Indian Ocean Tuna Commission
Commission des Thons de l'Ocean Indien
iotc ctoi

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GUIDELINES FOR THE PREPARATION OF NATIONAL REPORTS TO THE IOTC SCIENTIFIC COMMITTEE IN 2016

The National Report is due to be submitted no later than 15 days prior to the start of the annual regular session of the Scientific Committee.

DEADLINE: 16 NOVEMBER 2016

Purpose: To provide relevant information to the Scientific Committee on fishing activities of Contracting Parties and Cooperating Non-Contracting Parties operating in the IOTC area of competence. The report should include all fishing activities for species under the IOTC mandate as well as sharks and other byproduct/ bycatch species as required by the IOTC Agreement and decisions by the Commission.

NOTE: The submission of a National Report is **Mandatory**, irrespective if a CPC intends on attending the annual meeting of the Scientific Committee.

Explanatory note

This report is intended to provide a summary of the main features of the tuna and billfish fisheries for Contracting Parties and Cooperating Non-Contracting Parties. As such, it does not replace the need for submission of data according to Resolution 15/02 *Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)*

Mandatory versus Desirable information

National Reports must include all headings as noted in the template below as [Mandatory]. Where data/information is not available for a given [Mandatory] heading, the reason why it is not available should be clearly stated. These mandatory fields for the *National Reports* were agreed to be the Scientific Committee in 2010.

Where available, CPCs are encouraged to provide additional information under the headings shown as [Desirable].

For clarification on minimum reporting requirements for the National Report, please contact the IOTC Secretariat (secretariat@iotc.org).

NOTE

Please use the template below when preparing your National Report. Simply delete this explanatory page and add your own cover page/preliminaries if needed.
Please also delete any text shown in red below before submitting your National Report.

Sri Lanka National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2016

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

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 2016, final data for the 2015 calendar year must be provided to the Secretariat by 30 June 2016)	YES 29/06/2016
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 2016, preliminary data for the 2015 calendar year was provided to the IOTC Secretariat by 30 June 2016). **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 2016, final data for the 2015 calendar year must be provided to the Secretariat by 30 December 2016).	YES 29/06/2016
If no, please indicate the reason(s) and intended actions:	

Executive Summary [Mandatory]

Abstract

The total production of tuna and tuna like species in Lanka in for year 2015 was 89,878t . The catch shows 14% decline than that of 2014. 78% of the catch was from EEZ and 22% was from the high seas. Skipjack tuna dominated the catch amounting to 45% (40,340t) while yellow fin tuna(28%) was the second most dominating species. The bigeye tuna catch was relatively low (3%). Bill fish were the second most group of fish which contributed 12% to the catch where sword fish was the dominating species. More than 25% drop in frigate tuna catch has been observed. The total shark catch was 1248t showing further decline than that of in 2014 and silky sharks are prominent in the catch. Over 4000 multi day boats were engaged in tuna fishing, of where 1388 boats were operated at high seas. 98% of the offshore and high seas operating multi day boats are in the length range of 10- 15m in length. Long line and the gill net are the major fishing gears used. 34% of High seas operating boats use only the long line while rest of the boats use Long line gillnet combination. 1538 numbers of high seas operating vessels were fitted with VMS as at October 2016. The catch data collection has been improved and the log books has already been made legally mandatory for all multiday boats. The VMS data are being used to detect IUU fishing and crosscheck the accuracy of data provided in the logbooks. Capacity building program for enumerators and awareness for fishers to improve the data collection and reporting has been continuously carried out during the year 2015. All endangered shark species are protected under regulations and NPOA-Sharks is under implementation. It was impossible to deploy observers on majority of the fleet due to the space constraints and safety

Contents [Desirable]

List of Tables and Figures

1. BACKGROUND/GENERAL FISHERY INFORMATION [MANDATORY]

Tuna fishery in Sri Lanka occurs broadly in the coastal seas, within EEZ and limited amount in high-seas areas, beyond EEZ. The traditional coastal fishing remain operating mainly targeting neritic tuna and associated fish such as carangids within continental shelf and slope areas of 40km distance from the shore. The offshore fisheries are confined to the area beyond the continental shelf up to the 200 nm while High seas fishing occurs beyond EEZ and in both conditions the target fisher is tuna.

The fishing fleet consists in array of size but as a whole all are small scale fishing boats of 6-24m length range. More than 99% crafts are below 15m and do not have the line or net hauling devices. Limited deck space and the manual operation of fishing gears have limit the fishing capacity of most boats. Fleet of size range of 8m to 24m inboard motor boats generally operate in offshore and high sea, boats of 5m-8m outboard motor and few mechanized traditional crafts basically engaged in coastal fishing for large pelagic. Out of the registered 5023 number of large pelagic fishing boats aroundin 789 boats were engaged one day fishing operations and about 874 boats conducted multiday fishing within the EEZ of Sri Lanka. Only the vessels >10.3m in length were permitted to engage in high-seas fishing. Thereby, 1603 boats have been obtained high-seas fishing operation license for year 2015 and only 1577 boats operated in high seas and deep sea offshore areas within EEZ .

Large-mesh gillnet (GN) was widely used fishing gear, 53% of the total effort in large pelagic fisheries targeting skipjack and yellow fin tuna. Ring net recently developed for catching neritic tuna and associated fish schools in especially coastal seas has gained popularity among coastal fishermen in south, southwest and east and sometimes among offshore fishermen during poor fishing months and they contributed 20% to the total effort. However, operation of ring nets has been banned for some time to resolve the conflict among different user groups. Gillnet-long line combination contributed only 17%. These boats operate one gear at a time and carried 20-25 pieces of gillnets of 5" or 6" stretched mesh and around 200 -700 longline hooks. However, the number of pieces of nets and the number of hooks varied depending on the size of the boat. Around 10 % fishing fleets exclusively employed for longline, with a larger number of hooks per set (1000 hooks), which have mechanized the gear operation by installing line-haulers and are able to reach fishing depth-range of 70 m to 100 m, when fully settled. The other fishing gears being used in lesser extent were handline and trolling.

The use of fishing gear is determined based on the availability of fish, climate condition, the availability of the bait, crew members skills etc. Indian mackerel, flying fish, milkfish and frozen squid are generally used as the bait in long lines. Offshore and the high-seas catch dominated by

skipjack tuna (*Katsuwonuspelamis*), yellowfin tuna (*Thunnus albacores*), neritic tuna species and followed by billfish, seerfish and sharks and other bony fish.

Fishing activities are mainly carried out within EEZ and there are seasonal differences due to monsoon pattern of the country. Fishing in coastal and offshore area are more success in just before and after monsoon: April-May and August-October in the west coast and September – November and March to May in the east coast. Coastal fishing is more seasonal activity and conducts mainly with 6-7meters FRP boats/ out board motor boats and 7-10 meters 3.5GT in board motor boats. The trip length of Offshore fishing trip of multiday boats varies from 5-30 days or sometimes more. Duration of the fishing tripvaries with the gear used. If successful long line operations took place, the catch landed early targeting the export market. They carryblock ice in storing of the catch. The boats use gillnets under take long trips sometimes up to 30 days or more and preserve the early catch by salting and sun drying and the late catch in ice. The weather conditions, small size of the boat and inadequate safety measures on board also influences the trip duration.

Development of Offshore and high seas fishing is one of the main fishery policy in the recent past. The legal frame work has been strengthen to expand the high seas fisheries. As such entry of more larger vessels with necessary technological inputs such as chilled seawater (CSW) or refrigerated sea water (RSW) systems, line haulers and other equipment, other facilities onboard are being encouraged. This would be achieved through expanding and upgrading the structure of fishing fleet in both the numbers and in size within the capacities of the proposed FDP.

However, there is an issue in the industry regarding the high operating cost due to the fuel price, and the poor catch. As a result substantial number of vessels did make limited trips and most of the time the boats are being anchored in harbours although they have obtained an operation license in high sea. According to the fishers the fuel cost represent more than 40% of the operational costs fishing in the offshore and high seas

2. FLEET STRUCTURE [MANDATORY]

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Table 1(a) National fleet structure, by gear type, including vessel size

Boat Type	Total No. Registered for large pelagic fishery	Vessels operated within EEZ	Vessels operated beyond EEZ		Gears used	Duration of Operation
			Authorized	Active		
8m-10m	789	789	Nil	Nil	LL,GI, LL/GI,PSRN,HL,TS	One day
10m-10.3m	1750	1750	Nil	Nil	LL,GI, LL/GI PSRN,HL,TS	5-30 or more days
10.3m - 15m	2458	874	1584	1558	LL, GI, LL/GI	5-30 or more days
15m-24m	25	07	18	18	LL	
> 24m	01	Nil	01	01	LL	Three months
	5023	3420	1603	1577	-	-

Source: Vessel Registry- DFAR

Out of the registered 5023 number of large pelagic fishing boats around 789 boats were engaged in one day fishing operations and about 1750 boats conducted multiday fishing within the EEZ of Sri Lanka. Only the vessels >10.3m in length were permitted to engage in high-seas fishing

combined with offshore limits of the EEZ.Although1603 boats have been obtained high-seas fishing operation license for year 2015 and only 1577 boats operated at high seas.

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

Table 1 (b): Number of vessels operating in the High seas for most recent five years in Sri Lanka

Boat Type	**2011**	**2012**		**2013**		**2014**		**2015**	
		Authorized	Active	Authorized	Active	Authorized	Active	Authorized	Active
10.3-15m	3915	4234	2460	2440	2218	1594	1594	1584	1558
15m-24m	19	23	23	14	14	14	14	18	18
>2 4m	02	00	00	09	09	07	07	01	01
Total	3936	4257	**2483**	2463	**2241**	2470	**1615**	1603	**1577**

Source: Vessel Registry- DFAR

(i) Until 2012 there was no system to identify the actively operating boats for tuna fishery in high seas . All vessels those renew the annual registration was taken as active. With the commencement of logbook system in 2012 it is enable to identify the active boats correctly.

