

**2017 ANNUAL REPORT TO THE ECOLOGICALLY RELATED SPECIES  
WORKING GROUP (ERSWG)**

Republic of Indonesia

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## **1. Introduction**

Southern bluefin tuna (*Thunnus maccoyii*) was caught as bycatch of Indonesia tuna longline vessel targeting bigeye tuna and yellowfin tuna operating in the Indian ocean but mostly within Indonesia Fisheries Management Area 573. Indonesia became the member of the CCSBT in April, 2008 with a membership allocation of annual catch limits of 750 mt. Based on 2015 catch monitoring program in Benoa port, as reported, SBT catch of Indonesian tuna longline fishery was 593 mt with 114 SBT-related vessels in active. This report includes information on Ecologically Related Species (ERS) of Indonesia tuna longline fisheries collected by scientific observers on-board updated to 2013-2015.

## **2. Review of SBT Fisheries**

Indonesia has developed its tuna fisheries since 1970s, but for southern bluefin tuna catch recording was initiated appropriately since 2008, and in fact that hundreds of Indonesia longline vessels had SBT catch record. During 2011-2015, Indonesia annual catch were more than its national quota, that it may be resulted from the involvement of hundreds of small-scale tuna longline vessels in this SBT fisheries. From 2015, Indonesia started to allocate quota to each company through three (3) associations, and there are 17 companies having received its own quota. In this scheme, each company has to submit the list of their vessel greater than 30 GT authorized to fish for SBT and those vessels have also to be included on the CCSBT Record of Vessel Authorized to Fish for SBT. And there are 211 tuna longline vessels greater than 30 GT have been listed as authorized vessels to fish for SBT. To support the effective implementation of this scheme, Indonesia has developed an Application System of CDS and will be fully operated from January 2015. Under this system, quota allocation for each company will be controlled automatically at the time of submission of CDS form for its validation. In this system, CDS form for validation has to be submitted this on-line system.

In addition to that, there are about 305 small-scale longline vessels (smaller than 30 GT) that are possible to catch SBT, of which 120 out of them have been included on the

CCSBT Record of Vessel Authorized to Fish for SBT. In fact, SBT is un-intended bycatch for this fleets, therefore national quota did not allocate to them due to difficulties in practical.

Annual number of Indonesia tuna longline vessels included on the CCSBT Record of Vessel Authorized to Fish for SBT is shown in the Table 1. Number of vessel is fluctuated due to validity period of their fishing permit is different each other. The fishing ground extends from 70 – 125 °E and from 0 – 35 °S. Higher CPUE were obtained below 25 °S (Figure 1).

The highest landing occurred in February and October and the lowest landing between June to August. The pattern of monthly fluctuation is similar with the 6 previous consecutive years (2010-2015). SBT being more abundant on the fishing grounds and more significant proportion of the overall tuna catch during the SBT spawning season, which is occurred during September to April

### **3. Fisheries Monitoring for each fleet**

Indonesia commenced scientific observer program in 2005, it is not exclusively to SBT fishery but to tuna fishery. Scientific observer on-board will carry out its task in accordance with the template/guideline adopted by IOTC and CCSBT. For 2015, 5 observers had deployed onboard and their coverages were 0.73%, as shown in Table 2. The low coverage due to large number of non-specific longline vessel targeting SBT, therefore to comply with minimum 5% coverage requires a lot of resources. All data collected by observer was validated by a group of scientist from Research Center of Fisheries Management and Conservation. During the trip, they observed and collected data based on the template as far as possible, such as number of catch, discard/release (dead or live), species composition, gear type, catch and effort including biological data, etc. Catch and Effort data was daily recorded in the fishing logbook and reported to the principal of base-port.

To increase data collection by observer on-board as required by RFMO such IOTC and CCSBT, since 2013 Directorate General of Capture Fisheries has established National Observer Program. Under this program, there are 6 (six) tuna longline vessels had been observed in 2015, of which the collected data need to be further validated by the scientists from Research Center of Fisheries Management and Conservation, particularly in species identification such as sharks, ray as well as another species.

### **4. Seabirds**

Total numbers, CPUE and mortality of seabirds by species incidentally caught by Indonesian longline fishery are shown in Table 3.

## **5. Other non-target species**

Total numbers, CPUE and mortality of non-target species incidentally caught by Indonesian longline fishery are shown in Table 4.

## **6. Marine Mammal and Marine Reptile**

Total numbers, CPUE and mortality of non-target species incidentally caught by Indonesian longline fishery are shown in Table 5.

