National Report of Thailand[1]

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This paper presents recent scientific information on tuna fishery of Thailand and its contemporarily undertaken national research programs relating to tuna resources. The available data and information obtained are of benefit to the decision makers for further deciding on management measures and better utilization of tuna resources.

A. Tuna Production

Tuna production of Thailand is composed of neritic and oceanic tunas in which the majority is neritic tunas. The total tuna production from the Indian Ocean in 2005 was 29,216.62 metric tons of which 58% and 42% were neritic and oceanic tunas respectively (Table 1). Skipjack tuna, Kawakawa, King mackerel, and Longtail tuna were the dominant species in the catch composition followed by Yellowfin and Bigeye tunas. Four main fishing gears were employed to catch tunas in the Indian Ocean, namely purse seine, longline, gillnet and trawl for king mackerels. Purse seine contributed the highest catch which was 23,072 metric tons followed by trawl (4,360 metric tons), gill net (1,505 metric tons), and longline (279.62 metric tons).

Thailand has maintained the level of neritic tuna production derived from the Indian Ocean over 10,000 metric tons each year. In 2000, the catch of neritic tuna was 16,425 metric tons (Figure 1). It dropped to 13,837 metric tons in the following year and bounced back to reach its peak in 2003 (18,499 metric tons). In 2004, catch decreased and reached 17,549 metric tons due to the critical crisis of increased oil price. The production was predicted to decrease in 2005. The neritic catch comprises 3 main species which are Longtail tuna, Kawakawa, and King mackerel. In 2004, the largest proportion in the neritic tuna catch was Kawakawa (47%) followed by King mackerel (37%) and Longtail tuna (16%). Three kinds of fishing gears have been used to catch neritic tunas, namely purse seine, gill net, and trawl. Purse seine as compared to the other 2 gears contributes a large amount of tuna production. In 2004, it contributed 66% of the total catch followed by trawl (30%) and gill net (4%) (Figure 2).

Although Thailand has fished for neritic tunas for years, it has started to engage in oceanic tuna fishery in the high seas in recent years. Due to new technology and lack of experience and skill, the oceanic tuna production decreased from 1,914.879 metric tons in 2000 to 218.374 metric tons in 2003 (Figure 3). The only large purse seine fishing vessel named “Mookmanee” bought to operate in the high seas was eventually sold to the new owner abroad. The adjustment of vessel operation and the practical management of the remaining 2 longliners as well as the commencing operation of a new fleet of 6 tuna purse seiners in 2005 had contributed to the increase of oceanic tuna production. The total production increased to 506.76

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metric tons in 2004 and to 12,216.63 metric tons in 2005. Skipjack, Yellowfin and Bigeye tunas are 3 main species in tuna production caught by the Thai fishing vessels operating in the high seas in the Indian Ocean followed by Albacore tuna and Marlin. In 2005, 7,971 metric tons of Skipjack tuna, 2,329 metric tons of Yellowfin tuna, and 1,637 metric tons of Bigeye tuna were caught by purse seiners whereas 104.425 metric tons of Bigeye tuna and 142.912 metric tons of Albacore tuna were caught by longliners (Figure 4).

Figure 5 demonstrates catch composition of oceanic tunas caught by the Thai fishing vessels during 2000-2005. In 2005, Skipjack tuna contributed 62.25% of the total production followed by Yellowfin tuna (19.23%), Bigeye tuna (14.25%), and Albacore tuna (1.17%). Catch of Bigeye tuna in 2000 was 279.820 metric tons, and it decreased to 168.8 and 80.248 metric tons in the following year and in 2003 respectively. The statistic shows the increasing trend of Bigeye production. In 2004, the catch was 111.280 metric tons and increased to 1,741.425 metric tons in 2005.

Figure 6 illustrates the length distribution of tuna production caught by the Thai fishing vessels operating in the Indian Ocean in 2005. The size of Yellowfin tuna ranged from 41 cm. to 136.50 cm. with the average size of 64.72 cm. The size of Skipjack tuna was from 45.60 cm. to 71.80 cm. with the average size of 56.40 cm. And that of Bigeye tuna ranged from 33 cm. to 101.5 cm with the average size of 64.44 cm. The fork length frequency of Yellowfin tuna were found mode at 62.50 cm., Skipjack tuna 55 cm. and Bigeye tuna 71.5 cm. respectively.

