

Catches of Albacore Tuna by Thai Tuna Longliners in the Indian Ocean during 2009-2013

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ABSTRACT

This report was based on the data extracted from fishing logsheets by two Thai tuna longliners namely, “Mook Andaman 018” and “Mook Andaman 028”, which declared to Department of Fisheries, Thailand. Data from their logsheets displayed important information of their fishing operation and effort. During 2009-2013, fishing grounds were mainly in the Western coast of Indian Ocean, fishing operations were recorded 2,096 fishing day. The highest total catch was in 2010 with 607.69 tonnes followed by 2012, 2011, 2013 and 2009 respectively (470.41, 373.44, 344.77 and 295.23 tonnes). The highest CPUE was found in 2010 with 13.62 fish/1,000 hooks followed by 2012 and 2013, respectively (10.83 and 9.50 fish/1,000 hooks). During 2009-2013, the albacore tuna (*Thunnus alalunga*) caught by number and weight were 13,145 fish and 303.43 tonnes. The average percentage composition by number and weight of albacore tuna were 24.31% and 14.51%, respectively. In 2013, albacore tuna was lowest catch by number and weight (99 fish and 2.29 tonnes) and its CPUE were 0.12 fish/1,000 hooks and 2.78 kg/1,000 hooks. The percentage composition of albacore tuna by number and weight were 1.27% and 0.66%, respectively.

Fishing grounds

The study on albacore tuna (*Thunnus alalunga*) by Thai tuna longline fisheries in the Indian Ocean was collected from longliners logbook which included information about fishing operations. Two Thai tuna longliners namely, “Mook Andaman 018” and “Mook Andaman 028” were fishing in the Western Indian Ocean. The main fishing grounds during 2009-2013 were distributed around central and southern part of the Indian Ocean (Figure 1)

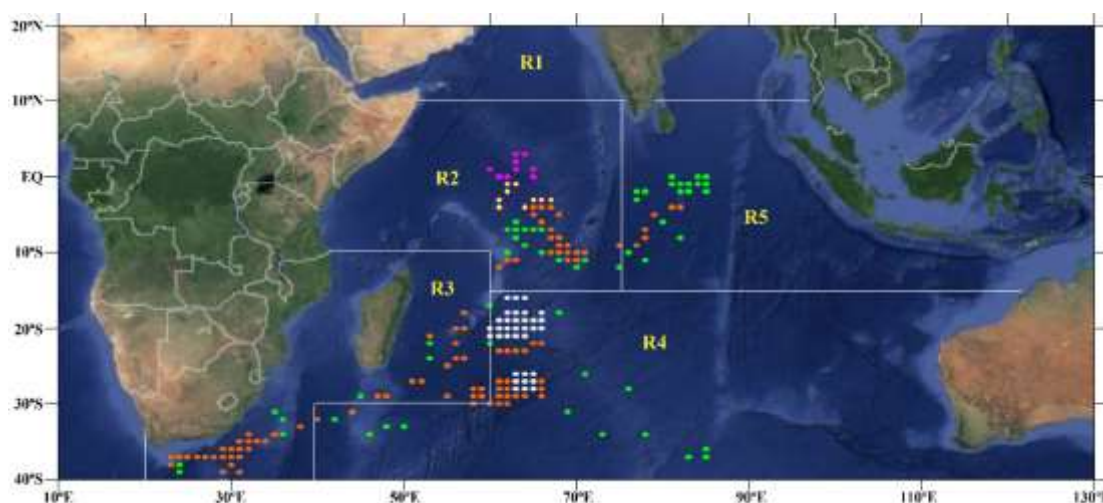


Figure 1 Fishing ground by Thai tuna longliner in the Indian Ocean during 2009-2013

Fishing efforts, catches, percentage compositions and CPUEs between 2009-2013

Fishing efforts during 2009-2013 were shown in table 1. In 2009, Thai tuna longliners exerted the highest fishing effort 1,335,600 hooks (477 fishing days). On the other hand, fishing efforts in 2013 were decrease to 822,200 hooks (386 fishing days).