(ii) From year 2013 Sri Lanka restricted the vessels authorized for tuna fishing in high seas only for the vessels >10.3m (34 feet). As a result from the total 4294 multiday vessels operated in Sri Lanka, 2463 vessels obtained authorization or licence to operate in high seas and only 2241 vessels were detected fish in high seas from Log book returns .

(iii)With the enforcement of High seas fishing operation regulations only 1615 boats were active in Year 2014 out of the total 2470 boats obtained high sea operation licence.

(iv)In 2015 out of the 1603 authorized to operate in high seas and only 1557 vessels were active. Active

Note: Refer the Table 1(a) for the Number of vessels operating in the IOTC area of competence by gear type and size for year 2015

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

Table 2. Annual catch and effort by gear and primary species in the IOTC area of competence from 2011 to 2013, Include a 'not elsewhere indicated – NEI' category for all other catch combined. [Note: Multiple tables may be required e.g. **Table2a, 2b, 2c).[Mandatory]**

Table 2(a) Annual catch and effort by gear and primary species in the IOTC area of competence.

Species	**FAO codes**	**2011**	**2012**	**2013**	**GEARS**
Thunnus albacores	YFT	18,709	28,376	23,993	*GI,LLGI,LLTS,HL,PSRN,PSFS,TL*
Katsuwonuspelamis	SKJ	50,355	47,449	54,430	*GI,LLGI,LLTS,HL,PSRN,PSFS,TL*
Euthynnusaffinis	KAW	1,529	2,919	2,012	*GI,LLGI,LLTS,HL,PSRN,TL GN,HL*
Auxisthazard	FRI	5,491	5,096	4,630	*GI,LLGI,LLTS,HL,PSRN,TLGN,H*
Auxisrochei	BLT	3,644	4,538	4,434	*GI,LLGI,HL,PSRN,TL GN,HL GN*
Thunnusobesus	BET	1,285	1,691	1,573	GI, LLGI, LLTS,
Other tuna	TUX			-	GN

Total tuna		**81,013**	**90,069**	**91,072**	
Scomberomoruscommerson	COM	675	235	529	GI, LLGI, LLTS, HL, PSRN, TL
Acanthocybiumsolandri	WAH	126	872	499	GI, LLGI, LLTS, HL, PSRN, TL
Scomberomorusguttatus	GUT	11	14	19	GI, LLTS,HL,TL
Total seer		**812**	**1121**	**1,047**	
Blue marlin	MAR	5,385	1,818	653	GI, LLGI, LLTS
Black marlin	MAR	894	3,052	2,288	GI, LLGI, LLTS, TL
Tetrapturusaudax	-	-	-	54	**GI, LLGI, LLTS,**
Sail fish	SFA	4.448	3,078	4,152	GI, LLGI, LLTS, HL, PSRN, TL
Sword fish	SWO	3,309	3,843	5,534	GI,LLGI, LLTS, HL, PSRN
Bill fish unidentified	-	-	-	120	
Total Billfish		**14,036**	**11,791**	**12,800**	
Carcharhinusfalciformis	FAL	2913	1,138	1247	GI, LLGI, LLTS, PSRN
Prionaceglauca	BSH	265	284	183	GI, LLGI, LLTS, HL, PSRN
Carcharhinuslongimanus	OCS	268	149	41	GI, LLGI, LLTS
Isuruspaucus	LAM	35.3	52	70	GI, LLGI, LLTS
Isurusoxyrinchus		10.5	63	56	GI, LLGI, LLTS
Alopiassupercilliosus		330	465	00	-
Alopiaspelagicus	ALO	10	328	00	-
Sphyrnalewini	HAM	110.8	71	119	GI, LLGI, LLTS, PSRN
Other sharks	SKA	439.3	31	00	GI, LLGI, LLTS,
Carcharhinussorrah	-	-	-	19	GI, LLGI, LLTS,
Sphyrnazygaena	-	-	-	61	GI, LLGI, LLTS,
Spyrnamokarran	-	-	-	8	GI, LLGI, LLTS,
Total shark		**4382.3**	**2581**	**1804**	
Manta birosrtis	MNT	1157	744	669	GI, LLGI, LLTS, HL,
Devil ray	RMM	-	-	759	GI, LLGI, LLTS, HL
Eagle ray	EGR	-	-	3	GI, LLGI, LLTS
Total rays		**1157**	**744**	**1431**	
Other bony fish(NEI)		11,108	28,8974	00	*GI,LLGI,LLTS,HL,PSRN,TL*
Common dolphin fish	DOX	Included to other bony fish		1,204	
Carangids (NEI)	CGX			292	
Trigger fish (NEI)				13,917	
Indian mackerel (NEI)				24	PSFS
Total NEI*		**00**	**00**	**15,436**	
Total Catch		**112,508**	**135,203**	**123,896**	

Source: PELAGOS database(NARA), land based sampling database (DFAR/MFARD)

Note: The gear used or the combination of gear used to exploit large pelagic species are summarized in Table 2 (a) for recent three yearsupto 2013. As it is a multi-species and multi-gear fishery and the gear/the combination of gear used vary seasonally and opportunistic manner, it is difficult to standardize fishing effort to a standard gear. Although the log book contains three separate data recording sheets for longline, gillnet and for any other type of gears, the completed data sheets returned were not up to the standard for clear demarcation of gear related catch identification up to year 2013.DFAR field officers worked together to improve the log book data entry by conducting numerous workshops. As a result after the year2014 it was able to provide the fishing information separately by gear by analyzing a sample of properly filled log book data. The data reporting has been further improved in 2015. The catch and effort data by species for year 2014&2015 as follows..

The fishing information separately by gear and area (within EEZ and High sea)s by analyzing data recorded of boats sampled at port through sampling programme and same boats submitted properly filled log book data and the results given in Table 2(b) ,2(c) and 2(d).

Table 2(b) ESTIMATED CATCH **BEYOND EEZ** BY SPECIES AND GEAR FOR YEAR 2014 & 2015(MT)

Species		Gillnet		Longline		Ringnet		Total	
		2014	2015	2014	2015	2014	2015	2014	2015
TUNAS		**10,942**	**7,605**	**10,603**	**7,937**	**1,287.4**	1,252	**22,832**	**16,794**
Skipjack	SKJ	9144.2	6320	222.2	191	570	751	9936.4	7263
Yellowfin	YFT	1589.7	1131	8624.9	5934	167.1	I09	10381.7	7374
Bigeye	BET	11	51	1731.9	1763	0	37	1742.9	1851
Frigate tuna	FRI	36	46	0	0.2	25.1	266	61.1	312
Bullet	BLT	42	5.5	0	8	519.2	25	561.2	38
Kawakawa	KAW	117	46	24	1.3	6	51	147	98
Albacore	TUX	2	4.3	0	40.5	0	13	2	58
BILLFISH		580	**226**	**3,006**	**1,580**	**2**	6.9	**3,588**	**1,813**
Sword fish	SWO	136	69	1,615	760	-	4.7	1,751	834
Sailfish	SFA	208	81	378	151	2	0.4	588	232
Black Marlin	BLM	169	51	968	432	0	-	1,137	483
Blue Marlin	BUM	47	1.6	33.9	233	0	-	83	234
Marlin(unidentified)	MAR	17	23.5	0	2.6	0	1.8	17	27
Striped marlin	MLS	3	0.1	11	2.8	0	-	14	3
Short-billed spearfish	SSP	0	0	0	-	0	-	-	-
SEERFISH		444.1	**261.5**	**4.2**	**7.1**	**0**	12.5	**448**	**281**
Wahoo	WAH	421.1	260	1	6.8	0	10.9	428	277.7
Spanish Mackerel	COM	21	1.5	3.2	0.3	0	1.6	24	3.4
Other Seer	KGX	2	-	0	-	0	-		-
SHARKS		131	**185**	**352**	**181.5**	**2**	3.1	**485**	**369**
Silky Shark	FAL	15	114	187	106	2	1.4	204	221.4
Blue Shark	BSH	48	24.7	74	42	0	0.2	122	67
Oceanic Whitetip shark	OCS	0	-	42	0.1	0		42	0.1
Shortfinmacko	SMA	5	6.6	27.1	12.4	0	-	32	19
Scallop hammerhead	SPL	10	10	10	10	0	-	20	20
Smooth hammerhead	SPZ	0	15.6	11	9	0	-	11	24.6
Spot tail	SPT	0	-	0	-	0	-	-	-
Longfinmacko	LAM	2	1.5	0	-	0	-	2	1.5
Great hammerhead	GRH	0	-	0	-	0	-	-	-
Other sharks	SKA	51	12.5	1	2	0	1.5	52	15.8
Whale shark	RHN	0	-	0		0	-	-	
Rays &Skates		173	**20**	**116**	**0.2**	**0**	**0.3**	**289**	**20.5**
Manta Ray	MNT	26	4.9	70	0.2	0	0.3	96	5.4
Devil Ray	RMM	121	15.1	46	-	0	-	167	15.1
Eagle Ray	EGR	0	-	0	-	0	-	-	-
Other skates	SKA	26	-	0	-	0	-	26	-
OTHER		**335**	**216**	**41**	**19**	**2493.5**	**7,218.5**	**2,869**	**7,453**
Mackerel scad	MSD	140	184	0	-	1516	5603.7	1656	5788
Dolfin fish	DOX	42	18.6	40	19.3	144	114.2	226	152
Indian mackerels	RAX	0	-	0	-	0	-	0	
Needle cuttle fish	IAX	0	-	1	-	0	0.5	1	0.5
Rainbow runner	RWA	5	4	0	-	0	570.2	0	575
Barracuda	BAR	0	-	0	-	0	-	0	-
Bigeyescad	BIS	0	-	0	--	0	-	0	-
Wolf-herring	DOB	2	-	0	-	0	-	2	-
Flying fish	EXO	0	-	0	-	0	-	0	-
Other bait types	OTH	0		0	-	0	-	0	-
Other bony fish (NEI)	MZZ	146	9.4	0	-	833.5	929.9	979.5	939
GRAND TOTAL		**12,605**	**8,513**	**14,122**	**9,725**	**3,785**	**8,493**	**30,512**	**26,731**

