Status of Albacore Fishing by Malaysian Tuna Longliners in the Southwest of Indian Ocean

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Abstract

Malaysian tuna fisheries began with tropical tuna fishing in 2005 to 2011. In 2012, Malaysia tuna longline vessels shifted their operation from tropical tuna to albacore tuna fishing. A total of 5 tuna longline fishing vessels and 1 carrier are currently operating under Malaysian flag and they mainly operated in the southwest of Indian Ocean. The range of areas covered by the fishing operation of the Malaysia tuna longliners extended from 10° S in the north to 39° S toward the south and longitude from 40°E to 70°E. This paper was based on the data extracted from fishing logbooks which were sent to Department of Fisheries Malaysia. In 2017, the total catch of albacore increased significantly by 17% to 1,607 tons from 1,330 tons in 2016. Catches of albacore tuna by Malaysian tuna fishing vessels ranged from 2.74 – 277.59 tons with the average of 96.94 ± 64.38 tons. The average monthly catches for 5 years showed that there were two peaks seasons for albacore fishing; from May – August and October – January

Keywords : Malaysia tuna longlines, albacore tuna, fishing efforts

Introduction

Malaysian longline vessels started to operate in the Indian ocean in 2003 using tuna longline. From 15 tuna longline vessels in 2003, the number gradually increased to 58 vessels in 2010. However, in 2012, the number of active tuna longline vessels dropped drastically due to management problem faced by the vessel company. From 2012, a fleet of 5 longline from new fishing company started to operate by targeting albacore tuna. Their fishing areas were in the southeast of Indian Ocean. In 2017, 19 tuna longline vessels were licences where 13 of it were registered and operate in the east of Indian Ocean and another 6 tuna longline vessels registered and operate in southwest of Indian Ocean.

For vessels operating in southwest Indian Ocean, the vessels normally undertake a long fishing trips and all their catches were transported back to the fishing port by large fishing vessels. Some of the vessels used fishing port from other countries such as Port Louis in Mauritius. The catches were unloaded in the form of frozen albacore tuna and other by-catch species. From the Port Louis, the catches were transhipped into commercial ship to be exported to buyer countries such as Thailand, Taiwan, China, Singapore and Iran.

Albacore (*Thunnus alalunga*) is a highly migratory species (Fonteneau, 2004) and an important commercial species in tropical, subtropical and temperate pelagic ecosystems (Essington, 2003). The main fisheries of this species are in temperate waters. In the Atlantic Ocean, their geographical limits are from 45-40° N and 30-40° S. Whereas in the Indian Ocean, their distribution ranges from 15° N to 40° S, and is more abundant between 15° N to 35° S (ISSF, 2014; Nishida & Tanaka, 2008). In the Indian Ocean, albacore are currently caught almost exclusively using drifting longline (over 90% of the total catches) and the remaining catches recorded under purse seines and other gears (IOTC, 2014). The average catches of albacore tuna in the Indian Ocean from 2010-2017 was 38,131 tons and the catch in 2014 alone was 40,981 tons which was below MSY level (IOTC, 205).

Material and Methods

The albacore tuna data, cpue and fishing locations presented in this paper were obtained from logbooks submitted weekly via email to the Department of Fisheries Malaysia. Data reporting is mandatory under Malaysia Fisheries Regulation as part of the requirement in licensing Malaysian-flagged tuna fishing vessels operating in the high seas. For fishing efforts analysis, it was expressed in 100 hooks. Normally Malaysia tuna longline fishing vessels operation using 3000 hooks for each shooting and it took one day to complete one haul. There are no observer on board for Malaysia tuna vessels and Malaysia is currently in the process of developing national observer scheme.

Annual catches

Malaysian tuna longline vessels started fishing albacore tuna from 2012. In 2012, the annual catches were only 316 tons with 5 fishing vessels. The catch then increased significantly in 2013 with 947 tons. In 2014, the catch decreased to only 714 tons due to low number of fishing efforts. However, starting from 2015 the catches to increased until reaching the highest record in 2017 with 1,607 tons (Figure 1). The range of areas covered by the fishing operation of the Malaysia tuna longlines extended from 10° S in the north to 39° S toward the south and longitude from 40°E to 70°E (Figure 2).

