[China] National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2019

Jiangfeng Zhu*, Feng Wu, Xiaoming Yang
Shanghai Ocean University, 999 HuchengHuan Rd., Shanghai 201306, China

Email: jfzhu@shou.edu.cn

INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 10/02, final scientific data for the previous year was provided to the Secretariat by 30 June of the current year, **for all fleets other than longline** [e.g. for a National report submitted to the Secretariat in 2013 final data for the 2012 calendar year must be provided to the Secretariat by 30 June 2013)	Not applicable
In accordance with IOTC Resolution 10/02, provisional **longline data** for the previous year was provided to the Secretariat by 30 June of the current year [e.g. for a National report submitted to the Secretariat in 2013, preliminary data for the 2012 calendar year was provided to the Secretariat by 30 June 2013). **REMINDER:** Final longline data for the previous year is due to the Secretariat by 30 Dec of the current year [e.g. for a National report submitted to the Secretariat in 2013, final data for the 2012 calendar year must be provided to the Secretariat by 30 December 2013).	YES 30/06/2019
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 2018 was 85. The number of active deep-frozen longline vessels increased from 71 in 2017 to 75 in 2018. The tropical tunas catch (bigeye and yellowfin tuna) of Chinese longline fleet in 2018 was estimated at 8,697 MT, which was 817 MT higher than that in 2017(7,880MT). The number of frozen longline vessels in 2018 were the same as in 2017. The albacore longline catch for 2017 was estimated at 5,449 MT, higher than in 2017 (3,646 MT). Both the logbook and observer programs are being implemented for the Chinese longline fleets. In 2018, five scientific observers were deployed on board longline vessels to collect data for both targeted and bycatch species as required.

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 down to 63 in 2002. The number of active fishing vessels was reduced from 46 in 2008 to 32 in 2009 due to the piracy in 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 was 75 in 2018 (**Table 1**).

2. FLEET STRUCTURE [MANDATORY]

The Chinese tuna fleet consisted of deep frozen longliners (Deep LL) and frozen longliners (Frozen LL) in the Indian Ocean. The fleet structure is shown in **Table 1**. The number of active deep-frozen longliners was 75 in 2018, while the number of active frozen longliners was 10 in 2018.

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

Year	Gear	Vessel size range	Number of vessel
2013	Deep LL	GRT over 400	31
	Frozen LL	GRT 200- 400	5
2014	Deep LL	GRT over 400	22
	Frozen LL	GRT 200- 400	16
2015	Deep LL	GRT over 250	46
	Frozen LL	GRT 200- 350	7
2016	Deep LL	GRT over 250	54
	Frozen LL	GRT 250- 400	13
2017	Deep LL	GRT over 250	71
	Frozen LL	GRT 250- 400	10
2018	Deep LL	GRT over 250	75
	Frozen LL	GRT 250- 400	10

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 2018 was 5.6% higher than that in 2017. The Frozen LL effort in 2018 decreased which compared to the last year.

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

Table 2a Albacore caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	18
2014	Deep LL	15262	22
2015	Deep LL	21437	359
2016	Deep LL	18929	210
2017	Deep LL	23450	1320
2018	Deep LL	24769	3102

Table 2b Albacore caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	993
2014	Frozen LL	3950	1409
2015	Frozen LL	5178	1484
2016	Frozen LL	5177	1709
2017	Frozen LL	9620	2326
2018	Frozen LL	8218	2348

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	4274
2014	Deep LL	15262	3723
2015	Deep LL	21437	4427
2016	Deep LL	18929	3770
2017	Deep LL	23450	4140
2018	Deep LL	24769	3556

Table 2d Bigeye tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	37
2014	Frozen LL	3950	139
2015	Frozen LL	5178	303
2016	Frozen LL	5177	316
2017	Frozen LL	9620	778
2018	Frozen LL	8218	499

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	669
2014	Deep LL	15262	882
2015	Deep LL	21437	1552
2016	Deep LL	18929	1569
2017	Deep LL	23450	2646
2018	Deep LL	24769	3665

Table 2f Yellowfin tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	253
2014	Frozen LL	3950	196
2015	Frozen LL	5178	240
2016	Frozen LL	5177	244
2017	Frozen LL	9620	316
2018	Frozen LL	8218	977

Table 2g Swordfish caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	562
2014	Deep LL	15262	616
2015	Deep LL	21437	1328
2016	Deep LL	18929	1142
2017	Deep LL	23450	1470
2018	Deep LL	24769	1836

Table 2h Swordfish caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	6
2014	Frozen LL	3950	8
2015	Frozen LL	5178	49
2016	Frozen LL	5177	34
2017	Frozen LL	9620	91
2018	Frozen LL	8218	136

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	226
2014	Deep LL	15262	88
2015	Deep LL	21437	270
2016	Deep LL	18929	915
2017	Deep LL	23450	452
2018	Deep LL	24769	620

Table 2j Blue marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	<1
2014	Frozen LL	3950	23
2015	Frozen LL	5178	28
2016	Frozen LL	5177	11
2017	Frozen LL	9620	40
2018	Frozen LL	8218	122

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	170
2014	Deep LL	15262	70
2015	Deep LL	21437	102
2016	Deep LL	18929	414
2017	Deep LL	23450	202
2018	Deep LL	24769	184

Table 2l Striped marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	<1
2014	Frozen LL	3950	14
2015	Frozen LL	5178	21
2016	Frozen LL	5177	11
2017	Frozen LL	9620	2
2018	Frozen LL	8218	6

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Deep LL	19992	10
2014	Deep LL	15262	8
2015	Deep LL	21437	27
2016	Deep LL	18929	8
2017	Deep LL	23450	9
2018	Deep LL	24769	14

Table 2n Black marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2013	Frozen LL	3447	1
2014	Frozen LL	3950	2
2015	Frozen LL	5178	16
2016	Frozen LL	5177	5
2017	Frozen LL	9620	1
2018	Frozen LL	8218	5

Figure 1. Historical annual catch by gear and primary species in the IOTC area of competence (2006-2018).