Source: PELAGOS database(NARA), log book database-(DFAR) & land based sampling database (DFAR/MFARD**)**

Table 2(c)ESTIMATED CATCH **WITHIN EEZ** BY SPECIES AND GEAR FOR YEAR 2014 &2015(MT)

Species	Gillnet	Longline	Ringnet	Handline	Trolling	Total

		2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
TUNAS	**Code**	**43,824**	28,472	**9824**	**12,772**	**12127**	**15,843**	**533**	**341**	**96**	**346**	**66405**	**57,777**
Skipjack	SKJ	32,185	21909	588	1,072	5915	9,578.8	7.3	42	20	137	38715	32,739
Yellowfin	YFT	6,789	5,074	8360	8,924	2455	3,424	484	208	58	204	18146	17,834
Bigeye	BET	75	18	687	2,664	56	2	38	77	-	-	856	2,761
Frigate tuna	FRI	2,232	141	-	-	1933	520	0.2	7	12	-	4177	668
Bullet	BLT	1,684	764	169	10	1474	1,910	0.2	0.2	-	0.2	3327	2,683
Kawakawa	KAW	853	557	13	6	270	409	4	6	6	5	1146	984.3
Other tuna	TUX	5	9	7	9-	25	-	-	0.2	-	-	37	105
BILLFISH		**2115**	2,2434	**4424**	**7,207**	**10**	**17**	**67**	**96**	**19**	**9**	**6635**	**9,573**
Sword fish	SWO	434	447	2087	3,739	7	6	9	45	0	-	2537	4,238
Sailfish	SFA	1013	1,124	685	579	3	3	24	7	19	4	1745	1,717
Black Marlin	BLM	510	419	1277	2,447	-	4	32	38	-	5	1819	2,914
Blue Marlin	BUM	106	198	124	280		4	0.1	5	-	-	230	488
Marlin(unidentified)	MAR	50	51	247	159	-	-	0.2	-	-	-	297	211
Striped marlin	MLS	1	2.5	4	2.2	-	-	1	-	-	-	6	5
Short-billed spearfish	SSP	1.3	-	-	-	-	-	-	-	-	-	1.3	-
SEERFISH		**736**	1,190	**33**	**59**	**3**	**147**	**146**	**16**	**3**	**1.3**	**922**	**1523**
Wahoo	WAH	415	92	24	27	-	149	72	2.3	1	1.0	512	272
Spanish Mackerel	COM	253	990	9	32	2	0.2	52	10	2	0.3	318	1,032
Other Seer	KGX	68.4	108		-	1	-	22	3.2	-	-	91	219
SHARKS		**368**	241	**707**	**577**	**36**	**45**	**15.5**	**1.0**	**0**	**-**	**1126**	**864**
Silky Shark	FAL	254	135	613	348	36	45	15	0.8	-	-	918	529
Blue Shark	BSH	35	15	46	124	-	-	-	-	-	-	81	139
Oceanic Whitetip shark	OCS	23	46	13	41	-	-	-	-	-	-	36	87
Shortfinmacko	SMA	6.2	6.1	3	23	-	-	-	-	-	-	9	29
Scallop hammerhead	SPL	4	5	9	17	-	-	-	-	-	-	13	22
Smooth hammerhead	SPZ	7	4	-	16	-	-	-	-	-	-	7	20
Spot tail	SPT	10	-	-	-	-	-	-	-	-	-	10	-
Longfinmacko	LAM	4.2	3.6	8	4.5	-	-	-	-	-	-	12	8
Great hammerhead	GRH	2.4	4.7	2	-	-	-	-	-	-	-	4.4	4.7
Other sharks	SKA	22.2	1.0	13	3.0	-	-	0.4	0.2	-	-	35.6	4.2
Whale shark	RHN	-	2.4	-	-	-	-	-	-	-	-	-	2.4
Rays &Skates		**751.5**	**842.6**	**100.1**	**116**	**0**	**1.1**	**4.8**	**5.6**	**0**	**-**	**856.4**	**965**
Manta Ray	MNT	256	278	61	15.2	-	-	0.9	--	-	-	318	294
Devil Ray	RMM	399	563	39	101	-	1.1	2.8	2.4	0	-	441	667
Eagle Ray	EGR	1.2	1.6	-	-	-	-	0	-	-	-	1.2	1.6
Other skates	SKA	95	17.2	-	-	-	-	1.1	3.1	-	-	96	20
OTHER		**882**	**1,5671**	**374**	**487**	**15493**	**22,186**	**992**	**281**	**55**	**1.1**	**17797**	**24,523**
Mackerel scad	MSD	312	8	75	-	7041	6,873	218	-	-	-	7646	6,881
Dolfin fish	DOX	60	124.9	206	239	1970	1,721	54	3.2	15	-	2305	2,090
Indian mackerels	RAX	72	-	-	-	614	-	-	-	-	-	686	-
Needle cuttle fish	IAX	7	-	-	-	-	-	125	-	-	-	132	-
Rainbow runner	RWA	0.2	-	-	-	1232	-	-	-	-	-	1232	-
Barracuda	BAR	-	-	-	-	-	-	6.6	-	-	-	6.6	-
Bigeyescad	BIS	-	-	-	-	-	-	16.6	-	-	-	16.6	-
Wolf-herring	DOB	-	-	-	-	-	-	-	-	-	-	-	-
Flying fish	EXO	-	-	-	-	40	-	-	-	-	-	40	
Carangids	CGX	-	207		84	-	0.2	-	86.0	-	0.3	-	377
Other bait types	OTH	-	-	-	5.0	193	-	-	-	-	-	193	5.0
Other bony fish (NEI)	MZZ	431	1,227	94	159	4403	13,591	571	192	40	0.1	5540	15,169
Grand total		**48,677**	**34,557**	**15,463**	**21,219**	**27,669**	**38,243**	**1,759**	**741**	**173**	**358**	**93,743**	**95,120**

Source: PELAGOS database(NARA), log book database-(DFAR) & land based sampling database (DFAR/MFARD)

Table 2 (d)TOTAL ESTIMATED CATCH(EEZ+High seas) BY SPECIES AND GEAR FOR YEAR 2014 &2015 (MT)

Species		Gillnet (2015)	Longline(2015)	Ringnet (2015)	Handline (2015)	Trolling (2015)	Total	
							2015	2014
TUNAS	**Codes**	**36,080**	**20,709**	**17,096**	**341.6**	**346**	**74,573**	89,238

Skipjack	SKJ	28,230	1263	10,329	42.2	137.2	40,001	48,652
Yellowfin	YFT	6,205	14,858	3,533	208.0	204.6	25,009	28,528
Bigeye	BET	69	4,427	39	77.0	-	4,612	2,598
Frigate tuna	FRI	187	0.2	786	7.3	-	980	4,239
Bullet	BLT	769	18	1,935	0.2	0.2	2,722	3,889
Kawakawa	KAW	603	7	460	6.7	4.9	1,082	1,293
Albacore	ALB	4.3	40.5	13	0.2	-	57	-
Other tuna	TUX	13	96	-	-	-	109	39
BILLFISH		2,470	8,787	24.2	96.3	9.0	11,386	10,224
Sword fish	SWO	517	4,499	10.6	45.5	-	5,072	4,288
Sailfish	SFA	1,205	730	3.8	7.0	3.7	1,949	2,333
Black Marlin	BLM	470	2,878	4	38.7	5.3	3,397	2,957
Blue Marlin	BUM	200	513	4	5.1	-	722	311
Marlin(unidentified)	MAR	75	161	2	-	-	238	314
Striped marlin	MLS	2.6	5	-	-	-	7.6	20
Short-billed spearfish	SSP	-	-	-	-	-	-	1
SEERFISH		1451	66	162	15.9	1.3	1697	1370
Wahoo	WAH	352	34	160	2.3	1.0	549	935
Spanish Mackerel	COM	991	32	1.8	10.4	0.3	1,036	342
Other Seer	KGX	108	-	-	3.2	-	111	93
SHARKS		426	759	48	1.0	-	1214	1612
Silky Shark	FAL	249	454	46	1.0	-	750	1122
Blue Shark	BSH	40	166	0.2	0.8	-	207	203
Oceanic Whitetip shark	OCS	46	41.5	-	-	-	87	78
Shortfinmacko	SMA	12.7	36	-	-	-	49	41
Scallop hammerhead	SPL	15.2	27	-	-	-	42	33
Smooth hammerhead	SPZ	19.6	25	-	-	-	44	18
Spot tail	SPT	0	-	-	-	-	-	10
Longfinmacko	LAM	5.1	4.5	-	-	-	9.6	14
Great hammerhead	GRH	4.7	-	-	-	-	4.7	4
Other sharks	SKA	13.5	5	-	0.2	-	19	88
Whale shark	RHN	2.4	-	-	-	-	2.4	0
Rays &Skates		715.8	116	1.4	5.5	-	838	1,145
Manta Ray	MNT	283	15.4	0.3	-	-	299	414
Devil Ray	RMM	414	100.8	1.1	2.4	-	518	608
Eagle Ray	EGR	1.6	-	-		-	1.6	1
Other skates	SKA	17.1	-	-	3.1	-	20	122
OTHER		1,783	506	29,472	281.5	1.1	32,043	20,667
Mackerel scad	MSD	192	-	12,476	-	-	12,668	9,302
Dolfin fish	DOX	143.5	258	1835	3.2	-	2,240	2,531
Indian mackerels	RAX	-	--	-	-	-	-	686
Needle cuttle fish	IAX	-	-	-	-	-	-	133
Rainbow runner	RWA	4		570	-	-	574	1,237
Barracuda	BAR	-	-	-	-	-	-	7
Bigeyescad	BIS	-	-	-	-	-	-	17
Wolf-herring	DOB	-	-	-	-	-	-	2
carangids	CGX	207	84	0.2	86.0	0.3	377	-
Flying fish	EXO	-	-	-	-	--	-	40
Other bait types	OTH	-	5	-	-	0.1	5	193
Other bony fish (NEI)	MZZ	1,236	159	14,591	192.3	-	16,178	6,520
	Grand total	42,926	30,943	46,803	741	358	121,751	124,255

Source: PELAGOS database(NARA),log book database-(DFAR) & land based sampling database (DFAR/MFARD)

Figure 1. Historical annual catch for the national fleet, by gear and primary species, for the IOTC area of competence for the entire history of the fishery/fleet.**[Mandatory]**

The catch trends by the main fishing gears (Figure 1) and the species compositions (**Figure 1a-1e**).