Annual catches in 2009-2013 were estimated to 295.23, 607.69, 373.44, 470.41 and 344.77 tonnes, respectively. The major species caught during 5 years were bigeye tuna (*T. obesus*), yellowfin tuna (*T. albacares*), albacore tuna and swordfish (*Xiphias gladius*). Their catches were 1,138.00, 389.47, 303.43 and 233.12 tonnes, respectively.

During 2009-2012, the average percentage composition by number of bigeye tuna, albacore tuna, yellowfin tuna and swordfish were 42.71%, 28.20%, 20.17% and 7.28% respectively. In contrast, catch composition in 2013 of bigeye tuna, albacore tuna, yellowfin tuna and swordfish were 59.02%, 1.27%, 19.43% and 18.98%, respectively. Shown the difference composition from the past, albacore tuna was decreased from 28.20% (2009-2012) to 1.27% in 2013 that composition of albacore tuna was differed nearly 22 times from 4 year ago (Figure 2).

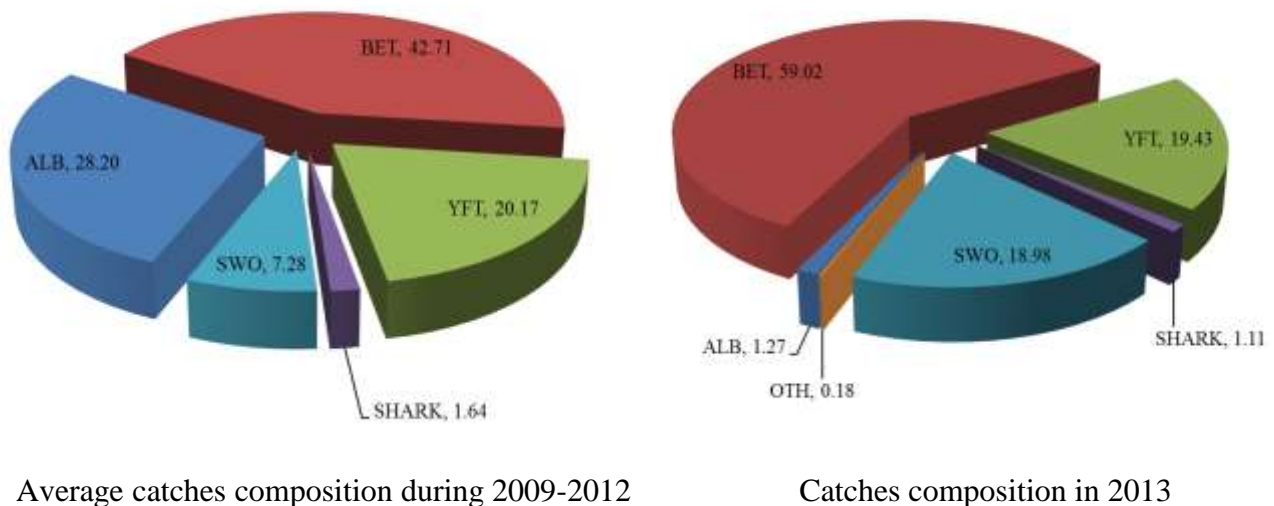


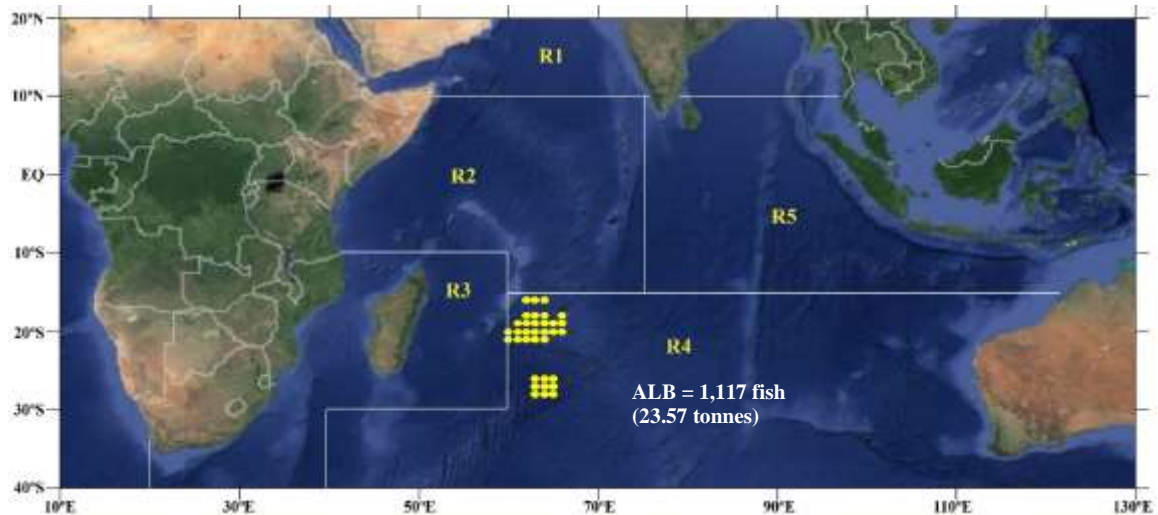
Figure 2 Catch composition by number

The CPUEs of Thai tuna longliners in 2009-2013 ranged between 5.16 and 13.62 fish/1,000 hooks, and the average CPUE was 9.63 fish/1,000 hooks. The lowest CPUE was in 2009, and the highest CPUE was in 2010. In 2013, the CPUE was decreased from 10.83 fish/1,000 hooks in 2012 to 9.50 fish/1,000 hooks (Table 1).

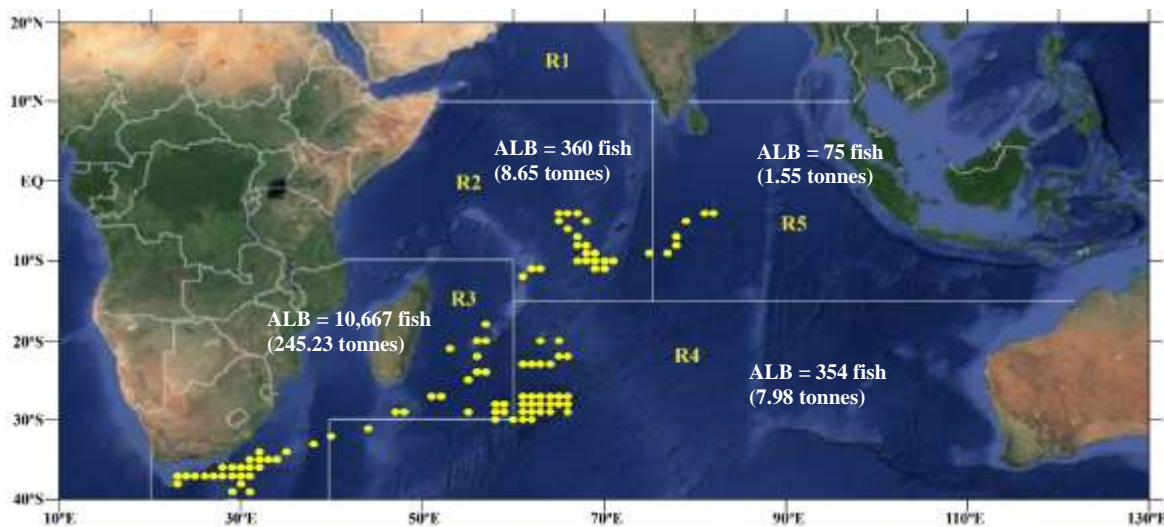
In 2013, albacore tuna was lowest catch by number and weight (99 fish and 2.29 tonnes) and its CPUE were 0.12 fish/1,000 hooks and 2.78 kg/1,000 hooks. The percentage composition of albacore tuna by number and weight were 1.27% and 0.66%, respectively

