

Thailand National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2017

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

<p>In accordance with IOTC Resolution 15/02, final scientific data for the previous year was provided to the IOTC Secretariat by 30 June of the current year, for all fleets other than longline [e.g. for a National Report submitted to the IOTC Secretariat in 2017, final data for the 2016 calendar year must be provided to the Secretariat by 30 June 2017)</p>	<p>YES 30th June 2017</p>
<p>In accordance with IOTC Resolution 15/02, provisional longline data for the previous year was provided to the IOTC Secretariat by 30 June of the current year [e.g. for a National Report submitted to the IOTC Secretariat in 2017, preliminary data for the 2016 calendar year was provided to the IOTC Secretariat by 30 June 2017). REMINDER: Final longline data for the previous year is due to the IOTC Secretariat by 30 Dec of the current year [e.g. for a National Report submitted to the IOTC Secretariat in 2017, final data for the 2016 calendar year must be provided to the Secretariat by 30 December 2017).</p>	<p>NO 30th June 2017</p>
<p>If no, please indicate the reason(s) and intended actions:</p> <p>In 2016, Thai commercial longliners did not operate in Indian Ocean, therefore Thailand did not collect any longline data in this area.</p>	



Executive Summary

In 2016, neritic tuna were caught in the Andaman Sea, Thailand by purse seiners. These catch comprise 4 species of tuna; longtail tuna (*Thunnus tonggol*), kawakawa (*Euthynnus affinis*), frigate tuna (*Auxis thazard*) and bullet tuna (*Auxis rochie*) which percentage of catch were 52.05%, 34.23%, 10.44% and 3.28%, respectively.

During 2011-2015, six Thai tuna longliners operated in the Western coast of the Indian Ocean, but in 2016, Thailand did not have commercial longliner vessels operated in Indian Ocean. There was one Thai purse seiner operated only one month in this area. They declared logbook to Department of Fisheries, Thailand. Data from logbook displayed important information of their fishing operation and effort. The fishing operations were recorded 6 times. The major neritic tuna species composed of kawakawa 9,176 kg and longtail tuna 1,910 kg. The quantity of pelagic fish including trevally, mackerel, narrow-barred Spanish mackerel, barracuda and other species were 9,350 kg, 4,185 kg, 221 kg, 144 kg and 146 kg, respectively. The average percentage composition by weight of trevally, kawakawa, mackerel, longtail tuna, narrow-barred Spanish mackerel and other species group were 37.20%, 36.51%, 16.65%, 7.60%, 0.88%, 0.57 and 0.58%, respectively.

Foreign tuna fleets landed at Phuket fishing port, in 2015 for 139 trips and increased into 203 trips in 2016. The estimate of total catch was 7,846.74 tonnes. The average percentage composition by weight of tuna group, billfish group and other species group were 85.48 %, 13.43 % and 1.09 %, respectively.

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1. BACKGROUND/GENERAL FISHERY INFORMATION

Marine fisheries are important both socially and economically for Thailand. Fish are very important to the food security and self-sufficiency of Thailand. Based on a recent survey (2017), a total number of 10,563 active Thai fishing vessels caught 1.32 million tonnes in 2015. This catch supports the livelihoods, incomes and employment for fishermen and employed in supporting industries (e.g. fish processing industry, ship building industry, canned and frozen fisheries product factories, fish meal factories). For rural Thailand, fish constitutes a generally affordable source of protein, contributing significantly to dietary health and food security, particularly the more than 2,500 villages of artisanal fishing communities along the coasts. Thailand is also a major seafood producer and exporter. In 2015, exports total 1.68 million tonnes, valued at USD 6,122 million and imports total 1.63 million tonnes valued at USD 2,654 million (DOF, 2017).

