

Bycatch landings in Phuket Ports by foreign vessel, 2017

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ABSTRACT

All the catch of by-catch by foreign long-line vessel were from the fishing areas in the Indian Ocean. The catch was transshipped at Phuket ports, Thailand for re-export and some to industrials in Thailand. The total caught of by-catch by foreign long-line vessel in 2017 was 78.33 tons. There are five species of by-catch were recorded in port state inspection data; Dolphinfish (*Coryphaena hippurus*), Spanish mackerel (*Scomberomerus commersoni*), oilfish (*Ruvettus pretiosus*), Albacore (*Thunnus albacores*), and Skipjack Tuna (*Katsuwonus pelamis*). The other transshipped was recorded in miscellaneous (MSC) or mix-frozen fish (MF); such as escolar fish (*Lepidocybium* spp.), Barracuda (*Sphyraena barracuda*), deep sea promfret and sunfish.

INTRODUCTION

Phuket is one of the most famous provinces in Thailand. Mostly when talking about Phuket, we often thinking of beaches and beautiful sea. In addition to tourism, in the ASEAN Economic Community (AEC), which is due to take place since 2015, the province will be an important role in fisheries. There would be a central marine fish loading area and ASEAN Food Hub. Phuket ports have been a primarily frozen tuna transports and tuna processing plants in the Eastern Indian Ocean region. Currently, Phuket ports have a certified fishery port for the health of a certified fishing port of the fishing harbor from the Department of Fisheries. A coastal fisheries vessel in the country mostly unloaded their fish at these port. Fishing Vessel includes pair trawler, otter board trawlers, anchovies surrounding nets, anchovies falling nets, purse seine and squid falling nets are 95%, while 5% are foreign tuna longline vessels. In 2016 the statistic of marine fish at landing place (DOF, 2018) showed that the quantity of marine fish landing in Phuket port was fifth, the first is Pattani ports, followed by Samutsakorn ports, Songkhla ports, Chumporn ports and then Phuket ports. Although The value of landing Phuket ports was the third, the first was Pattani ports have value at 9,513.98 million Baht (26.16%), followed by Samutsakorn ports and Phuket ports have to value at 4,338.02 (11.92%)

and 3,899.54 (10.72%) million Baht, respectively. This data showed that Phuket ports seem somewhat relevant.

MATERIAL AND METHODS

The data contained in this paper based on port state measure, and customs declaration on landing at Phuket port, Thailand during January to December 2017. The species of fish classified into a group of fish, mix frozen fish or miscellaneous. All of the landing in Phuket port, Thailand organized into a group and species of fish. The mainly such as yellowfin tuna (*Thunnus albacares*), bigeye tuna (*Thunnus obesus*) and Albacore (*Thunnus alalunga*) classified into species. These group almost preserved in chilled brine water. Billfishes classified into blue marlin (*Makaira mazara*), striped marlin (*Tetrapturus audax*), black marlin (*M. indica*), sailfish (*Istiophorus platypterus*), short bill spearfish (*Tetrapturus angustirostris*) and swordfish (*Xiphias gladius*). These group, the preservation can see in both of chilled and frozen depends on time or room for preservative. Fishing master would decide for these. The last group was bycatches, and there contained damage Albacore (*Thunnus albacores*), shark or shark fin, Dolphinfin (*Coryphaena hippurus*), Spanish mackerel (*Scomberomerus commersoni*), oilfish (*Ruvettus pretiosus*), and Skipjack Tuna (*Katsuwonus pelamis*). The other was recorded in miscellaneous (MSC) or mix-frozen fish (MF); such as escolar fish (*Lepidocybium* spp.), Barracuda (*Sphyraena barracuda*), deep sea promfret and sunfish. These data also depends on the record of the fishing master on a vessel and sending it to shipping and port state measure office before it unloaded. Port state inspection would rechecks these again when it' is discharged. Since August 2017 the application for import license uses Electronics Port State Measure. The owner or agencies can send their request to the permit office in Bangkok. The certificate of origin and a statistical document can do manual at Upper Andaman Sea Fisheries Research and Development Center (Phuket) or send through head office in Bangkok by electronics permission. Although, the signer must have authorized from Fisheries director and also have names and signature printed at IOTC.

