

CHINA NATIONAL TUNA FISHERY REPORT IN IOTC WATERS

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Summary

93 fishing vessels of Chinese tuna longliners were operating between 40–95° E, 10° N–15° S in the Indian Ocean in 2002, with the total nominal catch of 4922MT, 800MT or 14 percent less than the previous year. Bigeye and Yellowfin are the two main targeting species, accounting for 56.7 % and 26.9% of the total tuna catch respectively. Total fishing effort in 2002 was 13,343 thousand hooks, about 33.2% less than the previous year. CPUE varied from 212 to 509gk/1000hooks, with the mean value 351 kg/1000hooks. Catch statistics including FORM 1, FORM 3 and vessel information have been routinely reported to the IOTC Secretariat. New fishing licenses will be issued to all fishing vessels operated on high seas at the end of December 2003. A scientific observer program was carried out in 2002 and will be continued in 2003. Tuna Statistical Documents program on Bigeye was carried out since July 1 2002 according to Resolutions adopted by IOTC.

1. FISHING ACTIVITIES

Longlining is the only fishing method applied by Chinese fishing companies for tuna and tuna-like species in the IOTC water. The fishing fleet was ever reached at the level of 145 boats in 1998. The number of tuna longliners registered with Chinese fisheries authorities - the Bureau of Fisheries, Ministry of Agriculture has been relatively stable since 1999 (Table 1). The total number of fishing boats which were ever operating in IOTC water in 2002 was 93, covering areas of 40–95° E, 10° N–15° S. The fleet mainly consists of small-scale longliners, with majority between 24m and 30m in Loa and adopting ice cooling method for preserving catch.

The annual catch of Chinese tuna fleet has been reduced for the second consecutive years. The total nominal catch in 2002 is 4922MT, 1585 MT and 800MT or 24% and 14 % less than in 2000 and 2001 respectively (table 2). Bigeye and Yellowfin are the two main targeting species, accounting for 83.6 % of the total tuna catch in 2002. Proportion of bigeye tuna in the total catch increased from 52.3% in 2001 to 56.7 % in 2002, while the proportion of yellowfin tuna reduced from 31% in 2001 to 26.9% in 2002.

After the highest fishing effort in 2000, the number of hooks deployed by Chinese tuna fleet began to decrease (Figure 1). The total fishing effort reduced from 21,466 thousand hooks in 2000 to 19,994 thousand hooks in 2001 and further down to 13,343 thousand hooks in 2002, which accounts for 62% and 67% of the total effort deployed in 2000 and 2001 respectively. The fishing effort increased in the West part of Indian Ocean but decreased in the East part after 1999. Number of hooks deployed in the West

Indian Ocean was increased from 3.8 million hooks in 2000 to 4.7 million hooks in 2001 and further up to 8.7 million hooks in 2002. It is the first time that more fishing effort deployed in the West part than that in the East part of the Indian Ocean, and more catch was recorded accordingly.

CPUE varied from 212 to 509gk/1000hooks, with the mean value 351 kg/1000hooks in 2002 (Table 4) and slightly increases compared with the previous year (mean value 286kg/1000 hooks). The highest CUPE occurred in December in 2002, the same as in previous year, while the lowest CUPE occurred in October in 2002 other than in July.

2. RESEARCH AND CATCH STATISTICS

No pure scientific research work has been conducted so far for Indian Ocean tuna fisheries. Shanghai Fisheries University (SHFU) is responsible for the data collection and compilation of tuna fishery statistics in IOTC water. The compiled data including FORM 1 and FORM 3, as well as information of fishing vessels larger than 24m have been routinely reported to the IOTC Secretariat by the Bureau of Fisheries, Ministry of Agriculture. In supporting the IOTC tropic tuna tagging program, tuna technical working group from Shanghai Fisheries University, as the IOTC tagging correspondent for China, introduced the IOTC tagging program at the national tuna fishery meeting held by the Distant water branch, China Fisheries Society last March, and has translated the English tagging poster into Chinese Language and sent them to the relevant fishing companies and tuna fisheries enterprises. Office of Tuna Working Group of Distant water Branch of China Fisheries Society, Guangdong Provincial Pelagic Fisheries Corp, Zhejiang Ocean Fisheries Group Co. LTD, and Shanghai Fisheries University have been appointed as the tag collection spots.

