China National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2020

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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 2020, final data for the 2019calendar year must be provided to the Secretariat by 30 June 2020)	Not applicable
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 2020, preliminary data for the 2019 calendar year was provided to the IOTC Secretariat by 30 June 2020). **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 2020, final data for the 2019 calendar year must be provided to the Secretariat by 30 December 2020).	YES 30/06/2020
If no, please indicate the reason(s) and intended actions:	

Executive Summary [Mandatory]

Deep-frozen longline targeting for tropical tuna and frozen longline targeting albacore are the only two fishing gears used by Chinese fleets to catch tuna and tuna-like species in the IOTC waters. The total number of Chinese longline vessels operated in the IOTC waters in 2019 was 88. The number of active deep-frozen longline vessels decreased from 75 in 2018 to 74in 2019. The tropical tunas catch (bigeye and yellowfin tuna) of Chinese longline fleet in 2019 was estimated at 5,049MT, which was 3,648 MT lower than that in 2018(8,697MT). The number of frozen longline increased from 10 in 2018 to 14 in 2019. The albacore longline catch for 2019was estimated at 2,489MT, lower than in 2018(5,449MT). Both the logbook and observer programs are being implemented for the Chinese longline fleets. In 2019, four scientific observers were deployed on board longline vessels to collect data for both target and bycatch species as required.

Contents [Desirable]

1. BACKGROUND/GENERAL FISHERY INFORMATION [MANDATORY]

Longline is the only fishing gear for the China mainland fleet in the IOTC convention area since 1995. One hundred-twenty longline fishing vessels were recorded at the peak time in 1998, which mainly consisted of small non-professional fishing vessels reconstructed from trawlers or gill-netters originally operated along China coastal waters. After 1998 the number of fishing vessels began to reduce due to poor management, low economic performance and shift of fishing ground to other oceans. The total number of tuna fishing vessels registered with the IOTC Secretariat was reduced to 93 in 2001 and further cut downto 63 in 2002. The number of active fishing vessels was reduced from 46 in 2008 to 32 in 2009 due to the piracyin the relevant areas, of which 27 belong to the large-size deep-frozen longliners. Before 2008 the deep-frozen tuna longliners usually operated in waters between 40 ºE ~ 90ºE and 20ºN ~ 40ºS. Since 2009, most of the deep-frozen fishing effort shifted to the southern Indian Ocean owing to the piracy.The number of deep-frozen longliners was 15 and 10 in 2010 and 2011, respectively. Since 2012 some deep-frozen longliners began to return to the tropical western Indian Ocean. The number of active deep-frozen longline vessels and frozen longline vessels in 2019 was 74 and 14, respectively (**Table 1**).

2. FLEET STRUCTURE [MANDATORY]

The Chinese tuna fleet consisted of longliners targeting tropical tuna and longliners targeting albacore in the Indian Ocean. The vessel number is shown in **Table 1**.

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

Year	Gear	Number of vessel
2015	Longline	53
2016	Longline	67
2017	Longline	81
2018	Longline	85
2019	Longline	88

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

Annual catch by species and effort of Chinese fleet by gear and primary species in the IOTC area of competence were shown in **Table 2**.The Deep LL effort (hooks deployed) in 2019 was 49.7% lower than that in 2018. The Frozen LL effort in 2019increasedcompared with that in 2018.

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

Table 2a Albacore caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	359
2016	Deep LL	18929	210
2017	Deep LL	23450	1320
2018	Deep LL	24769	3102
2019	Deep LL	12330	215

Table 2b Albacore caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	1484
2016	Frozen LL	5177	1709
2017	Frozen LL	9620	2326
2018	Frozen LL	8218	2348
2019	Frozen LL	14051	2274

Table 2c Bigeye tuna caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	4427
2016	Deep LL	18929	3770
2017	Deep LL	23450	4140
2018	Deep LL	24769	3556
2019	Deep LL	12330	1011

Table 2d Bigeye tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	303
2016	Frozen LL	5177	316
2017	Frozen LL	9620	778
2018	Frozen LL	8218	499
2019	Frozen LL	14051	826

Table 2e Yellowfin tuna caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	1552
2016	Deep LL	18929	1569
2017	Deep LL	23450	2646
2018	Deep LL	24769	3665
2019	Deep LL	12330	2193

Table 2f Yellowfin tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	240
2016	Frozen LL	5177	244
2017	Frozen LL	9620	316
2018	Frozen LL	8218	977
2019	Frozen LL	14051	1020

Table 2g Swordfish caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	1328
2016	Deep LL	18929	1142
2017	Deep LL	23450	1470
2018	Deep LL	24769	1836
2019	Deep LL	12330	695

Table 2h Swordfish caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	49
2016	Frozen LL	5177	34
2017	Frozen LL	9620	91
2018	Frozen LL	8218	136
2019	Frozen LL	14051	310

Table 2i Blue marlin caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	270
2016	Deep LL	18929	915
2017	Deep LL	23450	452
2018	Deep LL	24769	620
2019	Deep LL	12330	255

Table 2j Blue marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	28
2016	Frozen LL	5177	11
2017	Frozen LL	9620	40
2018	Frozen LL	8218	122
2019	Frozen LL	14051	81

Table 2k Striped marlin caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	102
2016	Deep LL	18929	414
2017	Deep LL	23450	202
2018	Deep LL	24769	184
2019	Deep LL	12330	60

Table 2l Striped marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	21
2016	Frozen LL	5177	11
2017	Frozen LL	9620	2
2018	Frozen LL	8218	6
2019	Frozen LL	14051	16

Table 2m Black marlin caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Deep LL	21437	27
2016	Deep LL	18929	8
2017	Deep LL	23450	9
2018	Deep LL	24769	14
2019	Deep LL	12330	1

Table 2n Black marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2015	Frozen LL	5178	16
2016	Frozen LL	5177	5
2017	Frozen LL	9620	1
2018	Frozen LL	8218	5
2019	Frozen LL	14051	8