Thai tuna longliners operated in the Western Indian Ocean since 2007 after that were distributed around central and southern part of the Indian Ocean during 2011-2015. Data was collected from logbooks provided to the Department of Fisheries, Thailand. The data included information related to fishing trips and operations. The trip data was composed of dates and ports of vessel departure and return, number and weight of catch and effort (such as the number of hooks used) by species. The fishing operation included data on the time of the operation, location (latitude and longitude), the retained catch of target species and other information related to the operation. The data were provided by the Siam Tuna Fishery Company and Three Wonderful Company. Logbooks were used to estimate annual catches of the longline fleet. In 2016, Thailand don't have commercial longliner vessels operated in Indian Ocean.

In 2016, Thailand has one purse seiner operated in Indian Ocean. The purse seine started fishing in December, 2016. The main fishing grounds were in the Saya de Malha Bank of the Western Indian Ocean. Data was collected from logbooks submitted to the Department of Fisheries, Thailand. The data included information related to fishing trips and operations. The trip data was composed of dates and ports of vessel departure and return, weight of catch and effort by species. The fishing operation data comprised the time of the operation, location (latitude and longitude), the retained catch of target species and other information related to the operation.

2. FLEET STRUCTURE

Neritic tuna in Andaman Sea of Thailand mostly caught by purse seine vessels. The purse seiners along the Andaman Sea Coast of Thailand can be classified into regular purse seines (RPS- that are Thai purse seine (TPS), fish aggregating device (FADs) and light luring purse seine (LPS). In 2016, total number of purse seiners in Andaman Sea is 259 vessels. There are 108 vessels registered at Phangnga, 46 vessels registered at Satun, 37 vessels registered at Ranong, 36 vessels registered at Phuket, 17 vessels registered at Krabi and 15 vessels registered at Trang.

For Thai overseas fishing fleet, there was no Thai commercial longline vessels operated in Indian Ocean in 2016. Thailand had only one purse seiner named "Century 9" operated fishing started in December 2016. The number of fishing fleet was shown in table 1.

Table 1: Number of vessels operating in the IOTC area of competence, by gear type and size

Year	Number of Thailand commercial longliners vessels	Size of the vessels(GT)	Remark
2011	2	372-434	In 2016, Thailand don't have commercial longliner vessels operated in Indian Ocean
2012	3	347-434	
2013	3	347-434	
2014	3	347-434	
2015	6	74-434	
Year	Number of Thailand commercial purse seiner vessels	Size of the vessels(GT)	Remark
2016	1	199.78	

Year	Number of Research Vessels of DOF Thailand	Size of the vessels(GT)	Remark
2011	3	1,178-1,424	
2012	3	1,178-1,424	
2013	3	1,178-1,424	
2014	3	1,178-1,424	
2015	3	1,178-1,424	
2016	3	1,178-1,424	

3. CATCH AND EFFORT (BY SPECIES AND GEAR) [Mandatory]

3.1 Fishing efforts; Neritic tuna in EEZ

In 2016, The catch composition of neritic tuna in Andaman Sea showed four species of neritic tuna including longtail tuna (*Thunnus tonggol*), kawakawa (*Euthynnus affinis*), frigate tuna (*Auxis thazard*) and bullet tuna (*Auxis rochie*). The average percentage caught composition of longtail tuna, kawakawa, frigate tuna and bullet tuna which were 52.05%, 34.23%, 10.44% and 3.28%, respectively (Figure 1). The common Thai purse seiner (TPS) accounted the highest catch of the total neritic tuna (46.12%) that consisted of longtail tuna 42.08%, frigate tuna (2.07%) and kawakawa (1.97%). The FADs purse seiners accounted 33.81% of the total neritic tuna comprised kawakawa 19.37%, frigate tuna 6.95%, longtail tuna 4.77% and Bullet tuna 2.72%. The Luring purse seiners (LPS) accounted 20.07% of the total neritic tuna which is composed of kawakawa 12.89%, longtail 5.20%, frigate tuna 1.42% and and bullet tuna 0.56%. (Table 2)

These data were sampling from Phuket Port, Phang Nga Port, Krabi Port, Ranong Port, Satun Port and Trang Port.