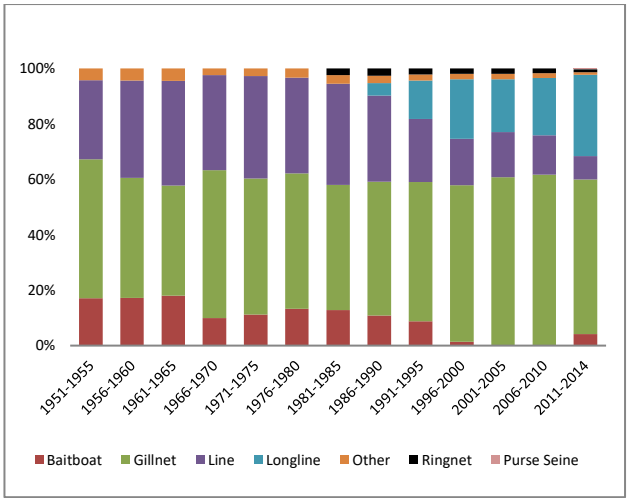


Figure 1a: Relative contribution of fishing gear in Tuna fish production in Sri Lanka 1950-2014

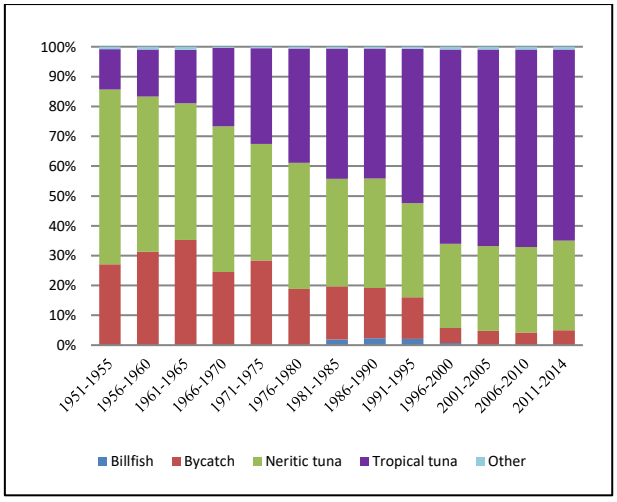


Figure 1b: Catch composition long line gill net fishery in Sri Lanka 1950-2014

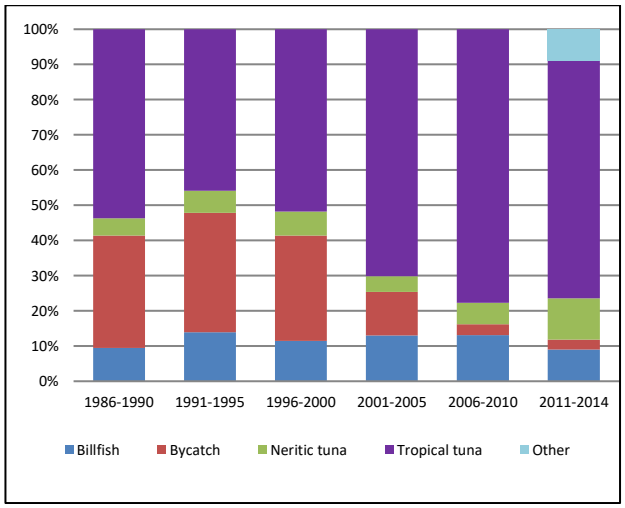


Figure 1c: Catch proportions gill net cum Long line

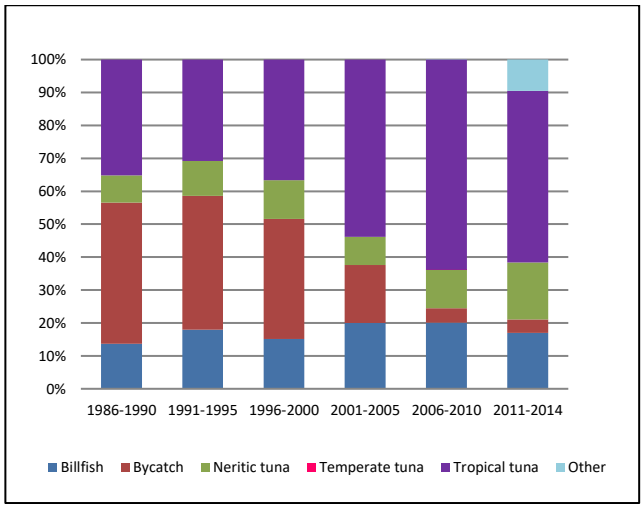


Figure 1d: Catch proportions long line fishery *(including Long line attached to gill net)*In Sri Lanka 1950-2014

Source: IOTC data base

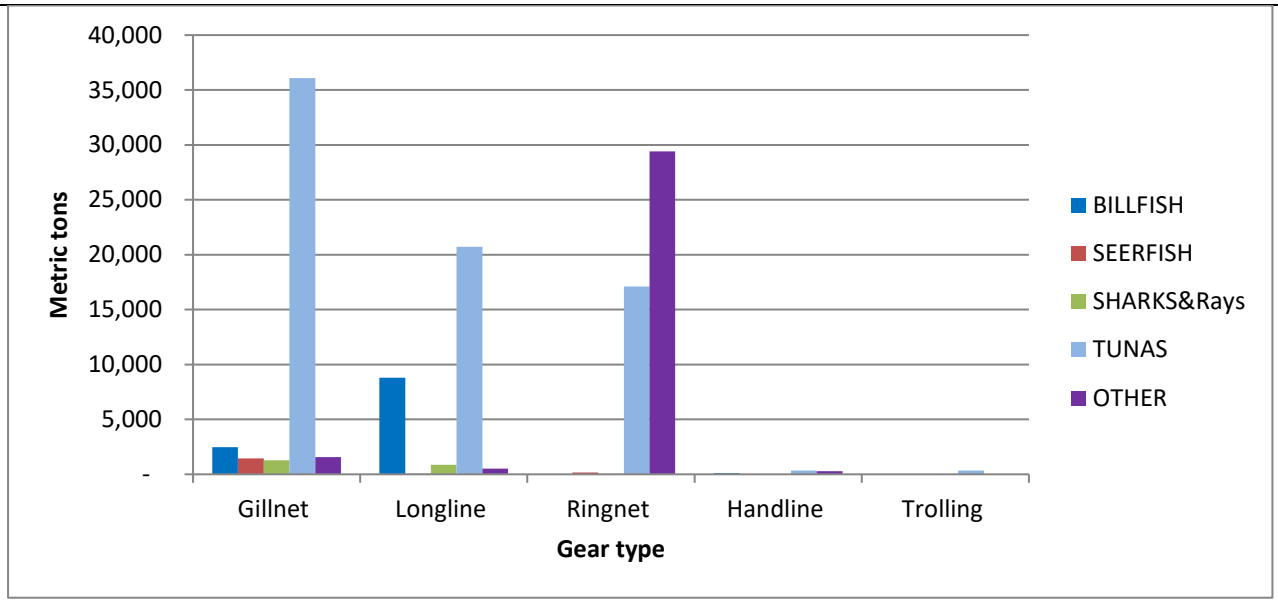


Figure 1e: Catch composition of total Tuna and tuna like species within and beyond EEZ of Sri Lanka for the year 2015.

Figure 2a. Map of the distribution of fishing effort, by gear type for the national fleet in the IOTC area of competence (most recent year e.g. 2015 **[Mandatory]**

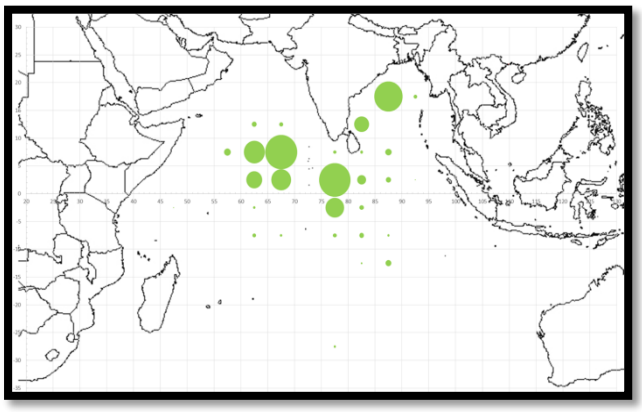


Figure 2a(i) Map of the distribution of long line in the IOTC area of competence for the year 2015

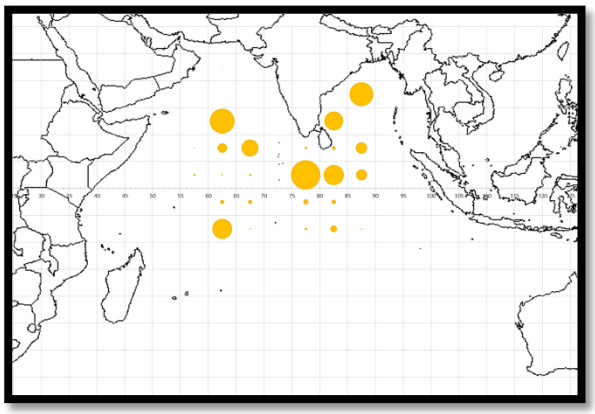


Figure2a(ii) Map of distribution of gill net in the IOTC area of competence for the year 2015

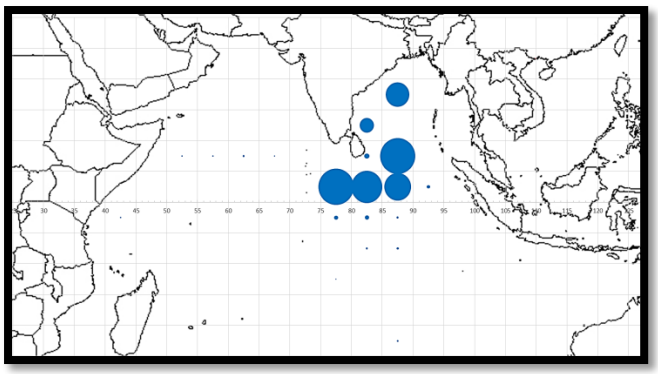


Figure 2a(i) Map of the distribution of Ring net in the IOTC area of competence for the year 2015

Figure 2b. Map of the distribution of fishing effort, by gear type for the national fleet in the IOTC area of competence (average of the 5 previous years e.g. 2011–2015 **[Mandatory]**

Sri Lanka has provided the catch and fishing effort estimates based on port sampling measures for a period of 2011–2014. As there were difficulties of collecting accurate information on fishing positions through port sampling without properly implemented log book recording system , it is difficult to produce a map to show the distribution of fishing effort by gear type for the national fleets for a period of 2011- 2014 in the IOTC area of competence.