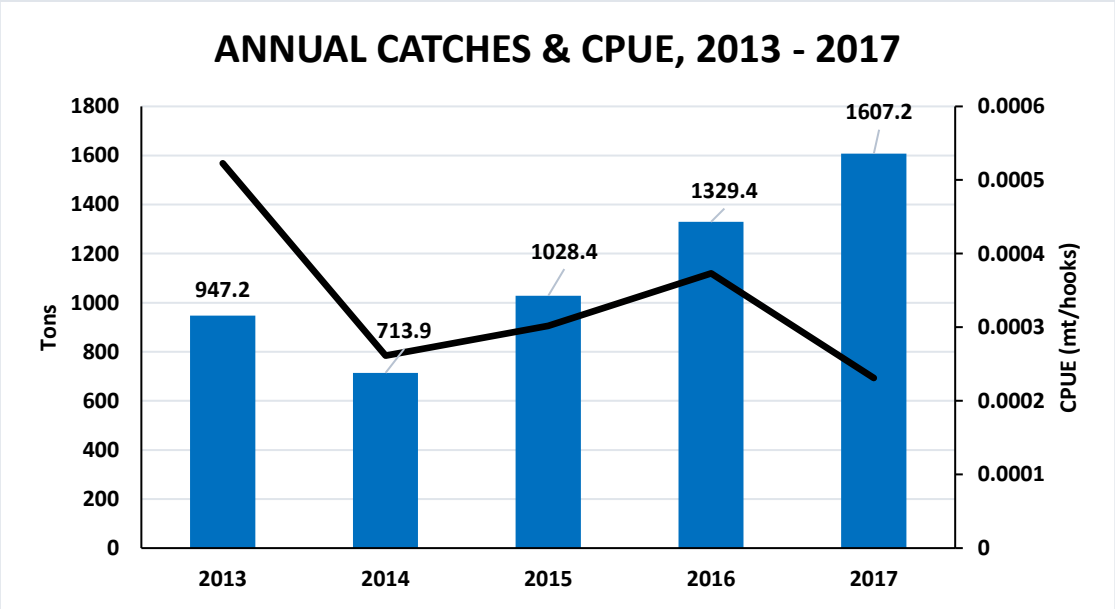

Figure 1: Annual catches of albacore tuna from Malaysian tuna longline vessels from 2012-2017