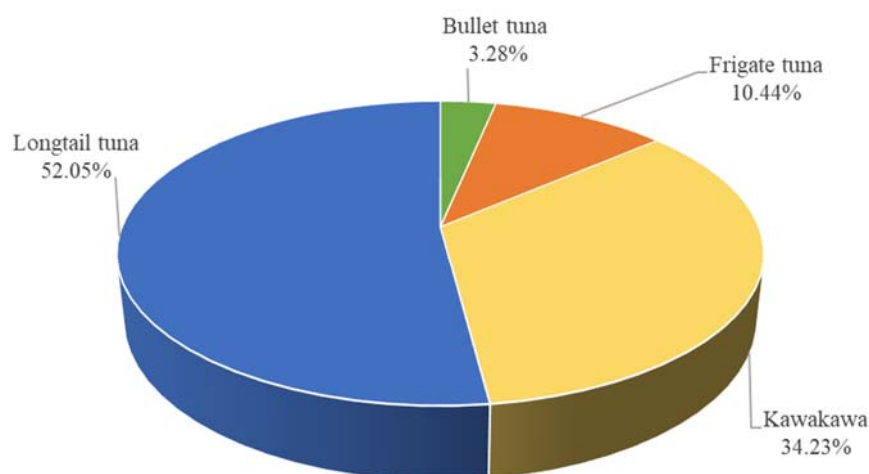


Figure 1 Catch composition of neritic tuna in EEZ caught by purse seiner in 2016

Table 2 Percentage of neritic tuna in EEZ caught by type of purse seine, 2016

Species	FADs	LPS	TPS
Bullet tuna	2.72	0.56	0
Frigate tuna	6.95	1.42	2.07
Kawakawa	19.37	12.89	1.97
Longtail tuna	4.77	5.2	42.08
Total tuna	33.81	20.07	46.12

3.2 Fishing efforts; Tuna in high sea

Fishing efforts of longline fishing vessel during 2011-2015 were shown in table 3. The main fishing grounds were around central and southern part of the western Indian Ocean (Figure 2). The estimated catches in 2011-2015 were 373.44 tonnes, 470.41 tonnes, 307.74 tonnes, 571.91 tonnes and 599.73 tonnes, respectively. The major species of catches during 5 years were tuna group, billfish group, shark group and other species group which total weight was 2,323.22 tonnes. The average percentage composition by weight of these major species were 79.92%, 12.71%, 5.96% and 1.41%, respectively. (Figure 3) The CPUE have ranged between 9.13 and 13.28 fish/1,000 hooks, and the average CPUE was 11.39 fish/1,000 hooks. The lowest CPUE was in 2011, and the highest CPUE was in 2014. In 2015, bigeye tuna and yellowfin tuna were 33.44% and 18.25% by weight of the total catch composition.

Table 3. Fishing efforts, annual catches and CPUEs of Thai tuna longliners

Year	Fishing days	Total Number of Hooks	Total number of fish		Total catch by No. and Weight												Total CPUE	
					ALB		BET		YFT		Billfish		Sharks		Others		By No.	By Weight (kg.)
			No.	Tonnes	No.	Tonnes	No.	Tonnes	No.	Tonnes	No.	Tonnes	No.	Tonnes	No.	Tonnes		
2011	372	1,049,400	9,583	373.44	353	11.44	5,883	248.48	2,842	92.12	291	15.99	214	5.41			9.13	355.86
2012	388	1,083,600	11,732	470.41	120	2.73	8,021	342.18	2,311	81.92	736	25.05	544	18.53			10.83	434.12
2013	363	704,400	7,157	307.74	61	1.38	4,372	207.78	1,201	41.88	1,312	50.93	211	5.78			10.16	436.88
2014	384	1,103,900	14,663	571.91	725	13.91	5,894	270.87	4,056	123.91	2,264	108.72	1,145	49.95	579	4.54	13.28	518.08
2015	563	1,788,800	22,148	599.73	7,044	102.02	4,838	206.57	3,411	109.45	2,250	94.62	1,835	58.89	2,770	28.17	12.38	335.27
Total	2,070	5,730,100	65,283	2323.23	8,303	131.48	29,008	1,275.89	13,821	449.28	6,853	295.31	3,949	138.55	3,349	32.71	11.39	405.44

