

LANDINGS OF INDIAN OCEAN TUNA BY FOREIGN VESSELS IN MALAYSIA

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ABSTRACT

Penang's location in the Straits of Malacca is very strategic. This, coupled with its good port and other communications facilities, attracted foreign fishing vessels, particularly Taiwanese tuna longliners, for use as a transshipment port. Monitoring of the total landings of tuna by these longliners began in 1990. From mid-1992 to the end of 1993, the Indo-Pacific Tuna Development and Management Programme (IPTP) gave financial support to the monitoring programme; thereafter the data were collected through information gathered from landing permits issued. This information on tuna landings is important to a better understanding of the exploitation of the tuna resources of the Indian Ocean.

INTRODUCTION

In the late 1960s and early 1970s, Penang Harbour (Penang's Swettenham Pier) was very popular as a landing and transshipment port with tuna fishing vessels from Japan, Korea and Taiwan which were operating in the Indian Ocean and Bay of Bengal. This activity ceased in the 1970s but has resumed since the mid-1980s. Taking advantage of Penang's strategic location, good support facilities, international air and sea links and the cultural similarities, the number of Taiwanese tuna-fishing vessels discharging their catch at Penang Harbour has since increased (Mohamad, 1993).

The Taiwanese started fishing for tunas with longlines in the Indian Ocean in 1963. Most of the vessels that land fish in Penang are Taiwanese longliners, generally small vessels averaging 50 GRT and powered by engines of about 400 hp. These vessels have 7 to 10 crew members, and operate for up to one month at sea. The fishing grounds in the Indian Ocean lie mainly between 0° - 10° N and 80° - 95° E (Figure 1). Fishing is usually at depths of between 45 and 70 m (Chee and Khoo, 1995).

The monitoring of the total landings of tuna by these longline vessels began in 1990. From mid-1992 to the end of 1993, the monitoring of tuna landed and transshipped through Penang was done more systematically, with the financial support of the Indo-Pacific Tuna Development and Management Programme (IPTP). From this monitoring programme information on total catches, species composition, and size of the major species (yellowfin tuna) was compiled. The seasonality of fishing activities, fishing grounds and fishing vessel information was documented

(Chee and Khoo, 1995). From 1993 to the present, the Department of Fisheries has compiled monthly the tuna landing data from the permit application forms returned by the tuna vessel agents.

CURRENT METHODOLOGY OF DATA COLLECTION

The Penang Fisheries State Office compiles monthly the tuna landing data from the application forms for permits for landing or transshipping fish or for essential food and fuel supplies completed by foreign vessels, and send them to the Department of Fisheries headquarters. The information compiled comprises:

Figure 1. Fishing grounds for foreign tuna vessels.

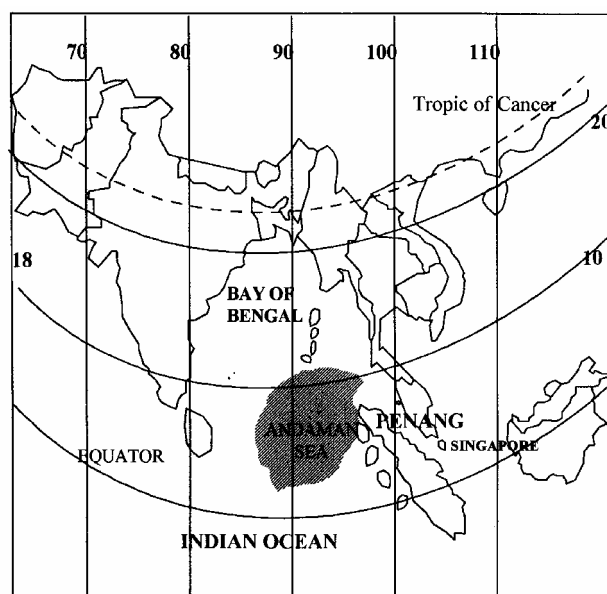


Table 1. Tuna landings and permit issued in Penang, 1993 July 1995.