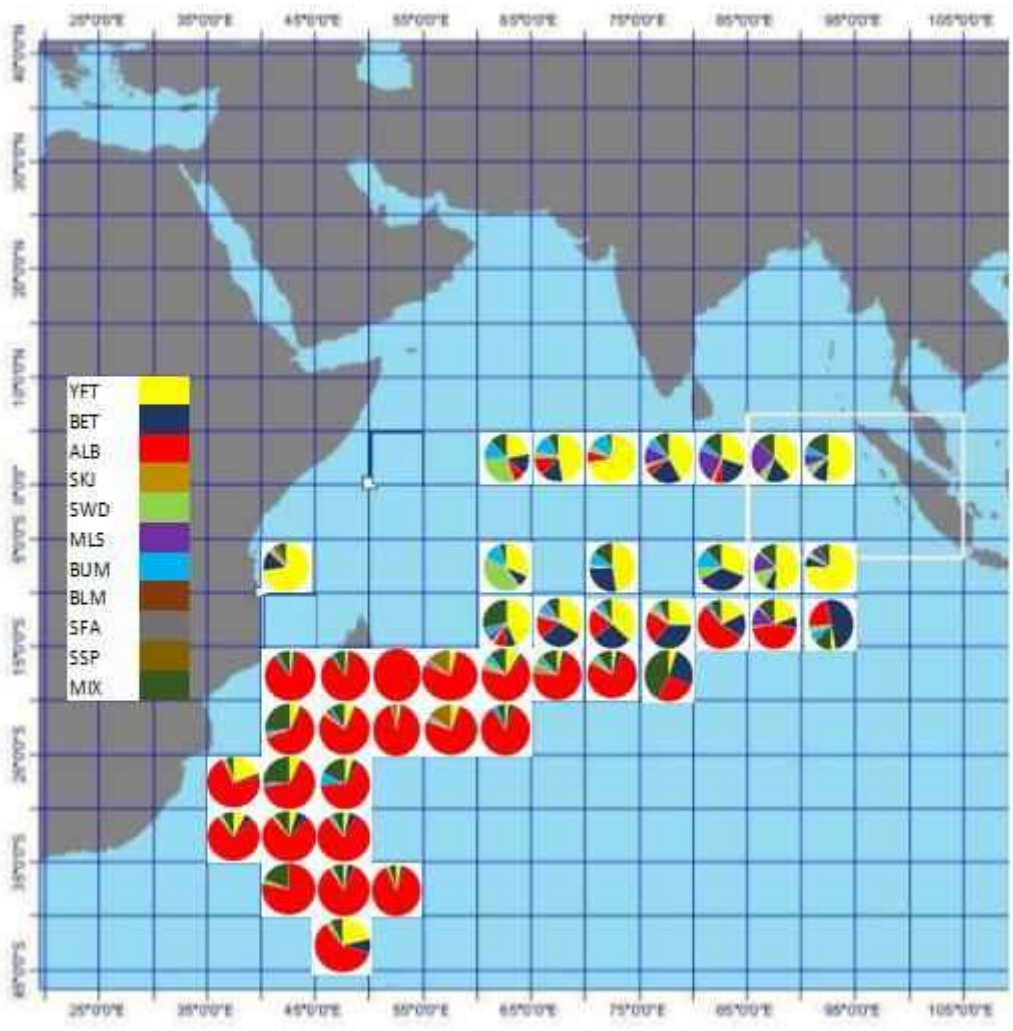

Figure 2 : Distribution map of fishing catch by Malaysian tuna longline

Monthly catches and efforts

From 2013 to 2017, catches of albacore tuna by Malaysian tuna fishing vessels ranged from 2.74 – 277.59 tons with the average of 96.94 ± 64.38 tons. The average monthly catches for 5 years showed that there were two peaks seasons for albacore fishing; from May – August and October – January (Figure 3). The highest peak season was during the middle of the year (May – August). Average fishing efforts (number of hooks) for 2013 to 2017 was 344,694 hooks. Low fishing efforts were recorded during early of the year normally and early April, due to long holiday to celebrate annual Chine New year festival, the fishing efforts reduced drastically. During the albacore seasons, the number of fishing efforts increased significantly in particular during the period of May – August.