## **7. Mitigation Measures to Minimize Seabird and Other Species Bycatch**

In accordance with Ministerial Regulation No. 12/2002, it is mandatory for each tuna longline vessel to implement mitigation measure to seabirds when they are fishing in south of 25 °S. The option of night setting, seabirds scaling line and weight line has become a requirement. In relation to mitigation measure on marine turtle, it is a requirement for tuna longline vessel to carry on-board a necessary equipment to appropriate release of marine turtle caught incidentally, such as de-hooker, line-cutting and scope net.

## **8. Public Relations and Education Activities**

Awareness building activity to protect ERS and bycatch such as marine turtle, seabirds and sharks, has been developed in form of printing material such as poster and leaflet. This material has been widely distributed to all stakeholders of tuna fisheries, particularly in Bali and Jakarta where SBT is commonly landed.

## **9. Information on other ERS (non-bycatch) such as prey and predator species**

Nothing

## **10. Others**

Nothing

## **11. Implementation of the IPOA-Seabirds and IPOA-Sharks**

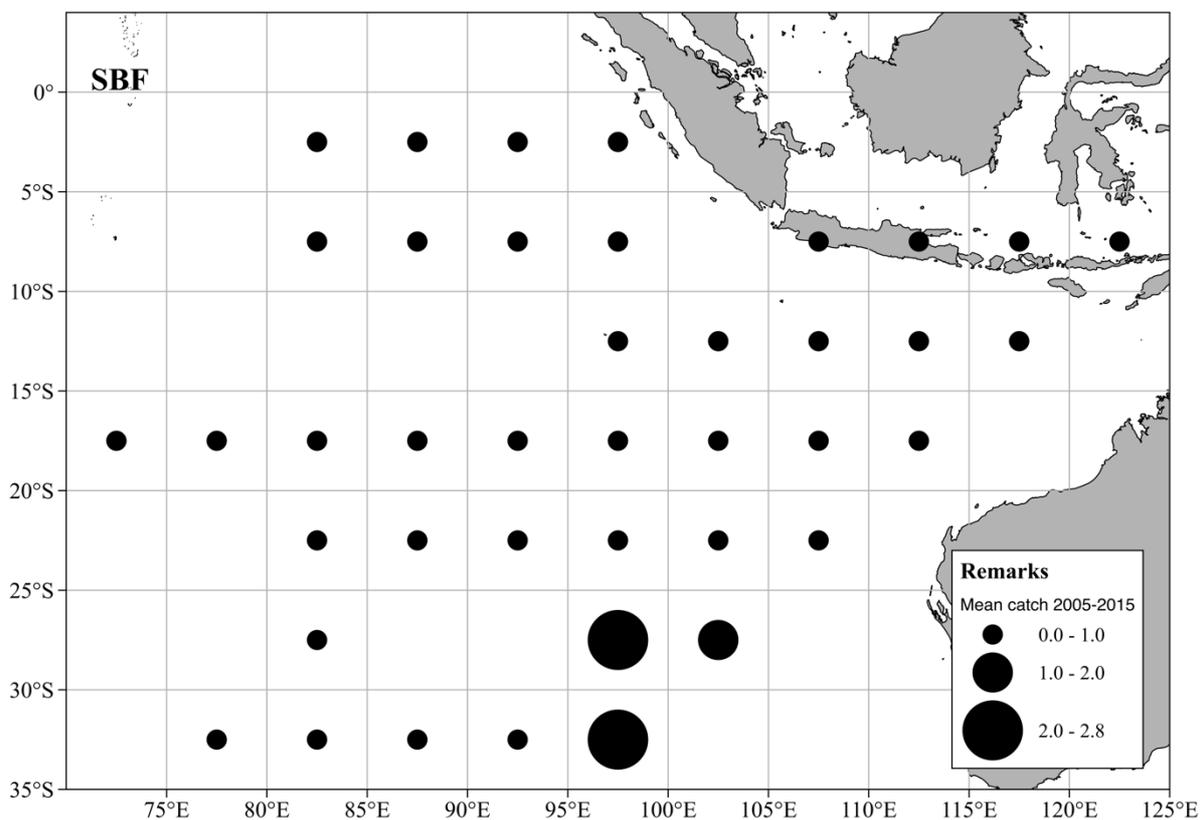
Recent progress related to the management of shark in Indonesia after establishment of National Plan of Action of the Shark (NPOA-Shark) on 10th October 2010 is the issuance of ministerial decree no 12, 2012, chapter X which regulates a management and conservation of bycatch and ecological related species on tuna fisheries. Several activities to raise the fishers' awareness on the important of sharks' resource sustainability are through workshops, seminars and producing and distribute posters which prohibit several keys species of sharks to catch. In the framework of fisheries management of sharks and rays in Indonesia, the government through the minister of marine and fisheries has issued a ministerial regulation of marine and relevant fisheries management and use of sharks and