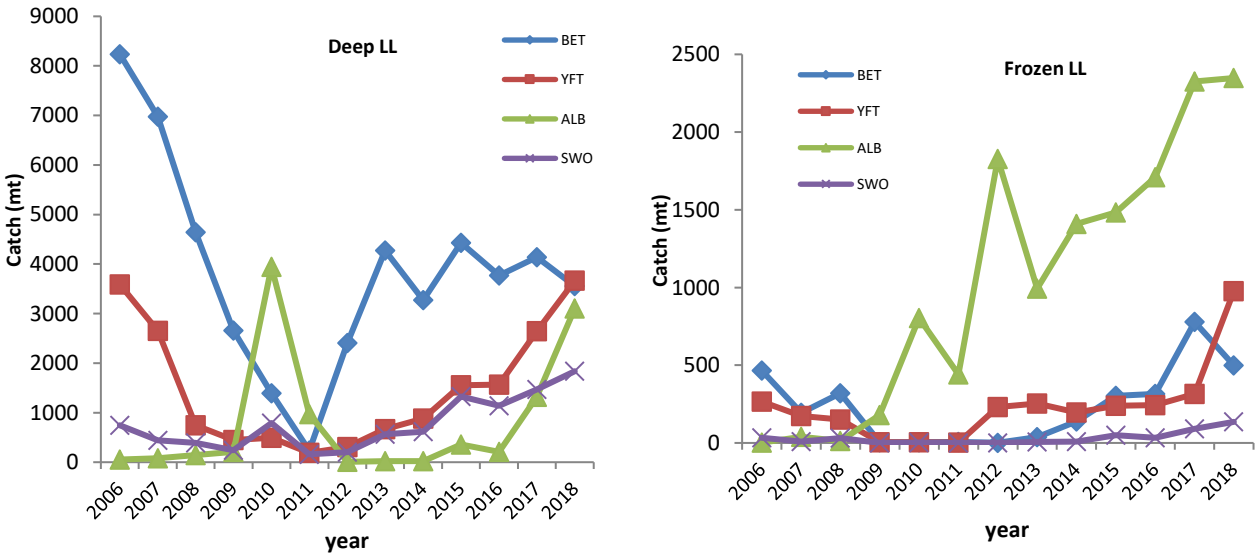


Figure 2a. Distribution of fishing effort by gear type in the IOTC area of competence in 2018

Deep-frozen LL 2018 **Frozen LL 2018**

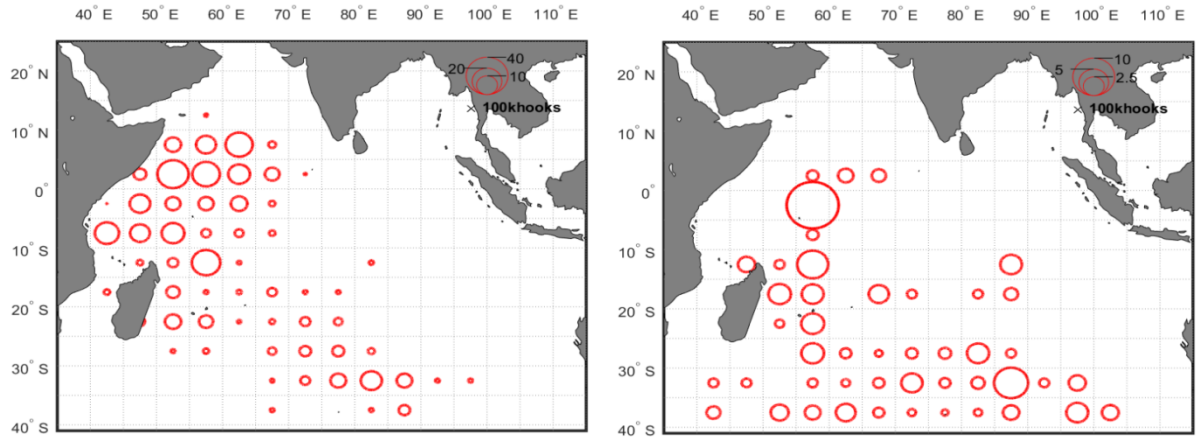


Figure 2b. Distribution of average fishing effort of 2014-2018 by gear type in the IOTC area of competence