Catches of albacore tuna by Zone during 2009-2013

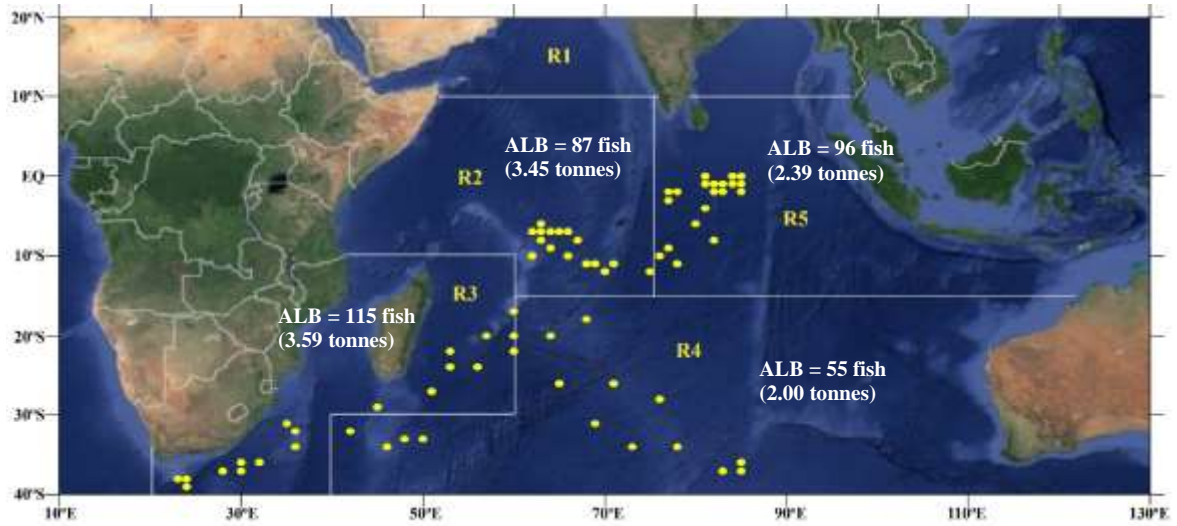
Referring to the 2009 WPTT meeting, a five-region (R 1-5) spatial stratification was taken for the CPUE analysis during 2009-2013, and Thai tuna longline fisheries were operated in the 2nd - 5th zone (R 2-5) following the figure 3. The highest fishing effort was in the 2nd zone at 2,280,400 hooks (900 fishing days), but it was the lowest in the 5th zone at 436,800 hooks (156 fishing days).