rays in Indonesia, the latest regulations contained in the Minister of Marine and Fisheries No. 34/PERMEN-KP/2015 on the amendment of the Minister of Marine Affairs and Fisheries No. 59/PERMEN-KP/2014 concerning prohibition on the issuance of Oceanic whitetip sharks (*Carcharhinus longimanus*) and hammerhead sharks (*Sphyrna* spp.) from the territory of Republic of Indonesia out of Indonesian territory. Indonesia also established National Plan of Action (NPOA) for sharks and rays 2015-2019. Indonesia also currently in a stage of arranging national plan of action for seabird mitigation.

**Tabel 1.** Annual Number of Indonesia Longline Vessel fishing for Tuna including SBT And Annual Catch of SBT catches in the CCSBT Convention Area, 2008-2015

Year	Number of Longline Vessel	Estimated Catch (tons)
2009	438	641
2010	272	580
2011	274	769
2012	317	817
2013	386	722
2014	336	1,187
2015	114	593*

Note: \* provisional



**Figure 1.** Distribution of nominal hook rates of SBT caught by Indonesian tuna longline fisheries based on scientific observer data, 2005-2015.

**Table 2.** Observer coverages of hooks observed from the Indonesian observer program, 2009- 2015

<b>Year</b>	<b>Trips Observed</b>	<b>Effort observed (X1,000)</b>	<b>Total effort estimated (X1,000)</b>	<b>Coverage (%)</b>
2009	5	323	169,769	0.19
2010	5	220	71,808	0.31
2011	5	110	36,168	0.30
2012	6	290	91,930	0.32
2013	5	253	117,190	0.22
2014	8	194	48,888	0.40
2015	5	169	23,119	0.73

Table 3. Estimation of total seabirds caught incidentally by Indonesian tuna longline fleets from 2009-2015

Country/ Fishing Entity	Calendar Year	Fishery		CCSBT Statistical Area	Species (or group)	English	Observed Captured (number)	Observed Capture Rate	Observed Mortalities (number)	Observed Mortality Rate	Observed Live Releases	Estimated total number of mortalities
		Gear Code	Fleet Code									
<b>2009</b>												
ID	2009	LL	IDD	1	B1	Seagull	1	0.71	1	0.71	0	1
<b>2012</b>												
ID	2012	LL	IDD	1	B3	Black Albatross	3	2.00	3	2.00	0	3
ID	2012	LL	IDD	2	B3	Black Albatross	6	1.25	6	1.25	0	6
<b>2015</b>												
ID	2015	LL	IDD	1	B3	Black Albatross	7	1.58	7	1.58	0	7

Table 4. Observed of total sharks and rays caught incidentally by Indonesian tuna longline fleets from 2009-2015

Country/ Fishing Entity	Calendar Year	Fishery		CCSBT Statistical Area	Species (or group)	English	Observed Captured (number)	Observed Capture Rate	Observed Mortalities (number)	Observed Mortality Rate	Observed Live Releases	Estimated total number of mortalities
		Gear Code	Fleet Code									
<b>2009</b>												
ID	2009	LL	IDD	1	BSH	Blue shark	53	0.164	53	0.164	0	53
ID	2009	LL	IDD	1	CCB	Spinner shark	10	0.031	10	0.031	0	10
ID	2009	LL	IDD	1	GSK	Crocodile shark	47	0.145	45	0.139	2	45
ID	2009	LL	IDD	1	MSK	Mako sharks	3	0.009	3	0.009	0	3
ID	2009	LL	IDD	1	MSO	Mako sharks	9	0.028	9	0.028	0	9
ID	2009	LL	IDD	1	MSP	Mako sharks	7	0.022	7	0.022	0	7
ID	2009	LL	IDD	1	SPY	Hammerhead sharks	3	0.009	3	0.009	0	3
ID	2009	LL	IDD	1	SPZ	Hammerhead sharks	3	0.009	3	0.009	0	3
ID	2009	LL	IDD	1	SSD	Shortnose spurdog	22	0.068	22	0.068	0	22
ID	2009	LL	IDD	1	SSH	Silky Shark	10	0.031	9	0.027	1	9
ID	2009	LL	IDD	1	TRT	Thresher sharks	14	0.043	2	0.006	12	2
ID	2009	LL	IDD	1	TSK	Thresher sharks	2	0.006	2	0.006	0	2
ID	2009	LL	IDD	1	TSP	Thresher sharks	2	0.006	2	0.006	0	2