Deep-frozen LL 2014-2018 **Frozen LL 2014-2018**

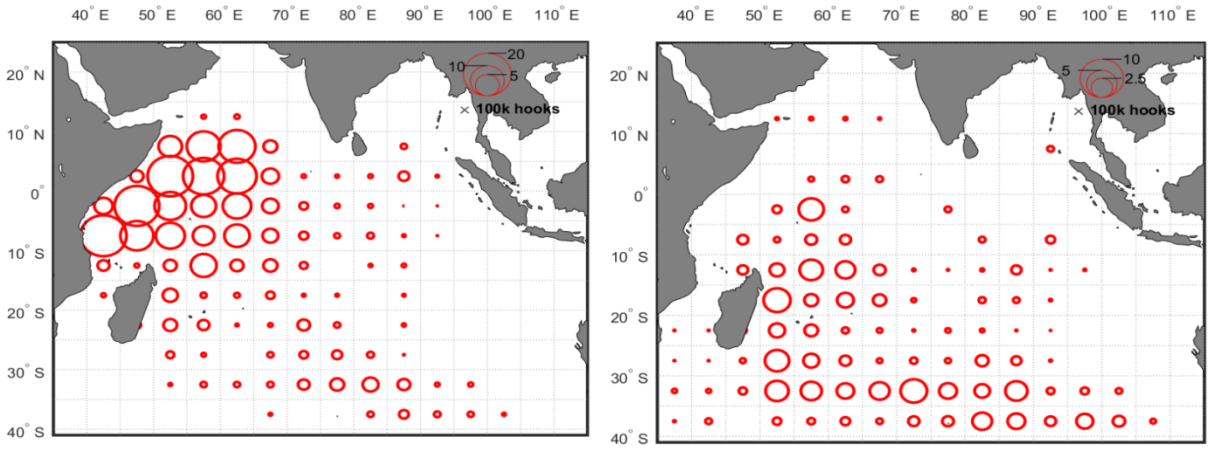
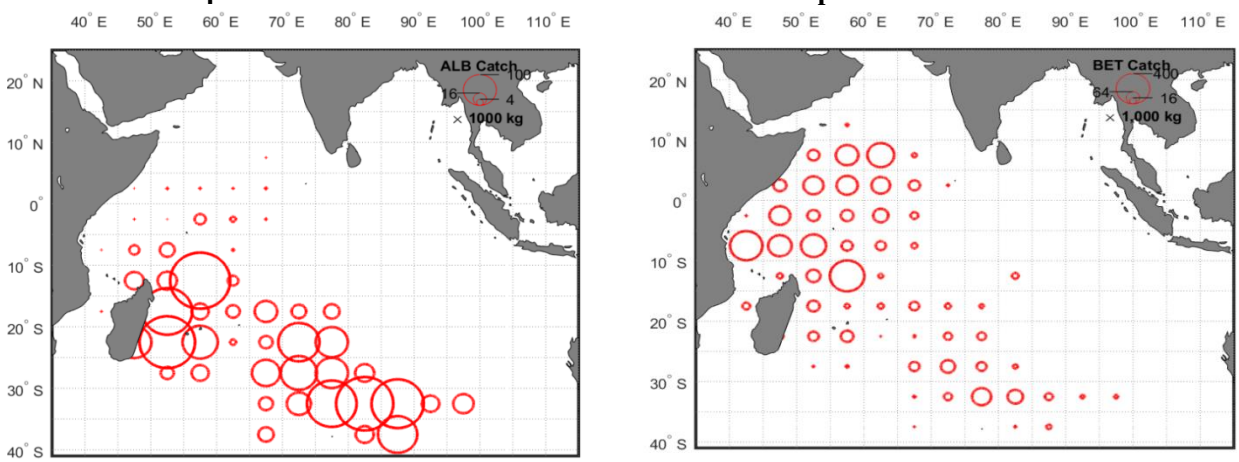
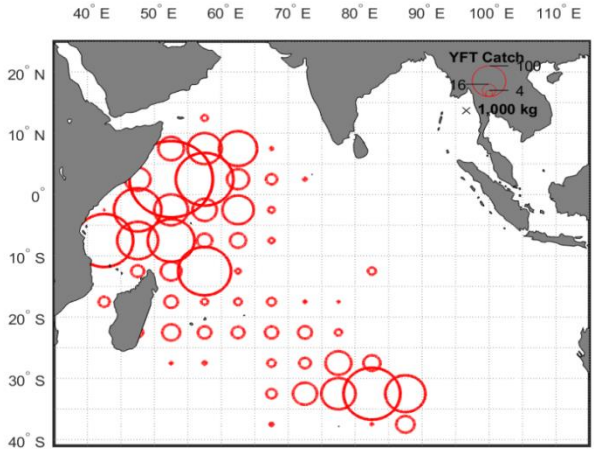


Figure 3a. Distribution of longline catch by gear type and species in the IOTC area of competence in 2018

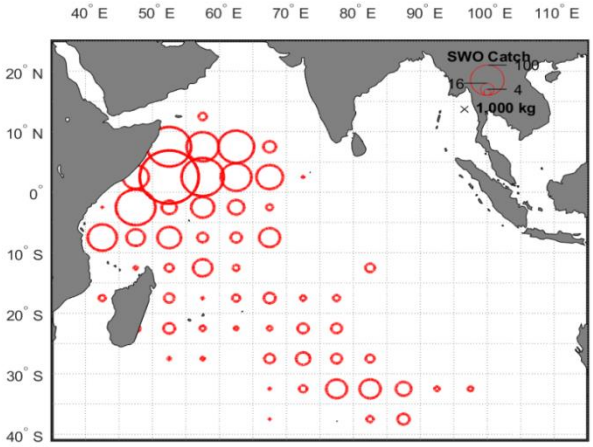
Deep-frozen ALB 2018 **Deep-frozen BET 2018**