RESULT AND DISSCUSSION

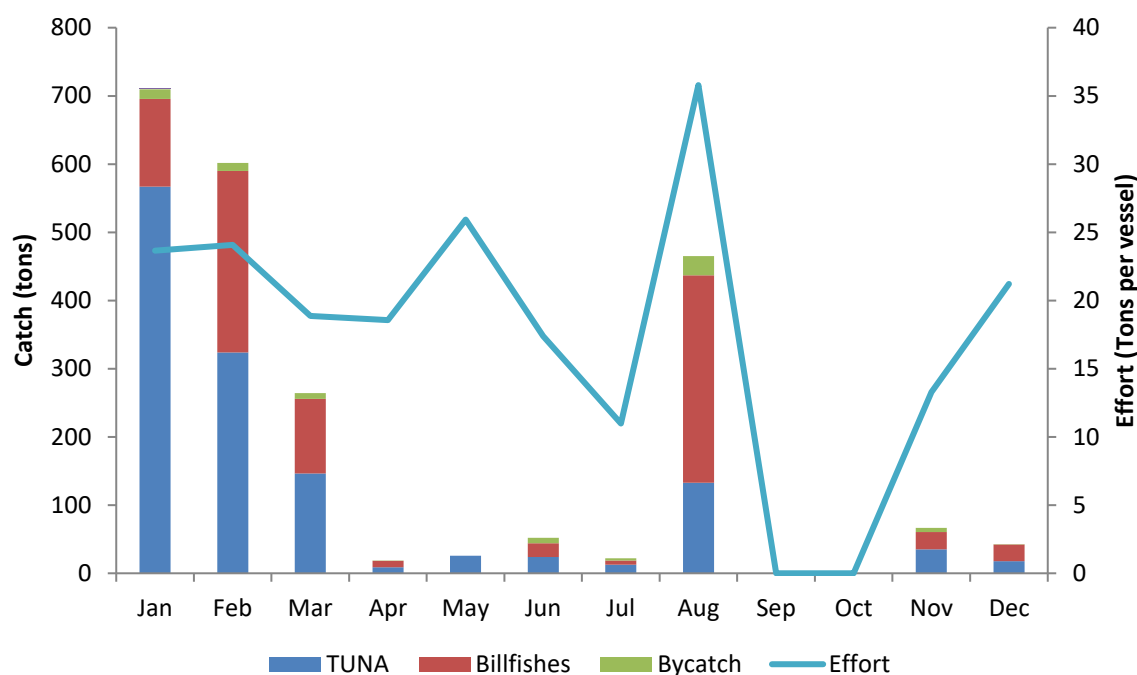


Figure 1 Total catch of foreign tuna long-line vessel by group of fish, 2017

The data in fig. 2 showed that, the capture of marine fish from the foreign tuna vessels shipped to the fishing ports in Phuket, Thailand. The total catch for the year was 2268.0 tonnes, the highest catch in January. The second is February. Followed by August and March. The catches were 709.48 (31.28%), 601.83 (26.54%), 465.26 (20.51%) and 263.99 (11.64%), respectively. There are none of fishing vessel entries in September and October. The month with the lowest import volume was April with an import volume of 18.56 (0.82%).

Tuna Group Composition, Yellowfin tuna (*Thunnus albacares*) and tuna (*Thunnus obesus*) have a total annual catch of 1293.96 (57.05%) with highest catches in January, February, March, and August. The catches were 567.11 (25.00%), 323.87 (14.28%), 146.55 tons (6.46%) and 132.54 (5.84%) tones, respectively. The month with the lowest catch was April with catches of 9.04 (0.39%), except in September and October with no import volume.