ID	2009	LL	IDD	1	TSS	Thresher sharks	1	0.003	1	0.003	0	1
<b>B. RAYS</b>												
ID	2009	LL	IDD	1	DAS	Pelagic stingrays	697	2.157	687	2.126	1	687
ID	2009	LL	IDD	1	DAV	Pelagic stingrays	505	1.563	147	0.455	358	147
2010												
<b>A. SHARKS</b>												
ID	2010	LL	IDD	1	BSH	Blue shark	80	0.363	80	0.363	0	80
ID	2010	LL	IDD	1	CSK	Crocodile shark	305	1.384	268	1.216	37	268
ID	2010	LL	IDD	1	MSK	Mako sharks	3	0.014	3	0.014	0	3
ID	2010	LL	IDD	1	MSO	Mako sharks	1	0.005	1	0.005	0	1
ID	2010	LL	IDD	1	SPY	Hammerhead sharks	1	0.005	1	0.005	0	1
ID	2010	LL	IDD	1	SSH	Silky Shark	3	0.014	3	0.014	0	3
ID	2010	LL	IDD	1	TRT	Thresher Sharks	25	0.113	5	0.022	20	5
<b>B. RAYS</b>												
ID	2010	LL	IDD	1	DAS	Pelagic stingrays	237	1.075	234	1.061	3	234
ID	2010	LL	IDD	1	DAV	Pelagic stingrays	310	1.406	80	0.362	230	80
2011												
<b>A. SHARKS</b>												
ID	2011	LL	IDD	1	BSH	Blue shark	4	0.036	4	0.036	0	4
ID	2011	LL	IDD	1	CSK	Crocodile shark	69	0.625	46	0.417	23	46
ID	2011	LL	IDD	1	SPL	Hammerhead sharks	1	0.009	1	0.009	0	1
ID	2011	LL	IDD	1	TSK	Thresher sharks	1	0.009	1	0.009	1	1
<b>B. RAYS</b>												
ID	2011	LL	IDD	1	DAS	Pelagic stingrays	4	0.036	1	0.009	3	1
ID	2011	LL	IDD	1	DAV	Pelagic stingrays	463	4.194	297	2.690	166	297
2012												
<b>A. SHARKS</b>												
ID	2012	LL	IDD	1	BSH	Blue shark	9	0.078	9	0.078	0	9
ID	2012	LL	IDD	1	CSK	Crocodile shark	17	0.147	17	0.147	0	17
ID	2012	LL	IDD	1	MSO	Mako sharks	2	0.017	2	0.017	0	2
ID	2012	LL	IDD	1	MSP	Mako sharks	1	0.009	1	0.009	0	1

ID	2012	LL	IDD	1	TRT	Thresher sharks	2	0.017	1	0.009	1	1
ID	2012	LL	IDD	1	TSK	Thresher sharks	2	0.017	2	0.017	0	2
ID	2012	LL	IDD	1	TSS	Thresher sharks	2	0.017	2	0.017	0	2
ID	2012	LL	IDD	2	BSH	Blue shark	372	2.135	372	2.135	0	372
ID	2012	LL	IDD	2	CSK	Crocodile shark	140	0.803	140	0.803	0	140
ID	2012	LL	IDD	2	MSK	Mako sharks	9	0.052	9	0.052	0	9
ID	2012	LL	IDD	2	SPY	Hammerhead sharks	2	0.011	2	0.011	0	2
ID	2012	LL	IDD	2	TSP	Thresher sharks	3	0.017	3	0.017	0	3
<b>B. RAYS</b>												
ID	2012	LL	IDD	1	DAS	Pelagic stingray	203	1.165	199	1.142	4	199
ID	2012	LL	IDD	1	DAV	Pelagic stingray	39	0.224	30	0.172	9	30
ID	2012	LL	IDD	2	DAS	Pelagic stingray	4	0.034	4	0.034	0	4
ID	2012	LL	IDD	2	DAV	Pelagic stingray	165	1.422	161	1.388	4	161