B. Implementation of Recommendations of the Scientific Committee

Thailand has seriously implemented the recommendations adopted in the IOTC Scientific Committee including the following actions:

- Collecting scientific data and information of neritic tunas distributing in the Thai waters**.**
- Conducting research surveys in the Eastern Indian Ocean to collect scientific data and information of oceanic tunas distributing in the high seas.
- Monitoring fishing operation of Thai tuna fishing vessels operating in the high seas both purse seiners and long liners (include 3-month catch report and port sampling program).
- Collecting information of foreign tuna longline vessels operating in the Indian Ocean and unloading their catch in fishing port in Thailand.
- Collecting information and reporting Bigeye statistical document and re-export certificate

C. National Research Programs

The following research programs were carried out by the Department of Fisheries of Thailand in 2005 and 2006:

a. The Sampling Program on Tuna Longline Vessels Unloading in Phuket

The program was initially supported and financed by IOTC in the beginning stage since April 2000. The program was extended after that with the collaborative support given by IOTC and OFCF (Overseas Fishery Cooperation Foundation) under the “Cooperation Project for Enhancing the Data Collection and Processing Systems for Tuna Resources in the Indian Ocean”. The program has been carried out and provides a lot of useful information regarding foreign tuna longliners fishing in Indian Ocean and landing their catches at the Phuket fishing port, Thailand.

The purpose of this program is as follows:

- Enhance data collection and processing system for tuna fisheries in Thailand
- Improve and update data collection on tuna longline fisheries in the East Indian Ocean as well as information on the activities, nominal catches, catch breakdown by species and size composition for each species caught by tuna longliners unloaded in Phuket.

The activities involve collecting the number of landings, catch, vessel operating (no. of trip), weight samples, interviewing, biological samples and other activities such as collection of information of shark, other species, and study age of the fish by using otolith.

The program is about to end in this coming December 2006. As the information of catches taken by foreign vessels operating in the Indian Ocean and landed at the fishing port in Thailand is so important not only for Thailand but also for IOTC as a whole, Thailand wishes to receive the continuing support from IOTC and OFCF for the extension of the sampling program if the second phase is available and possible.

b. The Neritic Tuna Fisheries in Thailand

With the view to enhancing the data collection and processing system for neritic tuna fisheries in Thailand, IOTC and OFCF provided the technical assistance to the Department of Fisheries of Thailand. The assistance was undertaken under the "Cooperation Project for Enhancing the Data Collection and Processing Systems for Tuna Resources in the Indian Ocean".

The purpose of the program is to assess the precision of the current catch estimates by review and analysis of the existing data and comparing with catch estimates derived from alternate sampling activities. The landing surveys are conducted to collect fishing and biological data of neritic tuna, pelagic fish, and by-catch species. The activities at the landing places include collecting catch, effort (no. of trip), sizes by individual total length for pelagic fish and fork length for neritic tuna and tuna-like species and weight.

The program was already ended in October 2006. Thailand wishes to receive the continuing technical support from IOTC and OFCF for the extension of the sampling program if the second phase is available and possible.

c. Tuna Resources Survey in the Eastern Indian Ocean

Thailand has conducted tuna resources survey in the Indian Ocean since 1988 (M.V. MAHIDOL has started since 1995). In 2004-2005, four cruises of tuna resources survey were carried out by the M.V. MAHIDOL, a purse seine research vessel of the Department of Fisheries of Thailand, in the Eastern Indian Ocean during December 2003-February 2004 and December 2004-March 2005.

The purpose of the research program is to collect the relevant information of tuna distribution in the Indian Ocean in particular the Eastern Indian Ocean. The information derived from the research survey includes catch composition, catch rate, size of caught tunas, fork length frequency, and length-weight relationship. In addition, the information on water current, wave and wind condition, and other oceanographic observation has been collected.