The Billfishes comprised of blue marlin (*Makaira mazara*), striped marlin (*Tetrapturus audax*), black marlin (*M. indica*), sailfish (*Istiophorus platypterus*), short bill spearfish (*Tetrapturus angustirostris*) and swordfish (*Xiphias gladius*). The catch of the year was 893.99 (39.42%) tones. The highest catch was in August 304.47 (13.42%) tones. Followed by February, January, and March, the catch was 266.19 (11.74%), 128.59 (5.67%), 109.27 (4.82%) tones, respectively. The lowest catch was in July with 6.41 (0.28%) tones.

The by-catch from foreign tuna vessel landing at the Phuket fishing ports consists of the Dolphinfish (*Coryphaena hippurus*), the Spanish mackerel (*Scomberomerus commersoni*), the oilfish (*Ruvettus pretiosus*), Albacore (*Thunnus albacores*), and Skipjack Tuna (*Katsuwonus pelamis*). The other recorded in miscellaneous (MSC) or mixed-frozen fish (MF); Barracuda (*Sphyraena barracuda*), deep sea promfret and sunfish. The total volume of by-catch was 80.10 (3.53%) tones, the lowest catch than the other groups. Tuna and tuna-like is a primary goal of the Tuna long-line vessel. Although, the value of both billfish and by-catch are different. However, this report attention to the two groups of fish has been singled out for obvious comparisons. In this report. The by-catch Import volume Peak in August, Followed by January and February. Imports amounted to 28.25 (1.25%), 13.79 (0.61%), 11.77 (0.52%) tones, respectively. The month with the lowest import volume was December with 0.43 (0.02%) tones. The import volume is not including the single vessel entries in May. In May, the only tuna were transferring at Phuket ports.

Fishing effort was calculated from total catch and number of vessels in several months. The highest effort was in August 35.79 tones/vessel, followed by May, February, January, December, March, April, June, November was 25.93, 24.07, 23.65, 21.20, 18.86, 18.56, 17.39, 13.28, and 10.99 tones/vessel, respectively. Except in September and October, there was no entries vessels. Anyway trends of effort was no different during the year. It may be cause of a number of fishing not so many during this year. There were only 96 vessels entries at Phuket ports, Thailand.

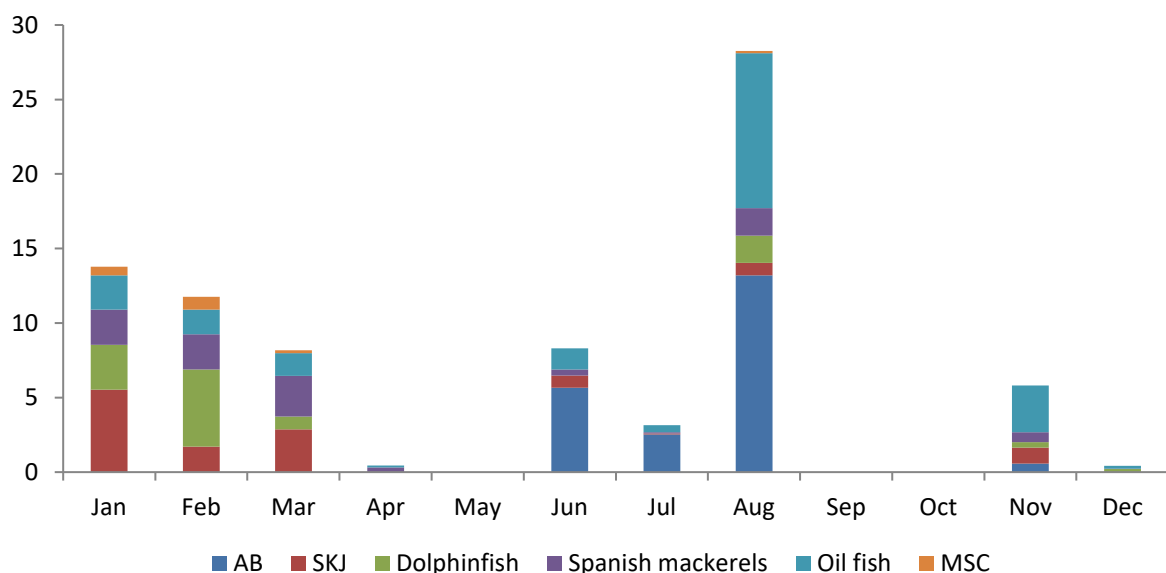


Figure 2 Annual landing of by-catch by foreign tuna long-line vessel in Indian Ocean, 2017