2013

<b>A. SHARKS</b>												
ID	2013	LL	IDD	1	BSH	Blue shark	39	0.154	39	0.154	0	39
ID	2013	LL	IDD	1	CCB	Spinner shark	4	0.016	4	0.016	0	4
ID	2013	LL	IDD	1	CSK	Crocodile shark	53	0.210	53	0.210	0	53
ID	2013	LL	IDD	1	MSK	Mako sharks	1	0.004	1	0.004	0	1
ID	2013	LL	IDD	1	MSSO	Mako sharks	2	0.008	2	0.008	0	2
ID	2013	LL	IDD	1	SPY	Hammerhead sharks	1	0.004	1	0.004	0	1
ID	2013	LL	IDD	1	TSK	Thresher sharks	1	0.004	1	0.004	0	1
ID	2013	LL	IDD	1	TSP	Thresher sharks	1	0.004	1	0.004	0	1
ID	2013	LL	IDD	1	TSS	Thresher sharks	1	0.004	1	0.004	0	1
<b>B. RAYS</b>												
ID	2013	LL	IDD	1	DAS	Pelagic stingray	406	1.605	400	1.582	6	400
ID	2013	LL	IDD	1	DAV	Pelagic stingray	590	2.333	337	1.332	253	337

2014

<b>A. SHARKS</b>												
ID	2014	LL	IDD	1	BSH	Blue shark	67	0.346	67	0.346	0	67
ID	2014	LL	IDD	1	CCB	Spinner shark	17	0.088	17	0.088	0	17

ID	2014	LL	IDD	1	CSK	Crocodile shark	74	0.382	74	0.382	0	74
ID	2014	LL	IDD	1	MSO	Mako sharks	2	0.010	2	0.010	0	2
ID	2014	LL	IDD	1	SSH	Silky Shark	1	0.005	1	0.005	0	1
ID	2014	LL	IDD	1	TSK	Thresher sharks	2	0.010	2	0.010	0	2
ID	2014	LL	IDD	1	TSS	Thresher sharks	1	0.005	1	0.005	0	1
<b>B. RAYS</b>												
ID	2014	LL	IDD	1	DAS	Pelagic stingray	278	1.435	278	1.435	0	278
ID	2014	LL	IDD	1	DAV	Pelagic stingray	234	1.208	168	0.867	66	168
2015												
<b>A. SHARKS</b>												
ID	2015	LL	IDD	1	BSH	Blue shark	137	0.812	137	0.812	0	137
ID	2015	LL	IDD	1	CCB	Spinner shark	1	0.006	1	0.006	0	1
ID	2015	LL	IDD	1	CCL	Common Blacktip Shark	1	0.006	1	0.006	0	1
ID	2015	LL	IDD	1	CSK	Crocodile shark	108	0.640	108	0.640	0	108
ID	2015	LL	IDD	1	MSO	Mako sharks	1	0.006	1	0.006	0	1
ID	2015	LL	IDD	1	SPL	Hammerhead sharks	1	0.006	1	0.006	0	1
ID	2015	LL	IDD	1	TSK	Thresher sharks	6	0.036	6	0.036	0	6
<b>B. RAYS</b>												
ID	2015	LL	IDD	1	DAS	Pelagic stingray	201	1.191	200	1.185	1	200
ID	2015	LL	IDD	1	DAV	Pelagic stingray	5	0.030	5	0.030	0	5

Table 5. Estimation of total sea turtles caught incidentally by Indonesian tuna longline fleets from 2009-2015

Country/ Fishing Entity	Calendar Year	Fishery		CCSBT Statistical Area	Species (or group)	English	Observed Captured (number)	Observed Capture Rate	Observed Mortalities (number)	Observed Mortality Rate	Observed Live Releases	Estimated total number of mortalities
		Gear Code	Fleet Code									
2009												
ID	2009	LL	IDD	1	LKV	Olive ridley turtle	2	0.006	1	0.006	1	1
ID	2009	LL	IDD	1	TTH	Hawksbill turtle	2	0.006	1	0.006	1	1
ID	2009	LL	IDD	1	TTX	Marine turtles nei	1	0.003	0	0.000	1	0
ID	2009	LL	IDD	1	TUG	Green turtle	7	0.022	4	0.034	3	4

2010												
ID	2010	LL	IDD	1	LKV	Olive ridley turtle	7	0.032	6	0.027	1	6
2011												
ID	2011	LL	IDD	1	LKV	Olive ridley turtle	1	0.009	1	0.009	0	1
2012												
ID	2012	LL	IDD	1	LKV	Olive ridley turtle	5	0.017	3	0.010	2	3
2013												
ID	2013	LL	IDD	1	LKV	Olive ridley turtle	6	0.024	5	0.020	1	5
2014												
ID	2014	LL	IDD	1	LKV	Olive ridley turtle	12	0.062	3	0.015	9	3
2015												
ID	2015	LL	IDD	1	LKV	Olive ridley turtle	1	0.006	1	0.006	0	1