

National Report of Taiwan for Ecologically Related Species in 2004-2005

Fisheries Agency of Taiwan

1. Introduction

Southern bluefin tuna (SBT) has been caught by Taiwanese deep sea longline fleet since 1970s. At the early stage, SBT was only a by-catch species, and as a result of the development of ultra-low temperature freezers, vessels equipped with such freezing facilities have started to target this species seasonally since late 1980s.

Because of limitation of vessel designing, most Taiwanese vessels are unable to operate in the areas with very low temperature and strong waves. The fishing area of Taiwanese SBT fleet is around 25°S-45°S.

This report, which includes information and data on Ecologically Related Species (ERS) of SBT, was reported or sampled by our Scientific Observer in 2005.

2. Review of SBT fisheries

Fleet size and distribution

More than 100 vessels have caught SBT during 1998-2001. Since 2002, Taiwan has become a member of the Extended Commission of CCSBT and agreed on its national quota of 1,140 mt. Taiwan has imposed strict regulation and started to allocate individual quota to each vessel which was authorized to fish for SBT since 2002. Besides, those vessels are separated to either seasonal target ones or by-catch ones. The number of vessels was 61 in 2002, 100 in 2003, 107 in 2004, and 57 in 2005.

Distribution of Catch and Effort

Historically, annual catches of SBT were less than 250 mt in early 1980s. Since 1980s, with the improvement of vessel facilities, the fishing grounds and target species have also been changed. Apart from capturing albacore, our vessels also capture SBT in the

specific seasons. Since 1989 onwards, annual catch of SBT has surpassed 1,000 mt. After then, the SBT catches fluctuated between 800 and 1,600 mt. Since CCSBT has been established, Taiwan, in line with the CCSBT conservation and management measures, voluntarily has set up its SBT catch limit at 1996 level of 1,450 mt since 1997. During 1996-2001, the average annual catch of SBT, caught by 100-140 or so vessels, maintain around 1,450 mt. When Taiwan joined CCSBT in 2002, it compromised by reducing 310 mt from our original self restraint catch limit, and set up annual catch quota to 1,140 mt. The total annual catch was estimated to be 941 mt caught by 57 vessels in 2005. The exceeded catch quota of 158 mt in 2004 was deducted in 2005. The annual catch of SBT by Taiwanese longline fishery is shown in Fig. 1.

Catches are mainly caught in the waters of 30°S – 40°S in the Indian Ocean and seas adjacent to the Atlantic Ocean (Fig. 2). There are two fishing grounds in general: one is in the central Indian Ocean around 55°E – 95°E, 30°S – 40°S, and the other is off the southeast coast of Africa around 30°E – 55°E, 35°S – 45°S. Seasonally, SBT are caught in the southern and central Indian Ocean from June to September, and in the southern and western Indian Ocean extending to the eastern limit of the Atlantic Ocean from November to February of the following year.

3. Fisheries Monitoring for Each Fleet

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

- (1) The weekly report for SBT catch is required by Taiwan Tuna Association to be submitted to Fisheries Agency. Provision of daily records, including catch, fishing location and discards in the weekly report has been required while applying for SBT statistical document since 2002.
- (2) Logbook is required to be submitted to Fisheries Agency within specified time period after a fishing vessel enters a port. Since 2004, a revised logbook form has been distributed to fishing vessels for recording information on ecologically related species, such as seabirds, marine mammals and sea turtles.

- (3) From April 2002, it is mandatory for the vessels that catch SBT required to be equipped with VMS's equipment in order to monitor location of the vessels.
- (4) The experimental scientific observer program has been launched since 2001, but vessels fishing for SBT commence to be deployed 2 observers on 2 vessels in 2003. There were 3 scientific observers dispatched on SBT vessels for 5 observation trips during the fishing season in 2004. Four scientific observers were dispatched on 4 SBT vessels in 2005. Observers record the catches and locations every day, measure the fish total length, identify bio-species including tuna-like species, sea turtles, seabirds, sharks and marine mammals etc, and sample muscle tissues, otoliths, stomach content and gonad of tuna for research. The coverage rate was 7.02% by vessel in 2005.
- (5) Trade Information Scheme (TIS) has been implemented to collect more updated and detailed catch information since June 2000. While applying for TIS document, the applicant is required to submit the transshipment document issued by the cargo carriers. After unloading catch in Japan, the applicant is required to submit to Fisheries Agency the unloading documents issued by the Japanese Customs for further verification of catch statistics.