Month	1993		1994		1995	
	Quantity (t)	No. of Permits issued	Quantity (t)	No. of Permits issued	Quantity (t)	No. of Permits issued
Jan	1,716	177	3,318	335	3,714	368
Feb	2,005	176	2,867	289	1,557	160
Mar	1,415	129	3,010	295	1,379	138
Apr	1,394	104	2,521	237	1,538	154
May	1,023	97	2,772	281	614	61
Jun	1,765	139	3,000	126	1,654	116
Jul	1,798	121	436	38	-	-
Aug	3,004	254	1,529	154	-	-
Sep	1,018	93	1,585	155	-	-
Oct	1,401	129	2,154	211	-	-
Nov	1,886	174	4,172	418	-	-
Dec	2,635	263	3,582	377	-	-
Total	21,060	1,856	30,944	2,916	14,849	1,445

1. Numbers (unit) of permits issued, permit numbers, and dates of issue.
2. Number. of vessels landed, names of vessels, dates and times of entering the harbour.
3. Names and addresses of vessel shipping agents and transportation agents.
4. Quantity of fish landed (tonnes).
5. Value of fish landed (Ringgit Malaysia).
6. Tonnage of each species landed.
7. Quantity sold fresh, preserved and frozen locally.
8. Quantity exported, by country of destination, mode of transportation and type of disposition (*i.e.* preserved, fresh, or frozen).

9. Name and address of processing establishment.

10. Area of fishing (grid reference), and duration and dates of fishing.

11. Other information

TOTAL LANDINGS

The total recorded landings of tuna in Penang from 1993 to July 1995 are presented in Table 1 and shown graphically in Figure 2. Total monthly landings ranged from 436 to 4,393 t. For 1993 and 1994 a clear seasonality was observed. Landings of tuna peak in December/January, with the lowest landings in the middle of the year. The highest landings corresponded with high demand in the Japanese *sashimi* market.

Figure 2. Landing trends of oceanic tuna landed in Penang, Malaysia, 1993-July 1995.

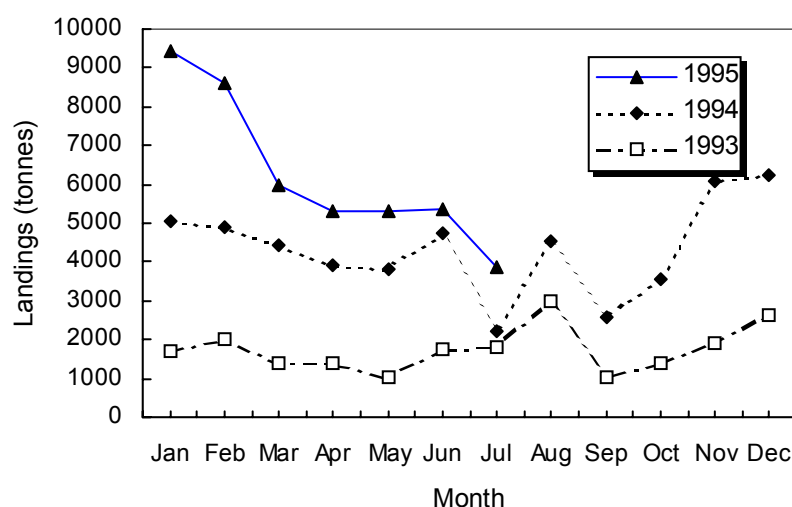
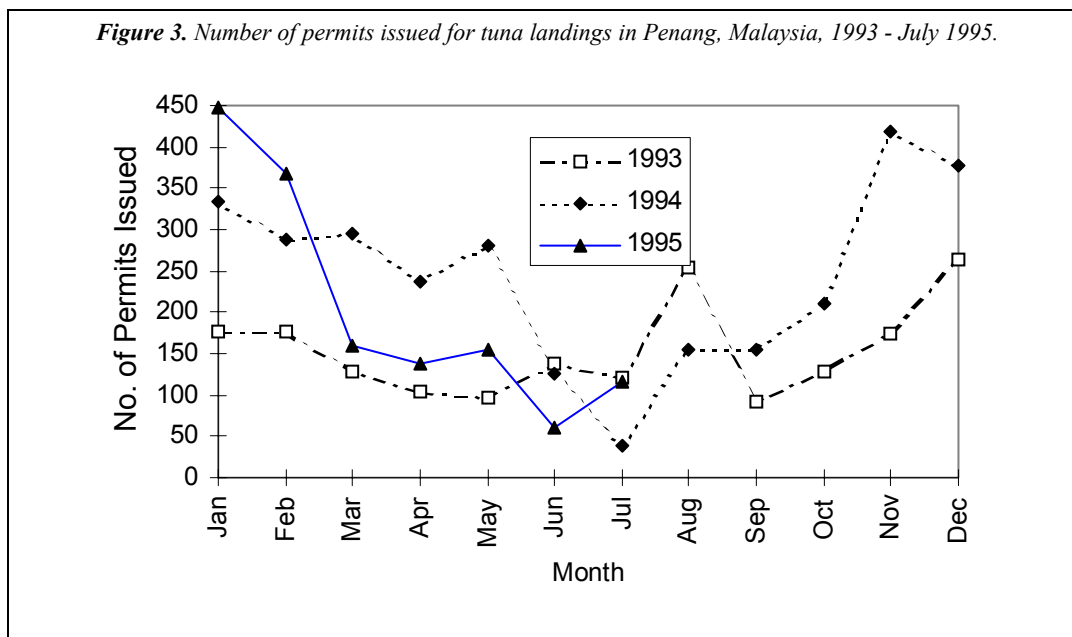