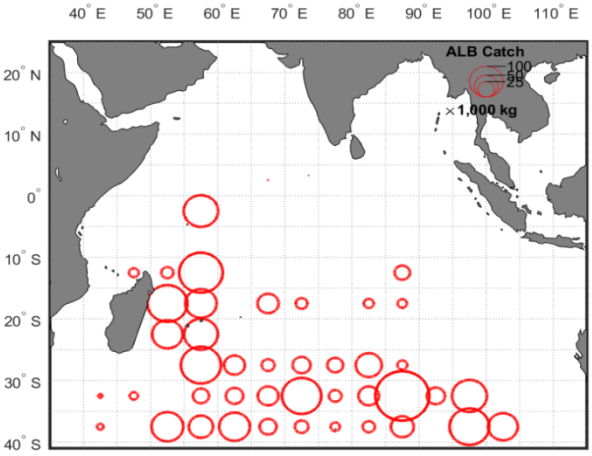
Deep-frozen YFT 2018



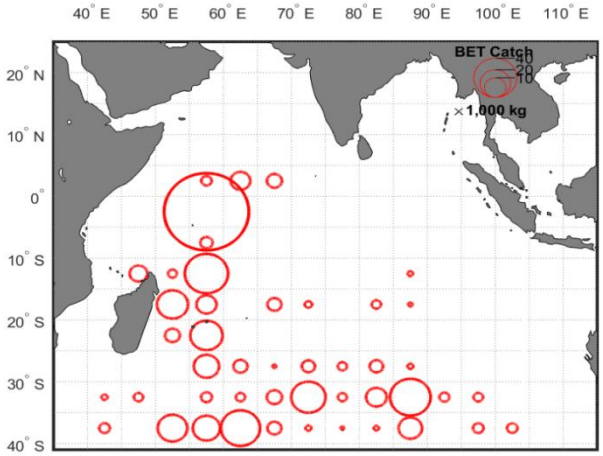
Deep-frozen SWO 2018



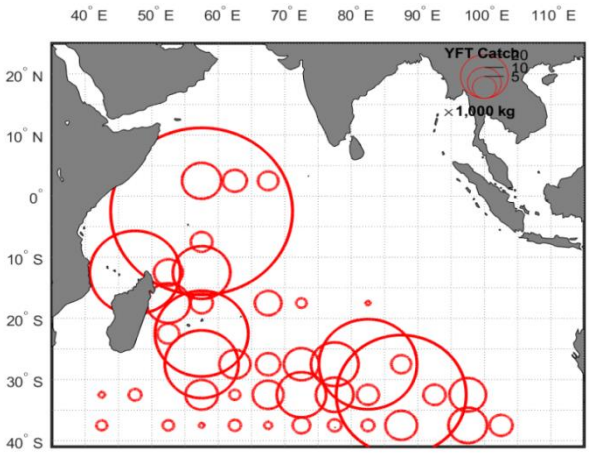
Frozen ALB 2018



Frozen BET 2018



Frozen YFT 2018



Frozen SWO 2018

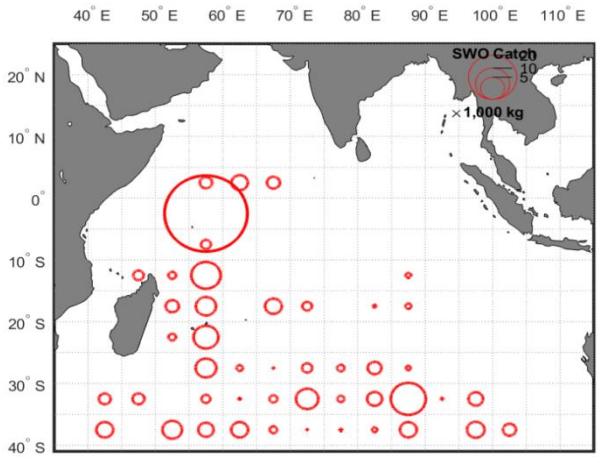
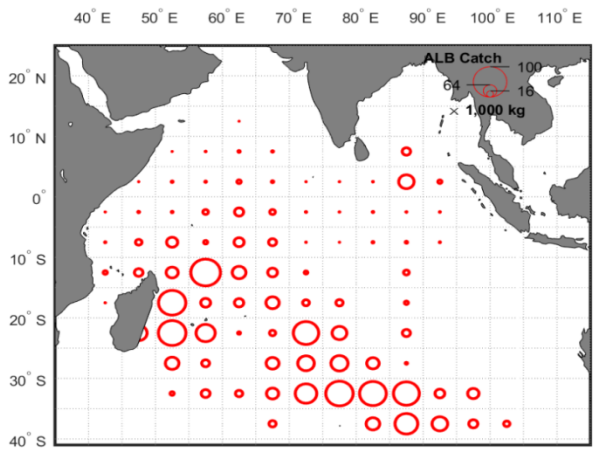
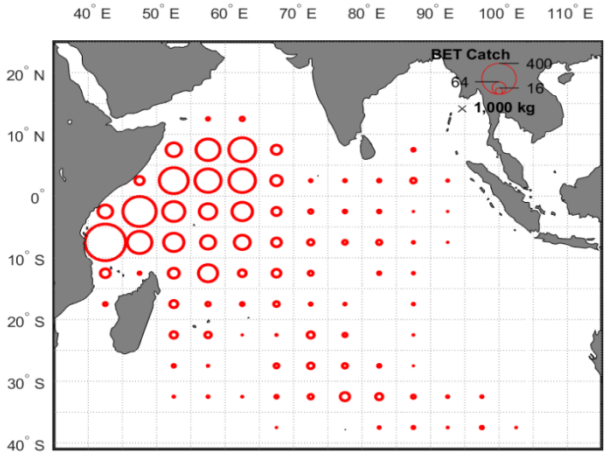