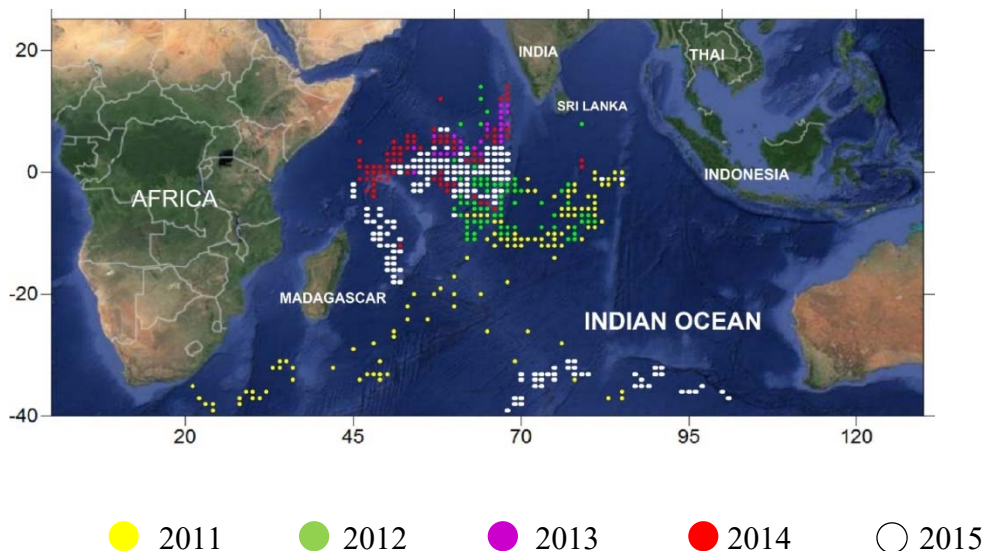


Figure 2 Fishing ground by Thai tuna longliners in the Indian Ocean during 2011-2015

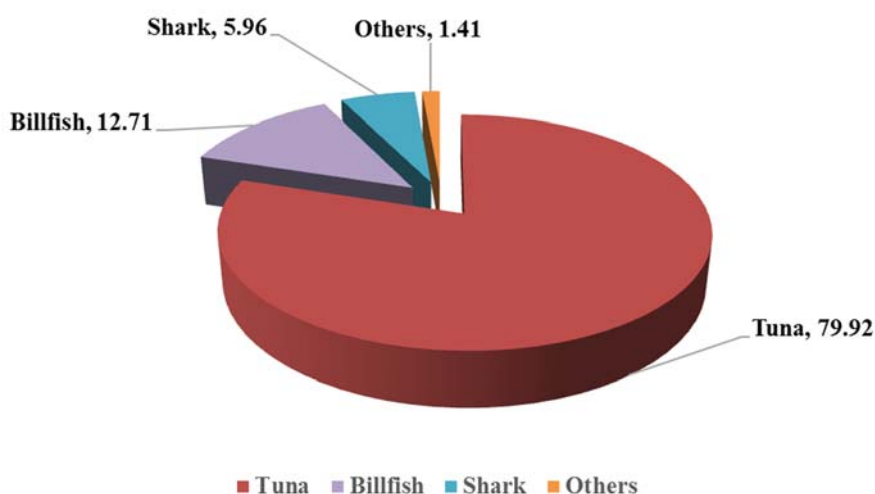


Figure 3 Catch composition (group) by weight during 2011-2015

In 2016, The main fishing grounds was around in the Saya de Malha Bank of the west Indian Ocean (Figure 4). This purse seiner started fishing in December. The fishing operations were recorded 6 times. The major neritic tuna species consisted of kawakawa 9,176 kg and longtail tuna 1,910 kg. The quantity of pelagic fish including trevally, mackerel, narrow-barred Spanish mackerel, barracuda and other species were 9,350 kg, 4,185 kg, 221 kg, 144 kg and 146 kg, respectively. The average percentage composition by weight of trevally, kawakawa, mackerel, longtail tuna, narrow-barred spanish mackerel and other species group were 37.20%, 36.51%, 16.65%, 7.60%, 0.88%, 0.57 and 0.58%, respectively. (Figure 5) The average CPUE was 4,188.67 kg/time.