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]**

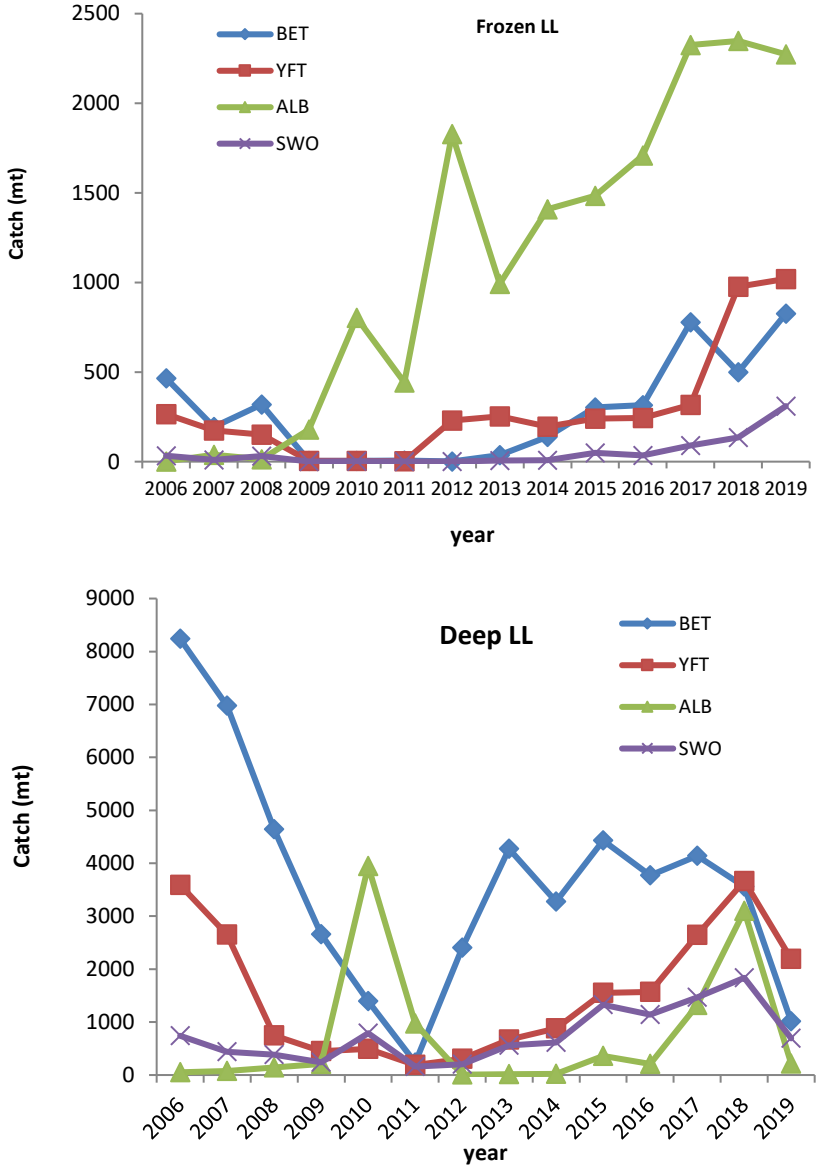


Figure 2a. Map of the distribution of fishing effort, by gear type for the national fleet in the IOTC area of competence (most recent year e.g. 2019).**[Mandatory]**

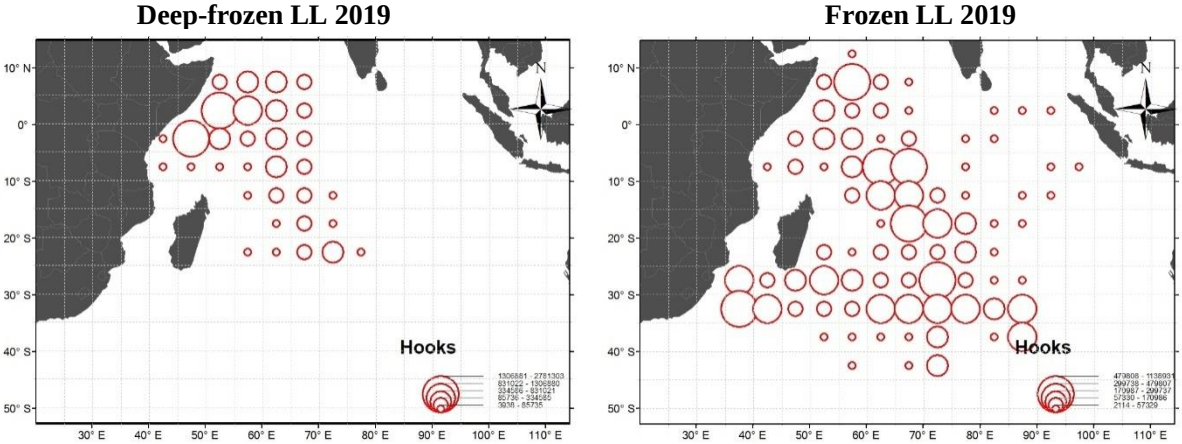
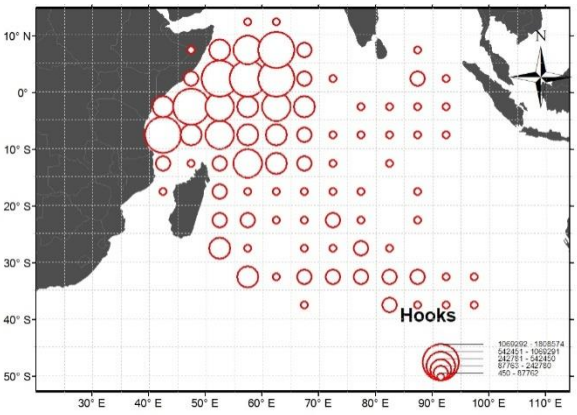


Figure 2b. Map of the distribution of fishing effort, by gear type for the national fleet in the IOTC area of competence (average of the 5 previous years e.g. 2015–2019).**[Mandatory]**