Figure 3b. Distribution of longline catch by gear type and species in the IOTC area of competence (average of 2014-2018)

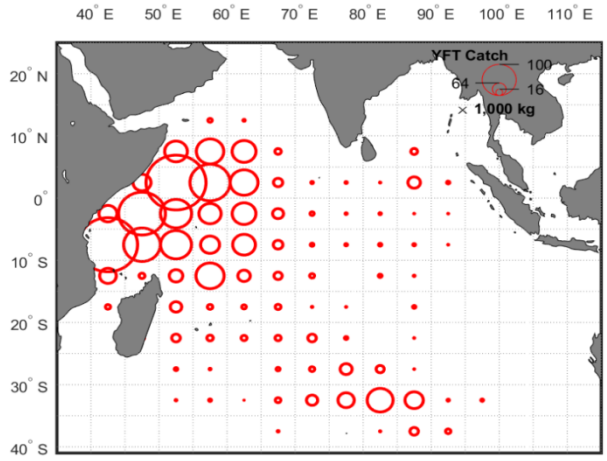
Deep-frozen ALB 2014-2018



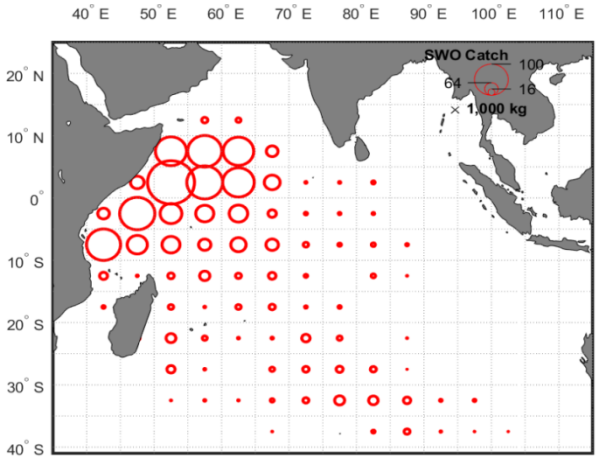
Deep-frozen BET 2014-2018



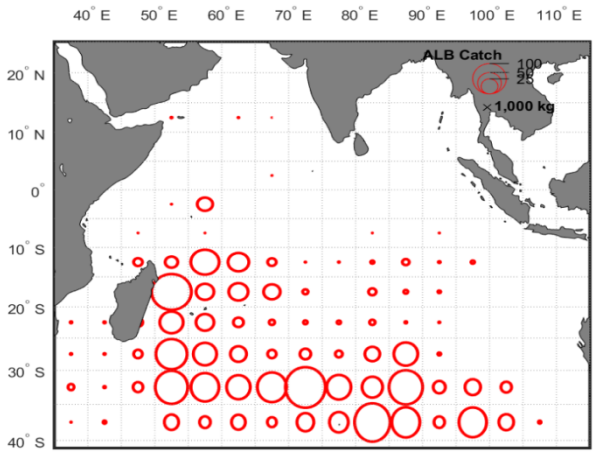
Deep-frozen YFT 2014-2018



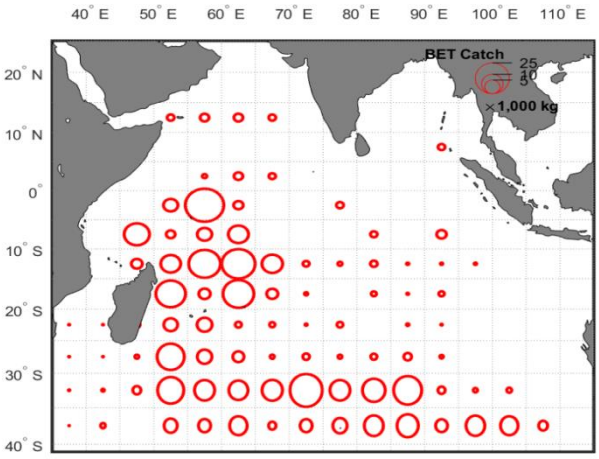
Deep-frozen SWO 2014-2018



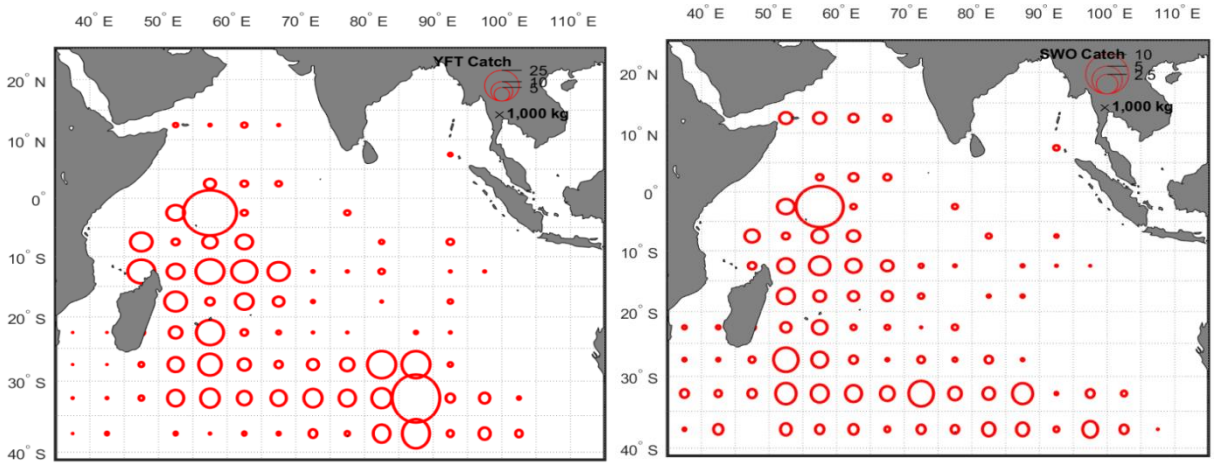
Frozen ALB 2014-2018



Frozen BET 2014-2018



Frozen YFT 2014-2018 **Frozen SWO 2014-2018**



4. RECREATIONAL FISHERY

No recreational fishing activities.

5. ECOSYSTEM AND BYCATCH ISSUES

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 tropical tuna and bycatch research in the Indian Ocean. China is also working on stock 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 now enhancing its management and conservation measures for important bycatch species (i.e., sharks, seabirds and marine turtles), and involved in bycatch mitigation initiatives from ISSF and other regional fisheries management organizations.

5.1 Sharks

China is collecting biological and ecological information based on longline observer program. Species-specific catch and effort data are currently being recorded in the logbook. However, in consideration of fishermen's poor knowledge in species identification and workload onboard, complete recording species on the recommended list is hardly finished at least for the recent years. In current year, Posters of common sharks species have been sent to each vessel to facilitate fisherman to identify species.

Table 3: Total number and weight of sharks by species retained in the IOTC area of competence (2008-2018).

Table 3a Blue shark

Year	Gear	Catch (number)	Catch (kg)
2008	Deep LL	6965	314552
2009	Deep LL	5009	239394
2010	Deep LL	2410	100282
2011	Deep LL	716	31547
2012	Deep LL	439	17560
2013	Deep LL	2120	72906
2014	Deep LL	2311	83401

2015	Deep LL	2533	93662
2016	Deep LL	406	13821
2017	Deep LL	1863	67268
2018	Deep LL	4551	162382

Table 3b Blue shark

Year	Gear	Catch (number)	Catch (kg)
2008	Frozen LL	452	26743
2009	Frozen LL	64	2060
2010	Frozen LL	56	1818
2011	Frozen LL	58	2529
2012	Frozen LL	1630	48484
2013	Frozen LL	1210	48825
2014	Frozen LL	1005	36748
2015	Frozen LL	1656	54041
2016	Frozen LL	968	35214
2017	Frozen LL	4307	112483
2018	Frozen LL	2425	40058

