

Bycatch landings in Phuket Ports by foreign tuna longline fishing vessel, 2018

Sichon Hoimuk, Kanokwan Maeroh and Noppadon Somkliang

Upper Andaman Sea Fisheries Research and Development Center (Phuket)
77 Tumbon Vichit, Maung District, Phuket 83000 Thailand

ABSTRACT

All bycatch species which caught by foreign tuna long-line fishing vessel and uploaded at Phuket ports, Thailand in 2018 was 29.20 tons (2.60% of total catch). There were 7 species comprised, oil-fish (*Ruvettus pretiosus*) 65.68%, followed by Wahoo (*Acanthocybium solandri*) 14.69%, Mahi-fish (*Coryphaena hippurus*) 7.41%, Skipjack (*Katsuwonus pelamis*) 6.45%, Albacore (*Thunnus alalunga*) 4.26%, Barracuda (*Sphyraena* spp.) 1.38% and promfret (*Taractichthys steindachneri*) 0.98%. Most of them were exported while a few were used in Thailand.

INTRODUCTION

Thailand has attended to a member of the Indian Ocean Tuna Commission (IOTC) since 1996 for maintaining the right of tuna fishing. There were two Thai tuna fishing vessels operated in the area with a short period in 2014. Thailand has two water area, the Gulf of Thailand and the Andaman sea coast of Thailand. Phuket is a province located in the south of Thailand that connect to the Indian Ocean. According to the FAO Port State Measure Agreement that Thailand established Phuket Fish Inspection which under Department of Fishery in 2016. The main function is to record the amount and species of fish and for inspection and rigorous control of fishing vessels to prevent and eliminate IUU fishing.

Phuket had developed a facilitate structures for supporting and allowing foreign tuna fishing vessel that can be unloading tuna for processing and exporting to the consumer countries. In the part, there were several countries came to Phuket port for unloading their goods. Taiwan, Republic of China, is the highest number often founded, other counties were Indonesia Belize Bolivia India and Malaysia for instance. For the past three years (2015-2017), the number of unloading was declined significantly as 295 204 and 96 trips per yeas respectively. This report aims to present the number of foreign tuna longline vessel and the amount of catch which unloaded at Phuket port in 2018.

DATA COLLECTIONS AND ANALYSIS

The data contained in this paper based on the report of marine importing and Phuket inspection office (personal contact). The marine importing report can be download via the website of Fish inspection division, Department of Fishery (link shown at reference). The marine importing data were categorized how it's imported for example by fishing area (country or high sea), transportation (by ship, plane or container truck), fish species and weight, for instance. However, it did not consist of vessel name and fishing gear. Thus, personal contact with Phuket inspection office is necessary. In addition to knowing the details of each ship that requests to transfer aquatic animals (such as the name of a nationality boat). Moreover, we can find the information on the fishing operation from their fishing logbook that contained all data over the need.)

Tuna fishing information from the high seas will be sort from the database. Dividing the fishing pattern into two categories, namely, tuna purse seine and tuna longline. Each will be count number of trips unloaded, the catch was separated by species and group and catch per trip was calculated by month. All species classified into three groups, they are tropical tuna, billfish and bycatch species. Tropical tuna comprises Yellowfin tuna (*Thunus albacares*) and Bigeye tuna (*T. obesus*), billfish were blue marlin (*Makaira mazara*), striped marlin (*Kajikia audax*), black marlin (*M. indica*), sailfish (*Istiophorus platypterus*), swordfish (*Xiphias gladius*) and other marlin fish. while bycatch consists of small tuna, albacore (*T. alalunga*) and skipjack (*Katsuwonus pelamis*), oilfish (*Ruvettus pretiosus*), wahoo (*Acanthocybium solandri*), mahi (*Coryphaena hippurus*), barracuda (*Sphyraena* spp.), pomfret (*Taractichthys steindachneri*) and others.

RESULT

Number of foreigner tuna longline vessel entry and total load.