Deep-frozen LL 2015-2019



Frozen LL 2015-2019

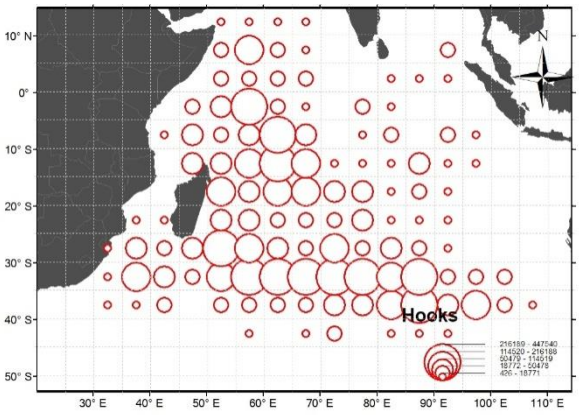
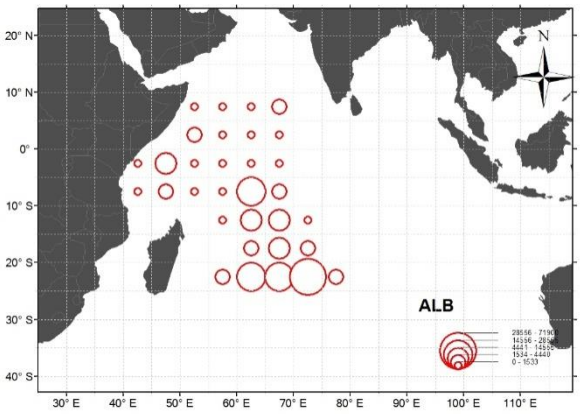
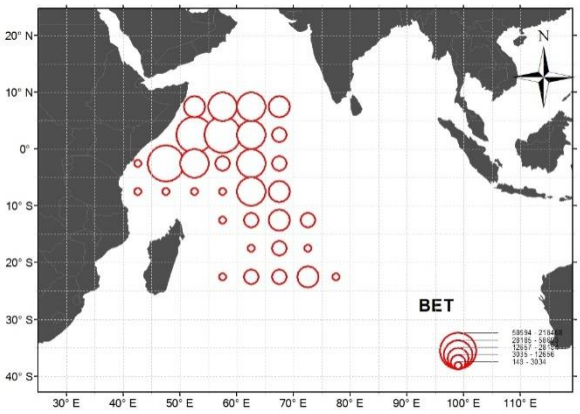


Figure 3a. Map of distribution of fishing catch, by species for the national fleet, in the IOTC area of competence (most recent year e.g. 2019).**[Mandatory]**