Table 3c Oceanic whitetip shark

Year	Gear	Catch (number)	Catch (kg)
2008	Deep LL	No data(unclassified)	No data(unclassified)
2009	Deep LL	1346	55839
2010	Deep LL	5125	160026
2011	Deep LL	1044	33559
2012	Deep LL	No data(unclassified)	No data(unclassified)
2013	Deep LL	No data (discarded)	No data (discarded)
2014	Deep LL	No data (discarded)	No data (discarded)
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)

Table 3d Oceanic whitetip shark

Year	Gear	Catch (number)	Catch (kg)
2008	Frozen LL	No data(unclassified)	No data(unclassified)
2009	Frozen LL	0	0
2010	Frozen LL	7	282
2011	Frozen LL	13	501
2012	Frozen LL	Not available	7768
2013	Frozen LL	No data (discarded)	No data (discarded)
2014	Frozen LL	No data (discarded)	No data (discarded)
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)

Table 3e Shortfin mako shark

Year	Gear	Catch (number)	Catch (kg)
2008	Deep LL	1705	57177
2009	Deep LL	1969	72072
2010	Deep LL	3100	120826
2011	Deep LL	910	34297
2012	Deep LL	132	6004
2013	Deep LL	928	36781
2014	Deep LL	239	10771
2015	Deep LL	231	11950
2016	Deep LL	1047	40410
2017	Deep LL	1108	36765
2018	Deep LL	945	32867

Table 3f Shortfin mako shark

Year	Gear	Catch (number)	Catch (kg)
2008	Frozen LL	148	7716
2009	Frozen LL	80	3246
2010	Frozen LL	47	1996
2011	Frozen LL	37	1108
2012	Frozen LL	9932	66886
2013	Frozen LL	1742	63574
2014	Frozen LL	144	5268
2015	Frozen LL	5	297
2016	Frozen LL	135	3638
2017	Frozen LL	594	18757
2018	Frozen LL	195	7241

Table 4: Total number of sharks, by species, released/discarded in the IOTC area of competence (2014-2018). Where available, include life status upon released/discard.

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

5.2 Seabirds

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.

5.3 Marine Turtles

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 observed by the observers in 2018. Similar to seabird, total mortality and interaction of sea turtles cannot be estimated due to the lack of the complete information for the whole fleet.

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

Observers are responsible for recording species-specific interaction of marine mammals in longline fisheries, including number of species caught, their fate, and release status. No national plan of action for marine mammals is under development.

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 (2013-2018).