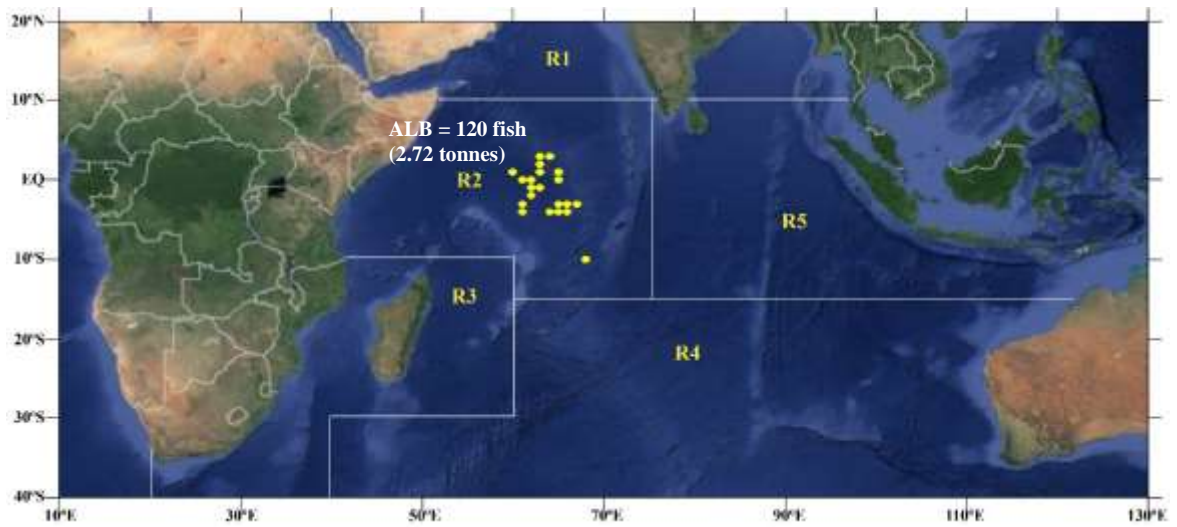
2009



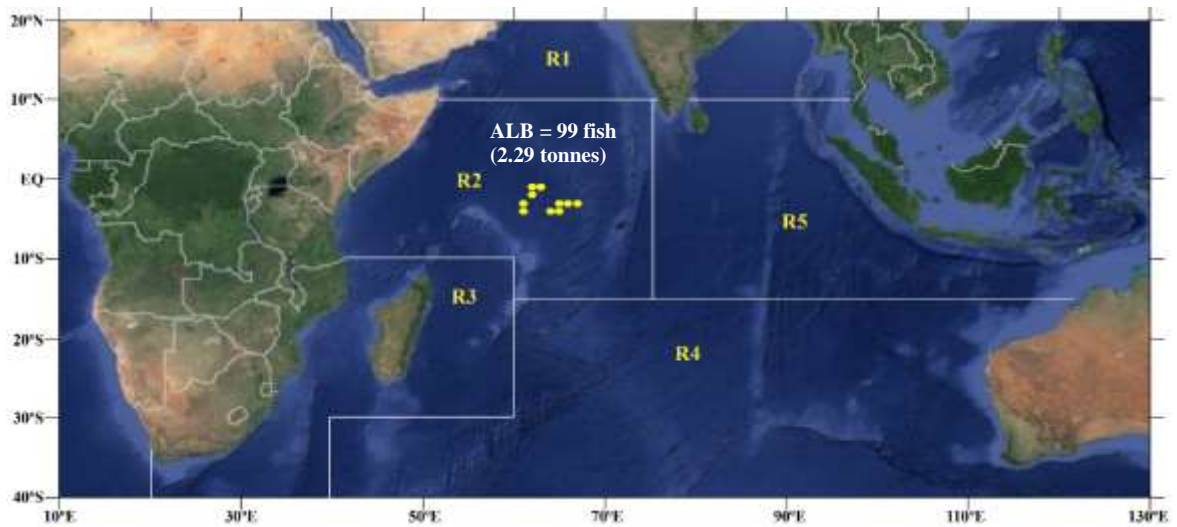
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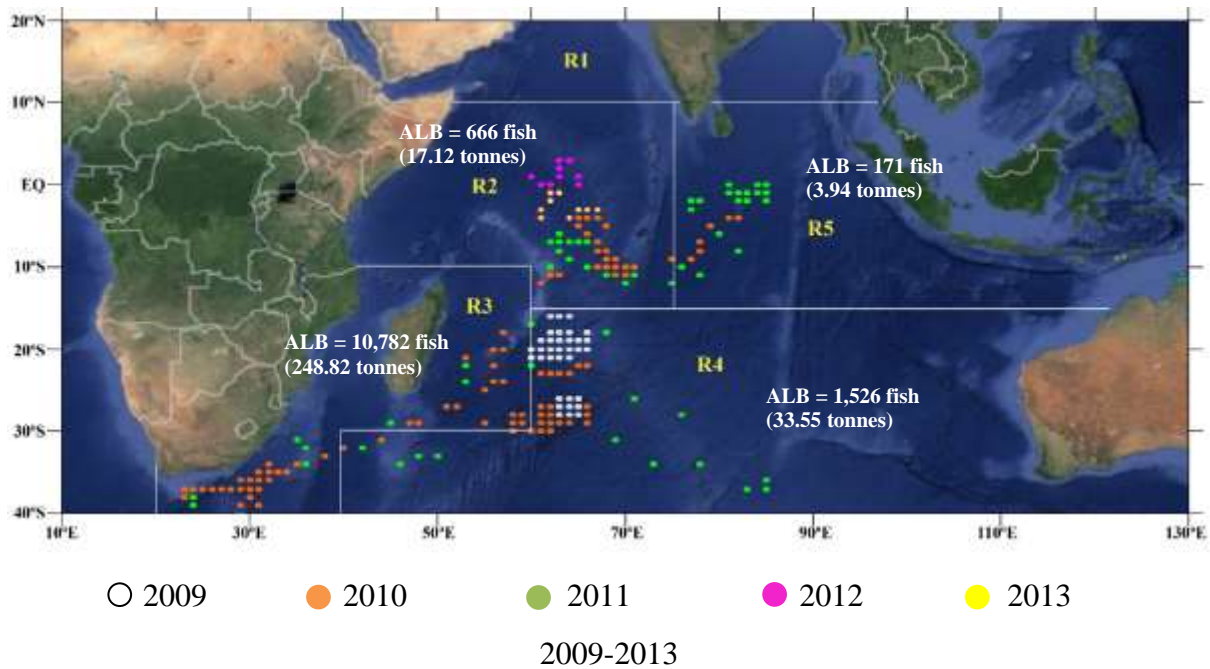


