

National Report of Thailand in 2008

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Summary

Neritic tuna and king mackerel species in the Andaman Sea Coast, Thailand comprise 6 species (*Thunnus tonggol*, *Euthynnus affinis*, *Auxis thazard*, *Katsuwonus pelamis* and *Sarda orientalis*, *Scomberomorus* spp.). The fishing gear used to catch neritic tuna or tuna-like are purse seine, king mackerel gill net and trawl, while purse seine is the main fishing gear. The trend of neritic tuna catches have been decreasing from 45,083 tons in 1997 to 15,000 tons in 1999. The production was quite stable around 17,000 tons during 1999 to 2006. These neritic tuna species are more or less have its production trend similarity.

For oversea tuna fishery, Thailand has three distance tuna longliners that had operated since 2000. Catch and catch rate of long liners varied from 94-460 tons. The main fishing grounds of these long liners were concentrated in the Western Indian Ocean. Bigeye tuna was the main composition, followed by albacore, yellowfin tuna, marlins and sharks.

Six Thai tuna purse seiners had been operated in the Indian Ocean since 2005. The number of vessels decreased to five from January to June 2007 and since then the catch was from four vessels. The fishing ground was mainly in the west Indian Ocean and skipjack tuna occupied the highest percentage of catch composition in almost all of the fishing areas. The total catch of the year 2007 was 11,747.71 tons which decreased approximately 52 % from that in 2006 (22,509.60 tons). The highest catch was taken in October while CPUE was also highest, 78.54 tons/haul. The size of skipjack tuna, yellowfin tuna and bigeye tuna have reported in this paper.

The national research programs and implementation of Department Of Fisheries has been reported to this meeting.

Neritic Tunas in the Andaman Sea

The development of marine fisheries in the past two decades in Thailand led to the currently rank among the top-ten fishing nations in the world. Marine fishery production in 2005 were shared about 64% of the total fishery production from all fishery sectors which consisted of 70% from the Gulf of Thailand and 30% from the Andaman Sea Coast. The small tunas was one of the important pelagic species. It had become the main target species for Thai fishermen since 1982 because of the high price offered by the tuna canneries. In Andaman Sea, the total catches of small tunas and king mackerel decreased from 45,083 tons in 1997 to 18,946 metric tons in 2006 (Figure 1). The production during 1997 to 2006 was rather stagnant at the level around 17,000 tons.

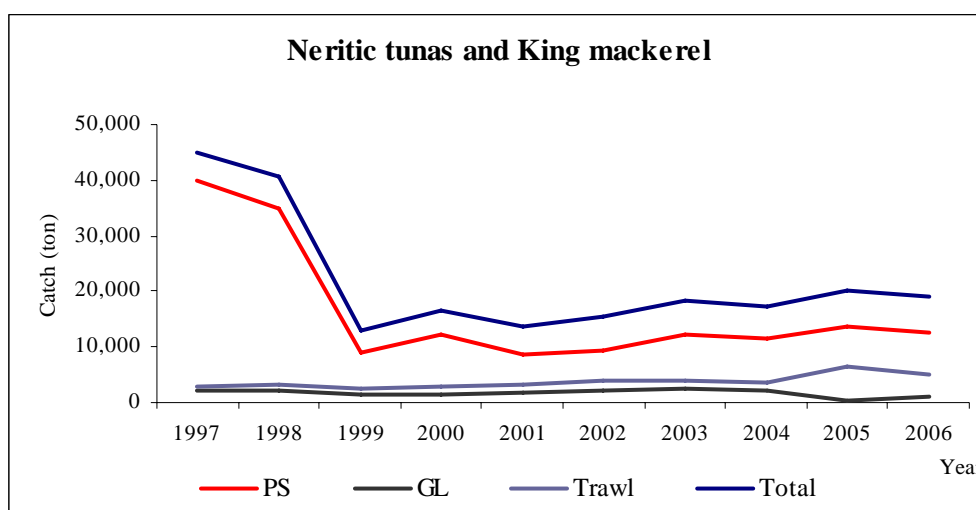


Figure 1. Change of neritic tunas and king mackerel catch in Andaman Sea, 1997-2006.

The Fishing gear

The fishing gear use to catch neritic tuna and king mackerel namely, purse seine, gill net and trawl.

Purse seiners: Purse seines along the Andaman Sea Coast of Thailand can be classified into regular purse seines (RPS- that are Thai purse seine (TPS), green purse seine (GPS), fish aggregating device (FAD), light luring purse seine (LPS) and tuna purse seine (TUN) and Chinese purse seine (CPS). Purse seiners are the main fishing to harvest neritic tuna in Andaman Sea.