4. Seabirds

Two fishing period of time of Taiwanese SBT vessels are June to September and November to February of the following year. The major fishing grounds is around 30° S-40°S in the Indian Ocean and Atlantic Ocean. The lower latitude the vessels operate at, the less frequency and number of seabirds are sighted.

Twenty one seabirds were caught according to the record of scientific observers deployed on SBT vessels in 2005, among which, 3 were caught still alive and released, and 18 were dead and discard. Table 1 shows the number of seabirds caught, total hooks, and CPUE recorded by observers in 2004 and 2005. Table 2 shows the composition of species.

5. Other Non-target Fish

For Taiwanese vessels, SBT is mainly caught by albacore-targeting vessels. Other non-target fish include bigeye tuna, yellowfin tuna, sharks, and billfish.

Blue shark was the most dominant species of shark accounting for 63.74% according to observer record, shortfin mako shark accounting for 23.63%, and other species only accounting for 12.64%. Table 3 shows the composition of species.

6. Marine Mammal and Marine Reptile

According to observer record in 2003-2005, sightings of cetaceans were very rare.

Sea turtles in general live in the waters near the equator and the depth of habitat is above 150m, but all of Taiwanese SBT vessels operated in the area southern than 25°S and fishing depth is about 300-400m, so there is not any sea turtle sighted by observers.

7. Mitigation measures to minimize seabird and other species bycatch

Current Measures

Mandatory Measures for Each Fleet

The Government of Taiwan has introduced a regulation to reduce seabird incidental catch in Taiwanese longline fisheries since 2004. Vessels fishing southern than 30°S are required to deploy a tori line during line setting.

Besides, in compliance with the Resolution adopted by ICCAT and IOTC, Taiwan has applied mandatory regulations to require its authorized vessels fishing in the Atlantic Ocean and Indian Ocean not to have onboard fins that total more than 5% of the weight of sharks onboard, up to the first point of landing since 2005.

In addition to the above mentioned regulations, Taiwan government has imposed “Wild Life Protection Act”, forbidding fishermen to capture or possess the following kinds of sea turtles, which include green turtle, loggerhead turtle, olive ridley turtle, leatherback turtle and hawksbill turtle. The incidentally caught sea turtles must be released and the fishermen are required to record this event in the logbook.

Voluntary Measures for Each Fleet

Those captains fishing in the area of southern high latitude are greatly concerned about bait losses and incidental catch of seabirds. Most of the captains take several measures at the same time to avoid bait biting by seabirds, such as hook-casting before dawn, using weighted branchlines, using semi-thawed baits, etc.

Besides, in line with “International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries” of FAO, Taiwan has adopted “National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries (NPOA-Seabirds)” which came into force in October 2006 to act as a basis for establishing seabird conservation policy.

Similarly, in respect of sharks, we have also adopted NPOA-sharks which entered into force in May 2006, not only for the guidance to encourage full usage of caught shark, but also for avoidance of waste.

8. Public relations and education Activities

- (1) Fisheries Agency of Taiwan had authorized Wild Bird Federation Taiwan (WBFT) to implement a fishermen education programme for mitigating seabirds by-catch in 2005. Wild Bird Federation Taiwan (WBFT) conducted an educational programme for the Taiwanese fishermen in the Port Louis, Mauritius in the Fall of 2005. The programme was the first trial to discuss the by-catch problems and the efficiency of mitigation measures with the fishermen in their cabins.
- (2) Distribution of posters, sheets and booklets for guidance of mitigation measures of reducing seabird by-catch, shark full utilization, and species identification for seabirds, sharks and sea turtles to fishermen.
(CCSBT/0402/Info28)
- (3) For sea turtles, we encouraged fishermen to carry dip net and line clipper on board to safely release sea turtles. Meanwhile, we also distributed 3000 copies of posters entitled “Release the sea turtle incidentally caught” to our fishermen in 2003.