Table 5a Marine turtles

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2013	Deep LL		No mortality				
2014	Deep LL		No mortality				
2015	Deep LL		No mortality				
2016	Deep LL	Leatherback	2	Olive Ridley	2	Green turtle	1
2017	Deep LL	Leatherback	4	Loggerhead turtle	1		
2018	Deep LL		No mortality				

Table 5b Marine turtles

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2013	Frozen LL		No mortality				
2014	Frozen LL	olive ridley	1				
2015	Frozen LL		No mortality				
2016	Frozen LL		No mortality				
2017	Frozen LL		No mortality				
2018	Frozen LL		No mortality				

Table 5c Marine mammals

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2013	Deep LL		No mortality				
2014	Deep LL		No mortality				
2015	Deep LL		No mortality				
2016	Deep LL		No mortality				
2017	Deep LL		No mortality				
2018	Deep LL		No mortality				

Table 5d Marine mammals

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2013	Frozen LL		No mortality				
2014	Frozen LL		No mortality				
2015	Frozen LL		No mortality				
2016	Frozen LL		No mortality				
2017	Frozen LL		No mortality				
2018	Frozen LL		No mortality				

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS

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, 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 2018, about 95% of the logbooks have been returned to the SHOU through the Bureau of Fisheries and Law Enforcement. 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)

All the Chinese longline vessels operating in the Indian Ocean have been equipped with the VMS system.

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

Under authorization by the Bureau of fisheries and Law Enforcement, Ministry of Agriculture, 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 tuna Scientific Observer programme 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, institutionalization and reutilization of the national distant water fisheries observers, the Ministry of Agriculture formulated the implementation rules of national distant-water fisheries observer management. Since then, the government of China has provided more funding to support the implementation of national observer program and a series of reforms has taken place in recruitment, training, and dispatching and management of the observers. The development of national observer database and open recruitment of the observers from the general public guarantee the numbers required to meet the coverage. Five observers were deployed in 2018.

Table 6. Annual longline observer coverage by operation, e.g., percentage of hooks observed (2012-2018).

Year	Gear	Hooks deployed	Number of observers	Hooks observed	Coverage
2012	Deep LL	11,295,050	1	218,520	1.93%
2013	Deep & Frozen LL	23,439,470	1	216,640	0.92%
2014	Deep & Frozen LL	19,212,540	2	178,413	0.93%
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%

Figure 4. Map showing the spatial distribution of observer coverage.
There were five observer trips conducted in 2018, here the observed longline sets were shown (Figure 4). The observers worked on board longliners from May 2018 to January 2019. Details were described in the observer trip report submitted to the Secretariat.

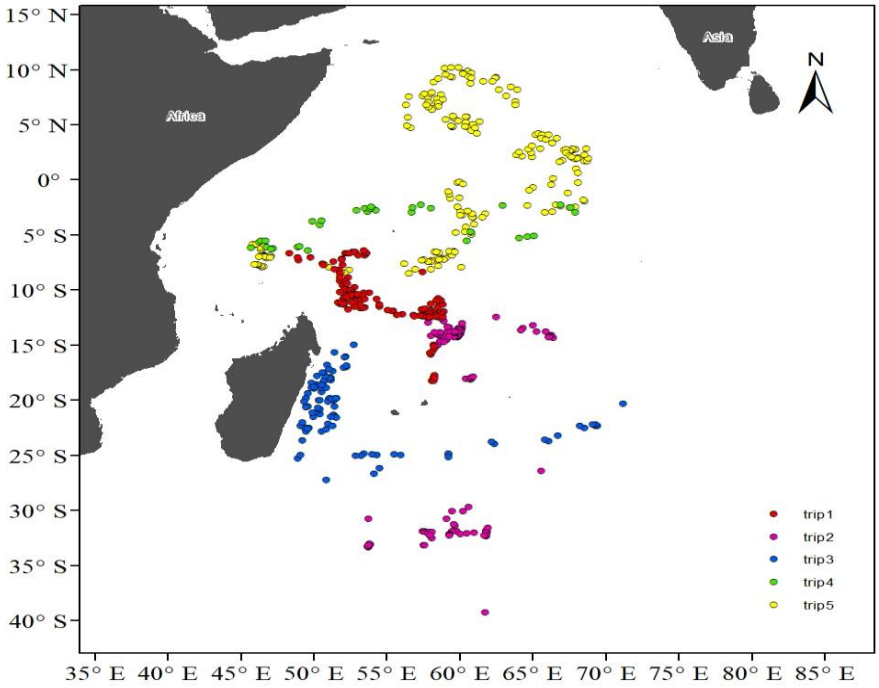


Figure 4 Distribution of longline operating sets observed during the 2018 observer trips

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

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 2018, about 10,596 individuals were measured from port sampling (Table 7).

Table 7. Number of individuals measured, by species and gearin the port sampling program in 2018

Species	Number of individuals measured	Fishing gear
Albacore	6612	Frozen longline
Bigeye tuna	2767	Frozen longline
Blue shark	121	Frozen longline
Swordfish	740	Frozen longline
Blue marlin	250	Deep longline
Striped marlin	65	Deep longline
Bigeye thresher	27	Deep longline
Shortfin mako	14	Deep longline

6.5. Unloading/Transhipment [including date commenced and status of implementation]

Table 8 Transhipment of China fleet in 2018 (unit: metric ton)

IOTC Species	Transshipment at sea	Transshipment in port
Albacore tuna	2707.1	128.6
Yellowfin tuna	2525.8	374.6
Bigeye tuna	2508.6	286.2
Blue Marlin	195.1	27.7
Black Marlin	295.2	
Striped Marlin	0	16.6
Sailfish	89.6	
Swordfish	1246.1	96.8
Oil fish	202.0	
Shark	222.1	27.7
Misc	695.6	12.1
Total	10687.6	970.3

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 Bureau of Fisheries and Fishery Law Enforcement, Ministry of Agriculture). 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.