Purse seiners with length over all (LOA) 18-25 meters are popular in the Andaman Sea Coast of Thailand from the year 1994 to the present year. The common mesh sizes used in TPS, LPS, FAD are approximately 2.5 centimeter, while the length and depth of the net range from 500-1,200 meters and 50-150 meters respectively. Number of crew is ranging 25-40 persons. For CPS, the mesh size is approximately 2.5 centimeter, 300-500 meters in length and 50-70 meters in depth and number of crew is about 20-30 persons. The length, depth and mesh size of GPS net are 500-1,300 meters, 60-140 meters and 3.8-4.3 centimeters respectively, and number of crew is ranging 25-40 persons.

Among the regular purse seiners, (TUN) boat length is longer than other regular purse seine that is more than 24 meter and the size of net used are also longer ranging 1,200-1,600 meters in length, 120-150 meters in depth, and 9.4 centimeter mesh size and number of crew is range 35-45 persons. Normally, TUN operates during the Northeast monsoon, from November to May in the offshore area. Apart from those months, the TUN boat moves to fish pelagic species in coastal area or offshore area by using the net of mesh size 2.5 centimeter and change the gear to be LPS and TPS.

King mackerel gill net and trawler catch some neritic tuna and most of king mackerel. The species breakdown of neritic tunas and tuna-like species in the nation statistic report is kawakawa or eastern little tuna (*Euthynnus affinis*), frigate tuna (*Auxis thazard*), longtail tuna (*Thunnus tonggol*) and *Scomberomorus* spp. Figures 2-4 show change of catch by species and gear.

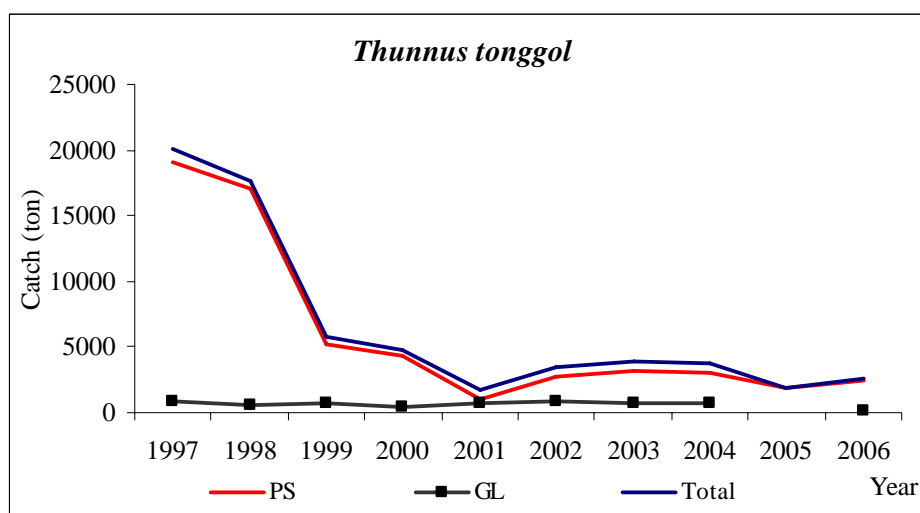


Figure 2. Change of longtail tuna catch in Andaman Sea, 1997-2006.

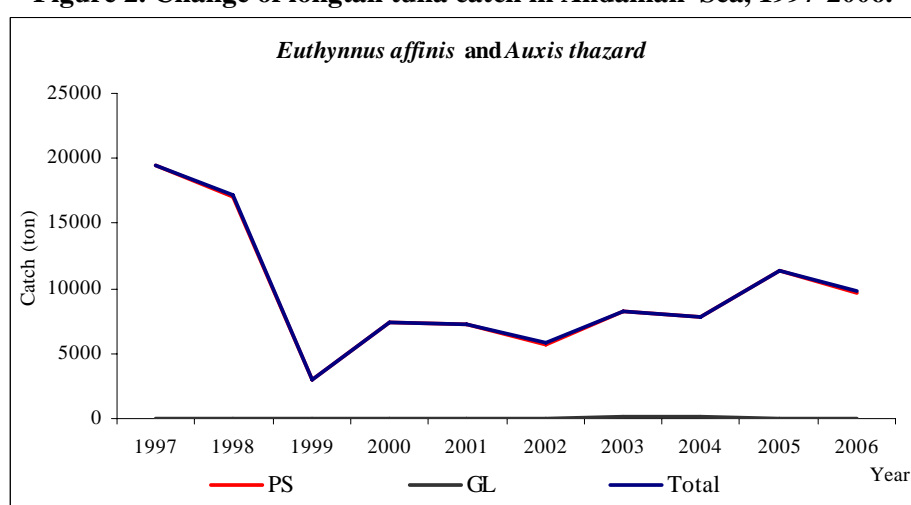


Figure 3. Change of kawakawa and frigate tuna catch in Andaman Sea, 1997-2006.