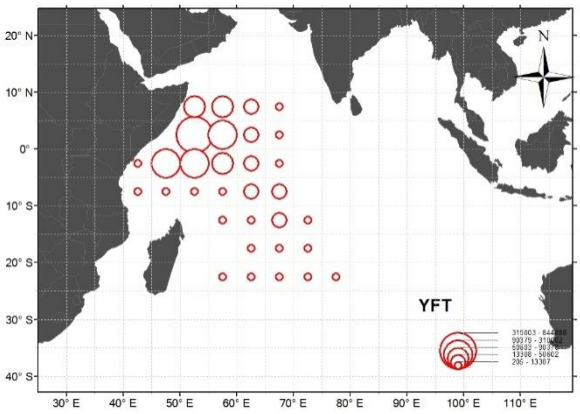
Deep-frozen ALB 2019



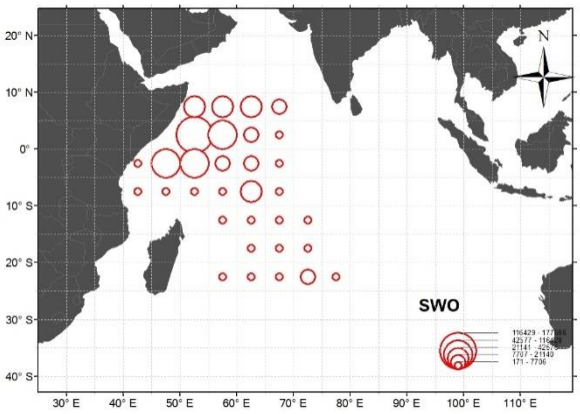
Deep-frozen BET 2019



Deep-frozen YFT 2019



Deep-frozen SWO 2019



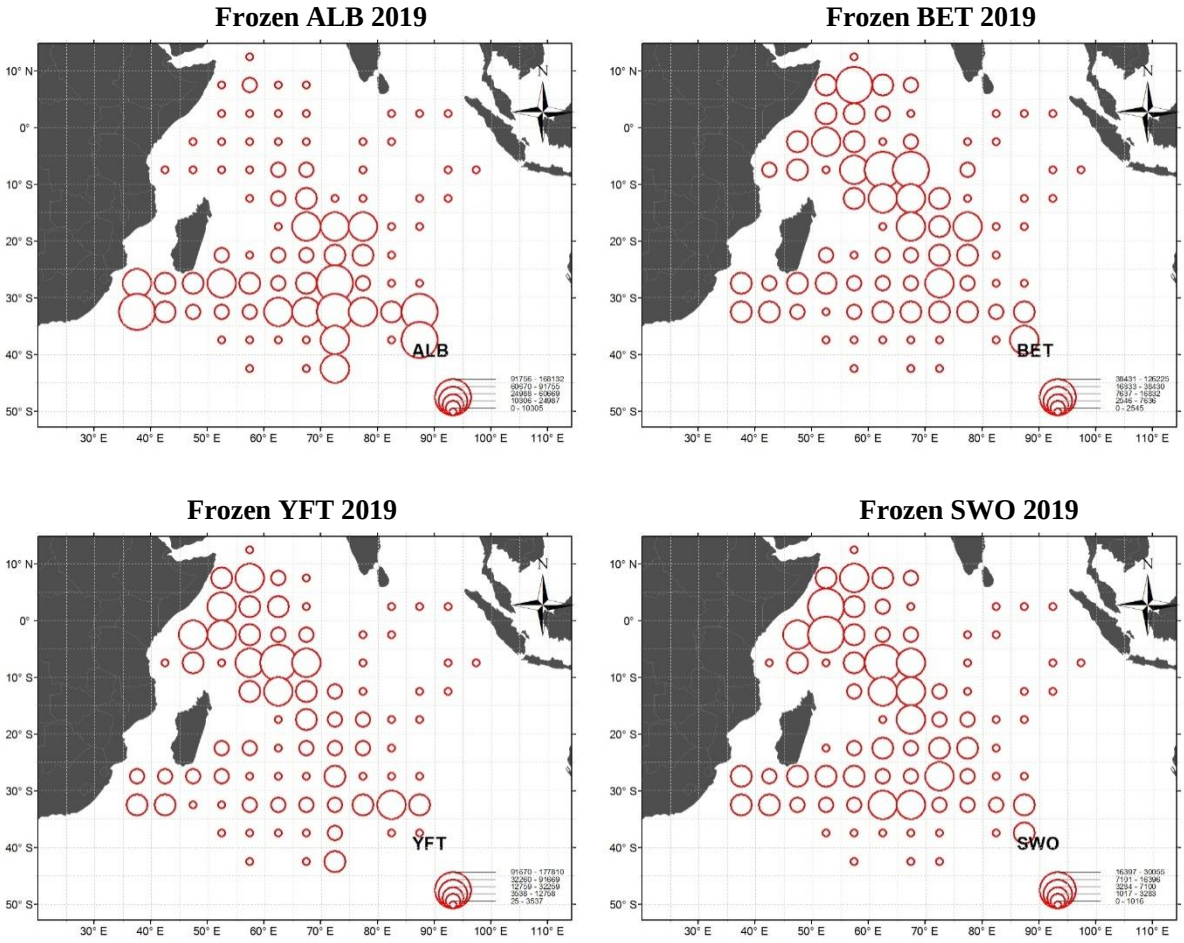
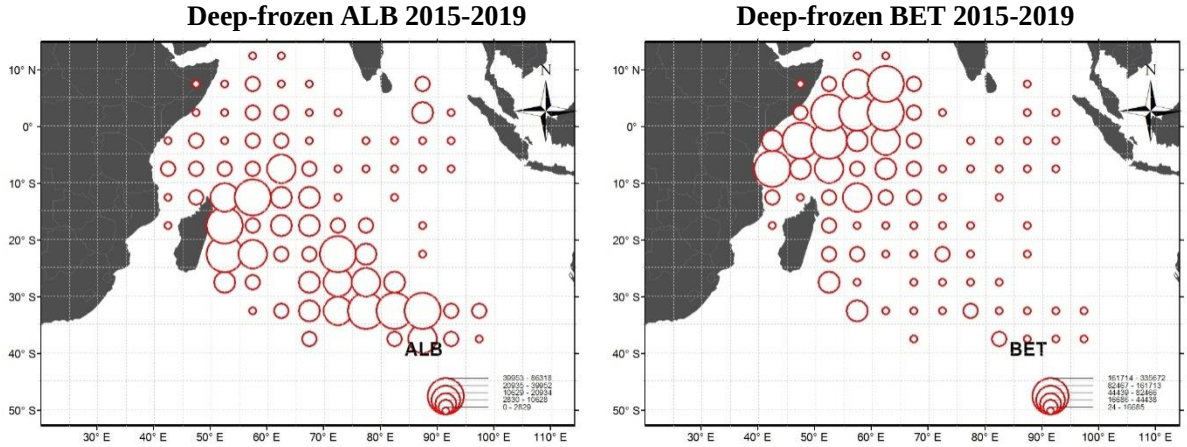
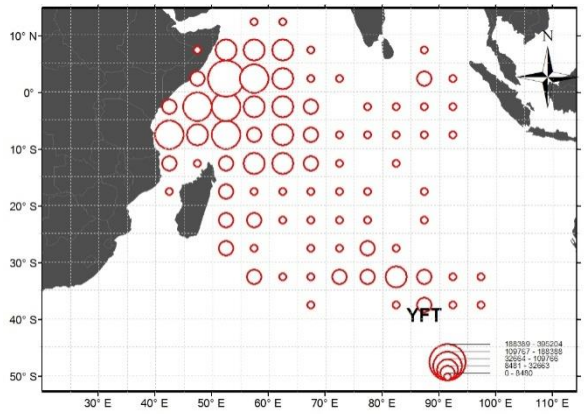


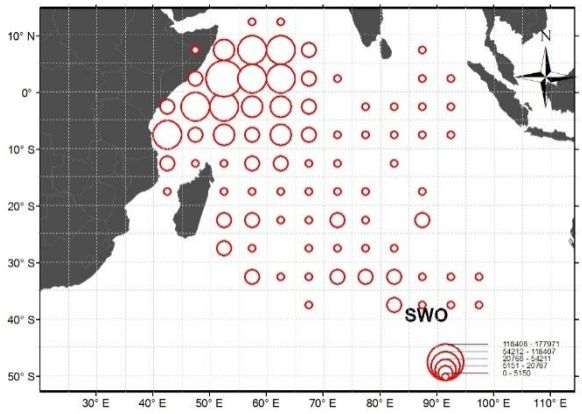
Figure 3b. Map of distribution of fishing catch, by species for the national fleet, in the IOTC area of competence (average of the 5 previous years e.g. 2015–2019). **[Mandatory]**