Figure 3a. Map of distribution of fishing catch, by species for the national fleet, in the IOTC area of competence (most recent year e.g. 2015 **[Mandatory]**

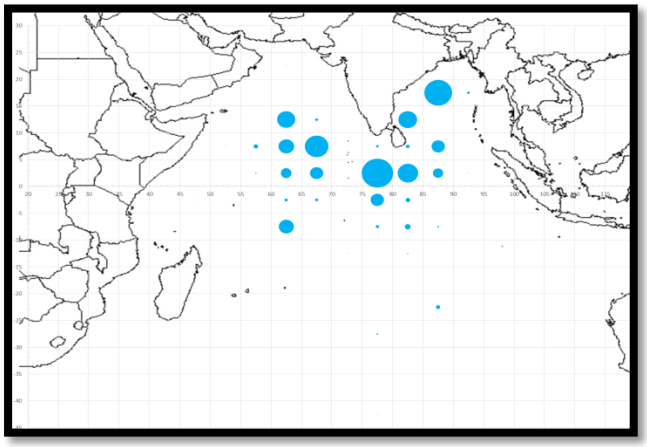


Figure 3a(i) Map of the distribution of Tuna catches in the IOTC area of competence for the year 2015

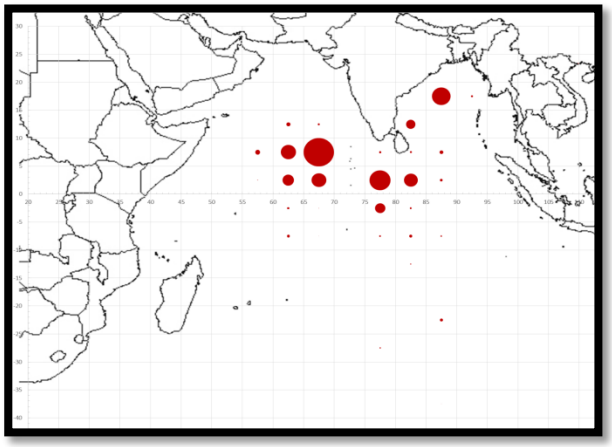


Figure 3a(ii) Map of the distribution of Bill fish catches in the IOTC area of competence for 2015

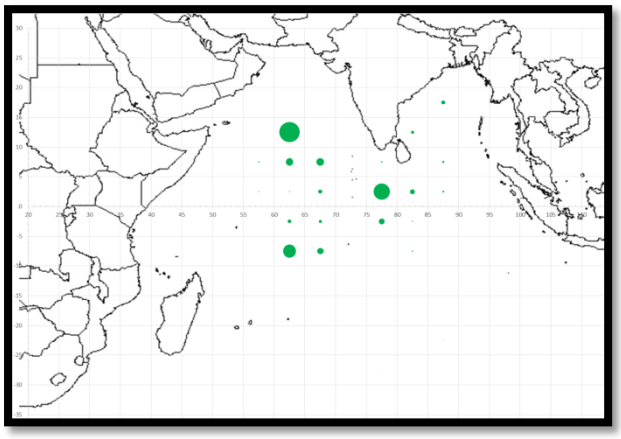


Figure 3a(iii) Map of the distribution of shark catches in the IOTC area of competence for 2015

Figure 3b. Map of distribution of fishing catch, by species for the national fleet, in the IOTC area of competence (average of the 5 previous years e.g. 2011–2015 **[Mandatory]**

The production was estimated based on port sampling. Since the log book data received were poor it was difficult to produce a map to show the distribution of fishing catch by species or group of the national fleet for the period of 2011 – 2014 in the IOTC area of competence**.**

4. RECREATIONAL FISHERY [Mandatory]

Recreational fishery for tuna and tuna like species is not a popular or the widely spread event in Sri Lanka, However sport fishing take place sporadic manner in associated with tourist industry. In

recent, Department of Fisheries initiated to draft the regulation for recreational fishery. Under this regulation recreational fishery will be allowed only under a license issued by the Fisheries Department. Several fish species are to be listed in a schedule prohibited from catch. A data reporting format is incorporated to the license to record the position and catch data of each species caught.

5. ECOSYSTEM AND BYCATCH ISSUES [Mandatory]

5.1 Sharks [Mandatory]

- The masters/skippers of the vessels have been legally ordered to prompt release of mammals, sharks, turtles and seabirds in live form at minimum harm caused to them if caught incidentally by the High Seas fishing regulations 2014.
- Carry and use of the line cutters and de-hookers on board to release sharks/turtles in live form at minimum harm caused.
- Intentional surrounding of sharks by using purse seiners is legally baned and it is mandatory to carry dip nets on board to release sharks in live form at minimum harm caused if surronded/ entangled.
- A consolidated regulation on sharks is gazetted on 26.10.2016 integrating already promulgated regulations on sharks in Year 2001& 2012 (prohobition of finning & prohibition of thresher sharks) under the provisions of FARA Act No 2 0f 1996 and 35 of 2013. This regulation prohibits finning of any shark species on board, catching,retaining , transshipment , and sale of Thresher shark,Ocean white tip shark and intentional surrounding of whale sharks in purse seins.
- Fishers are legally instructed to keep the records in the log book of any incidental catches, release/discard in live or dead ones of the above sharks.
- Sri Lanka is a signatory to Convention on International Trade in Endangered Species and the responsible competent authority is Department of Wild Life. The hammer head ,white tip and porbeagal sharks are subjected to CITES and Sri Lanka has proposed Thresher shark for listing. All CITES listed species are export under permit issued by wild life Dept. after thorough analysis for species verification.
- Declaration of endangered marine species as protected species under Fauna & Flora Protection Act.
- Prohibition of use of selected harmful fishing gears (Fishing Operations Regulations 1996)
- Prohibition of use of poisonous, explosives or stupefying substances in fishing (FARA amendment 2004)
- Prohibition of monofilament net. 2006, FARA
- Mesh size restrictions for specified fisheries.FARA
- Prohibition of dredging and bottom trawlingdamaging the sea bottoms and breeding and nursery grounds. FARA
- Prohibition of coral mining removal and transport by the regulations under Coast conservation Act.
- Prohibition of use of drift gill nets> 2.5km in high seas.FARA
- Promoting the use of circle hooks to the longlines rather than "J hooks.
- Marine Pollution Prevention Act No 59 of 1981(amended 2008) has legal provisions against pollutions affecting to marine animals and ecosystems such as actions on Sea accidents leading to oil pollution and cause harm to the environment and fauna and flora any to Sea.

- National Environment Act, has published "The National Red List 2012" of Sri Lanka revealing the National and Global conservation status of the fauna and flora of Sri Lanka. Special attention has been drawn to corals and marine fish species mammals and holoturians etc.

Sharks were mainly caught by gillnet and the gillnet longline combination operating mainly in the offshore,within EEZ. Catch records of shark by the long liners operate in high seas is relatively very low. There are number of national initiatives related to conservation and management of sharks. It includes:

(i) The National Plan of Actions for Sharks- Sri Lanka(NPOA-Sharks) is prepared and publicized on 23rd October 2014 and now under implementation.
(ii) Species identification guides and posters for shark identification has been prepared.
(iii)Improve the onsite sampling program to cover all species of shark as per the IOTC resolution 12/03 to collect required catch and size data and the PELAGOS database also updated accordingly. Total 888 numberof sharks measured for their lengths in year 2015 and data submitted to IOTC on June 2016.
(iv)Consolidated draft regulation integrating already promulgated regulations on sharks is already publish in November 2015 and this includes prohibition of catching of thresher sharks (12/09), oceanic white tip shark (13/06), whale shark and prohibition of shark finning on board and landing sharks with detached fins both within EEZ and high seas areas.
(v) Awareness programs are being conducted on the banning of thresher sharks, white tip sharks and whale sharks and recording of the incidental catches and prompt release in an unharmed condition.
(vii) Carry the line cutters and de-hookers on board by long liners and dip nets by purse seiners has made legally mandatory for the high seas operating vessels under high seas fishing regulations 2014.
(viii)The sanction on violations has been increased up to Rupees one million under the provisions of the Amended Act for High Seas Fishing in 2013.
(ix) Shark fin sample has to be identified to species level obtain CITES clearance from Department of Wildlife to get the clearance for export of the fins of the sharksthat are not prohibited to catch in Sri Lanka. The identifications are done both physically and genetically by the National Research Agency (NARA).