3. FISHERIES MANAGEMENT MEASURES

3.1 Tuna Statistical Document program

All bigeye tuna caught by China tuna fleet have been accompanied by Bigeye Tuna Statistical Document, as required by the resolution and recommendation adopted by IOTC.

3.2 Fishing vessel management

It is noted that China government will issue fishing licenses to all Chinese fishing vessels operating on high seas of world oceans at the end of December 2003 according to Regulation on Distant Water Fisheries Management which entered into force on June 1, 2003. Each license should specify the type of fishery, fishing grounds, targeting species and quota, if any, etc. This shall facilitate fishing port inspection and also help China government effectively supervise its fleet.

A scheme for Vessel Monitoring System (VMS) is being made. According to this scheme, all the large tuna longliners flying China flags and operating in the

high seas will be required to install the VMS in mandatory way. Once the scheme is implemented, fishing position could be monitored simultaneously.

3.3 Observer program

Fisheries Authority began to carry out the national observer program in Indian Ocean tuna fisheries in 2002. The first scientific observer left Singapore Port for Indian Ocean by a Japanese Reefer on December 25, 2002 and arrived on board the designated longline fishing boat –“ XINSHIJI 17” on January 14. The “XINSHIJI 17 “is a deep-freezing longliner with 56.4m LOA. The observer spent 127 days on the boat, which covered the area between $8^{\circ}42'N - 8^{\circ}06'S$, $40^{\circ}17' - 69^{\circ}07'E$ and caught 231 tons with 6656 fish in number. The species composition of the catch in number and weight is showed in Figure 3 and 4 respectively. The catch statistics by species and month is indicated in Figure 5. The observer has measured 938 bigeye tuna, 688 yellowfin tuna, 89 albacore, 54 swordfish during his staying on the fishing boat. The observer data also includes the information about the environment and fishing operation besides the biological ones, which can be used as a reference in estimating the species composition of the catch, quantity of by-catch and even of the incidental catch.

Table 1 The Number of Tuna Longline Fleet operating in Indian Ocean, 1996-2002

YEAR	1996	1997	1998	1999	2000	2001	2002
Number of boats	52	89	120	96	98	93	93

Table 2 Catches of tunas and tuna-like species (in round weight , MT), 1996-2002

Species	1996	1997	1998	1999	2000	2001	2002
Yellowfin tuna	493.77	750.14	402.1	2,335	2,361.5	1771.3	1324.9
Bigeye tuna	466.3	1,651.68	2,164.48	2,182	2,698.6	2994.3	2792.4
Swordfish	237.8	255.2	117.16	270	372.2	262.6	396.8
Albacore				189	2.8	21.2	40.6
Sharks				187	98.4	--	--
Billfish				287	485.9	379.6	254.9
Others*	299.42	306.77	396.43	712	487.6	292.8	112.4
Total	1,497.3	2,963.8	3,080.2	6,162	6,507	5721.8	4922

Table 3 Nominal Catch in Metric tons from Chinese Longline Fleet by Species and Fishing Areas between 1999 and 2002

Year	Area	Total hooks (x1000)	BET	YFT	ALB	SWO	BIL	SHK	OTH	TOTAL
1999	E	14,939	2113	2206	101	262	287	187	712	5,868
	W	317	69	129	88	8	//	//	//	294
	SUM	15,256	2182	2335	189	270	287	187	712	6,162
2000	E	17,627.7	1,822.1	2,055.2	0	293.6	343.8	94.8	308.5	4,918
	W	3,838.6	876.5	306.3	2.8	78.6	142.1	3.6	179.1	1,589
	SUM	21,466.3	2,698.6	2,361.5	2.8	372.2	485.9	98.4	487.6	6,507
2001	E	15,303.6	2,105.0	1,287.8	19.6	169.9	258.3	--	167.6	4,008.2
	W	4,690.8	889.3	483.5	1.6	92.7	121.3	--	125.2	1,713.6
	SUM	19,994.4	2,994.3	1,771.3	21.2	262.6	379.6	--	292.8	5,721.8
2002	E	4614.6	875.4	446.9	20.8	70.2	36.8	--	23.5	1473.6
	W	8728.5	1917	878	19.8	326.6	218.1	--	88.9	3448.4
	SUM	13343.1	2792.4	1324.9	40.6	333.8	252.9	--	112.4	4922