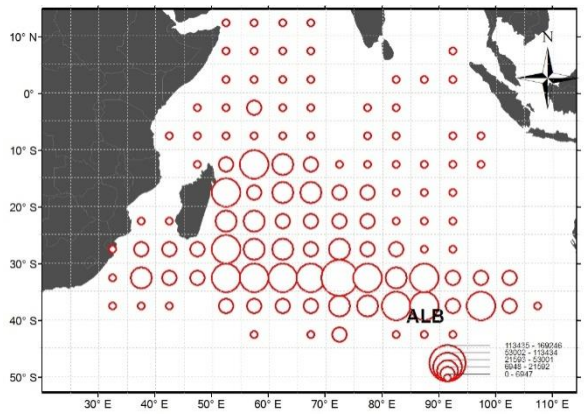
Deep-frozen YFT 2015-2019



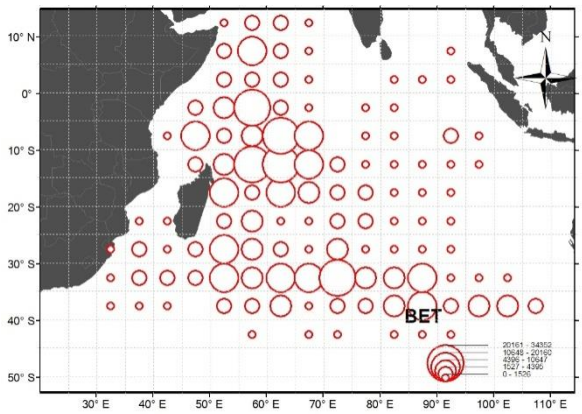
Deep-frozen SWO 2015-2019



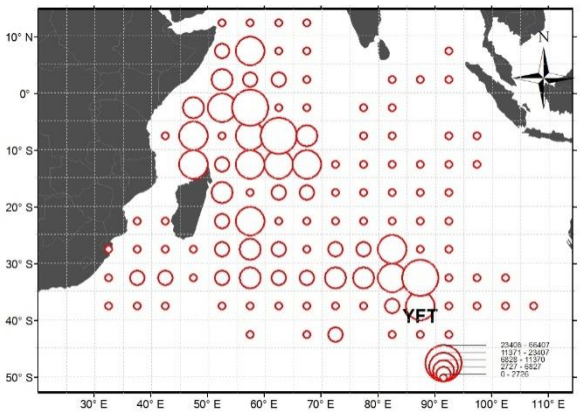
Frozen ALB 2015-2019



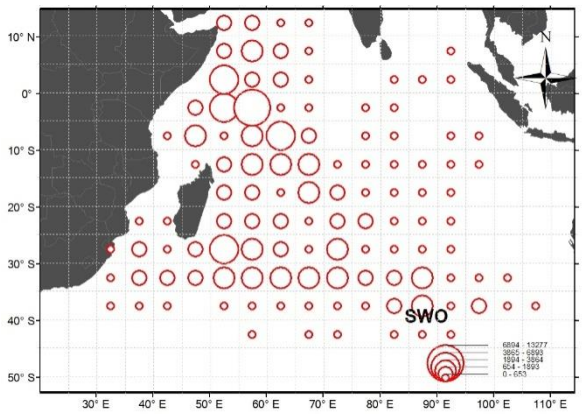
Frozen BET 2015-2019



Frozen YFT 2015-2019



Frozen SWO 2015-2019



4. RECREATIONAL FISHERY [Mandatory]

No recreational fishing activities.

5. ECOSYSTEM AND BYCATCH ISSUES [Mandatory]

China is making its effort in making contribution of data collection for ecosystem and bycatch issues in the Indian Ocean, based on our observer and logbook programs. Scientists and analysts from the Shanghai Ocean University (SHOU) take a major responsibility in China's tuna fishery and bycatch research in the Indian Ocean. China is also working onstock assessments using data-poor approaches for sharks. China has provided

scientific data from its observer program and the data were used for biological study and ecological risk analysis for sharks. In accordance with various management resolutions, China is enhancing its implementation of management and conservation measures for important bycatch species (i.e., sharks, seabirds and marine turtles), and involved in bycatch mitigation initiatives from various programs.

5.1 Sharks [Mandatory]

China is collecting biological and ecological information based on longline observer program. Species-specific catch and effort data are recorded in the logbook. However, in consideration of fishermen's poor knowledge in species identification and workload onboard, complete recording of species on the recommended list is difficult. In current year, Posters of common sharks species have been sent to each vessel to facilitate fisherman to identify species. Shark finning has been prohibited by national regulation.

5.1.1. NPOA sharks [Desirable]

NPOA sharks has not been developed.

5.1.2. Sharks finning regulation [Mandatory]

The Bureau of Fisheries, Ministry of Agriculture and Rural Affairs is in charge of National Aquatic Wild Animals Conservation and Utilization,including sharks.The regulations(2013 and 2015)require the fishing vessels should not target for shark and shark finning were prohibited and the shark fin proportion should be no more than 5% of the body.

5.1.3. Blue shark [Mandatory]

The Bureau of Fisheries, Ministry of Agriculture and Rural Affairs issued the regulations that information of shark bycatch should be recorded in the logbook.And shark finning were prohibited and the shark fin proportion should be no more than 5% of the body.

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. 2015–2019). **[Mandatory]**

Table 3a Blue shark

Year	Gear	Catch (number)	Catch (kg)
2015	Deep LL	2533	93662
2016	Deep LL	406	13821
2017	Deep LL	1863	67268
2018	Deep LL	4551	162382
2019	Deep LL	1267	42665

Table 3b Blue shark

Year	Gear	Catch (number)	Catch (kg)
2015	Frozen LL	1656	54041
2016	Frozen LL	968	35214
2017	Frozen LL	4307	112483
2018	Frozen LL	2425	40058
2019	Frozen LL	3168	87784

Table 3c Oceanic whitetip shark

Year	Gear	Catch (number)	Catch (kg)
2015	Deep LL	1372(discarded)	41483(discarded)
2016	Deep LL	293(discarded)	No data (discarded)
2017	Deep LL	784(discarded)	No data (discarded)

2018	Deep LL	767(discarded)	No data (discarded)
2019	Deep LL	476(discarded)	No data (discarded)

Table 3d Oceanic whitetip shark

Year	Gear	Catch (number)	Catch (kg)
2015	Frozen LL	782(discarded)	26317 (discarded)
2016	Frozen LL	257 (discarded)	No data (discarded)
2017	Frozen LL	321(discarded)	No data (discarded)
2018	Frozen LL	638(discarded)	No data (discarded)
2019	Frozen LL	568(discarded)	No data (discarded)

Table 3e Shortfin mako shark

Year	Gear	Catch (number)	Catch (kg)
2015	Deep LL	231	11950
2016	Deep LL	1047	40410
2017	Deep LL	1108	36765
2018	Deep LL	945	32867
2019	Deep LL	399	15436

Table 3f Shortfin mako shark

Year	Gear	Catch (number)	Catch (kg)
2015	Frozen LL	5	297
2016	Frozen LL	135	3638
2017	Frozen LL	594	18757
2018	Frozen LL	195	7241
2019	Frozen LL	135	7837

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. 2015–2019). Where available, include life status upon released/discard. **[Desirable]**

We are unable to provide estimates of total discard and release status since this information was not fully recorded in the current logbook.