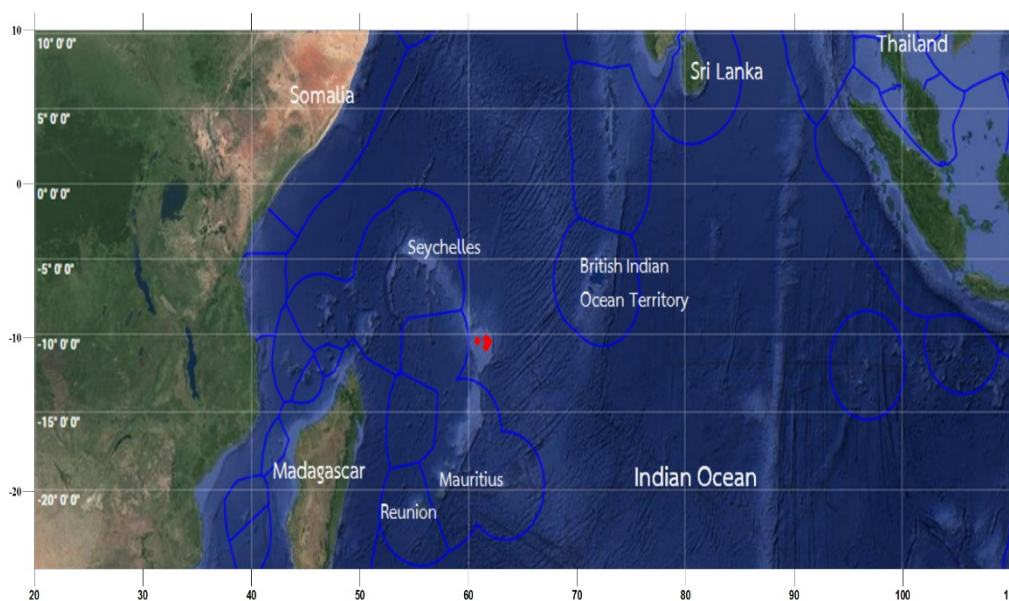


Figure 4 Fishing ground by Thai purse seine in the Indian Ocean in 2016

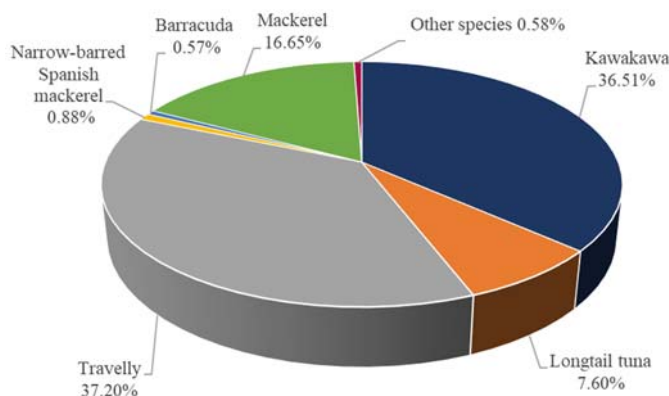


Figure 5 Catch composition (group) by weight in 2016

3.3 Fishing efforts; foreign tuna fleets unloading in Phuket

In 2016, foreign tuna fleets unloaded in Phuket were Taiwan province of China, Japan and Indonesia. The estimated total catch was 7,846.74 tonnes. The major group of catch by foreign fleet were tuna and billfish. The average percentage composition by weight of tuna group, billfish group and other species group were 85.48 %, 13.43 % and 1.09 %, respectively. (Figure 6)