Figure 3 Albacore tuna catching area of Thai tuna longliners during 2009-2013

During 2009-2013 albacore tuna were caught in all fishing zone with highest catch in the 3th zone 10,782 individual fishes with 248.82 tonnes and lowest catch in the 5th zone 171 individual fishes with 3.94 tonnes. (Figure 3).

The trend of albacore tuna catch and CPUE during 2009-2013

Albacore tuna were caught during 2009-2013 which the catch by weight and number, and CPUE were the highest in 2010 (263.41 tonnes, 11,456 fish and 8.56 fish/1,000 hooks). Those values were the lowest in 2013 (2.29 tonnes, 99 fish and 0.12 fish/1,000 hooks).

In 2013, Thai tuna longline fisheries were only operated in 2nd zone. If compare catch of albacore tuna by number and CPUE during 2010-2013 in the 2nd zone found that highest catch and highest CPUE in 2010 (360 fish and 2.42 fish/1,000 hooks) and lowest catch in 2013 (99 fish) and lowest CPUE in 2012 (0.12 fish/1,000 hooks) (Figure 4).

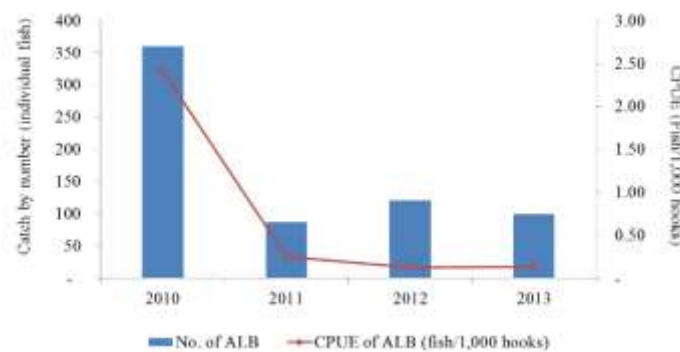


Figure 4 Number and CPUE of albacore tuna by Thai tuna longline fisheries during 2010-2013 in 2nd zone

Table 1 Fishing efforts, catches and CPUEs of Thai tuna longliners in the Indian Ocean during 2009-2013

Year	Fishing days	No. of Hooks	Total no. of fish	No. of ALB	Catch weight (tonnes)							CPUE (fish/1,000 hooks)	CPUE of ALB (fish/1,000 hooks)
					ALB	BET	YFT	SWO	Sharks	Other	Total		
2009	477	1,335,600	6,897	1,117	23.57	152.07	64.96	54.63	-	-	295.23	5.16	0.84
2010	473	1,324,400	18,044	11,456	263.41	170.10	93.60	80.58	-	-	607.69	13.62	8.65
2011	372	1,041,600	9,746	353	11.44	248.60	92.12	16.00	2.22	-	370.39	9.36	0.34
2012	387	1,083,600	11,732	120	2.73	342.18	81.92	25.05	18.53	-	470.41	10.83	0.11
2013	386	822,200	7,812	99	2.29	225.17	56.88	56.86	3.15	0.43	344.77	9.50	0.12
Total	950	5,607,400	54,231	13,145	303.43	1,138.00	389.47	233.12	23.90	0.43	2,088.49	9.64	2.34