NPOA-SHARKS SRI LANKA

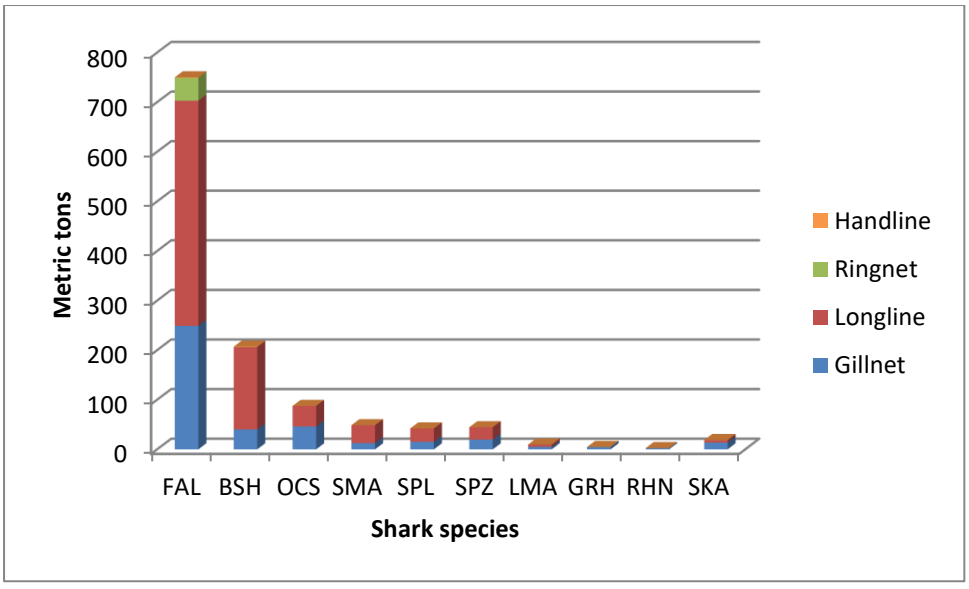
The Sri Lankan NPOA-Sharks developed with stakeholder inputs, provides information on the status of Chondricthyans in Sri Lanka. The structural mechanism and regulatory framework relating to the research, management, monitoring and enforcement associated with shark fishing and trade of shark products in the Sri Lankan context. National Plan of Action for Conservation and Management of Shark is an effort to strengthen the conservation and sustainable utilization of sharks and it recognizes the need to determine and implement harvesting strategies consistent with the principals of biological sustainability, attained through scientifically based management and consistent with a precautionary approach. Furthermore, it strives to identify unutilized incidental capture of sharks and contribute to the protection of biodiversity and ecosystem structure and function. The NPOA-Sharks also recognizes the potential non-consumptive use of sharks through ecotourism activities. These aspects of use need to be explored so as to find an optimum balance between consumptive and non-

consumptive use, maximizing their benefits with low impact on the marine ecosystem. The plan is intended to have an initial implementation period of four years (2014-2017). Upon the conclusion of this initial period impacts of the implementation will be evaluated against its goals and objectives to do the needful revisions.

Table 3: Total number and weight of sharks, by species, retained by the national fleet in the IOTC area of competence (for the most recent five years at a minimum, e.g. 2011–2015). **Mandatory]**

Species		**FAO codes**	**Total weight (t)**				
	Common name		2011	2012	2013	2014	2015
Carcharhinusfalciformis	Silky Shark	FAL	2913	1,138	1,247	1122	750
Prionaceglauca	Blue Shark	BSH	265	284	183	213	207
Carcharhinuslongimanus	Oceanic Whitetip shark	OCS	268	149	41	78	87
Isuruspaucus	Longfinmacko	LAM	35.3	52	70	14	9.6
Isurusoxyrinchus	Short fin macko	SMA	10.5	63	56	41	49
Alopiassupercilliosus	Big eye thresher	BTH	330	465	00	00	00
Alopiaspelagicus	Pelagic thresher	PTH	10	328	00	00	00
Sphyrnalewini	Scallop hammerhead	SPL	110.8	71	119	33	42
Carcharhinussorrah		-	Included in other sharks	Included in other sharks	19	00	00
Sphyrnazygaena	Smooth hammerhead	SPZ			61	18	44
Spyrnamokarran	Great hammerhead	GRH			8	04	04
	Whale Shark	RHN			00	00	2.4
-	Other sharks	SKA	439.3	31	00	88	19
Total shark			4,137.40	4382.3	2581	1612	1214

Source : PELAGOS-NARA/MFARD



The shark catch trends by the main fishing gears in year 2015 (Figure 2)

The sharkcatch trends by the main fishing gears in year 2014 (Figure 2)

Table 4: Total number of sharks, by species, released/discarded by the national fleet in the IOTC area of competence (for the most recent five years at a minimum, e.g. 2011–2015). Where available, include life status upon released/discard **[Desirable]**

Species	2014				2015					
	GN		LL		GN		LL		Ring net	
	Live	Dead	Live	Dead	Live	Dead	Live	Dead	Live	Dead
1. Bigeye thresher shark	2	2	3	2	-	-	18	14	37	8
2. Pelagic thresher shark			7	4	-	-	-	-	-	-

Discard levels monitored by the skipper of the vessel/ fishing master (Log book records)

5.2 Seabirds [Mandatory]

Sea bird catches are not reported in Sri Lanka due to the nature of the fishery and less availability of sea birds species in the high seas around Sri Lanka. Seabirds are not interacting with long liners either line is setting or line hauling mostly due to the low height of the small boats without sophisticated super structure. Gill net of Sri Lanka are multifilament nylon, which are usually highly visible to seabirds and have less potential of becoming by-catch than less visible monofilament nets. The National Aquatic Resources and Research Development Agency (NARA) has done two short-term studies on sea birds through comprehensive port sampling and onboard observation study made in research vessels in the high seas of Bay of Bengal. The findings were present at the WPEB in 2014. Sea birds have not been caught even to the trawl net catch employed during the survey period. Thus there is no mitigation measures in applied to prevent seabird interactions and Sri Lanka and has not developed the NPOA-Sea birds. Observers are not deployed in the small vessels due to space and safety restrictions.

Observer seabird interaction data sheet for the IOTC longlinefleet[Desirable]

Name of member state: _____;

Reporting period* or calendar year_____

Species _____

Fishery		Observed					Estimate
Area[1]	Total effort[2]	Total observed effort[2]	Observer coverage[3]	Captures (number)	Mortalities (number)	Live releases (number)	Mortality estimate (number)
Total							

*This field can be used to specify a temporal stratification to the data e.g. season

[1]Spatial stratification (5x5, 10x10 or other – to be determined)

[2]Number of hooks observed hauled

[3]Percentage of all hooks set that were observed hauled

1. How many vessels operated south of 25˚S in the period covered by this report?
2. How many of those vessels used bird scaring lines (as a proportion of total effort)?
3. How many of those vessels used line weighting (as a proportion of total effort)?

4. How many of those vessels used night setting (as a proportion of total effort)?

5.3 Marine Turtles [Mandatory]

Marine turtles are legally protected under Fauna and Flora Protection Act (FFPA) and Fisheries and Aquatic Resources Act no.2 of 1996. In 1979, Sri Lanka has signed the CITES agreement which prohibits member nations from trading of endangered species including turtles and their parts and products. The sanctions have been increased in amended FFPA,2008 and FARA, 2013for the violation of laws. Further, large-scale drift net fishing in the high seas is restricted to maximum 2.5km in length reducing the entangling of turtles and other non-target species. In the longline fishery most of the vessels use the circle hook s. ("J" hooks are not in use).

The logbook data collection system allows the fisherman to report the interaction of turtles to the fishing gear. Out of the completed log sheets received following data is extracted but the position data has not clearly mentioned.

Species	2014				2015					
	GN		LL		GN		LL		Ring net	
	Live	Dead	Live	Dead	Live	Dead	Live	Dead	Live	Dead
1. Olive ridley turtle	3	-	01-	-	-	-	-	-	-	-
2. Green turtle	-	-	01	-	16	09	05	03	45	-

There are two major NGOs working on turtle conservation in south coast of Sri Lanka. In addition NARA and Department of Wild Life Conservation (DWLC) working on turtle conservation. DWLC is running *in-situ* conservation activities at Bundala while NARA is running hatchery and refuge centre at Kalpitiya. The conservation mostly *in-situ* conditions, Mainly nest protection, hatching rearing and safe releasing. Eco tourism is one of the main advantage of these projects. This has provided alternative livelihood for the people those engaged in poaching of turtle eggs and there of protected the turtles. These projects conduct turtle rescue programs with fisher community.

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

- Prohibition catch ,land, transport sell, buy, receive ,have in possession of marine mammal and sea turtles (Fishing Operations Regulations (1996) – FARA& FFPA

- Catching of marine mammals is legally prohibited Under the Fisheries and Aquatic Resources Act No.2 of 1996 and the Fauna and Flora protection (amendment) Act 1937 ,(amended 1993 and 2008).

- Sri Lanka do not have operating large purse seines at present. However legal provisions in place prohibiting catching of whale shark and to prevent intentional setting of purse seines surrounding whale sharks and the release of unintentionally enclosed ones.

- The fishermen are made aware by conducting regular awareness programs by NARA and DFAR to releasing dolphins, turtles and whale sharks if incidentally caught to a fishing gear.

- The Log books facilitate reporting of incidental catches of marine mammals. The log book data recordings is not satisfactory and unreliable on this regard. Deployment of an observer in small boats is also has an issue in space and safety aspects.

Table 5.Observed annual catches of species of special interest by species (seabirds, marine turtles and marine mammals) by gear for the national fleet, in the IOTC area of competence (for the most recent five years at a minimum, e.g. 2011–2015 or to the extent available).**[Mandatory]**

Species	2014				2015					
	GN		LL		GN		LL		Ring net	
	Live	Dead	Live	Dead	Live	Dead	Live	Dead	Live	Dead
1. Green turtle	-	-	-	-	16	09	05	03	-	-
2. Bottle nose dolphin	-	-	--	---	09	07	-	-	-	-
3. Whale shark						04	-	-	-	-
3. Blue whale	-	-	--	---	06	01	-	-	-	-

Note: Recording of catches of species of special interest initiated in 2014 from log book data. However log book data recordings is not satisfactory and unreliable.