Table 4 Fishing Effort (x 1000 hooks) and CPUE (kg per 1000 hooks/month) in IOTC waters by month, 2000-2002

Year		Jan.	Feb.	March	Apr.	May	June
2000	Effort	1,924.5	2,003.9	2,254.3	2,355.1	2,244.6	1,897.5
	CPUE	311.7	288.9	266.5	299.9	271.9	291.0
2001	Effort	1733.7	1723.4	1752.3	1736.6	1713.1	1667.6
	CPUE	277	302.5	293	272.3	307.2	258.4
2002	Effort	1100.1	891.9	1033.1	875.1	1291.7	941.9
	CPUE	392.6	344	358.7	372.8	286.8	265.5
Year		July	Aug.	Sep.	Oct.	Nov.	Dec.
2000	Effort	1,005.3	993.4	957.4	1,458.4	2,086.5	2,285.4
	CPUE	338.0	351.0	327.8	346.3	314.1	304.2
2001	Effort	1263.1	1118.8	1927.7	1630.7	1794.6	1932.8
	CPUE	231.9	294.7	248	255.7	268.3	402.2
2002	Effort	1204.6	1074.8	1019.2	1317.4	1312.4	1280.9
	CPUE	329.5	343.5	352.1	211.7	457.3	509

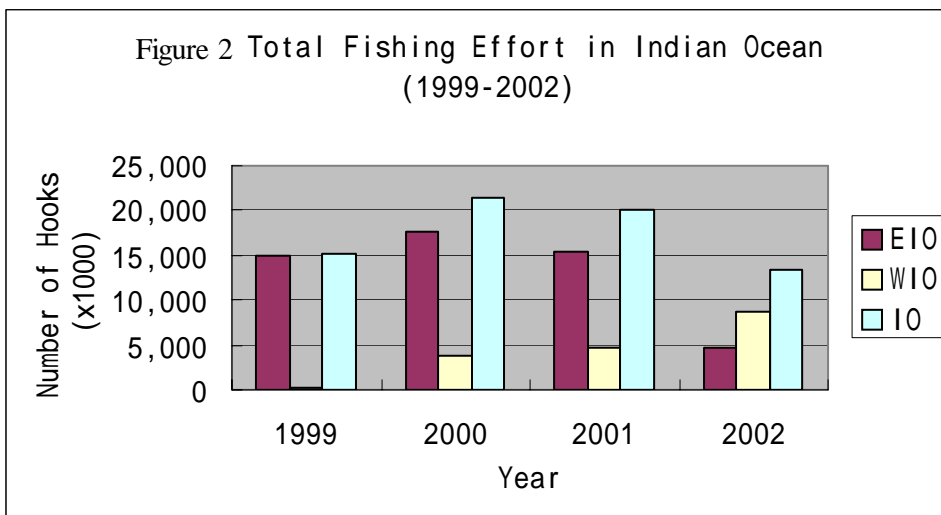
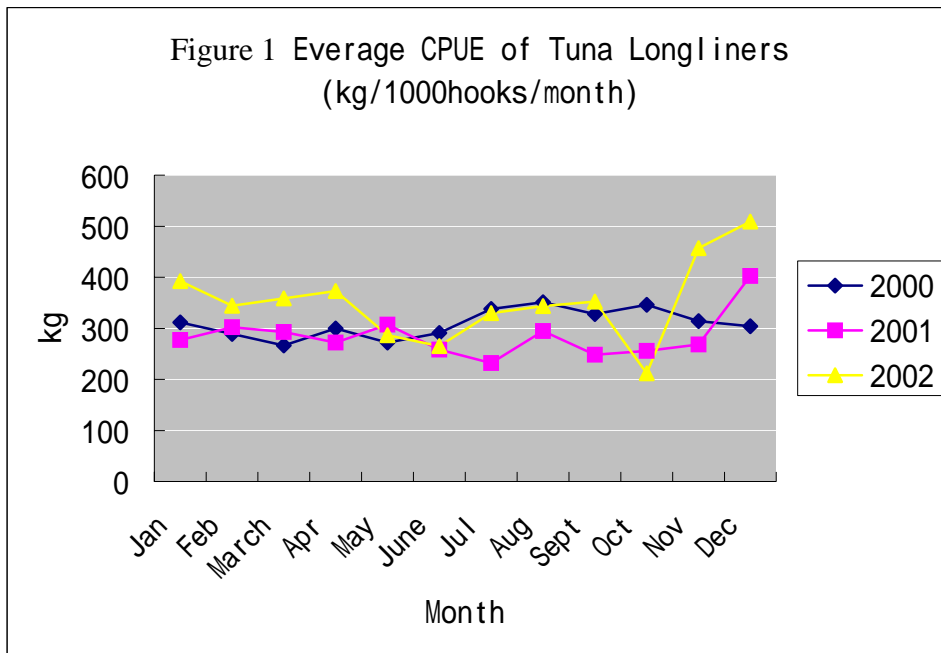