There were 38 trips form 28 foreigner tuna longline fishing vessel name could unload their goods at Phuket. All was Taiwan, Republic of China fishing vessel. Total catch in weight was 1,123.96 tons. Total catch was loaded through the year except for August September and December. The highest catch occurred in March equal 410.06 tons accounting to 36.48% of the total catch in 2018. Total fish was separated into three groups such as tropical tuna, billfish and other bycatch as 571.87 522.92 and 29.20 tons equal 50.88 46.52 and 2.60 % of total catch respectively. (Table 1)

Catch and fish composition of bycatch

Total amount of bycatch loaded was 29.20 tons, oilfish was the highest proportion as 65.68 % of total catch, followed by Wahoo, Mahi fish, Skipjack, Albacore, Barracuda and Pomfret as 14.69 7.41 6.45 4.26 1.38 and 0.12% respectively (figure 1)

Consider the monthly catch landing of bycatch. There is regularity in the first half of the year from January to June, the catch loaded was in the range of 0.76 - 4.08 tons, while the second half part of the year (July to December), there are three months of unloading but only two months (October and November) could found that bycatch loading. The highest amount of bycatch occurred in October equal to 8.04 tons, followed by the amount of November was 5.67 tons. (figure 2)

Table 1. Total catch (tons) by fish group and catch rate (tons per trip) in 2018 base on Phuket inspection office

Month (2018)	bycatch	billfish	tuna	total catch	no. of vessel	catch/trip
Jan	2.02	95.59	125.94	223.55	8	27.94
Feb	0.94	43.83	68.32	113.08	4	28.27
Mar	4.08	210.24	195.74	410.06	13	31.54
Apr	0.76	27.4	27.46	55.61	2	27.81
May	3.75	34.36	55	93.11	3	31.04
Jun	3.94	27.63	18.17	49.73	3	16.58
Jul	0	0	38.68	38.68	2	19.34
Aug	0	0	0	0	0	-
Sep	0	0	0	0	0	-
Oct	8.04	29.42	33.6	71.06	2	35.53
Nov	5.67	54.45	8.96	69.08	1	69.08
Dec	0	0	0	0	0	-
total	29.20	522.92	571.87	1123.96	38	29.58
%	2.60	46.52	50.88	100.00		

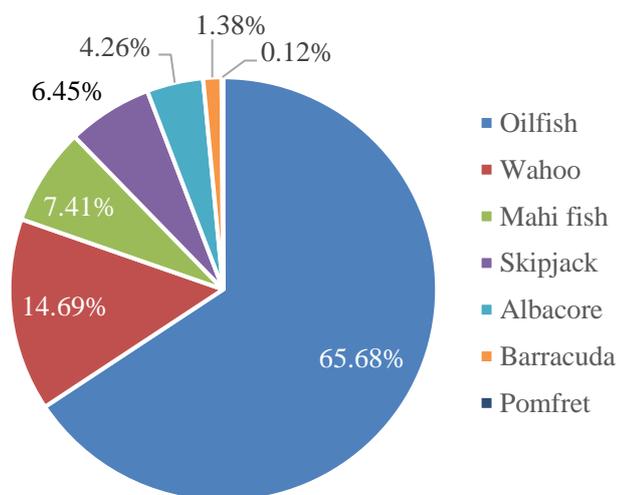


Figure 1. Species composition of bycatch unload at Phuket in 2018 by foreigner tuna longline fishing vessel

