

## **Review of Taiwan's SBT Fishery of 2006/2007**

### **1. INTRODUCTION**

Taiwan has been fishing for southern bluefin tuna (SBT) since 1970s. The SBT is being caught partly by seasonal target fishery and partly by the albacore fishery as by-catch. Seasonal target fishery is conducted mainly by longliners equipped with super-low temperature freezers, in two seasons, i.e. one from June to September and the other from October to February of the following year, in the waters around 30 °S-35 °S. However, no year-round target fishing has yet been conducted. The total annual catch in 2007 was preliminarily estimated to be 841 mt, decreased by 5 mt from 846 in 2006.

### **2. OPERATIONAL CONSTRAINTS ON EFFORT**

#### *Regulatory Measures*

Taiwan became a member of the Extended Commission of CCSBT in 2002, and agreed to limit its annual catch of SBT to 1,140 mt. Fishing vessels for seasonal target fishery and by-catch on SBT are differentiated and individual quota has been allocated to each of the vessels in the two fisheries. Every vessel is required to register with the Taiwan Tuna Association, whether for target or by-catch fishery, and obtain prior approval from the government before catching SBT. According regularization in 2007, about 99.7% of the annual catch limit was allocated to the seasonal target vessels, while the remaining 0.3% to the by-catch vessels.

In order to collect SBT catch information in a timely manner and to control the total SBT catch not to exceed the catch limit, as from 1996 every vessel that catches SBT was required to submit weekly report on its catch of SBT by weight as well as its fishing location to the fisheries authorities. This system was refined in 2002 to obtain more accurate catch information. In June 2000, Taiwan began to implement a Trade Information Scheme (TIS) for the export of SBT, meeting the requirement of TIS as adopted by CCSBT. As from 2002, all vessels fishing for SBT have been required to be

installed satellite-based Vessel Monitoring System (VMS) for transmitting the positions of vessels in a timely manner to the monitoring center. Fishing in spawning area of SBT as suggested by Scientific Committee is prohibited and document of TIS will not be issued to any fish caught from the spawning area to protect the spawning stock.

### **3. CATCH AND EFFORT**

In the 2007 fishing season, the actual catch was 841 mt caught by 30 active vessels, including seasonal target and by-catch fishery. About 82.22% of the Taiwanese SBT catch was caught mainly in the southern and central Indian Ocean ( $25^{\circ}\text{S}\sim 40^{\circ}\text{S}/55^{\circ}\text{E}\sim 105^{\circ}\text{E}$ ), and some catch about 17.74% were distributed in water off the northeast coast of South Africa ( $30^{\circ}\text{S}\sim 45^{\circ}\text{S}/20^{\circ}\text{E}\sim 55^{\circ}\text{E}$ ). Other catch were found sporadically in the southwestern Pacific Ocean.

### **4. HISTORICAL CATCH AND EFFORT**

In the early 1980s, the annual catch of SBT was relatively small, with a catch of less than 250 mt. Following the expansion of tuna long-line fleet and exploitation of fishing grounds, there has been a prominent increase in the annual catches. A significant increase in the annual catch of SBT was observed from 1989 to 1992, with a record catch of exceeding 1,100 mt, 1/4 of which was from drift net fishery. Following the prohibition of drift-net fishery on the high seas in 1993 in compliance with the United Nations General Assembly Resolution 46/215 calling for global moratorium on all large-scale pelagic drift-net fishing on the high seas of the world's oceans and seas by 31 December 1992, the annual catch of SBT decreased to a stable level, with fluctuation between 800 and 1,600 mt during the last decade (Table 1).

### **5. ANNUAL FLEET SIZE AND DISTRIBUTION**

In 2007, there were 30 longline vessels fishing for SBT, of which most vessels operated in the Indian Ocean. Their fishing grounds were mainly in the waters of  $25^{\circ}\text{S} - 40^{\circ}\text{S}$ , seasonally distributed in the southern and central Indian Ocean from June to September, and in the southwestern Indian Ocean extending to the eastern boundary of

the Atlantic Ocean.

## **6. HISTORICAL FLEET SIZE AND DISTRIBUTION**

Following the prohibition of drift-net fishing in 1993, SBT was caught only by longline fishery in the three oceans, but mainly in the Indian Ocean. According to the weekly report and trading information, there were more than 100 vessels fishing for SBT during 1998-2001. Due to the quota management regulation set by Fisheries Agency, the number of vessels which were authorized to fish for SBT increased temporarily from 61 of 2002 to 100 in 2003, then decreased drastically to 30 in 2007. The number of authorized vessels fishing for SBT from 2002 to 2007 was shown as Table 2.

## **7. FISHERIES MONITORING**

Intensive efforts have been continuously exerted for better understanding and monitoring the fishery through the following measures:

- I. Weekly report for SBT catch is required for submission to Fisheries Agency through Taiwan Tuna Association. As from 2002, provision of such information as daily catch, daily fishing location and daily discards is required in the weekly report when applying for SBT statistical document.
- II. As from April 2002, vessels catching SBT are required to install VMS equipments in order to monitor the positions of the vessels.
- III. An experimental scientific observer program on SBT fisheries has been launched since 2002. In 2007, 3 observers were placed on 3 SBT fishing vessels. The observer coverage rate by hooks was about 15.11 % and by catch about 10.15%. The coverage rate by catch increased substantially compare with in 2006, due to the observed vessels did not change their target species.
- IV. TIS program has been implemented to collect updated and detailed catch information. In applying for TIS document, the applicant is required to submit the transshipment document issued by the cargo carriers. After unloading of the catch in Japan, the applicant is required to submit to Fisheries Agency the transaction

record validated by the verification firm for further verification of catch statistics.

## **8. OTHER FACTORS**

### *Markets*

In 2007, about 723 mt SBT catch were exported to Japan for sashimi market and 1 mt were exported to South Africa. For the purpose of promotion, since 2006 Fisheries Agency has required industries to transship partial catch back to Taiwan for domestic consumption. In 2007, the amount of domestic consumption was approximated as the previous year 117 mt.

### *Seabirds mitigation measures*

On May 5, 2006, Fisheries Agency promulgated the National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (NPOA -Seabirds) and simultaneously implemented regulations on the requirement of installation of tori lines on longline vessels operating in areas south of 28 °S.

Table 1. Annual SBT catches by Taiwanese deep-sea longline and drift net fisheries during 1972-2007. Unit: MT

Year	Deep-sea Longline	Drift Net	Total
1972	70		70
1973	90		90
1974	100		100
1975	15		15
1976	15		15
1977	5		5
1978	80		80
1979	53		53
1980	64		64
1981	92		92
1982	171	11	182
1983	149	12	161
1984	244	0	244
1985	174	67	241
1986	433	81	514
1987	623	87	710
1988	622	234	856
1989	1,076	319	1,395
1990	872	305	1,177
1991	1,353	107	1,460
1992	1,219	3	1,222
1993	958		958
1994	1,020		1,020
1995	1,431		1,431
1996	1,467		1,467
1997	872		872
1998	1,446		1,446
1999	1,513		1,513
2000	1,448		1,448
2001	1,580		1,580
2002	1,137		1,137
2003	1,128		1,128
2004	1,298		1,298
2005	941		941
2006	846		846
2007*	841		841

\*Preliminary estimation.

Table 2. The number of authorized vessel fishing for SBT during 2002-2007.

Year	2002	2003	2004	2005	2006	2007
N. Vessel	61	100	92	57	36	30