Figure 3 Species Composition of the Catch of XINSHIJI 17 (Jan 15 - June 17)

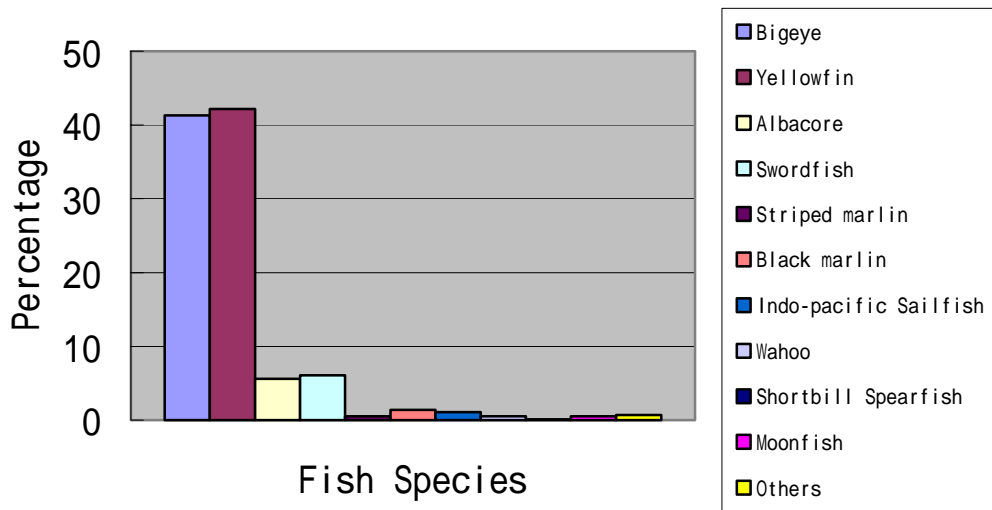


Figure 4 Species Composition of the Catch of XHISHIJI 17 (Jan 15 - June 17)

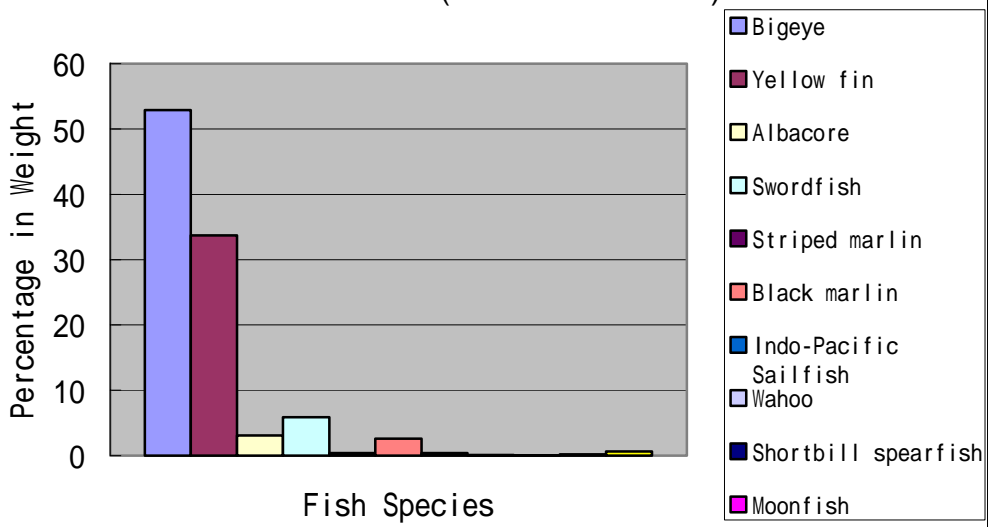


Figure 5 Catch statistics by Species and month of XINSHIJI 17
(Jan 15 - June 17, 2003)