5.2 Seabirds [Mandatory]

Most of China tuna longline vessels are operating in the tropical areas of IOTC waters and there are no interactions with seabirds. No seabird mortality in the tropical water was observed by longline observers onboard. The frozen longliners operating in the water south of 25°S might interact with seabirds, as observed by observers in previous years. This information has been submitted to IOTC secretariat. However, seabird interaction and mortality data have not been fully recorded in logbook, although fishermen are required to record this information. Therefore, the total mortality is not estimable at present. Mitigation measures on Chinese longline fleet are being implemented according to the management measures, bird-scaring lines, night-setting, and/or line weighting. One Salvin's albatross was observed with dead status in August 2019 by observer.

Observer seabird interaction data sheet for the IOTC longline fleet[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]

Observers are responsible for recording species-specific interactions of marine turtles in longline fisheries, including number of turtles caught, their fates, and release status. This information has been submitted to IOTC secretariat. No national plan of action for marine turtles is under development.No sea turtles were observedby the observers in 2019. Similar to seabird, total mortality and interaction of sea turtles cannot be estimated due to the lack of the complete informationfor the whole fleet.

	Fishery			Observed (observer data) **				
Year	Lat*	Lon	Total effort	Total effort observed	Species	Captures (number)	Mortalities (number)	Live releases (number)
2015	N15 -S45	E30-E105	26,616,190	105,201		0	0	0
2016	N10 -S40	E40-E105	24,107,147	1,206,736	Leatherback	2	0	2
2016	N10 -S40	E40-E105	24,107,147	1,206,736	Olive Ridley	2	1	1
2016	N10 -S40	E40-E105	24,107,147	1,206,736	Green turtle	1	1	0
2017	N10 -S40	E40-E110	33,070,839	1,767,428	Leatherback	4	0	4
2017	N10 -S40	E40-E110	33,070,839	1,767,428	Loggerhead turtle	1	0	1
2018	N10 -S40	E40-E105	32,987,773	1,681,983		0	0	0
2019	N10 -S45	E35-E100	26,380,951	1,814,426		0	0	0

NB: Effort units should be appropriate for the gear type, i.e., hooks or sets for LL and sets of fishing days for purse seine or gillnet fleets and fishing days for pole and line fleets.

*The resolution should be consistent with the standard data requirements (i.e. 5°x5° for longline and 1°x1° for surface fisheries)

**Indicate data source (e.g. logbooks or observer data)

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

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. 2015–2019 or to the extent available).**[Mandatory]**

Table 5a Marine mammals

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2015	Deep LL		No mortality				
2016	Deep LL		No mortality				
2017	Deep LL		No mortality				
2018	Deep LL		No mortality				
2019	Deep LL		No mortality				

Table 5b Marine mammals

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2015	Frozen LL		No mortality				
2016	Frozen LL		No mortality				
2017	Frozen LL		No mortality				
2018	Frozen LL		No mortality				
2019	Frozen LL	Striped dolphin	1				

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [Mandatory]

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

China started the pilot logbook data submission system in 2005 in order to obtain more detailed information about catch and fishing effort as required by the IOTC. In 2006 the Bureau of Fisheries, Ministry of Agriculture and Rural Affairs, required all tuna fishing vessels to fill logbook and return to the Bureau of Fisheries. The Bureau also announced that implementation of logbook program would be considered as one of the main factors for renewing fishing permission and licenses. Under the support of China Overseas Fisheries Association (COFA) and cooperation of the tuna fishing companies, China's logbook system has been developed and implemented smoothly as a regular monitoring program. Since 2009, 100% logbook coverage for the longline fishery has been achieved. In 2019, about 85% of the logbooks have been returned to the SHOU for data checking. All the information of those logbooks has entered into the national tuna fishery database at SHOU and is being processed. Preliminary analyses showed that the data quality of some logbook needs to be further improved. As indicated above, records for bycatch species, low-value species in particular, are not of high quality.

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

According to the regulations(2012,2014 and 2019) of Ministry of Agriculture and Rural Affairs (e.g. Notification on the vessel monitoring system for distant water fishing vessel, MARA, NongYuFa [2019]NO.22),all the Chinese longline vessels operating in the Indian Ocean should be equipped with the VMS system.And all the vessels shoud report at least eighteen fishing positions in 24h to the VMS center. Logbook data were verified with VMS data for consistency.

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

Under authorization by the Bureau of Fisheries, Ministry of Agriculture and Rural Affairs, the SHOU has been in charge of the national tuna observer program in the Pacific Ocean, Atlantic Ocean and Indian Ocean. China began to implement Scientific Observer programme for tuna fishery in IOTC in 2002. So far, the program has been implemented successfully with the support of COFA. Observers have been dispatched each year since then, except the year 2011 due to the piracy activity (even though the observer had been selected and trained). In 2016, in order to further promote the normalization and institutionalization of the national distant water fisheries observers program, the Ministry of Agriculture and Rural Affairs formulated the implementation rules of national distant-water fisheries observer management. Since then, the government of China has provided more funding to support the observer program and a series of reforms has taken place in recruitment, training, and dispatching and management for observers. The development of national observer database and recruitment of observers from the general public guarantee the numbers required to meet the coverage. Four observers were deployed in 2019.