All local governments and related fisheries associations/ organizations have been required to strengthen the knowledge to fishermen. Besides, broadcasting for educating fishermen through the professional fisheries radio station has been conducted regularly. The related information has been passed on to ship masters and crews during observer trips and while in port.

9. Others

No other information.

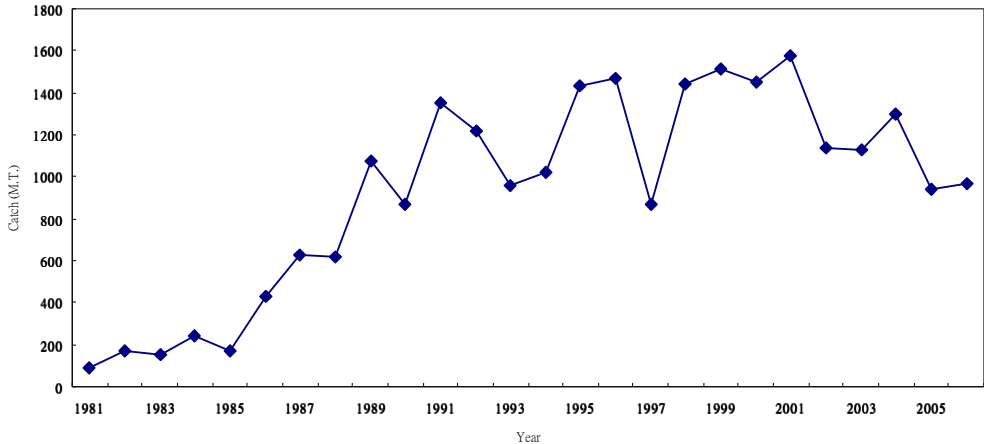


Fig. 1 The annual catch of SBT by Taiwanese longline fishery in weight from 1981-2006

