

Chinese Tuna Longline Fishery in the Indian Ocean in 2008

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1. INTRODUCTION

Longlining fishing has been the only fishing method applied by the mainland China fishing fleets for tuna and tuna-like species in the IOTC waters since the development of the tuna fishery in the Indian Ocean in 1995. A hundred twenty longline fishing boats were recorded at the peak time in 1998, which mainly consisted of small non-professional boats reconstructed from trawlers or gill-netters operated along Chinese coastal waters before reconstruction. After 1998 number of fishing boats reduced with year due to the poor management, low economic performance and fishing ground shift to other Oceans. Total number of tuna fishing boats registered with IOTC Secretariat reduced to 93 in 2001 and further down to 63 in 2002. The number of fishing boats active in 2008 was 46, among which 30 belongs to the larger scale deep frozen longliners, operating in waters between 40 ~ 90°E and 20°N ~ 40°S. Further reduction in the number of fishing boats will be expected in 2009 and the coming years due the piracy especially after the tuna longliner “Tian Yu 8” was attacked by the pirate and held hostage in November 2008.

2. CATCH STATISTICS

The total nominal catch of tuna and tuna-like species in the IOTC waters in 2008 is 7,097.4 MT in round weight, 34.8 % reduction compared with that in 2007 (see table 2). The catch of BET decreased from 7,167 MT in 2007 to 4,963 MT in 2008 and that of the yellowfin tuna (YFT) from 2,825 MT to 898 MT accordingly.

Catch of SWO reduced slightly in 2008 compared with 2007. Catch of blue shark and shortfin mako in 2008 are reported as 341 MT and 65 MT respectively. Approximately 95% of the Chinese total tuna catch came from the west part of the Indian Ocean. And 91.0% of the bigeye tuna catch was caught within the above area. Most catch are obtained from deep LL, accounting for 91.5% of the total catch.

3. FISHERIES MANAGEMENT

3.1 Data collection and report

The tuna technical working group of Shanghai Ocean University (SOU) (the former name Shanghai Fisheries University) has been responsible for the programs of the training and data collection and compilation of the Indian Ocean tuna fishery statistics under the support of the

Branch of Distant Water Fisheries of China Fisheries Association and the Bureau of Fisheries, Ministry of Agriculture, PRC. The compiled data and number of fishing vessels have been routinely reported to the IOTC Secretariat. The working group provided length frequency distributions for tropical tunas caught by longliners operating in IOTC waters and also the length frequency data collected through the scientific observers.

In 2008, SOU run training courses on the data formulation and collection, fisheries management measures adopted by regional fisheries management organizations, including IOTC, and fishing technical related conservation, such as sea turtles and sharks. All Chinese longliners have equipped with de-hooking devices in order to reduce sea turtle mortality during the fishing operation in 2009.

3.2 Scientific observer program

The tuna technical working group of SOU is also in charge of the national tuna observer program in the Pacific Ocean, Atlantic Ocean and Indian Ocean under authorization by the Bureau of fisheries, Ministry of Agriculture. Since China dispatched one observer on board the deep freezing longliner in the Indian Ocean in 2002, the program has been carried out normally under the fully cooperation of the Branch of Distant Water Fisheries of China Fisheries Association and supported by Shanghai Ocean University. 2-3 observers have been dispatched each year since then. So far, graduate students majoring in marine fisheries science & technology, marine fisheries resources from Shanghai Ocean University (the former name Shanghai Fisheries University) have been chosen to act as tuna scientific observers. In 2008 three observers have been dispatched on board the tuna longliners operating in the IOTC water between 15°00'S ~ 32°00'S and 60°00'E ~ 80°00'E. During March – May, 2008, one observer worked on board fresh tuna longliner with monitoring areas covering 19°35'S ~ 32°01'S, 58°25'E ~ 75°52'E. During the mission, the fishing boat has deployed 99200 hooks with 45 sets and caught 24823 kg of Albacore (1454 individuals), 1032kg (74 individuals) of bigeye tuna, 1133kg (49 individuals) of yellowfin tuna and 4897kg(82 individual) of blue sharks. In Sept 2008, two observers were dispatched on board the deep freezing longliner which undertook albacore resource survey in the southern Indian Ocean, the two observers have worked on board the fishing boat for about eight months (Sept. 2008 – April 2009) and recorded 460 individuals of bigeye tuna and 183 individual of albacore at the waters between 12°00'S ~ 32°01'S, 69°00'E ~ 78°12'E.