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

Table 10. Respond with progress made to recommendations of the SC and specific Resolutions relevant to the work of the Scientific Committee [to be updated annually to include most recent Conservation and Management Measures adopted by the Commission].

Res. No.	Resolution	Scientific requirement	CPC progress
11/04	On a regional observer scheme	Paragraph 2, 5, 10-11	Paragraphs2, 5, 10-11- China is implementing the observer program and trying to fulfil the 5% coverage. The template of data collection of the observer program is consistent with this CMM. Detailed data of each observer trip has been submitted to the IOTC secretariat.
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–8	Paragraph3-4- 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 8- Line cutters and de-hookers are in place onboard longliner. The fishing operators are required to hand and promptly release marine turtles caught or entangled, in accordance with the IOTC Guidelines. Marine Turtle Identification Cards were distributed to all the fishing vessels.
12/06	On reducing the incidental bycatch of seabirds in longline fisheries	Paragraphs 1,3,5–7	Paragraph 1- Seabird interactions are recorded by observers, but not on species levels due to difficulty of species identification.

Res. No.	Resolution	Scientific requirement	CPC progress
			Paragraph 3-Implementation of seabird conversation measures is documented in the national report. Paragraphs 5-7All the Chinese longline vessels operating in the area south of 25 degrees South latitude 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 4,6,7–8	Paragraph 4- The bycaught thresher sharks were released directly onboard; and the fishermen are required to record and report incidental catches of thresher sharks in logbooks. Paragraph 6- This information is required being 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 by now. Paragraph 8- China has submitted partial catch data on sharks.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraphs 3-5	Paragraphs 3-4 Oceanic whitetip sharks were released onboard by fishermen. Paragraphs 5- The fishermen made records of the incidental catch of oceanic whitetip shark and the data have been submitted to IOTC.
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 2,3,4,10	Paragraph 2-3-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.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 2,3,4,5,7	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 (Deep LL and Ice LL) 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 2017 has exceeded 5%. Paragraph 7- Data have been submitted before the deadline.
15/04	Concerning the IOTC record of vessels authorised to operate in the IOTC area of competence	Paragraphs 2,3,5,7-10,12-16	Paragraph 2-China has submitted required registration information to the secretariat for AFVs that are authorised to operate in the IOTC area of competence. Paragraph 3-China has submitted an updated template of the official authorisation to fish outside National Jurisdictions with information concerning these ATF. Paragraph 5-China has notified the IOTC Executive Secretary of any addition to, any deletion from and/or any modification of the IOTC Record at any time such changes occur. Paragraph 7-China takes necessary measures to ensure our AFVs comply with all the relevant IOTC CMMs. Paragraph 8-China reviews our AFVs performance yearly and takes necessary punitive actions and sanctions to vessels and owners that have violated the relevant IOTC CMMs,

Res. No.	Resolution	Scientific requirement	CPC progress
			according to our domestic law. Paragraph 9-China takes measures to prohibit the fishing for, the retaining on board, the transshipment and landing of tuna and tuna-like species by the vessels which are not entered into the IOTC Record. Paragraph 10-China has notified the IOTC Executive Secretary of any factual information showing that there are reasonable grounds for suspecting vessels not on the IOTC Record to be engaged in fishing for and/or transshipment of tuna and tuna-like species in the IOTC area of competence. Paragraph 12-China has communicated with the Commission and the other CPCs to develop and implement appropriate measures. Paragraph 13-All Chinese fishing vessel carry on board documents issued and certified by the competent authority including license, vessel name, registered port, registered number, international call sign, names and addresses of owners, overall length and engine power. Paragraph 14- All Chinese fishing vessels authorised to fish in the IOTC area of competence are marked in accordance with FAO Standard Specification for the Marking Identification of Fishing vessels. Paragraph 15- China takes necessary measures to ensure that each gear used by its fishing vessels authorised to fish in the IOTC area of competence is marked appropriately Paragraph 16- A bound fishing national logbook has been kept on board the Chinese vessel for a period of at least 12months.
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6	Paragraphs 6-China has submitted the shark data to IOTC by 30 June.
18/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence	Paragraphs 5	Paragraphs 5-China's longline yellowfin catch in 2014 was less than 5000 MT.
18/02	On Management Measures for the Conservation of Blue Shark Caught in Association with IOTC Fisheries	Paragraphs 2	Paragraphs 2-Blue shark catch are being routinely recorded and reported to IOTC, through its catch statistics program and observer program.
18/06	On establishing a programme for transhipment by large-scale fishing vessels	Paragraphs 2,4,6,10,18	Paragraph 2-Chinese LSTVs comply with the required notification obligations when transhipping in port. Paragraph 4-China authorised their LSTLV to tranship at sea in accordance with the required procedure. Paragraph 6- China has submitted required information to the secretariat for the carrier vessels that are authorised to receive at-sea transhipments from its LSTLVs in the IOTC area of competence. Paragraph 10-VMS has been installed and operated onboard Chinese carrier vessels. Paragraph 18-All Chinese carrier vessels transhipped at sea have an IOTC observer on board.

9. LITERATURE CITED [Mandatory]

LiuxiongXu, Jiangfeng Zhu, Xiaojie Dai, Feng Wu, Xiaoming Yang. 2016.[China]National Report to the Scientific Committee of the Indian OceanTuna Commission, 2016.IOTC-2016-SC19-NR03.