National Report

Description of Albacore Fisheries of Taiwan in the Indian Ocean

Fisheries Agency, Council of Agriculture, R. O. C.

Abstract

This document reviews the status of the information available on Albacore based on the databases at the Overseas Fisheries Development Council (OFDC) of Taiwan and the studies by the Taiwanese scientists. The review covers description of Taiwanese Albacore fisheries in the Indian Ocean, list of available data in our databases and list of our relative researches on the Indian Albacore.

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Description of Fisheries

There are two types of Taiwanese tuna fishery in the Indian Ocean, i.e., longline fishery and gillnet fishery. The Taiwanese distant-water tuna longline fishery has exploited the Indian Ocean's tuna resources for over 30 years, since the beginning of the 1960s. The Taiwan tuna longliners have two types of vessel the regular longline fishery that targets albacore, and the deep longline fishery that targets bigeye and yellowfin tunas in the Indian Ocean. The Taiwanese large-scale gillnet fishery operated in the Indian Ocean from 1983, and was closed by a ban of the United Nations in 1992.

The main management efforts implemented by our government include the Vessel Monitoring System (VMS) and the Observer Program. The VMS was implemented continuously from previous years for the purpose of better management of our distant water fishing vessels. The government has encouraged longline vessels to install the VMS through an incentive program since July 1996. Installation of the system and reporting vessel position through it is not compulsory at present. Nevertheless, the government recognizes that as a major fishing nation, it is our obligation not only to be in line with the international trend on management of fishery resources, but also to achieve the goal of the sustainable use of these resources. It is our goal that all large scale distant water vessels operating in the region will eventually be equipped with such a system.

For purposes of better understanding the fishing activities and the bycatch issue of the longline fishery and to be in line with the international requirement for conserving marine resources, the government has launched an experimental observer program since 2001. In 2002 and 2003, there are 6 observers each year dispatched to the three major Oceans. And there are 9 observers dispatched to three major Oceans. Data obtained will be reviewed and used for scientific purposes in the near future.

List of available data

Longline Fishery

Data Type	Source	Year	Description
Nominal Catches (NC)	Commercial landing includes: 1. traders' sales record; 2. verification of fishing vessels' sale settlement; 3. certified weight reports of New Japan Surveyors and Sworn Measures Association (NJSSMA); 4. verification records by Taiwan Deep-Sea Tuna Boatowners and Exporters Association (Tuna Association).	1970-2003	These commercial information are used by OFDC to cross-check and estimate the total catch by species.
Catch-and-Effort (CE) data	Logbook data	1967-2002	
Size Frequency Data(SF)	On board measurement	1980-2002	

Gillnet Fishery

Data Type	Source	Year	Description
Nominal Catches(NC)	1. Logbooks; 2. the daily catch and composition report of Fishery Radio Station; 3. the landings reported by domestic base and oversea base ports; 4. the monthly record of fishing boats.	1986-92	
Catch-and-Effort (CE) data		1986-92	The statistical methods for the monthly catch and effort data by 5°× 5°square block of the Taiwanese gillnet fishery are similar to those of the longline fishery. However, the catch weight is estimated by the catch number multiplied by the average weight for each species. The latter comes from the port sampling.
Size Frequency Data(SF)	Port sampling	1986-92	Most catches were delivered to domestic harbors.

List of relative researches on the Indian albacore

Chien-Chung Hsu. 1991. Parameters estimation of generalized Von Bertalanffy growth equation. Acta Oceanographica Taiwanica, 26: 66-77.

Chien-Chung Hsu. 1999. The length-weight relationship of Albacroe, *Thunnus alalunga*, from the Indian Ocean. Fisheries Research, 41:87-92.

Hiang-Wen Huang, Chien-Chung Hsu, Hui-Hua Lee and Yu-Min Yeh. 2003. Stock assessment of Albacore, in the Indian Ocean by surplus production models with a new relative abundance index. Terrestrial, Atmospheric and Oceanic Sciences, 14(2):201-220.

Shu-Hwi Wang, Chien-Chung Hsu and Hsi-Chiang Liu. 2000. Comparisons of time series models for the forecasting of albacore commercial harvest in the Indian Ocean. J. Fish. Soc. Taiwan, 27(2):63-75.

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Shui-Kai Chang, Chien-Chung Hsu and Hsi-Chiang Liu. 2001. A new assessment using fuzzy surplus production model to evaluate the albacore stock in the Indian Ocean. J. Fish. Soc. Taiwan, 28(4):329-338.

Shui-Kai Chang, Chien-Chung Hsu and Hsi-Chiang Liu. 2001. Management implication on Indian Ocean albacore from simple yield analysis incorporating parameter uncertainty. Fisheries Research, 51:1-10.