Table 1 Total Tuna Catches of Thailand in 2005

	Purse seine	Long line	Gill net	Trawl	Total
Skipjack	7,971.00	-	-	-	7,971.00
Yellowfin tuna	2,329.00	19.71	-	-	2,348.71
Bigeye tuna	1,637.00	104.42	-	-	1,741.42
Albacore	-	142.91	-	-	142.91
Marlin	-	12.58	-	-	12.58
Longtail tuna	2,876.00	-	364.00	-	3,240.00
Kawakawa	7,541.00	-	73.00	-	7,614.00
King mackerel	718.00	-	1,068.00	4,360.00	6,146.00
Total	**23,072.00**	**279.62**	**1,505.00**	**4,360.00**	**29,216.62**

Figure 1 The Neritic Tuna Catches by Species (2000-2005)

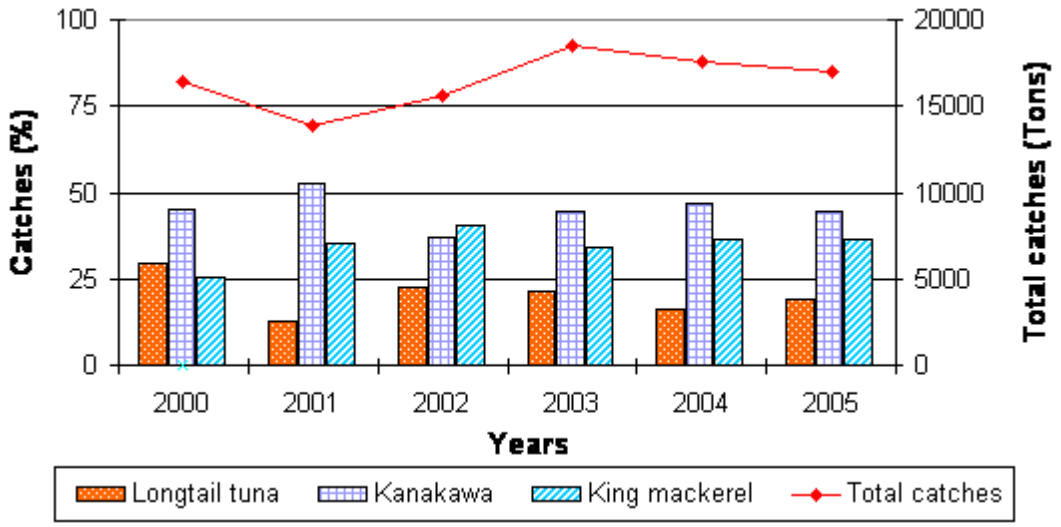


Figure 2 The Neritic Tuna Catches by Gears (2000-2005)

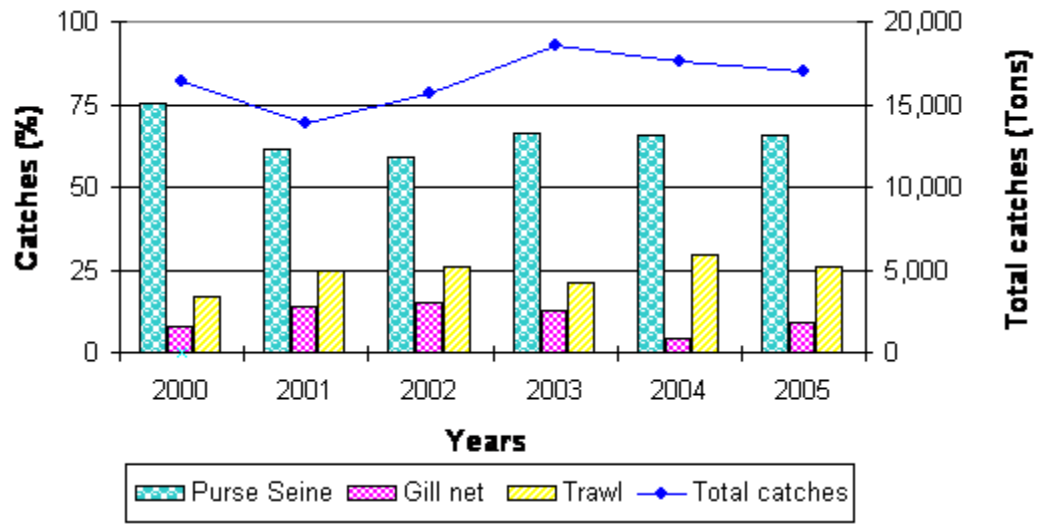


Figure 3 The Oceanic tuna Catches by gears (2000-2005)