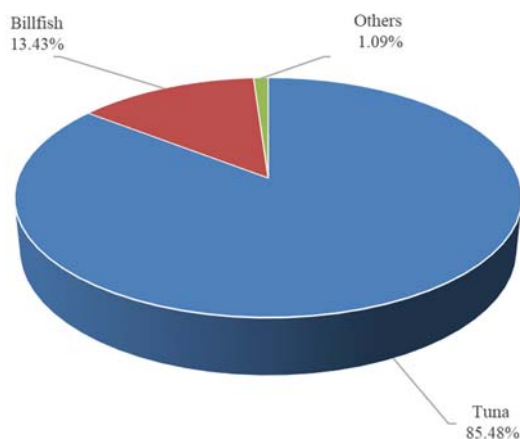


Figure 6 Catch composition of Foreign tuna fleets unloading in Phuket by weight in 2016

The major species of tuna group were yellow fin tuna 4,153.85 tonnes, skipjack tuna 1,730.03 tonnes, bigeye tuna 802.27 tonnes and albacore tuna 21.15 tonnes. The major species of billfish group were swordfish 557.77 tonnes, blue marlin 373.40 tonnes and, sailfish 122.58 tonnes while the other species group was 85.69 tonnes.

4. RECREATIONAL FISHERY [Mandatory]

Recreational fishery for tuna and tuna-like species is not a popular fishing game in Thailand, and they are only occasional and seasonal events in Andaman Sea.

5. ECOSYSTEM AND BYCATCH ISSUES [Mandatory]

Thailand has several measures to reduce the impact of fishing on marine ecology such as 1) prohibited trawler and push netter with engine operated within 3 miles from the shore line 2) mesh size regulation for purse seine and trawl to reduce a juvenile from the catches, 3) determination of closed area and season in particular fish species, and 4) enlarge the mesh size of code end of trawl net to be 5 cm. 5) limited fishing days

5.1 Sharks [Mandatory]

Referring to the Thai Fisheries Statistics during 1995 to 2009, it was reported that sharks and rays were mainly caught by otter-board trawler and pair trawler where their fishing areas are located in the Thai's EEZ. In addition, there is no record from the Thai tuna longliners and purse seiners on the shark by-catch from their fishing operation in the Indian Ocean. (only 2007 was recorded). The total number of sharks retained during 2011-2015 follow table 4.

However, there are a numbers of national initiatives related to conservation and management of sharks. It includes: (i) development in 2012 and will be endorsement of the National Plan of Actions for Sharks in 2015; (ii) a series of study on shark by-catch using the national research vessels; (iii) development of handbook for sharks species identification and its database system for sharks and rays found in Thailand in 2012-2014; and (iv) participation of the staff concerned of Department of Fisheries to the meetings related to sharks/rays conservation and management.

Table 4: Total number of sharks, by species, retained during 2011-2015

Year	Sharks species							
	BSH		MAK		SFA		Sharks unidentified	
	No.	Tonnes	No.	Tonnes	No.	Tonnes	No.	Tonnes
2011							214	5.41
2012							544	18.53
2013							211	5.78
2014							1,145	49.98
2015	1,323	49.65	346	5.61	28	0.67	138	3.62
Total	1,323	49.65	346	5.61	28	0.67	2,252	83.32

5.2 Seabirds [Mandatory]

NONE

5.3 Marine Turtles [Mandatory]

Thailand is one of the countries that actively involved in the conservation programme of turtles long time ago.

Under Fisheries Act 1974, turtle and marine mammals are not allowed to be fished, disturbed or taken for whatever means without the permission of Fisheries authority. The turtles and marine mammals that are accidentally caught alive during fishing have to be release immediately.

5.4 Other ecologically related species (e.g. marine mammals, whale sharks) [Desirable]

No record available on the number of accidental caught marine animals and whale sharks by Thai fishing vessels. Under Fisheries Act 1974, Whale shark are not allowed to be fished, disturbed or taken for whatever means without the permission of Fisheries authority.