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. 2015–2019 or to the extent available).**[Mandatory]**

Year	Gear	Hooks deployed	Number of observers	Hooks observed	Coverage
2015	Deep & Frozen LL	26,616,190	1	105,201	0.40%
2016	Deep & Frozen LL	24,107,147	4	1,206,736	5.01%
2017	Deep LL	33,070,839	4	1,767,428	5.34%
2018	Deep & Frozen LL	32,987,773	5	1,681,983	5.09%
2019	Deep & Frozen LL	26,380,951	4	1,814,426	6.88%

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

There were four observer trips conducted in 2019, here the observed longline sets were shown. The observers worked on board longliners from March 2019 to June 2020. Details were described in the observer trip report submitted to the Secretariat.

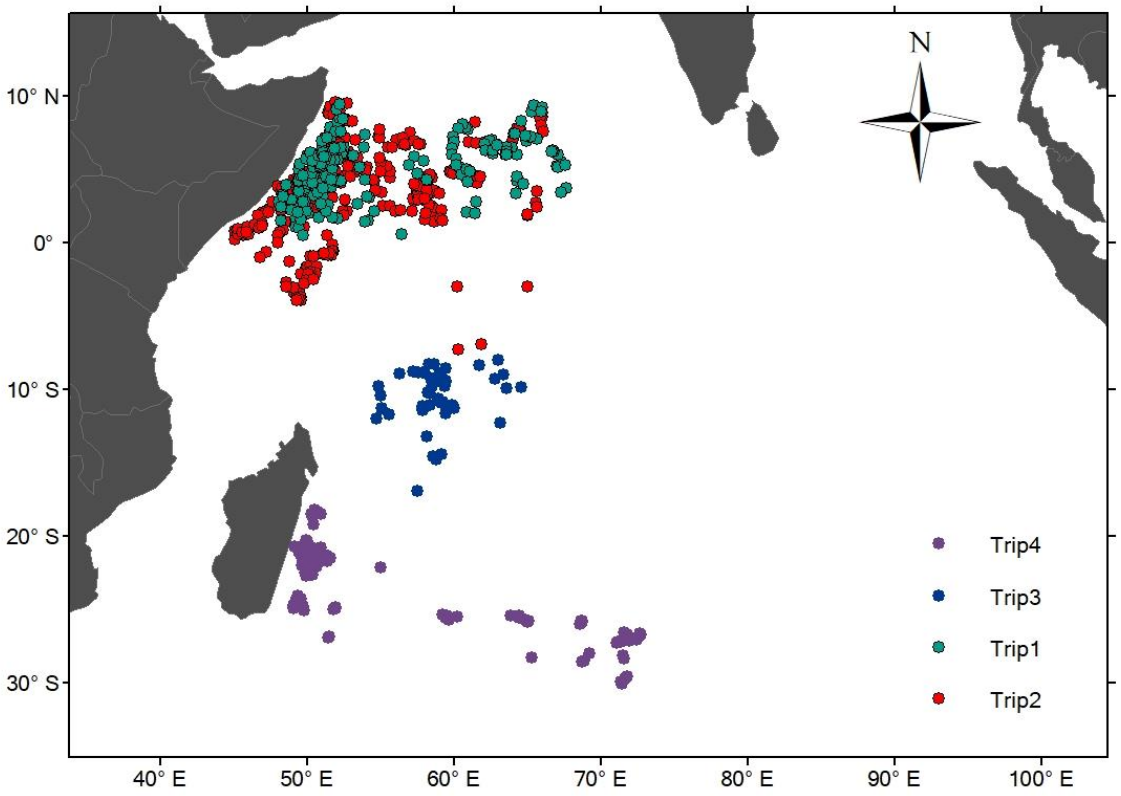


Figure 4 Distribution of longline operating sets observed during the 2019 observer trips

6.4. Port sampling programme [Mandatory]

China set up a port sampling program in early 2012. The program was designed for vessels which return and unload catch in domestic ports in China. Size and species composition are the main information to be collected from the program. The challenge is the lack of detailed capture information (e.g. catch date and position) for the pooled catch unloaded in port. In 2019, about 880 individuals were measured from port sampling(Table 7).

Table 7. Number of vessel trips or vessels active monitored, by species and gear] **[Mandatory]**

NO. OF VESSEL	GEAR	SPECIES
1	Deep Longline	BET/YFT/ALB/DOL
1	Frozen Longline	ALB/BET/YFT/DOL

Table 8. Number of individuals measured, by species and gear] **[Mandatory]**

Species	Number of individuals measured	Fishing gear
Albacore	225	Frozen longline
Bigeye tuna	287	Frozen longline
Yellowfin tuna	302	Frozen longline
Dolphin fish	66	Frozen longline

6.5. Unloading/Transhipment of flag vessels [including date commenced and status of implementation]**[Mandatory]**

Table 9. Quantities by species and gear landed in ports located in the IOTC area of competence**[Mandatory]**

This data statistics is currently not available.

Table 10. Quantities by species and gear transhipped in ports located in the IOTC area of competence**[Mandatory]**

IOTC Species	Gear	Transshipment in port（kg）
Albacore tuna	Longline	158379
Yellowfin tuna	Longline	183320
Bigeye tuna	Longline	33701
Swordfish	Longline	8366
Other	Longline	22783
Total	Longline	406549

6.6. Actions taken to monitor catches & manage fisheries for Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish[Mandatory]

The monitoring of catch of billfish is undertaken by data collection programs as mentioned above, i.e., monthly catch and effort reporting and statistics. When the catch monitored increased greatly compared with previous year, notice will be sent to industries accordingly. Because catch limit for CPC has not been set up, the catch limit by vessel has not been allocated.

6.7. Gillnet observer coverage and monitoring[Desirable]

No gillnet fishery.

6.8 Sampling plans for mobulid rays [Mandatory]

China has no subsistence and artisanal fisheries for mobulid rays. In 2019,China longline vessels operating in the IOTC areas did not catch/report any mobulid rays.

7. NATIONAL RESEARCH PROGRAMS [Desirable]

China has launched several domestic research projects regarding tuna fisheries and stock status of key species in the Indian Ocean, which are funded by different sources (e.g., Shanghai Municipal Education Commission, and Ministry of Agriculture and Rural Affairs). Scientists from the Shanghai Ocean University are collecting and analysing biological and size composition data based on national longline observer program. Some of the results have been presented to relevant IOTC working parties.

