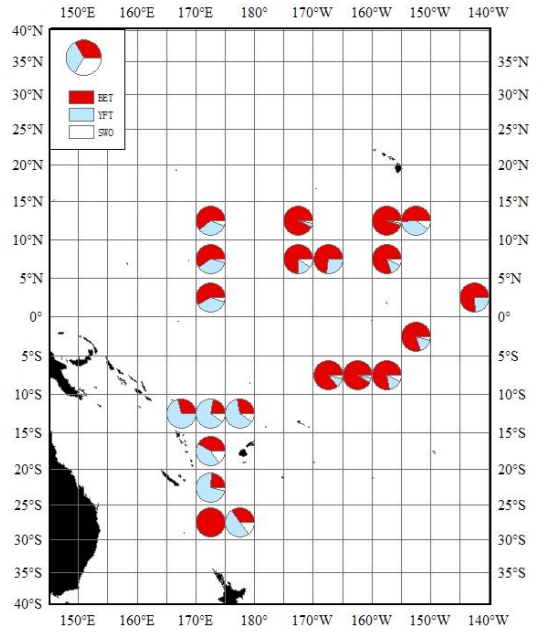
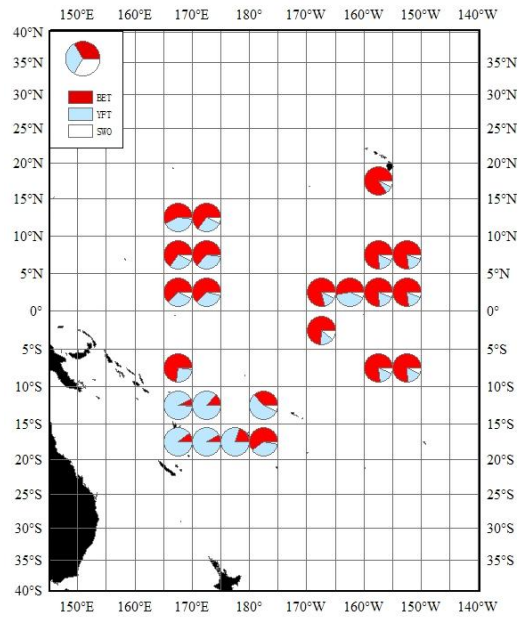


Fig. 9 2005 1st quarter CHN LL catch distribution (BET, YFT and SWO) Fig.10 2005 2nd quarter CHN LL catch distribution (BET, YFT and SWO)

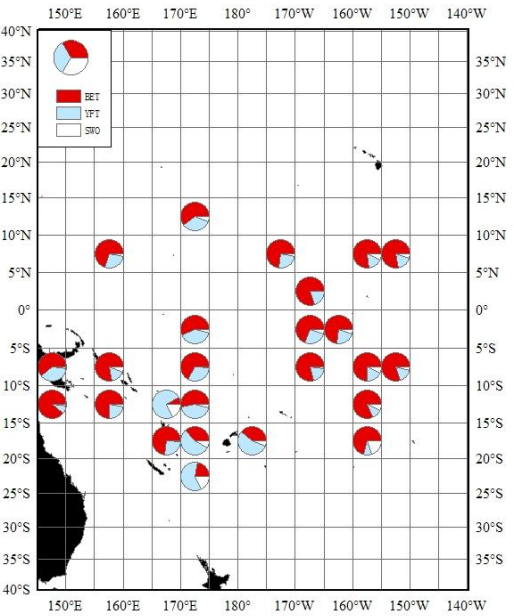
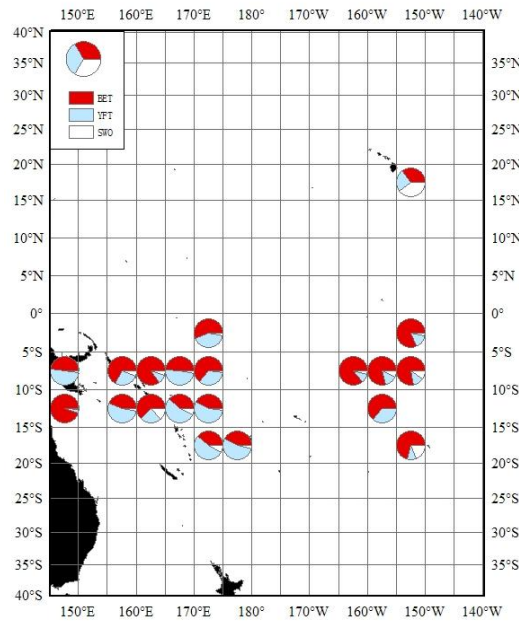


Fig.11 2005 3rd quarter CHN LL catch distribution (BET, YFT and SWO) Fig.12 2005 4th quarter CHN LL catch distribution (BET, YFT and SWO)