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [Mandatory]

6.1 Logsheet data collection and verification

Thailand has implemented the new logbook in 2015 and have developed e-logbook in 2016. Then it has developed fishing logbook via Electronic Report System in August, 2017. The implemented on Catch

Certificate Exemption Statement since 1st January 2010 by apply Catch Certificate and Fishing Logbook following Deter and Eliminate Illegal, Unreported and Unregulated Fishing. The system of estimate the total production of neritic tunas and seer fish will be gathering and improve on the percentage of coverage of logbook.

6.2 Vessel Monitoring System (including date commenced and status of implementation)

Thailand started and implemented the VMS system on all fishing vessels (> 30 gross ton) in 2015. For All overseas vessels have already implemented the VMS system on board in compliance with the fisheries management authorities.

6.3 Observer programme

6.3.1 Human Observer programme

The 1st batch of observers (20 of them) completed their training in December 2015 and the 2nd batch of candidate observers (30 of them) were trained to act as onboard fisheries observers in April 2016 and the 3rd batch of candidate observers (30 of them) were trained to act as onboard fisheries observers in August 2017. The Department of Fisheries have been preparing operating manuals and report forms, and formulating necessary rules and regulations to ensure the effectiveness of the observer program. The process is being expedited so that the observers can begin working on board selected vessels operating in the High Seas or the Indian Ocean in 2016.

6.3.2 Electronic Observer programme

Thailand has Electronic Monitoring System on fishing vessel and carrier vessel. The Electronic Monitoring System (EM) is a system using information technology and satellite communications for getting information on the use of fishing and transshipments gears at sea from electronic sensor equipment on fishing vessels which has direct connections with the equipment gears used in fishing and transshipments. Information on the use of these gears will be confirmed by information regarding vessels' direction from the vessel monitoring system (VMS) as well as information from the closed circuit televisions system (CCTV) captured in snapshots and transmitted through a satellite communication in real time. This can be monitored and examined after such video recordings. The RFID technology and electronic signals from capstans and cranes on fishing vessels will be the sensor equipment identifying the start and end of fishing and transshipment activities.

6.4 Port sampling programme

Neritic tuna were collected data by sampling method program. For local purse seine, has been collected data 2-3 days monthly in each fishing port. There are 2 steps in field trip data collection.

First is interview: Mostly fisheries officer has interviewed fishing master about fishing effort is total catch, day per trip, number of haul, fishing ground, depth, species composition, fish price, and problems in fishing. Sometime ask size of fishing gear, size of vessel or some techniques for fishing.

Second is sampling: the sampling size were not less than 30 kg/vessel, to identify species and measure total length fish size by punching paper in centimeter and also measure weight in gram.

Every month, data analysis has to be reported for fishing effort, percentage of species composition and length of fish. Mostly of purse seine has fishing ground in the Andaman Sea coast. DOF will use this database to monitor and analyze the status of marine.

Since 2015, Thailand has improved the data collection of marine fisheries by set up the Port in and Port out scheme.

- Check the number of fishing boat. The official check up the number of vessels follow the license. That is important data for management.

- "Port in – Port out" (PIPO) PIPO scheme has established since 1st May 2015, all fishing vessels over 30 gross ton. This system record information of each vessel including the types of equipment, types of caught fish, name of vessel, vessel registration, vessel license, fishery permit, and crew-members. Vessels are required to report these selected information to officer not less 2 hours but within 24 hours before going in and out from the port. However, every day has Port in-port out team check all document at the port.

- Logbook ; the fishing record information for catch composition and fishing ground daily.

- Marine catch Purchasing Document (MCPD); Boat owners will sell marine catch to middlemen who sell the fish to processing plants. The processing plant has been reported and submits catch certificate of Thailand, namely Simplified Catch Certificate of Thailand from DOF.