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [Mandatory]

6.1. Logsheet data collection and verification (including date commenced and status of implementation)

The log book data recording system is legally mandatory by Fish Catch Data Collection Regulations, 2012 (Gazette, No. 1878/11 amended in 01 September 2014)for multiday fishing vessels > 34 feet (10.3m) in length operate basically in catching large pelagic fish within EEZ and high seas. It has been mandated to submit log sheet after every fishing trip. They provide detail data on the spatial and temporal distribution of catch and effort by individual gear, which satisfy the need of rectifying the shortcomings of obtaining special information on catch and effort by individual gear through port sampling programme.

Thereby information received in 2015 through logbooks has been utilized for the first time in verification and also to overcome inherent inefficiencies of port sampling data as per the IOTC requirement. Procedures for comparing logbook data with data on fish landings obtained from the Large Pelagic fishery survey has been completed and pre-tested with a sample of boats.

The vessels that were sampled at ports and the same vessels submitted log sheets were sorted by month referencing to their registration number. The landed catch records were separated by gear and area based on the catch and effort reported as in log sheets since submission of log sheets is a mandatory requirement for multiday fleet of > 34 feet. Majority of sampled boats at ports have been regularly submitted the log sheet after every fishing trip. The assumption made during the multi-gear separation process was that each boat made two fishing trips instead of one; longline and gillnet separately.
15% to 18% landings is sampled jointly by NARA and DFAR officials at 18 major landing sites (fishery harbours) and 14 minor landing centers. Total of 32 data collectors (27 from DFAR and 15 from NARA) are involved in this field data collection.

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

Installation of Vessel Monitoring devices commenced on November 2013 and the first batch completed in March 2015. In the second phase another 1500 Vessel Monitoring devices installed for multiday boats > 10.3m. By mid of 2016 Total 1538 vessels of multiday boats >10.3m have been installed a VMS on board. All high seas operating boats are equipped with VMS since January 2016.

The annual report on VMS for year 2015 was submitted to IOTC on June 2016. The regulation on "Implementation of Satellite based Vessel Monitoring System (VMS) for fishing boats operating in High Seas 2015" is being under implementation.

The vessel monitoring centre is established in a separate building in the Fisheries Department Head office Colombo. The Fisheries Management Centre (FMC) is well equipped. Officials have been trained. The (FMC) is fully functioning and the monitoring is initiated.The following reports and alarms are now being generated at FMC.

- Position data once 4 hrs intervals
- Any incident of tampering, power off or crossing of MBLs.
- Indicate the entry to buffer zone before arrive to the harbor..
- Final report of the cruise track (map) of the vessel

The cruise tracks data of VMS are being manually cross checked with the Log sheet data submitted on the arrival and results of reconciliation is reported in a standard format. Sri Lanka is at the initial stage of developing a software for Electronic catch data recording (E-logbook) and verification system leading towards better monitoring.

The VMS system operates on the Themis web-based Interface and is mainly used to monitor the movements of Sri Lankan fishing vessels to check their compliance with the Fisheries regulations and validation of information submitted in the logbooks.

6.3. Observer programme (including date commenced and status; number of observer, include percentage coverage by gear type)

Sri Lankan fishing fleet consists of vessels in the ranges from 10-18 m in length without the minimum requirements viz: safety, accommodation and space for deploying the observers. Therefore Sri Lanka could not implement the national observer program in terms of Indian Ocean Tuna Commission (IOTC) Resolution 11/04 On a Regional Observer Scheme.

However Sri Lanka initiated implementing the national observer programme (NOP) in September 2014 on a pilot basis. This programme was implemented with the support from Fisheries Improvement Project of Sri Lanka. 20 fisheries officers of DFAR with experience and capable for the duty were selected for the training. A 5 days training was given in the fields given below. A Memorandum of Understating (MoU) was signed between DFAR and Fisheries implementation Project to carry out pilot programme.

- Basic Training on Safety at Sea
- Scientific data collection
- IOTC Observer Manual and its application
- Documentation – forms, agreements, Appointment, Insurance
- Practical training on species identification, sampling methods, scientific data collection and reporting
- Pilot observer trips (7 pilot trips) to get practical experience by observers

The observer manual provides reference material along with instructions detailing observer tasks, observational requirements, sampling protocols, log book entry protocols and reporting procedures in

the long line, purse seine and other artisanal fisheries in the Indian Ocean. Two training programme were conducted on handling of GPS, Communication and Navigation at CINEC Maritime University and Species Identification at NARA from 23rd to 27th of March 2015.

Three pilot trips trips were covered under the Pilot Observer Programme. A team of IOTC experts carried out an assessment of the pilot observer programme during the mission in Sri Lanka period from 23rd – 25th February 2015. Many gaps of data recording were identified and the mission findings are given in the back to office report on "capacity building mission in support of the Regional Observer Scheme. Sri Lanka's Observer Programme needs much more assistance and training .

Only one long line vessel >24m operated at high seas in 2015. The vessel operated for two trips for year 2015 and an observer is deployed for each trip. Two observer reports submitted to IOTC for relevant fishing rips in year 2015.

Table 6. Annual observer coverage by operation, e.g. longline hooks, purse seine sets (for the most recent five years at a minimum, e.g. 2011–2015 or to the extent available).**[Mandatory]**

Sri Lanka initiate observer program in year 2014.

Figure 4. Map showing the spatial distribution of observer coverage. **[Mandatory]**

No data available Sri Lanka initiate observer program in year 2014

6.4. Port sampling programme [including date commenced and status of implementation]

Large pelagic fisheries statistics in Sri Lanka mainly collect through comprehensive Port Sampling Programme, which has been initially put in place by the National Aquatic Resources Research and Development Agency (NARA) in 1987. Although over the past decades, the methodology of fisheries monitoring, sampling strategy, data collection, data storage, data handling and also reporting has been improved and updated in number of occasions with broader institutional participation with the technical supporting of IOTC. Over 40 enumerators both from the Department of Fisheries and NARA are currently engaged in collecting large pelagic fisheries data covering all major fish landing centers. The present coverage is exceeding 15% - 18% of the total landings. Information of catch, effort by gear or gear combination and length by species are recorded through port sampling programme.

Design of the survey

The revised sampling system is basically designed to cover the large pelagic fishery. Therefore, the offshore multiday boats and tuna targeting coastal day boats are focused. In the present context sampling range is extended covering thirteen coastal fisheries districts out of fifteen; except Mannar and Jaffna. The data collection is done in all the major fishery harbours and anchorages where offshore multiday boats are landed and in few cases coastal landing sites where the large pelagic fish species land from the coastal day boats. Accordingly 23 major fishing ports and 10 minor landing sites are covered.

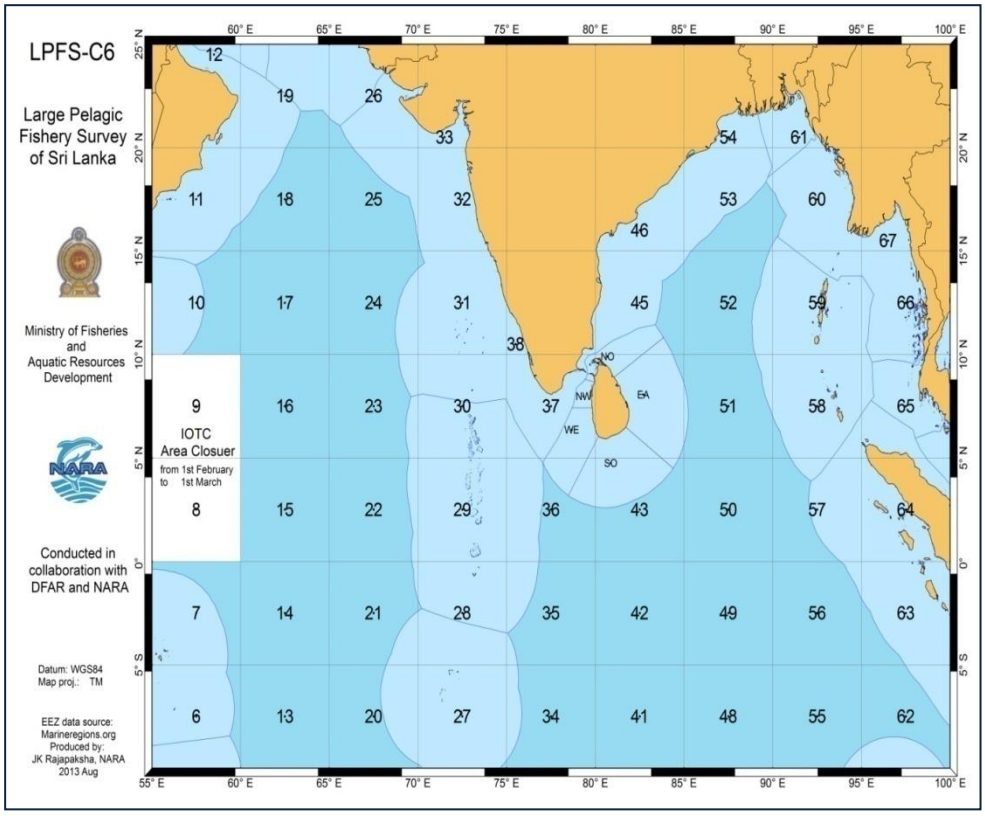
Number of field data collectors have increased since 2013. A total of 28 FIs and Fishery Resources Management Assistance (FRMA) of DFAR are newly apportioned for this task. They were trained on sampling and species identification, assigned for data collection at the harbours/ landing centers in addition to the 12 Samplers/ Research Assistance of NARA. Since NARA samplers have long

experience in field sampling and fish identification they are made trainers of the trainees at field level so that the programme is supported internally and therefore sustained. Special training was given on fish identification specially identification of billfish, bigeye and yellowfin tuna and sharks. Identification materials are developed (shark poster, field guild).