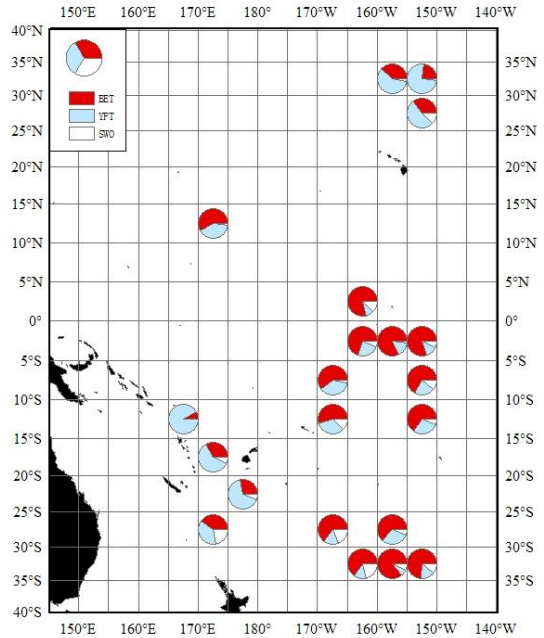
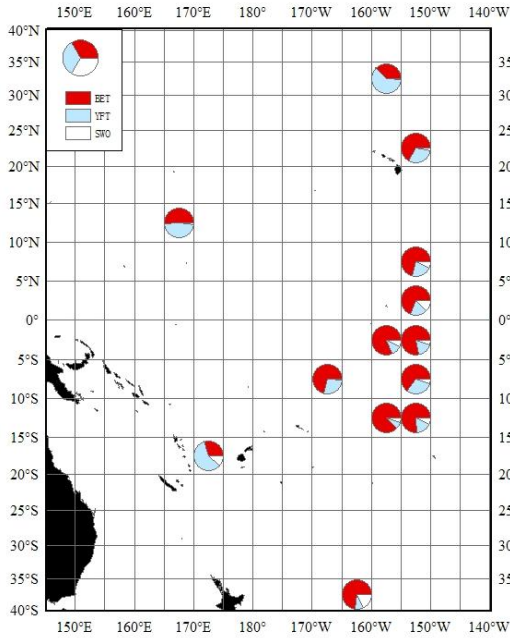


Fig.13 2006 1st quarter CHN LL catch distribution Fig.14 2006 2nd quarter CHN LL catch distribution (BET, YFT and SWO)

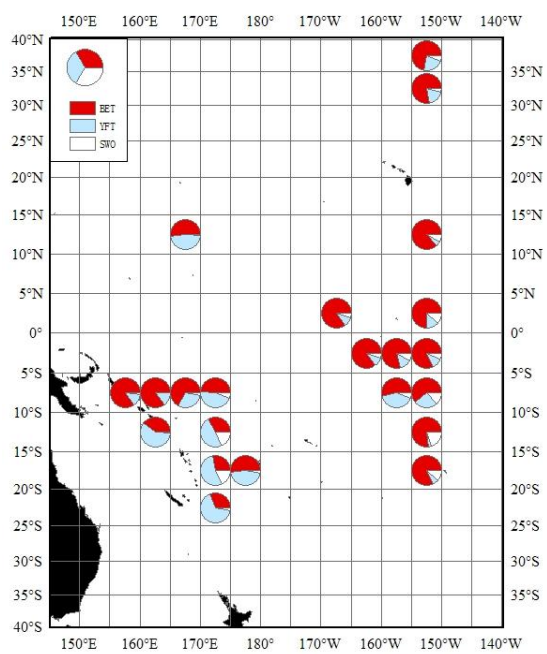
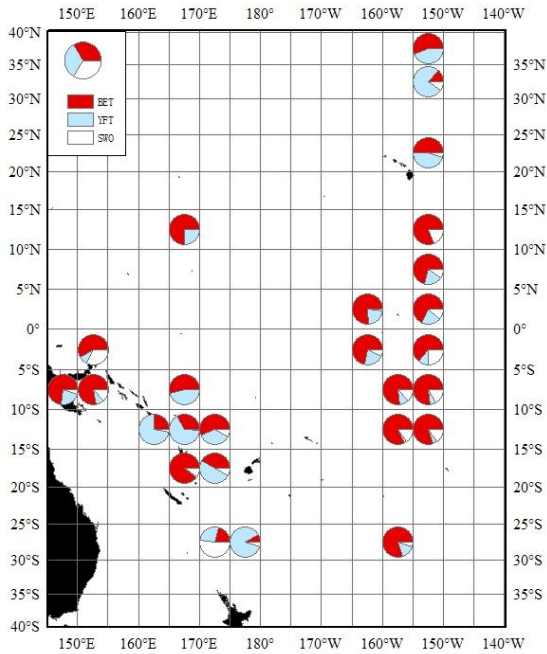