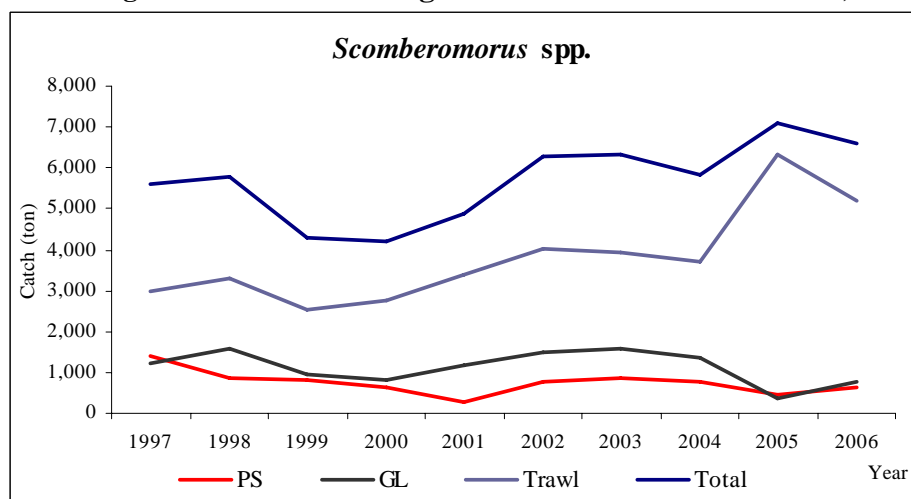


Figure 4. Change of king mackerel catch in Andaman Sea, 1997-2006.

Oversea Thai Tuna longliners

Thai tuna longliners were operated in the Indian Ocean from 2000 to 2007; data from their logbooks displayed important information of their fishing operation and effort. Total annual catch were 382.6, 390.89, 93.55, 252.48, 272.41, 280.11, 414.44 and 460.94 tons, with the value of 2, 1.84, 0.46, 1.16, 1.58, 0.98, 2.42 and 2.69 million US\$ respectively. Fishing grounds were reported in 6 areas, namely Bay of Bengal, west coast of Indonesia, Maldives and Chagos archipelagos, east and

south of Seychelles, east coast of Somalia and southern part of the Indian Ocean.

In the year 2007, three Thai tuna longliners were operated in the Indian Ocean during January- June, since then (July-December), only two longliners kept on fishing there. Total catch of the year was 460.94 tons which composed of 47.62% bigeye tuna, 24.96% albacore, 24.12% yellowfin tuna, 2.92% marlin and 0.38% others (Figure 5). The highest catch and CPUE was found in August when the catch of yellowfin tuna was also highest (Figures 6 and 7). The CPUE ranged from 589.71-1331.02 kg/day. The catch composition in the east and west of the Indian Ocean are given in Figure 8. The bycatch were consisted of shark, wahoo, oilfish, dolphin fish etc.

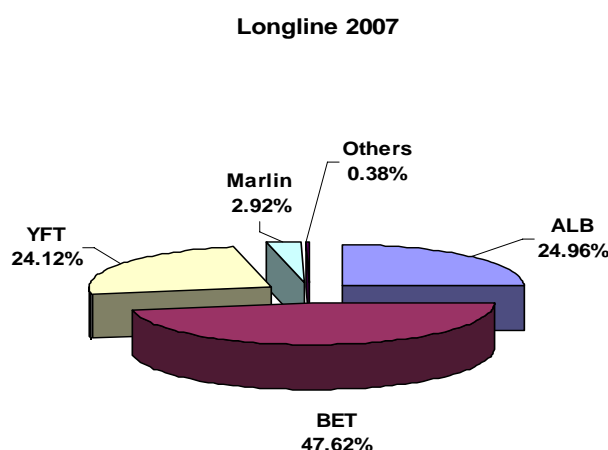


Figure 5. Catch composition by Thai tuna longliners in 2007.

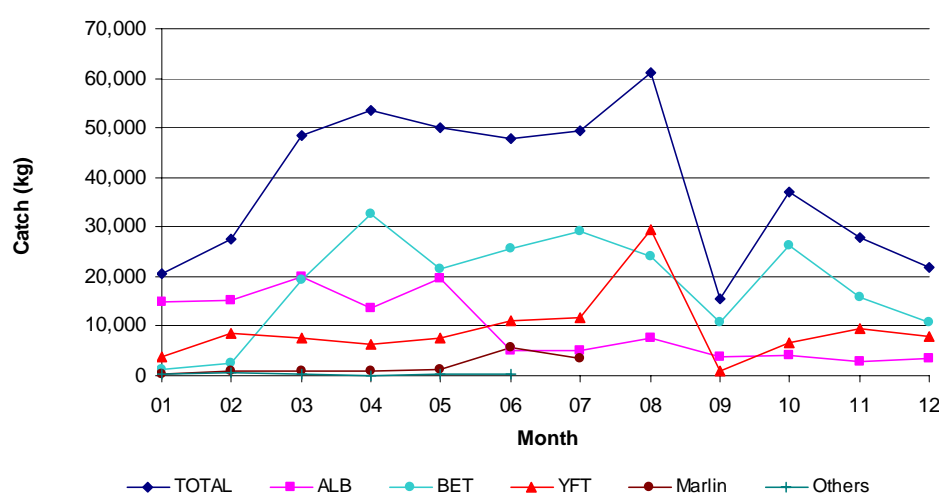


Figure 6. Monthly change of catch by Thai tuna longliners in 2007.