Figure 3. Number of permits issued for tuna landings in Penang, Malaysia, 1993 - July 1995.



NUMBER OF PERMITS ISSUED

The number of permit issued from 1993 to July 1995 is presented in Table 1 and shown graphically in Figure 3. The highest number of permits issued was 448 in January 1995, and the lowest 38 in July 1994.

SPECIES COMPOSITION

The predominant species in the landings in 1992-1995 was yellowfin tuna. Bigeye was landed in smaller proportions. Marlins (*Makaira indica*, *M. mazara* and *Tetrapturus audax*), swordfish (*Xiphias gladius*), sailfish (*Istiophorus platypterus*), skipjack tuna (*Katsuwonus pelamis*), wahoo (*Acanthocybium solandri*), barracudas (*Sphyræna* spp.) and a few species of sharks were also landed (Chee and Khoo, 1995).

HANDLING

Tuna for sashimi

On board the fishing vessel, tuna for *sashimi* are killed, dressed and chilled immediately after capture. The fish have to be handled gently but quickly to prevent bruising and the condition called *yake niku*, or "burnt flesh." Fish in this condition cannot be sold for *sashimi* because of their unpleasant appearance, acidic flavour and metallic aftertaste (Putro, 1990). Fish that are not dressed on board are gilled and gutted at the landing site.

Sashimi-grade tuna are chilled with crushed ice. Fish for export are packed in cartons with dry ice. Second-grade

tuna are usually frozen and sold to local canneries or exported (Chee and Khoo, 1995).

Other bycatch

Almost all the bycatch are killed and eviscerated; and their heads and fins cut off before being stored in deep freeze. However, some prime-quality marlins are chilled and sold for *sashimi*. Swordfish are usually exported to European markets for fish steaks (Chee and Khoo, 1995).

CONCLUSION

The Indian Ocean is one of the most productive areas in the world for tuna fishing. In 1993, reported catches of tuna and tuna-like species in the Indian Ocean were approaching one million t (IPTP, 1995). Malaysia, and in particular Penang, has directly and indirectly benefited, in economic terms, from the transshipment activities of the Taiwanese tuna longliners. This has encouraged value-added activities like canning and filleting. Support industries, such as production of packaging materials, plastic paper, and ice, vessel maintenance yards, have been developed. Milkfish farms to supply live bait for the longliners are being opened. These activities are expected to increase if the oceanic tuna resources in the Indian Ocean are sustained, and thus proper management of these is needed.

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