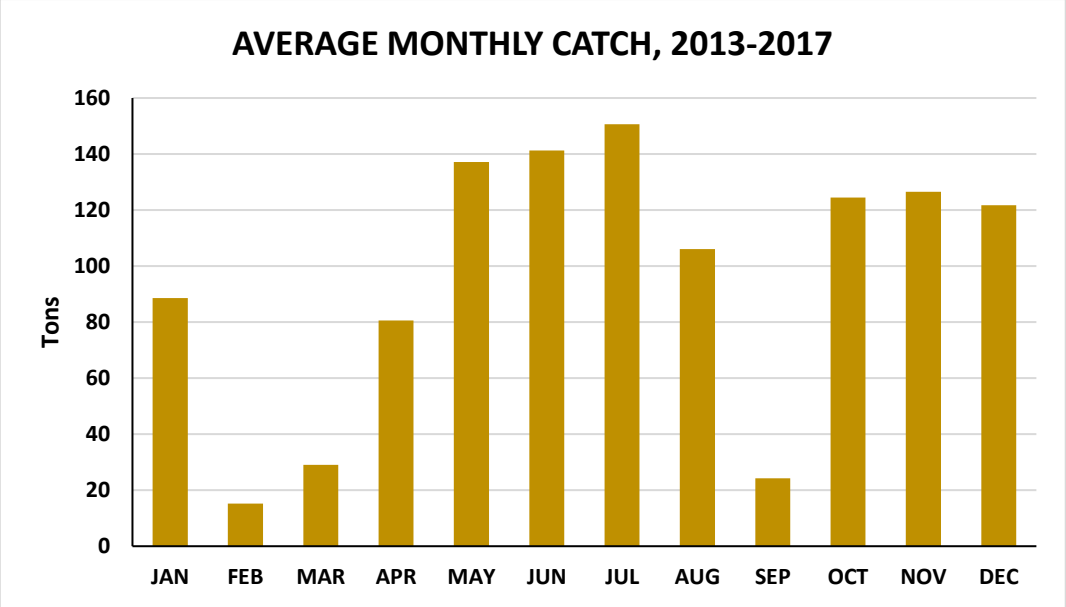

Figure 3 : Average monthly catch by Malaysian tuna longliners from 2013-2017

Catch composition

Albacore tuna accounted about 65% of the total catches followed by tropical tuna species such as yellowfin tuna (12%) and bigeye tuna (6%) (Figure 4). Tuna like species such as swordfish and marlin made up 5% and 3%, respectively. The marlin catches included black marlin, striped marlin and blue marlin which were not break into species. Shark species were not recorded as catch as they were immediately discarded during the hauling period.

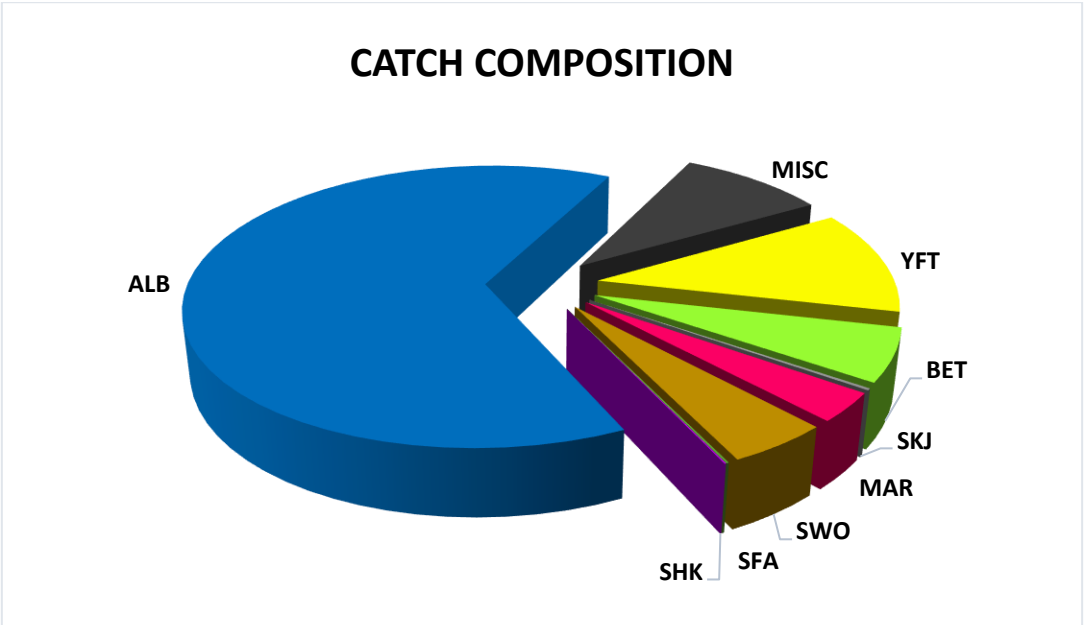

Figure 4 : Average catch composition by by Malaysian tuna longliners from 2013-2017

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