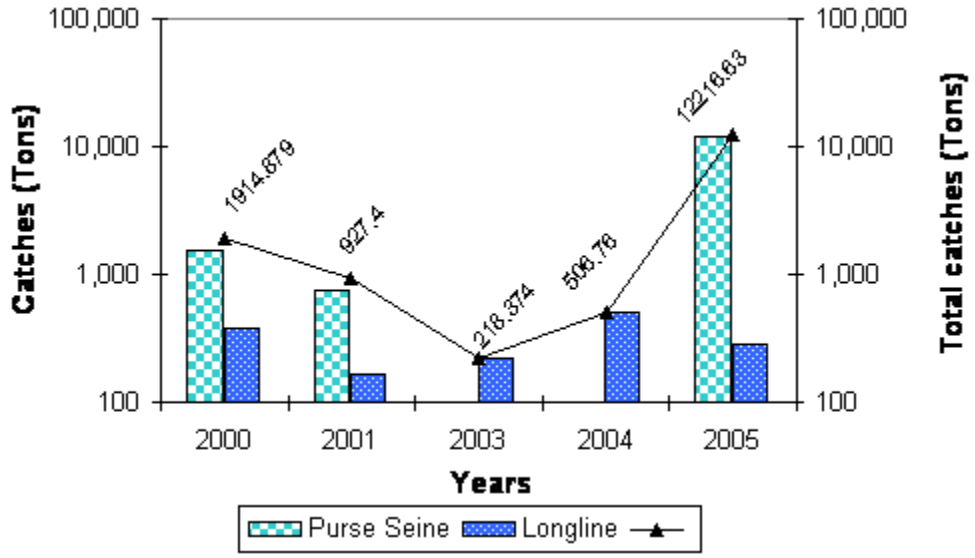


Figure 4 The Oceanic tuna Catches by gears in 2005

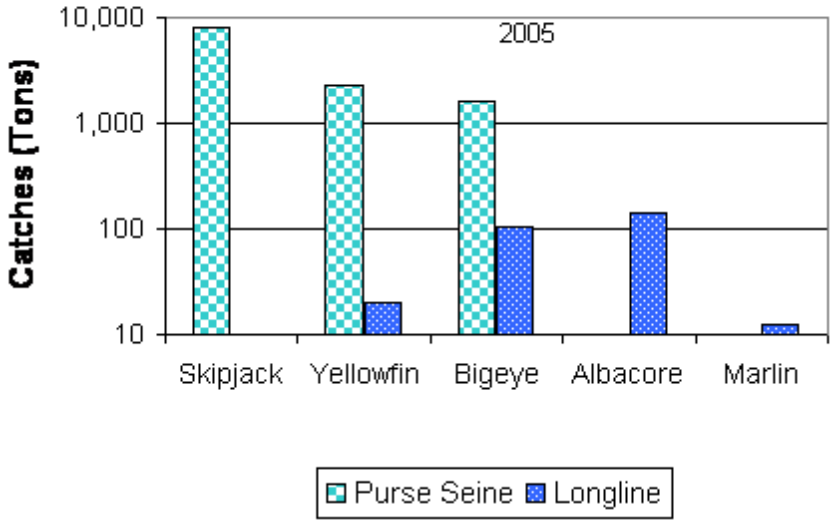
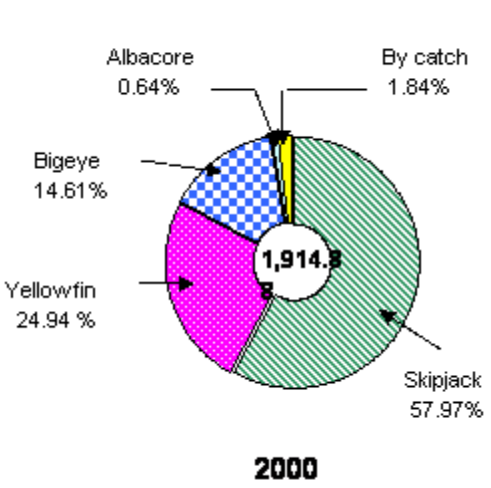
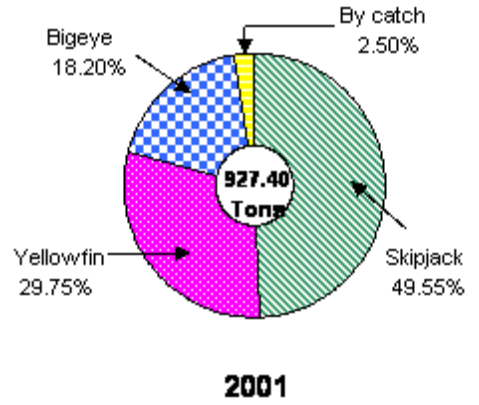
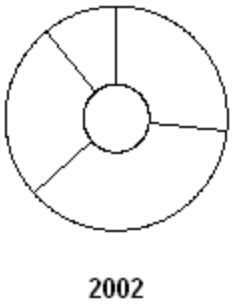
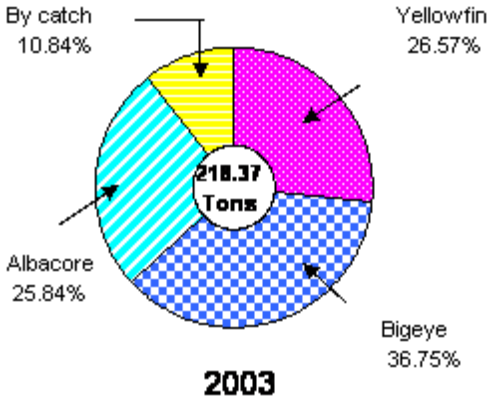