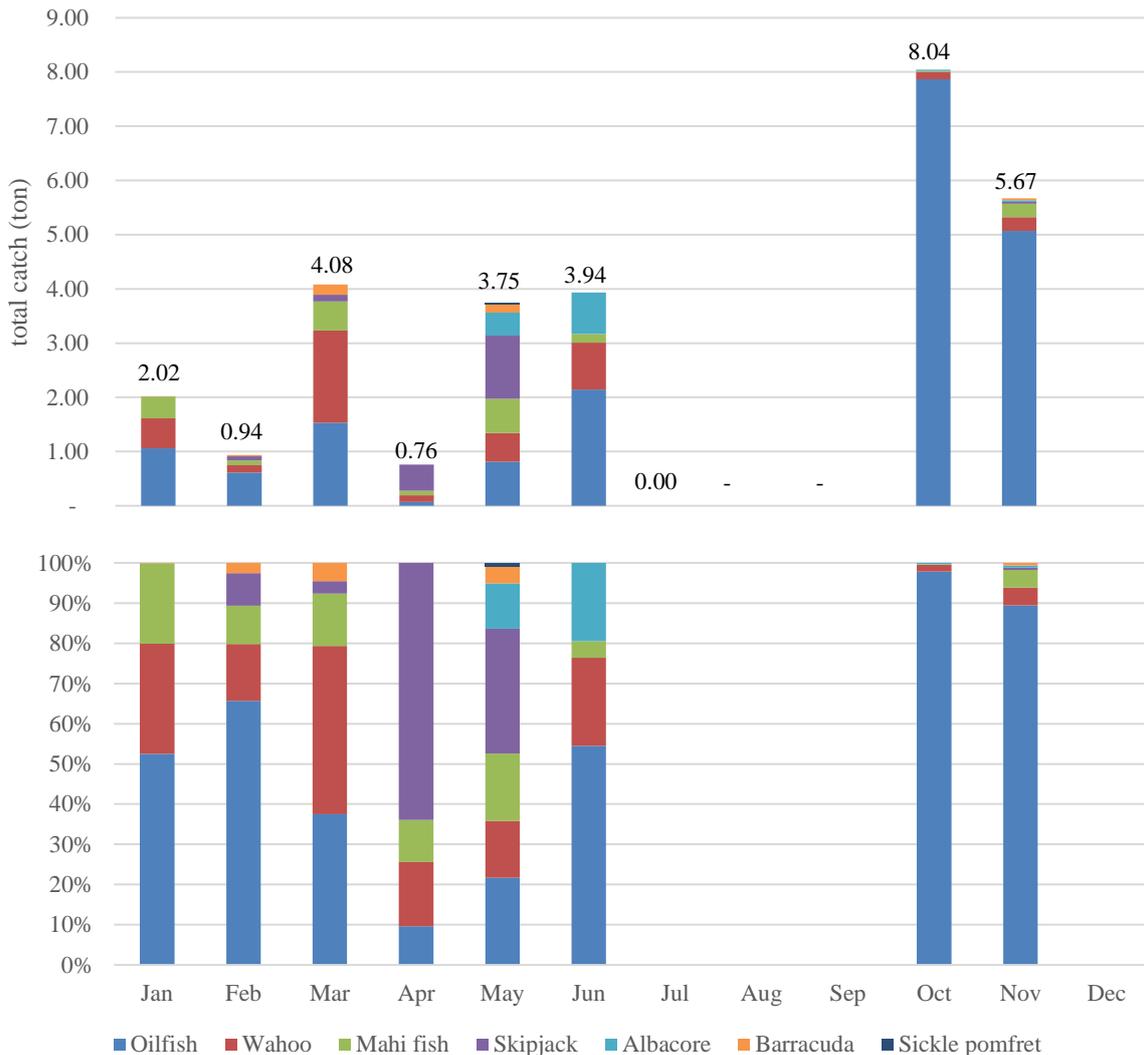


Figure 2. Amount of bycatch unloading and proportion by species and month

- Oilfish was the most notable species, it found in all month unloading especially in October and September with the largest value occurred as 7.87 and 5.07 tons accounting for 97.81 and 89.44 percent of the month respectively.

- Wahoo and Mahi were found every month when bycatch unloading occurred. The highest loading of wahoo was in March equal to 1.71 tons, representing 41.83% of the total unloading in that month, while Mahi was highly found in May and March equal to 0.63 and 0.53 tons, accounting in 16.79% and 13.05% of the total catch of each month.

- skipjack was seen prominently in February - May and November, the month with the highest unloading amount is May equal to 1.17 ton as 31.14% of the total catch of the month but the highest proportion raised in April equal 63.9%

- Albacore found in May - June and October – November, the highest unloading in June as 0.77 ton that was 19.49% of the total catch of the month.
- Barracuda could be found for a few months with small quantities. However, the high value was in March as 0.19 ton equal to 4.56% of the total catch of the month.
- Pomfret only found in May as 0.04 ton equal to 0.93% of total unloading of the month.

CONCLUSIONS

- The amount of bycatch (exclude billfish) is small, only 29.20 tons, accounting to 2.6% of the total catch.
- The number of foreign tuna longline fishing vessel entered to Phuket port has been steadily decreasing to 38 trips. As such, less than 7.7 times when compared to the year 2015 (295 trips).

REFERENCE

Department of Fishery. Quantity of marine fish importing to Thailand in 2018.
www4.fisheries.go.th/local/index.php/main/site/fishquarantine. [15 July 2019].