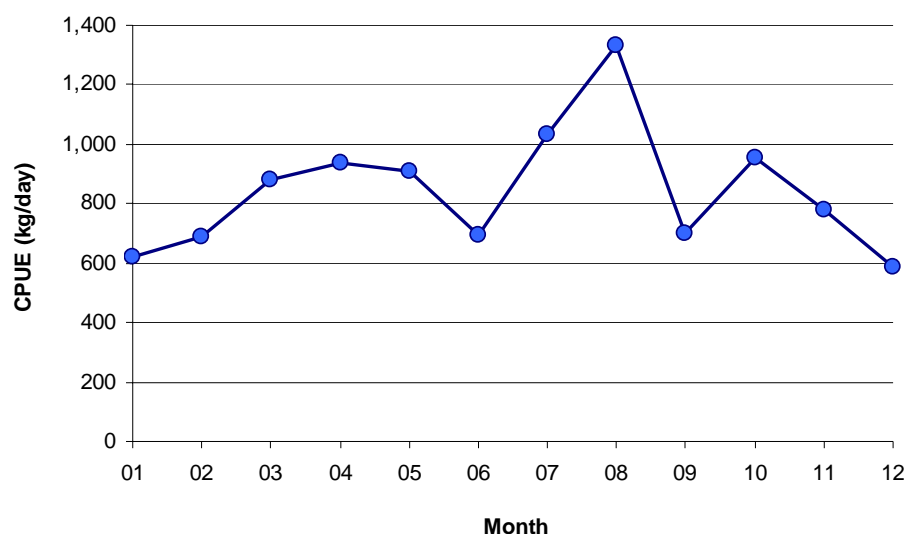


Figure 7. Monthly change of CPUE by Thai tuna longliners in 2007.

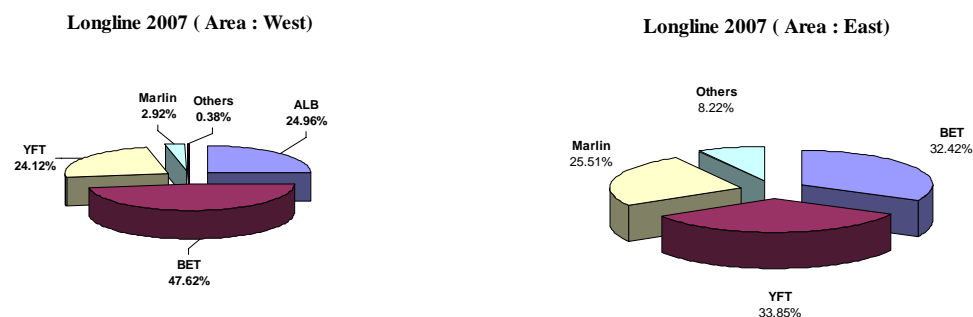


Figure 8. Catch composition by Thai tuna longliners in the western and eastern Indian Ocean in 2007.

Overseas Thai Tuna Purse Seiners

Six Thai tuna purse seiners had been operated in the Indian Ocean since 2005. The number of vessels decreased to five from January to June 2007 and since then the catch was from four vessels. The fishing ground was mainly in the west Indian Ocean and skipjack tuna occupied the highest percentage of catch composition in almost all of the fishing areas (Figure 9). The total catch of the year 2007 was 11,747.71 tons which decreased approximately 52 % from that in 2006 (22,509.60 tons). The highest catch was taken in October while CPUE was also highest, 78.54 tons/haul, in this month (Figures 10 and 11). The northwest Indian Ocean was an area of good catch of tunas as shown in Figures 12-14. The size of skipjack tuna, yellowfin tuna and bigeye tuna were in the range of 35.00-86.00, 44.00-145.00 and 32.00-140.00 cm, respectively (Figures 15-17).