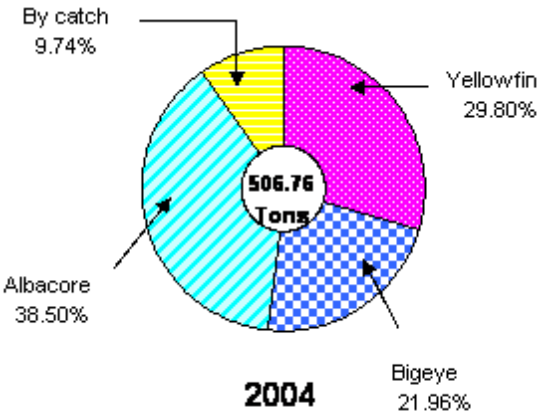
Figure 5 The Oceanic tuna Catches of Thailand (2000-2005)

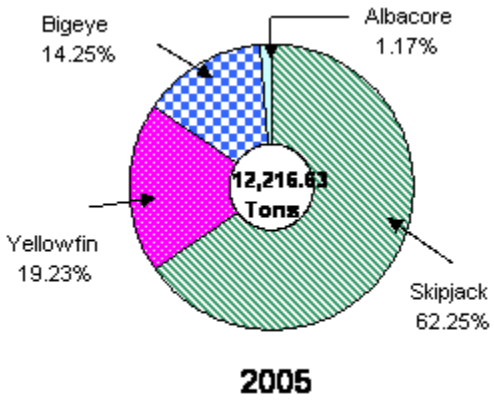


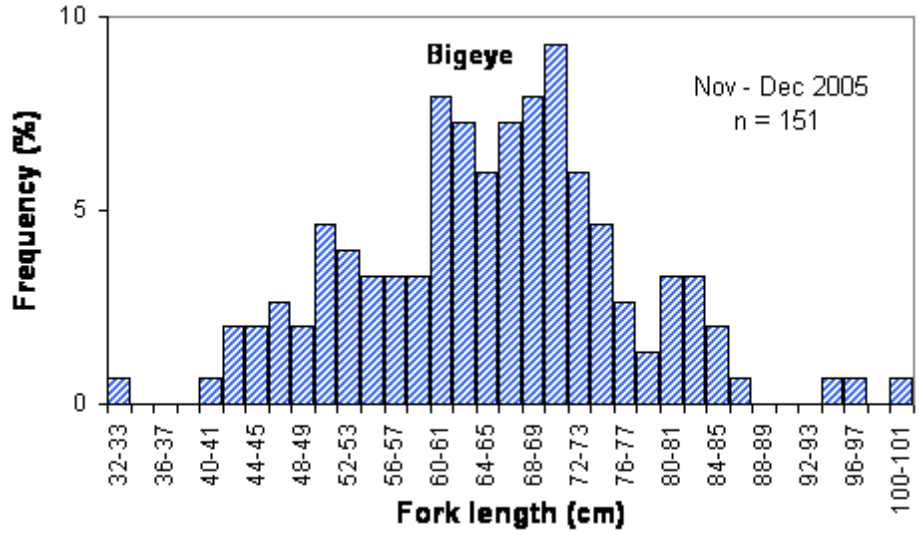