Fig.15 2006 3rd quarter CHN LL catch distribution Fig.16 2006 4th quarter CHN LL catch distribution (BET, YFT and SWO)

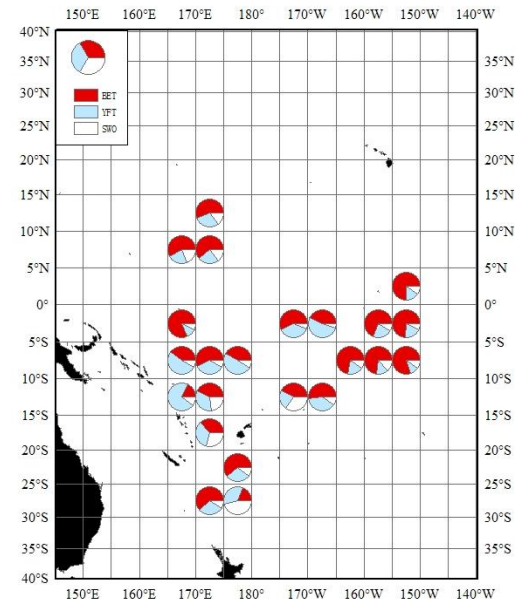
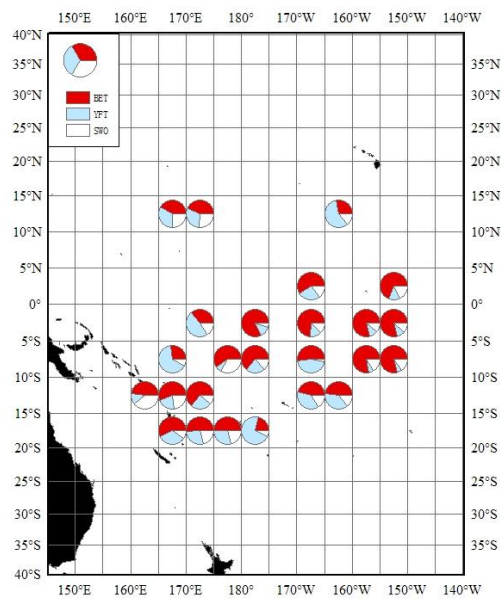


Fig.17 2007 1st quarter CHN LL catch distribution Fig.18 2007 2nd quarter CHN LL catch distribution (BET, YFT and SWO)

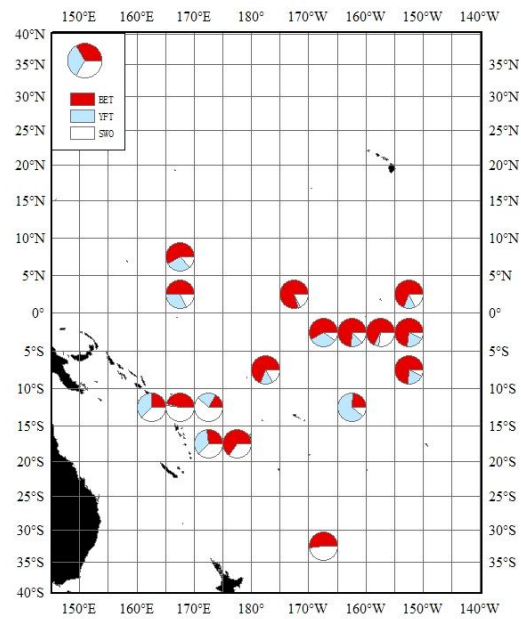
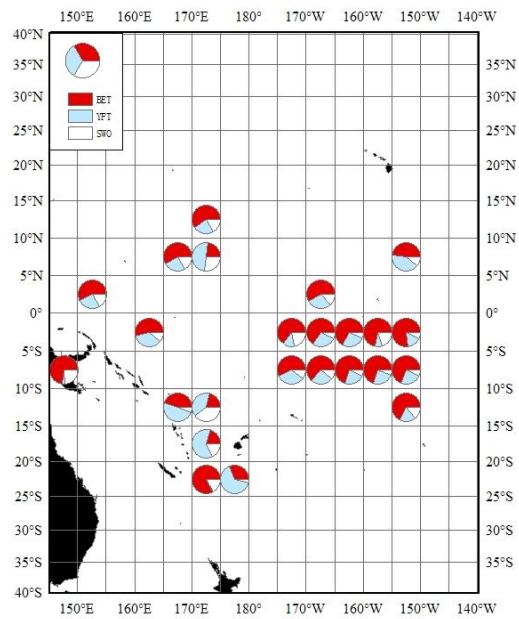


Fig.19 2007 3rd quarter CHN LL catch distribution Fig.20 2007 4th quarter CHN LL catch distribution (BET, YFT and SWO)