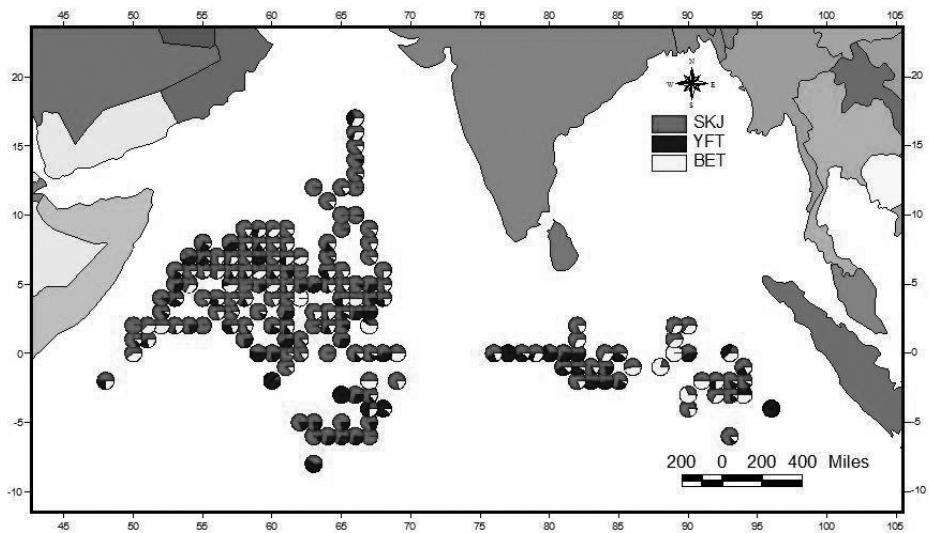


Figure 9. Fishing ground of Thai tuna purse seiners in 2007.

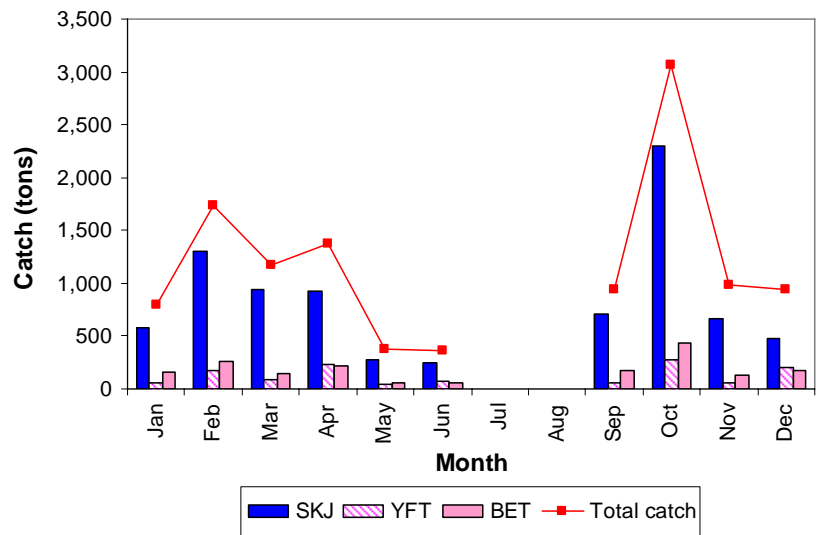


Figure 10. Monthly change of catch from Thai tuna purse seiners in 2007.

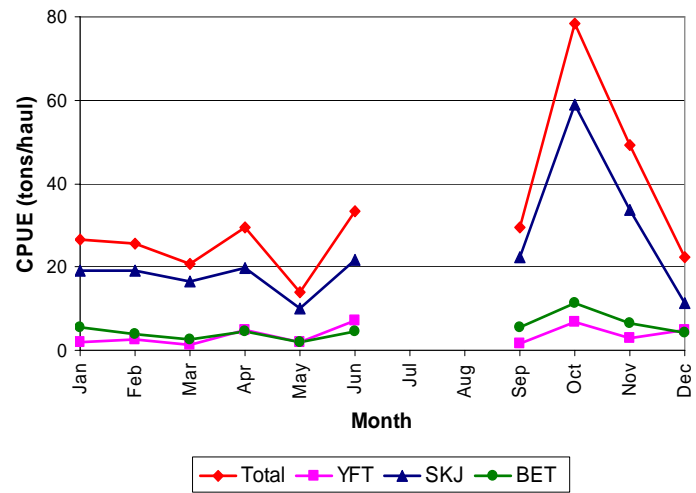


Figure 11. CPUE of Thai tuna purse seiners in 2007.

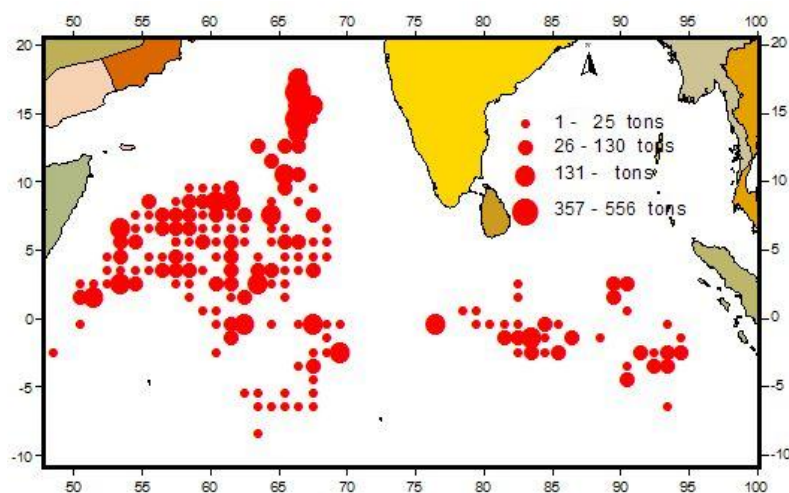


Figure 12. Catch of skipjack tuna from Thai tuna purse seiners in 2007.