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

3.3 Log book system

The pilot logbook data submission system was tried in 2005 in order to obtain more detailed information about catch and fishing effort. In 2006 Fisheries Bureau, Ministry of

Agriculture required all fishing boats to fill logbook as required format by announcing that implementation of logbook system would be considered as one of the main factors for renewing the fishing permission and licenses. Under the support of the Branch of Distant Water Fisheries of China Fisheries Association and cooperated by the tuna fishing companies, the Logbook system has been carried out smoothly as normal data collection work. Since Jan.1, 2009, 100% logbook coverage collection for longline fishery has been carried out and this shall promote China data collection quality.

3.4 VMS system

All the deep freezing longliners have been equipped with VMS system.

Chinese Fisheries Authority will continue to strengthen the management of her tuna fisheries as a responsible fisheries nation, main measures to be taken includes:

1) Strengthening the implementation of fishing license system. Chinese government issues “High Seas Fishing Permit” to all legal fishing boats operating in the high seas; the “fishing permit” explicitly specifies fishing area, main targeting species and quota, fishing time of the boat holding the permit, so that the harbor nations can easily have a check if the boat enters their harbor.

2) Require all fishing companies to take specific and effective measures to further improve the catch data quality.

3) Strictly control the introduction of second hand deep freezing longliners;

4) Strictly control the scale of the albacore longliners in WCPFC waters. No any new fishing boat for albacore in WCPFC water will be approved except for the replacement of the old fishing boat by the new one.

5) Continuing to implement the national tuna observer program in three Oceans by increasing the fund.

6) Encouraging scientists to conduct research on the incidental catch of sea turtles and seabirds, request fishing companies to report situation about the incidental catch of sea turtles and seabirds if there is any.

References

1. DAI Xiaojie and XU Liuxiong. National report of China in IOTC waters in 2007. IOTC-2008-SC-INF21.
2. XU Liuxiong and DAI Xiaojie. National report of China in IOTC waters in 2004. IOTC-2005-SC-INF13.
3. XU Liuxiong, SONG Liming, GAO Panfeng, JIANG Wenxin, and WANG Jiaqiao. Catch rate comparison between the circle hooks and the ring hooks in Chinese ice fresh longliners in the tropical high seas of the Indian Ocean based on the observer data. IOTC-2006-wpxx-xx

Table 1. Number of Chinese Tuna Fishing Fleet in 2000 - 2008 in the Indian Ocean

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Ice fresh	98	93	63	47	31	27	26	25	16
Deep freezing				16	32	40	41	41	30
Total	98	93	63	63	63	67	67	67	46

Table 2. Catch of tuna and tuna-like species during 2000 - 2008 (round weight in MT)

Species	2000	2001	2002	2003	2004	2005	2006	2007	2008
YET	2,362	1,771	1,325	2,279	3,781.2	4,259	3,857	2,825	897.6
BET	2,699	2,994	2,792	4,569	8,321.2	8,867	8,702	7,167	4,962.9
SWO	372	263	397	753	687.6	625	775	450	418.7
ALB	3	21	41	31	62	51	56	116	158
SBF	-	-	-	14	0	-	-	0	0-
SHX	98	-	-	-	0	-	-	146	0
Blue shark									341.2
Shortfin mako									64.9
BIL	486	380	255	148	218	271	266	80	151
OTH	487	293	112	79	254.4	234	1189	106	102.6
Total	6507	5722	4922	7873	13324.3	14307	14858	10890	7097.4