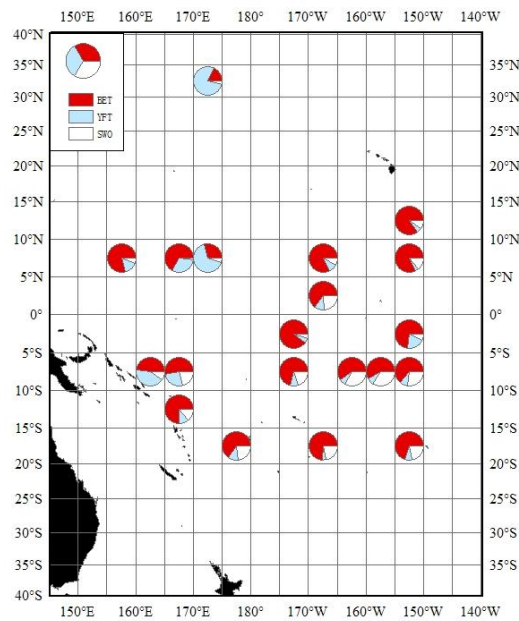


Fig.21 2008 1st quarter CHN LL catch distribution (BET, YFT and SWO)

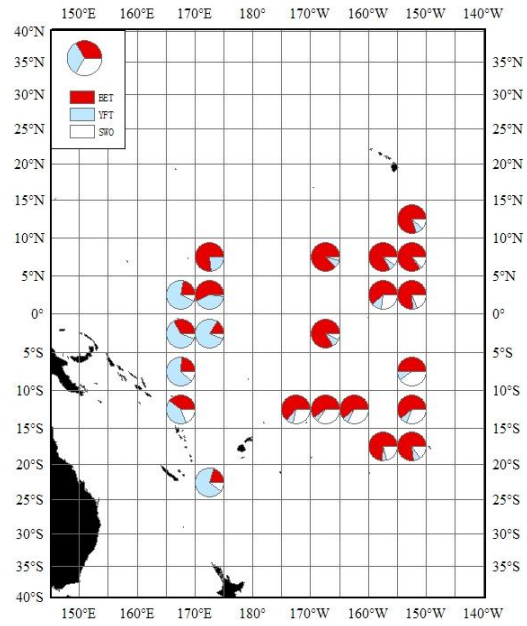


Fig.22 2008 2nd quarter CHN LL catch distribution (BET, YFT and SWO)

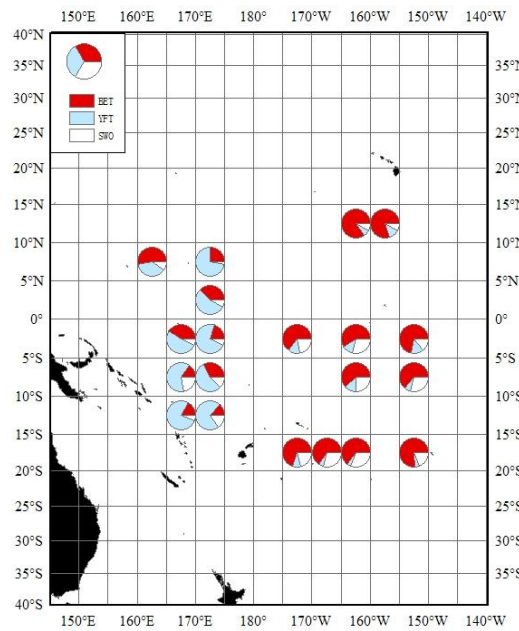


Fig.23 2008 3rd quarter CHN LL catch distribution (BET, YFT and SWO)

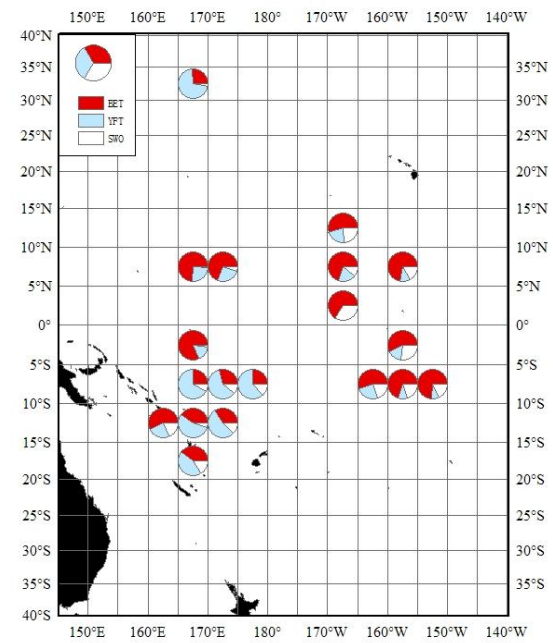


Fig.24 2008 4th quarter CHN LL catch distribution (BET, YFT and SWO)