Vessels operating in the large pelagic fishery are categorized in to six types considering the LOA, structure of the vessel, fishing trip duration/ area of fishing activities undertaken. The fishing gears mainly used in large pelagic fishing activities in Sri Lanka are considered.

Since there is limited option in getting spatial data the new sampling strategy has introduced a map to identify the fishing area in large by interviewing the skippers of the vessels. The map reflects the area within 10^0 S to 25^0 N and 55^0 E to 100^0 E. Area within the EEZ has been divided in to five statistical zones to denote North, South, East, West and Northwest areas. The area beyond the EEZ has been divided in to five degree grids and coded (Figure 2).

The map reflects the area within 10^0 S to 25^0 N and 55^0 E to 100^0 E. Area within the EEZ has been divided in to five statistical zones to denote North, South, East, West and Northwest areas. The area beyond the EEZ has been divided in to five degree grids and coded.



Data collection

Data collectors are supposed to collect daily effort, catch and length weight data at the landing sites. The three data collection forms used to collect the relevant information has been revised considering the present data requirements.

Daily effort - Form – A, the Daily Effort Form is used to list the fish landed vessels/crafts with the relevant information (boat registration number, length overall, last port of call, date of departure and the catch on board) on each category in a particular sampling site on a particular sampling day. After the total landings are listed, the total number of landings and total number of sampled boats are identified according to the boat categories in the

Form – A.

Catch –The total catch unloaded by the sampled boat is recorded either by weight or numbers in the Form – B,.At the same time information on the fishing operation of the sampled boats such as fishing gears used, fishing area, etc., are also recorded in the same form. Catch composition is recorded for33 species, bill fish (6), neritic tuna (3), tropical tuna (3), sharks (13), seer fish (2) skates (4) and other bonny fish (2)

Length and weight – Form – C, the Length weight frequency data sheet is used to collect individual length and weight measurements of the catches in sampling boats. Curve length of the fish is taken using the measuring tapes while eye estimate or the scale measurement of the individual weight is recorded.

Data storage

The PELAGOS database was modified and upgraded to MS Access 2007 by the IOTC and installed at NARA and at SU separately for test data entry. The database is still being modified to fit with the updated sampling scheme and data collection forms. The catch estimation and reporting is under

Table 7.Number of individuals measured, by species and gear] **[Mandatory]**

	Within EEZ			Beyond EEZ			Grand total
	Gillnet	Longline	Ringnet	Gillnet	Longline	Ringnet	
Skipjack tuna	22,777	1,724	10,602	7,425	923	881	44,332
Yellowfin tuna	6,224	10,030	4,531	1,319	6,366	488	28,958
Bigeye tuna	36	2,758	38		506		3,338
Narrowbarred Spanish Mackeral	1,002	46					1,048
Bullet tuna	1,266		2,010			44	3,320
Frigate tuna	386		652			339	1,377
Kawakawa	1,661	30	716			71	2,478
Longfinmacko	4						4
Oceanic white-tip shark	62	45					107
Silky shark	150	353	47	227			777
Blue marlin	206						206
Black marlin	426						426
Swordfish	453	3,815					4,268

Note: Length data submitted to secretariat in June 2016.

6.4. Unloading/Transhipment [including date commenced and status of implementation]**[Mandatory]**

Total 09 fish landings has been taken place at the designated fisheries port of Dikovita by 07 Taiwan vessels and 02 Indonesian vessels in year 2015. The total fish quantity landed as a bulk is 162 tons for all species. The species wise data was submitted to IOTC in March 2015. Only the vessels in the authorised list of IOTC were permitted. Vessel validity verified from the Taiwan Fisheries Agency in the case of Taiwanee vessels wth copy to Sectratariat. 24 hrs minimum advance request for port entry was followed. Port inspections conducted and 06 port inspection reports submitted to IOTC.

Entering of foreign fishing vessels to any of the ports of Sri Lanka was temporary suspended with effect from February 2015 until the PSMA regulation passed by the parliament. The PSMA regulation has been gazetted and implemented with effect from 26th March 2015. All stakeholders were made aware of the new regulation. Four commercial harbours and one fishery harbour designated. Port Authority, and other relevant agencies have included to the steering committee of implementation NPOA-IUU. Sri Lanka open designated ports to foreign fishing vessels to obtain port services under PSMA regulation with effect from June 2016. No fish unloading allowed. One transhipment took place and port inspection conducted report submitted to IOTC.

7. NATIONAL RESEARCH PROGRAMS [Desirable]

Table 8.Summary table of national research programs, including dates.

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
Monitoring of large pelagic fisheries	On going	Sri Lanka	4.0 LKR million	Treasury	Collection of large pelagic fisheries statistics-catch species Effort –by craft and gear Length by species, craft, gear	Information sent to FAO, IOTC and also utilize for fishery management (locally)
Study of fishing impacts on sea turtles	Specially project	Sri Lanka	Conduct under above project	Treasury	Collect information on the incidental catch of sea turtles by species, gear and gear specification, area, status when catching (live or dead) and fate (released, discard, consume)	Information feed to PELAGOS database
Molecular and biological study on neritic tuna species	2016	Sri Lanka	0.8 LKR million	Treasury	Genetic composition	Information recorded in separate database
Genetic barcoding study of sea turtle, dolphins, whales (stranded)	2010 continued	Sri Lanka	-	Treasury	Genetic composition	Information recorded in separate database
Genetic population structure of five species of Billfish in the Indian Ocean	2015-2017	Sri Lanka Australia USA and Indian Ocean CPCs	No funds involved with the activities carryout within Sri Lanka		Identification of the stock structure of five Billfish species in the Indian Ocean	Sri Lanka (NARA) collect and provide tissue samples of five species
Biological assessment of Batoid fisheries around Sri Lanka	2016	Sri Lanka	1.25LKR million	Treasury	Biological aspects	Information recorded in separate database

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

Table 9.Scientific requirements contained in Resolutions of the Commission, adopted between 2005 and 2016.

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	(i) Paper Log book onboard is made legally mandatory by the catch data collection regulation 2012, (amended 2014) (ii) The log books as per resolution 15/01 is prepared printed and is being used from year 2016. (iii.) The log book template is already submitted to Secretariat to publish in the IOTC website as the official log book of Sri Lanka.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	(i) .Data collection sheets have been introduced and the port samplers were trained, sampling procedures introduced, Log book has been improved in a way that enabling the calculation of total catch as per the resolution. (ii) .Marine mammals and turtles are protected under Fauna and Flora Protection (amendment) Act 1937(FFPA) (amended 1993 and 2008); Fisheries and Aquatic Resources Act No. 2 of 1996 (FARA)(amended 2004, 2013) (iii) .Sea bird catches are not reported in Sri Lanka due to the nature of the fishery. There is a separate cage to report incidental catches of sea birds if any and release of them dead/alive from. . (iv) Electronic software for catch and effort data recording (E-logbook) with autonomy geo- positions is being developed for better data collection and generation of reports.
15/05	On conservation measures for striped marlin, black marlin and blue marlin	Paragraph 4	(i.) Data collection of bill fish is being strengthen.((iii) .Landing bill fish, cut into pieces is an issue for the length data collection. (iv) Study on length weight relationship and some morphometric relationships of Indo-Pacific sailfish using biological data of gill net and long line fishery in Sri Lanka is being conducted to overcome this issue. The results will be able to apply marlin species as well.
13/04	On the conservation of cetaceans	Paragraphs 7– 9	(i) .Marine mammals (cetaceans) and turtles are protected under Fauna and Flora Protection (amendment) Act 1937(FFPA) (amended 1993 and 2008); Fisheries and Aquatic Resources Act No. 2 of 1996 (FARA)(amended 2004, 2013 (ii) There is a separate cage to report incidental catches of cetaceans (if any)

Res. No.	Resolution	Scientific requirement	CPC progress
			and release of them dead/alive from. The data is reported to IOTC.
13/05	On the conservation of whale sharks (*Rhincodontypus*)	Paragraphs 7– 9	(i) Catch of whale shark is prohibited in the consolidated regulation drafted integrating already promulgated regulations on sharks which is ready to publish in November 2015 both within EEZ and high seas areas. (ii) Fishers are being aware recording of the incidental catches and prompt release in an unharmed condition. (iii) The sanction on violations has been increased up to Rupees one million under the provisions of the Amended Act for High Seas Fishing in 2013.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	(i) Catch, retain onboard, tranship, land,store or sell of thresher sharks species, oceanic white tip shark, whale shark and shark finning on board and landing sharks fins detached both within EEZ and high seas areas is prohibited in the consolidated regulation drafted by integrating already promulgated regulations on sharks which is is published in November 2015. (ii) See the (ii) and,(iii) under 13/05
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Refer 5.1.1 National initiatives on conservation and management of sharks.
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	-
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Reffer 5.3 above. Carry the line cutters and de-hookers on board by long liners and dip nets by purse seiners has made legally mandatory for the high seas operating vessels under high seas fishing regulation 2014
11/04	On a regional observer scheme	Paragraph 9	-
05/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1–12	(i) The data for catches of sharks for 2015 was submitted including the length frequency data on June 2016. (ii) The fishers have been aware to release of live sharks, especially juveniles and pregnant sharks, to the extent possible, that are caught incidentally and are not used for food and/or subsistence. (iii) Fishing vessels are prohibited from retaining on board, transhipping or landing of any sharks fins removed

Res. No.	Resolution	Scientific requirement	CPC progress
16/06	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraph 1	With the progress of log book data submission by the fishermen Sri Lanka complying with the reporting obligations for all IOTC fisheries as per the vIOT standard , including shark species caught in association with IOTC fisheries. Steps taken to improve data collection for direct and incidental catches. Electronic software for catch and effort data recording (E-logbook) with autonomy geo- positions is being developed for better data collection and generation of reports.

9. LITERATURE CITED [Mandatory]