7.1. National research programs on blue shark

Blue shark is an important species that China is studying through various research projects. Some of work has been submitted to WPEB, although stand-alone national program has not been set up.

7.2. National research programs on Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish

Billfish are important species that China is studying through various research projects. Some of work has been submitted to WPB, although stand-alone national program has not been set up.

7.3. National research programs on sharks

None.

7.4. National research programs on oceanic whitetip sharks

None.

7.5. National research programs on marine turtles

None.

7.6. National research programs on thresher sharks

None.

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

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
None						

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 2012 and 2019.

Res. No.	Resolution	Scientific requirement	CPC progress
11/04	On a regional observer scheme	Paragraph 9	Paragraph 9-China has submitted the number of vessels in 2019 .
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Paragraphs 3-4- Interactions with marine turtles have been recorded and reported by the observers. Paragraph 6- Fishermen are required to help recover marine turtle captured and release. De-hooking techniques and guideline have been equipped onboard fishing vessels. Paragraph 10-Based on the effects of the use of circle hooks, China encouraged the vessels to use of circle hooks to improne of mitigation of sea turtles.
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Paragraph 3-Implementation of seabird conversation measures is documented in the national report. Paragraph 4-All Chinese longline vessels are required to be equipped with tori-line to reduce the bycatch of seabirds. Paragraphs 5-7 All the Chinese longline vessels operating in the area south of 25 degree South are required to comply with this CMM, most vessels using tori-line and night-setting. The design of tori-line follows the standard of this measure.
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Paragraph 4- The incidental catch of thresher sharks were released directly onboard; and the fishermen are required to record and report incidental catches of thresher sharks in logbooks. Paragraph 5-China has no recreational and sport fishing in IOTC areas. Paragraph 6- This information is required to be collected in the observer program. Paragraph 7- Specific project or biological sampling for tissues (vertebrae, reproductive tracts, stomachs, etc.) has not been set up for thresher sharks. Paragraph 8- China has submitted partial catch data on sharks.
13/04	On the conservation of cetaceans	Paragraphs 7– 9	Paragraph 7-China has submitted the data and report by observers. Paragraph8-China has no purse seiner fishing in IOTC

Res. No.	Resolution	Scientific requirement	CPC progress
			areas. Paragraph9- China has submitted the data collected by the observers.
13/05	On the conservation of whale sharks (*Rhincodon typus*)	Paragraphs 7– 9	Paragraph 7-China has submitted the data and report by observers. Paragraph8-China has no purse seiner fishing in IOTC areas. Paragraph9- China has submitted the data collected by the observers.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Paragraphs 5- The fishermen made records of the incidental catch of oceanic whitetip shark and the data have been submitted to IOTC. Paragraphs 6-China are now focusing on data collection of whitetip shark and would conduct some research in the future.
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	Paragraph 1-All the China flag vessels are required to have the logbook system. Paragraphs2-3-China has its data collection program including aggregated catch and effort, logbook, observer data based on minimum standard required by the CMM. Paragraph 4-The template of logbook has been submitted. Paragraph 10-China has provided aggregated catch and effort data by 30th June as required by the CMM. The data was based on the catch statistics reported by each fishing company, rather than the standard logbook, which is still being improved in quality. Paragraph 5-China has provided the English field description of logbook. Paragraphs 6-10 China logbook of longline vessels contains the information of Annex I,II,III.And the logbook should be submitted to SHOU,and aggregated data were reported to the IOTC.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	Paragraph 1-China has submitted the required data before 30 June. Paragraph 2- China has provided total catch by species and gear for tunas, billfishes, common shark species, and others. Paragraph 3- China has provided information about interaction with its longline fishery based on observer data. Paragraph 4- China has provided catch and effort by species and gear for tunas, billfishes, and common shark species by 5°area grid on monthly base. Paragraph 5- China has provided size data for main species based on observer data. The observer coverage for 2019 has exceeded 5%. Paragraph 6-China has no purse seiner fishing in IOTC areas. Paragraph 7- Data have been submitted before the deadline.
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	Paragraph 6-China has submitted the shark data to IOTC by 30 June. Paragraph9-China are trying to apply the financial budget to support the project. Paragraph 11-China now conduct some study for biological research and ecological risk analysis for sharks.
18/02	On management measures for the conservation	Paragraphs 2-5	Paragraph 2-Blue shark catch are being routinely recorded

Res. No.	Resolution	Scientific requirement	CPC progress
	of blue shark caught in association with IOTC fisheries		and reported to IOTC, based on catch statistics program and observer program. Paragraph3-All observers were required to collect catch,effort,size and discard data of blue shark and has submitted the data to IOTC. Paragraph4-China has reported the information on the actions taken domestically to monitor catches. Paragraph 5-China has provided some information available.
18/05	On management measures for the conservation of the Billfishes: Striped marlin, black marlin, blue marlin and Indo-Pacific sailfish	Paragraphs 7 – 11	Paragraph 7- China require longline vessels to record the catch and effort data of Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish in the logbook, and submit monthly catch and effort to government, as other species including tunas. Paragraph 8-China has the data collection system for the billfishes (observer and logbook programs) to collect and report catch data, and validate the accuracy. Information on released alive and/or discarded, together with effort, size and discard data are only available from observer program. Paragraph 9-The monitoring of catch of billfish is undertaken by data collection programs as mentioned above, i.e., monthly catch and effort reporting and statistics. When the catch monitored increased greatly compared with previous year, notice will be sent to industries accordingly. Because catch limit for CPC has not been set up, the catch limit by vessel has not been allocated. Paragraphs10-11-China has conducted some scientific research on biological characteristics of billfishes, and submitted to WPB before.
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	Paragraph 1-China has reported the information in Annual Reports on actions taken to implement reporting obligations for Chinese longline fishery. Paragraph4-China has reported the catch data based on the resolution.
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence	Paragraph 22	Paragraph 22- China has no gillnet fishing vessels in IOTC areas.
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Paragraph11-China has no subsistence and artisanal fisheries for mobulid rays.

9. LITERATURE CITED [Mandatory]

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