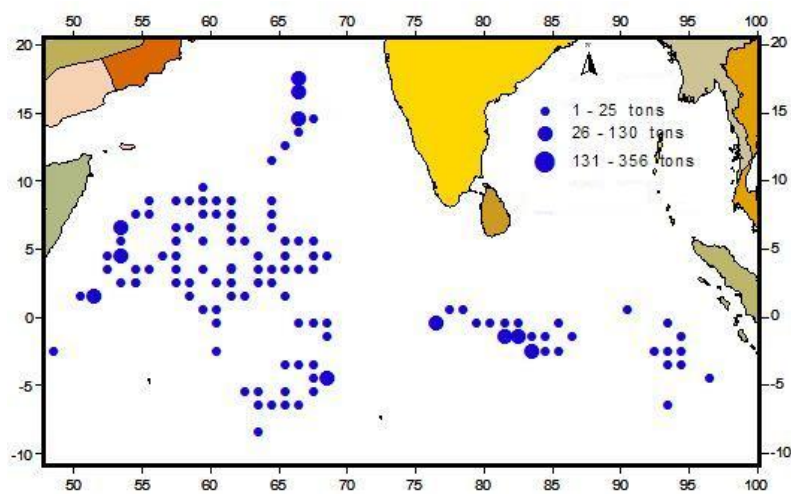


Figure 13. Catch of yellowfin tuna from Thai tuna purse seiners in 2007.

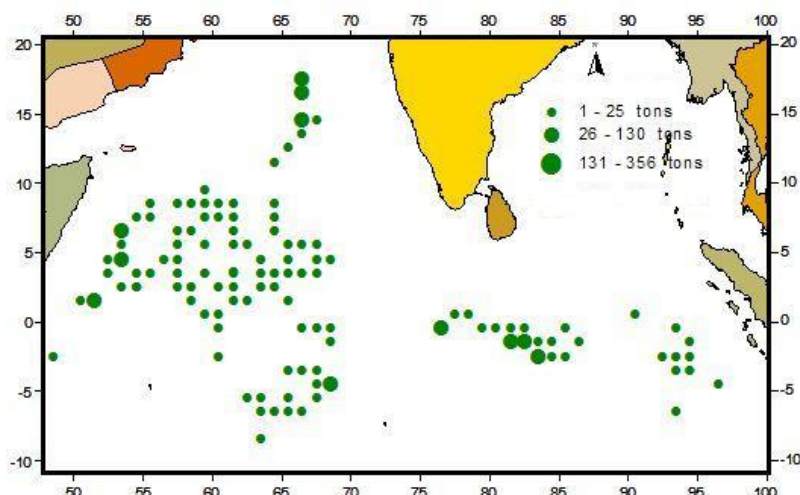


Figure 14. Catch of bigeye tuna from Thai tuna purse seiners in 2007.

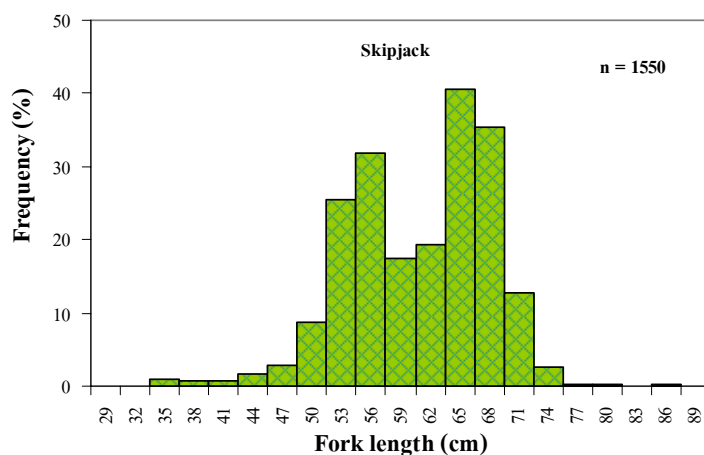


Figure 15. Length frequency distribution of skipjack tuna caught by Thai tuna purse seiners in 2007.

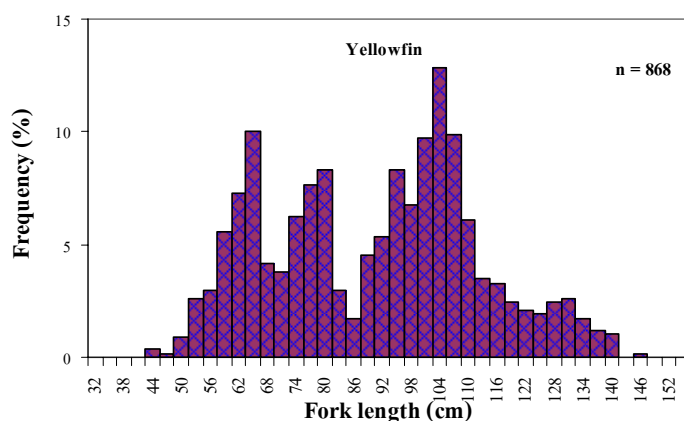


Figure 16. Length frequency distribution of yellowfin tuna caught by Thai tuna purse seiners in 2007.