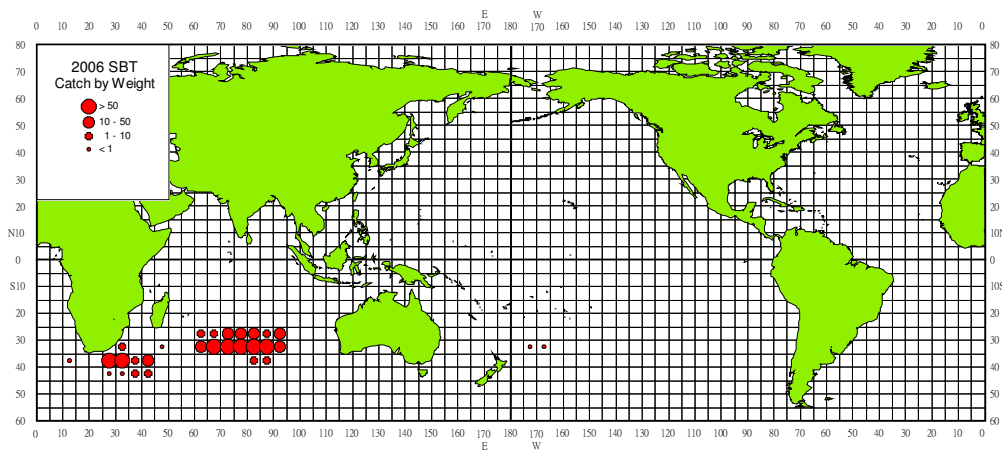
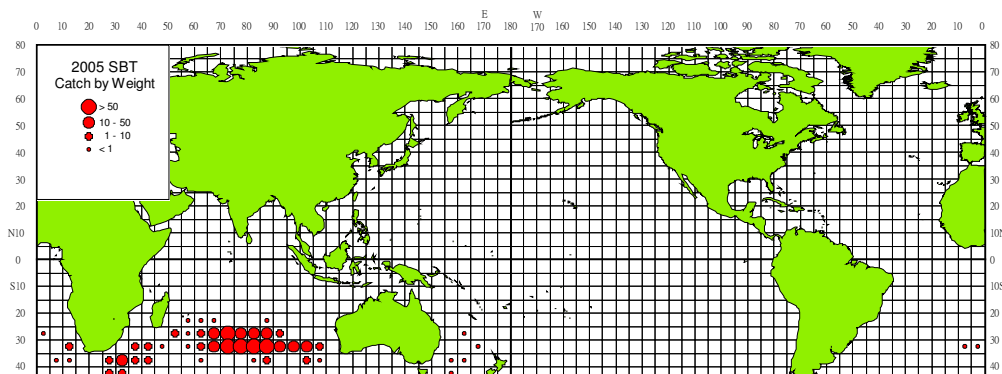
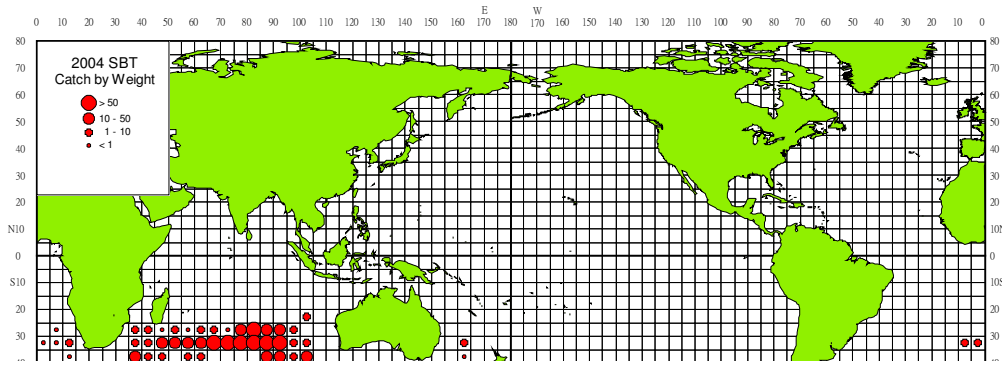


Fig. 2 Distribution of SBT catch by Taiwan longline fishery from 2004 to 2006. (Data in 2006 is preliminary.)

Table 1. Incidental catch of seabirds recorded by observers dispatched on SBT vessels in 2004 and 2005

Year	Caught seabird number	Total hooks	CPUE (number/ thousand hooks)	Life Status	
				Alive and Release	Dead
2004	29	1,222,920	0.0237	15	14
2005	21	1,602,522	0.0131	3	18

Table 2. Seabird species recorded by observers deployed on SBT vessels in 2004 – 2005.

Species	Observed number	
	Year	
	2004	2005
<i>Wandering albatross</i>	2	4
<i>Sooty albatross</i>	3	2
<i>Black-browed albatross</i>	0	1
<i>Buller's albatross</i>	6	0
<i>Yellow-nosed albatross</i>	14	2
<i>other albatross</i>	0	1
<i>Southern giant petrel</i>	0	1
<i>Cape petrel</i>	0	0
<i>White-chinned petrel</i>	0	0
<i>other seabirds</i>	4	10
Total	29	21

Table 3. By-catch of shark species recorded by observers deployed on SBT vessels in 2004 – 2005.

Year	species	Number	%	CPUE
				(number/ thousand hooks)
2004				
	Blue shark	105	64.02	0.086135
	Shortfin mako	55	33.54	0.045118
	Other shark	4	2.44	0.003281
	Total	164	100	0.134534
	Total hooks	1219020		
2005				
	Blue shark	232	63.74	0.11018
	Shortfin mako	86	23.63	0.040843
	Other shark	46	12.64	0.021846
	Total	364	100	0.172868
	Total hooks	2105647		