Species composition of bycatch landed in Phuket port in 2017 was comprise of 5 groups of fish such as small tuna (Albacore and Skipjack tuna), Dolphin fish, Spanish mackerels, Oilfish and miscellaneous. Some species were found in miscellaneous such as escolar fish (*Lepidocybium* spp.), Barracuda (*Sphyraena barracuda*), deep sea promfret and sunfish, but difficult to identify and know the exact number of fish landed, except with an approximation and an assessment, cause of miscellaneous almost frozen preserve. Anyway miscellaneous was not much landed. In 2017 miscellaneous (MSC) caught was 1.79 tones (2.23% of total by-catch). The total catch in 2017 was 2268.05 tons, so MSC was 0.08% of total catch. The evaluation of by-catch in 2017, the maximum catch was Albacore 21.98 tons (27.44%), followed by Oilfish, Skipjack tuna, Dolphin fish, Spanish mackerel, and miscellaneous was 21.20 (26.46%), 12.90 (16.11%), 11.43 (14.27%), 10.81 (13.49%), and 1.79 (2.23%), respectively. So anyway, species included in miscellaneous didn't know the real number. Planning to get this data is more interesting for responsible units.

Small tuna is the main catch of by-catch from foreign tuna long-line vessel. The total catch was 34.88 tons, consist of Albacore 21.98 tons and Skipjack 12.90 tons. The maximum catch of small tuna was in August with 14.04 tons, which contained 13.19 tons of Albacore and 0.85 tons of Skipjack tuna. The peak for small tuna was in June to August and the second peak was in January to March.

Dolphin fish or Mahi-mahi is a common name of *Coryphaena hippurus*. The total catch of Mahi-Mahi in 2017 was 14.27 tons. The highest catch in February was 5.17 tons (6.45%), and the second in January was 3.02 tons. The several months was similar, and there are not so many fish in that months. Although, the Environmental Defense Fund classifies mahi-mahi caught by line/pole in the US as "Eco-Best" in its three-category system, but classifies all mahi-mahi caught by longline as only "Eco-OK" or "Eco-Worst" due to long-line "high levels by-catch, injuring or killing seabirds, sea turtles and sharks.

Spanish mackerel catch was a fifth of landed by-catch in Phuket ports. The total catch in 2017 was 10.81 tons. The maximum catch showed in March was 2.72 tons. The catch was similar during January to March, the catch level was between 2.35 – 2.72 tons. The catch in August was 1.85 tons. The other month, and the catch was between 0.03 – 0.67 tons, except April, September, and October, there was nil Spanish mackerel loading in Phuket ports. Although, Spanish tribe mackerel comprise of several species, which they didn't have data records.

Oilfish is the fish which pleasantly rich in taste and contain oils. This fish is in genus *Ruvettus*. Total landed of Oil fish was 21.20 tons. The highest catch in August was 10.39 tons (12.97%), and there was similar in the rest month. The catch in November was 3.13 tons, and the catch in the other month not much than 3.12 tons. Although, there were several species of fish contained in MSC (miscellaneous) and

Mix Frozen fish. From this report, The total MSC from foreign tuna longline vessel landed in Phuket was 1.79 tons. The catch landed only in 4 months, from January to March and August.

CONCLUSIONS

Although Thailand does not have tuna long-line fleet, they still have foreign tuna longline landing and unloading tuna and by-catch in many ports. Beyond the port, Thailand also has the Factory to process fish and sent the product to anywhere. So that, the sampling program and data record may need to continue. Especially with the organization that has to take parts.

REFERENCE

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