- Record fish unloaded; The DOF official record sale composition at the landing place. The official will random fishing vessels about 25% of the total number of unloaded. This data will be cross checked with the data from logbook.

6.5. Unloading/Transshipment

The cooperation program between Thai DOF and IOTC-OFCF was finished in December 2006. As the information of catches taken by foreign vessels operating in the Indian Ocean and landed at the fishing port in Thailand is so important not only for Thailand but also for IOTC. Nowadays, Thailand is still continuous collecting data from foreign vessel that landing catch at Phuket Province.

The activities involve collecting the number of landings, catch, vessel operating (no. of trip), weight samples, interviewing, biological samples and other activities such as collection of information of shark, other species, and study age of the fish by using otolith.

7. NATIONAL RESEARCH PROGRAMS [Desirable]

Table 5. Summary table of national research programs

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
Study on length frequency distribution of tuna caught by Thai tuna purse seiners in Indian Ocean				DOF Thailand	To study on the length frequency distribution for monitor the stock size of the catch as precautionary approach for sustainable tuna fisheries in Indian Ocean.	Relationships between length and fork-length of the catch will be studies. This aims to monitor the changes in size of the catch over
The observer onboard program	2015-present			DOF Thailand	The observer onboard program is a part of fisheries management plan. It has been launched to support the MCS and traceability systems. Data from observer is important because it is the correct and accurate information, to be used in the fisheries management which contains fishing information, quantity of captured and biology of	The 1st batch of observers (20 of DOF officers) started observer onboard program in September 2015 and the 2 nd batch of candidate observers (30 of them) and the 3 rd batch of candidate observers (30 of them) started in August 2017. The 1st batch were introduced the Observer Scheme and the learned lesson and experience of implementation were shared by the key workshop conductors from the Philippines.



					economic fish.	
Training for Observer Debriefing	August 2017			DOF Thailand	To debrief and verify data of Observer	Verify data of observer report and cross check with logbook, Transshipment Declaration even the observer back to port in.
EU regulation to prevent, deter and eliminate IUU fishing	Since 1st January 2010			DOF Thailand	Improve the Fishing Logbook, Marine Catch Purchasing (MCPD) and Marine Catch Transshipment Documents (MCTD) report system	DOF will emphasize its work on the suppression of illegal practices which is along the line of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU). At present DOF of Thailand has the NPOA-IUU and will be submitted to cabinet in 2015.

8. IMPLEMENTATION OF SCIENTIFIC COMMITTEE RECOMMENDATIONS AND RESOLUTIONS OF THE IOTC RELEVANT TO THE SC. [Mandatory]

Table 6. Scientific requirements contained in Resolutions of the Commission, adopted between 2005 and 2017.

Res. No.	Resolution	Scientific requirement	CPC progress
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	Thailand collects fisheries information by using fishing logbook, which will be report through Electronic Report System (ERS).
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	Thailand collects fisheries information in the area and submits report to IOTC in accordance with Resolution 15/02.
15/05	On conservation measures for striped marlin, black marlin and blue marlin	Paragraph 4	Thailand is going to enforce the law which has designed incidental logbook .
13/04	On the conservation of cetaceans	Paragraphs 7– 9	Thailand is going to enforce the law which has designed incidental logbook .
13/05	On the conservation of whale sharks (<i>Rhincodon typus</i>)	Paragraphs 7– 9	Thailand is going to enforce the law which has designed incidental logbook .
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Thailand is going to enforce the law which has designed incidental logbook .

Res. No.	Resolution	Scientific requirement	CPC progress
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Thailand is going to enforce the law which has designed incidental logbook .
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Thailand is going to enforce the law which has designed incidental logbook .
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Thailand is going to enforce the law which has designed incidental logbook .
11/04	On a regional observer scheme	Paragraph 9	Thailand report of number of vessel monitored and submits report to IOTC in accordance with Resolution 11/04.
17/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1–12	Thailand is going to enforce the law which has designed incidental logbook .
16/06	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraph 1	Thailand follows and submits Annual Report as required in the Resolution.

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