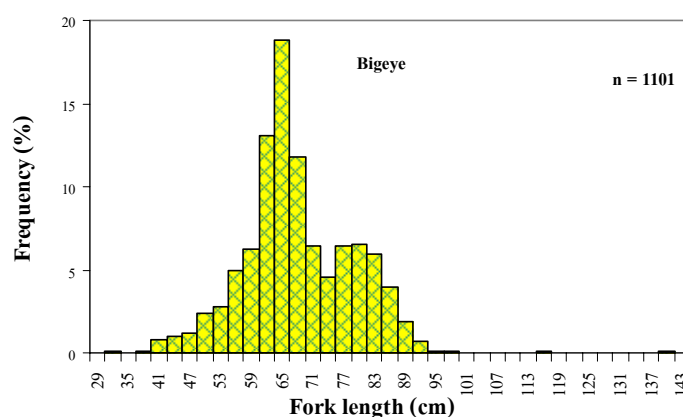


Figure 17. Length frequency distribution of bigeye tuna caught by Thai tuna purse seiners in 2007.

National Research Programs

The following research programs were carried out by the Department of Fisheries of Thailand from 2005 to 2007:

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 was finished in 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-OFCF or relevant organizations for the extension of the sampling program if the second phase is available and possible. Nowadays, Thailand is still continuous collecting data from foreign longliner and purse seiner that landing catch at Phuket Province. In case of fresh tuna longliner, the percentage of data coverage is less than 30 percent and followed all the protocol from the previous cooperation program.

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. Nowadays, Thailand is still continuous collecting data from the neritic tuna fisheries along the Andaman Sea, Thailand. The percentage of coverage is more than 30 percent and followed some of the protocol from the previous cooperation program, such as hire more enumerator at Kuraburi fishing port, Phang-Nga Province.

C. Tuna Resources Survey in the Indian Ocean

The research survey during 1993-2007 was conducted by Thai tuna purse seine research vessels, F.R.V.Mahidol and M.V.SEAFFDEC, in the Indian Ocean covering the area of 5°N - 9°S and 67°E - 98°E. The overall catch composition were

60.81% of skipjack tuna, 21.67% of yellowfin tuna, 14.30% of bigeye tuna and 3.22% of bycatch (Figure 18). Owing to the highest effort in 1996, the catch of this year was 883.715 tons which was the highest catch in 15 years of the research survey (Figure 19). With regard to the CPUE, the highest was noticed in 2005 when CPUE of total catch, skipjack tuna, yellowfin tuna and bigeye tuna were 15.311, 10.076, 3.837 and 2.713 tons/haul, respectively (Figure 20). List of species caught by Thai research vessels is given in Table 1.

Table 1 List of species caught by Thai research vessels during 1993-2007

Scientific name	Common name	Scientific name	Common name
<u>Tunas</u>		<i>Carangoides orthogrammus</i>	Island trevally
<i>Auxis thazard</i>	Frigate tuna	<i>Caranx lugubris</i>	Black jack
<i>Katsuwonus pelamis</i>	Skipjack tuna	<i>Decapterus macarellus</i>	Mackerel scad
<i>Thunnus alalunga</i>	Albacore tuna	<i>Elagatis bipinnulata</i>	Rainbow runner
<i>Thunnus albacares</i>	Yellowfin tuna	<i>Brama dussumieri</i>	Lesser bream
<i>Thunnus obesus</i>	Bigeye tuna	<i>Seriola rivoliana</i>	Almaco jack
<u>Bycatch</u>		<i>Uraspis helvola</i>	White-tongued trevalle
<i>Octopus</i> sp.	Octopus	<i>Lobotes surinamensis</i>	Tripletail
<i>Thysanoteuthis rhombus</i>	Diamondback squid	<i>Kyphosus vaigiensis</i>	Brassy chub
<i>Alopias</i> sp.	Pelagic tresher shark	<i>Sphyrnaena barracuda</i>	Great barracuda
<i>Carcharhinus</i> sp.	Sharks	<i>Platax tiera</i>	Spotbelly batfish
<i>Megachasma pelagios</i>	Megamouth shark	<i>Acanthocybium solandri</i>	Wahoo
<i>Dasyatis violacea</i>	Stingrays	<i>Makaira mazara</i>	Indo-Pacific bluemarlin
<i>Mobula diabolus</i>	Devil rays	<i>Makaira indica</i>	Black Marlin
<i>Abinnes hians</i>	Flat needlefish	<i>Xiphias gladius</i>	Swordfish
<i>Tylosurus crocodilus</i>	Hound needlefish	<i>Canthidermis maculatus</i>	Rough triggerfish
<i>Coryphaena equiselis</i>	Pompano dolphinfish	<i>Aluterus monoceros</i>	Unicorn leather jacket
<i>Coryphaena hippurus</i>	Common dolphinfish	<i>Aluterus scriptus</i>	Scawled leatherjack