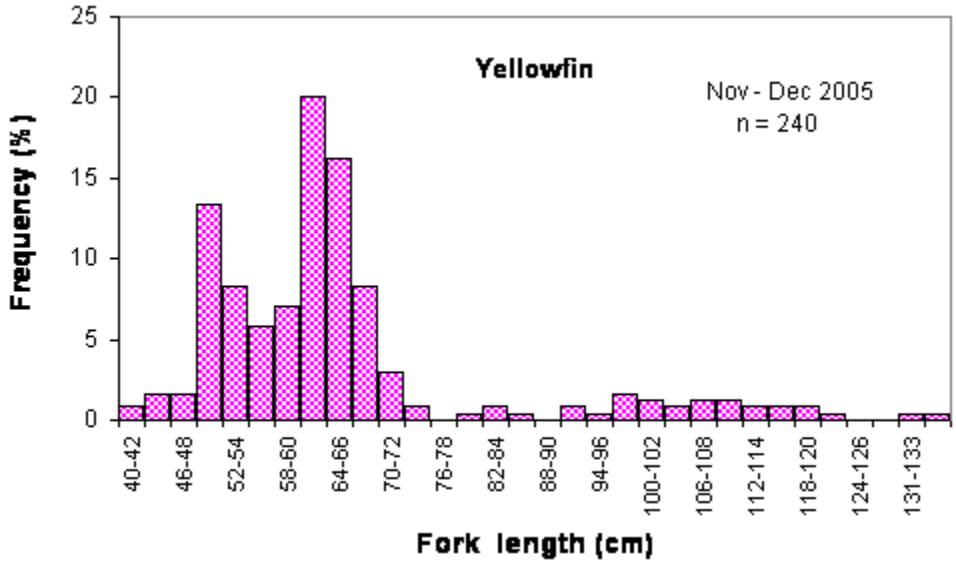












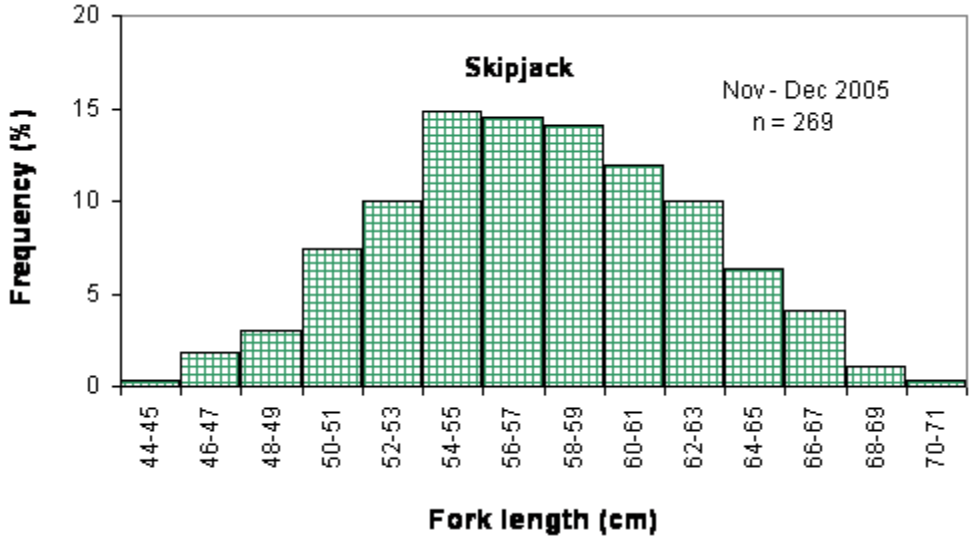


Figure 6 Length Distributions of Tuna Catches by Thai's Fleets