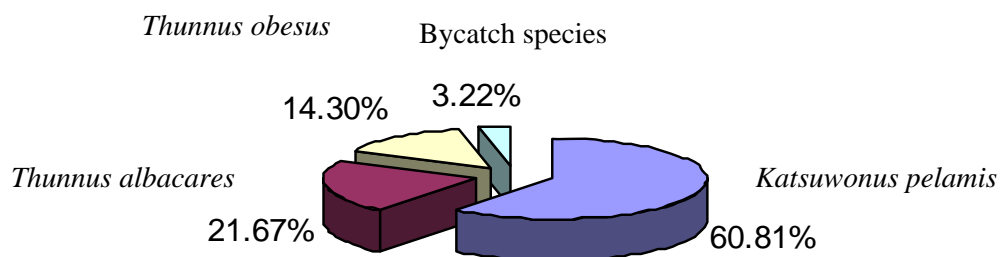


Figure 18. The overall catch composition achieved by Thai purse seine research vessels during 1993-2007.

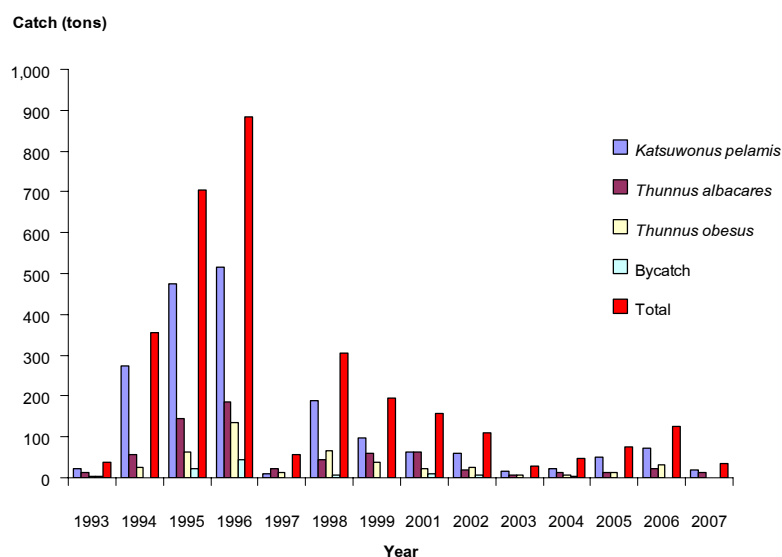


Figure 19. Annual catch of tuna and bycatch during 1993- 2007.

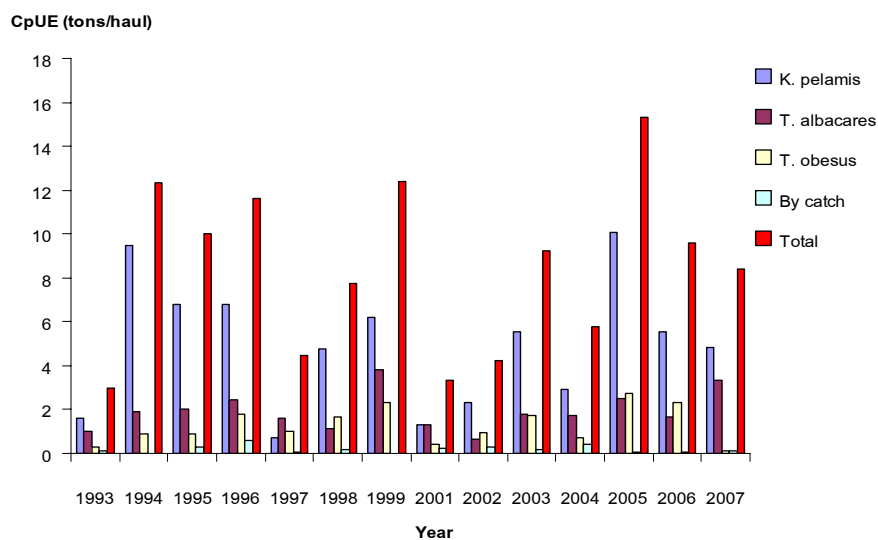


Figure 20. Annual CPUE of tuna and bycatch during 1993-2007.

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 longliners (include 3-month catch report and port sampling program).
- Collecting information of foreign tuna longline and purse seine vessels operating in the Indian Ocean and unloading their catch in fishing port in Thailand.
- Collecting information and reporting bigeye and swordfish statistical document and re-export certificate.