



## [China] National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2022

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### INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

<p>In accordance with IOTC Resolution 15/02, final scientific data for the previous year was provided to the IOTC Secretariat by 30 June of the current year, <b>for all fleets other than longline</b> [e.g., for a National Report submitted to the IOTC Secretariat in 2022, final data for the 2021 calendar year must be provided to the Secretariat by 30 June 2022)</p>	<p>Not applicable</p>
<p>In accordance with IOTC Resolution 15/02, provisional <b>longline data</b> 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 2022, preliminary data for the 2021 calendar year was provided to the IOTC Secretariat by 30 June 2022).</p> <p><b>REMINDER:</b> 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 2022, final data for the 2021 calendar year must be provided to the Secretariat by 30 December 2022).</p>	<p>YES</p> <p>29/06/2022</p>
<p>If no, please indicate the reason(s) and intended actions:</p>	

## 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 operating in the IOTC waters in 2021 was 78. The number of active deep-frozen longline vessels decreased from 72 in 2020 to 70 in 2021. The tropical tuna catch (bigeye and yellowfin tuna) of Chinese longline fleet in 2021 was estimated at 7,344MT, which was 51 MT higher than that in 2020 (7,293MT). The number of frozen longlines remained 8 in 2021, which had no change compared with 2020. The albacore longline catch for 2021 was estimated at 2,360MT, less than in 2020 (3,763MT). Both the logbook and observer programs are being implemented for the Chinese longline fleets. In 2021, 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 the shift of fishing grounds 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 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 °E ~ 90°E and 20°N ~ 40°S. Since 2009, most of the deep-frozen fishing efforts shifted to the southern Indian Ocean due to 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 2021 was 70 and 8, 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	Vessel size range	Number of vessels
2017	Deep LL	GRT over 400	71
	Frozen LL	GRT 250- 400	10
2018	Deep LL	GRT over 400	75
	Frozen LL	GRT 250- 400	10
2019	Deep LL	GRT over 400	54
	Frozen LL	GRT 250- 400	34
2020	Deep LL	GRT over 400	72
	Frozen LL	GRT 250- 400	8
2021	Deep LL	GRT over 400	70
	Frozen LL	GRT 250- 400	8

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

Annual catch by species and effort of the 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 2021 was 0.8% less than that in 2020. The Frozen LL effort in 2021 was 25% higher than in 2020.

**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)
2017	Deep LL	23450	1320
2018	Deep LL	24769	3102
2019	Deep LL	12330	215
2020	Deep LL	12753	268
2021	Deep LL	12649	1189

**Table 2b** Albacore caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	2326
2018	Frozen LL	8218	2348
2019	Frozen LL	14051	2274
2020	Frozen LL	17147	3495
2021	Frozen LL	21395	1171

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	4140
2018	Deep LL	24769	3556
2019	Deep LL	12330	1011
2020	Deep LL	12753	1891
2021	Deep LL	12649	1717

**Table 2d** Bigeye tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	778
2018	Frozen LL	8218	499
2019	Frozen LL	14051	826
2020	Frozen LL	17147	1696
2021	Frozen LL	21395	2921

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	2646
2018	Deep LL	24769	3665
2019	Deep LL	12330	2193
2020	Deep LL	12753	2484
2021	Deep LL	12649	584

**Table 2f** Yellowfin tuna caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	316
2018	Frozen LL	8218	977
2019	Frozen LL	14051	1020
2020	Frozen LL	17147	1223
2021	Frozen LL	21395	2122

**Table 2g** Swordfish caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	1470
2018	Deep LL	24769	1836
2019	Deep LL	12330	695
2020	Deep LL	12753	968
2021	Deep LL	12649	426

**Table 2h** Swordfish caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	91
2018	Frozen LL	8218	136
2019	Frozen LL	14051	310
2020	Frozen LL	17147	352
2021	Frozen LL	21395	960

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	452
2018	Deep LL	24769	620
2019	Deep LL	12330	255
2020	Deep LL	12753	254
2021	Deep LL	12649	22

**Table 2j** Blue marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	40
2018	Frozen LL	8218	122
2019	Frozen LL	14051	81
2020	Frozen LL	17147	41
2021	Frozen LL	21395	257

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

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	202
2018	Deep LL	24769	184
2019	Deep LL	12330	60
2020	Deep LL	12753	53
2021	Deep LL	12649	8

**Table 2l** Striped marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	2
2018	Frozen LL	8218	6
2019	Frozen LL	14051	16
2020	Frozen LL	17147	1
2021	Frozen LL	21395	80

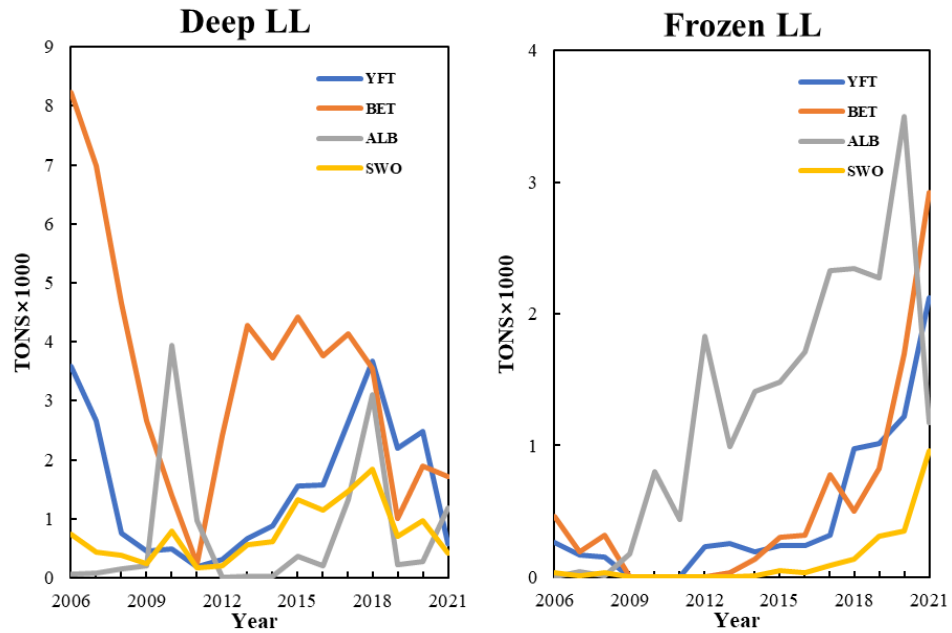
**Table 2m** Black marlin caught by Chinese deep-frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Deep LL	23450	9
2018	Deep LL	24769	14
2019	Deep LL	12330	1
2020	Deep LL	12753	1
2021	Deep LL	12649	38

**Table 2n** Black marlin caught by Chinese frozen longliners

Year	Gear	Effort (1000 hooks)	Catch (MT)
2017	Frozen LL	9620	1
2018	Frozen LL	8218	5
2019	Frozen LL	14051	8
2020	Frozen LL	17147	34
2021	Frozen LL	21395	34

**Figure 1.** Historical annual catch by gear and primary species in the IOTC area of competence (2006-2021).



**Figure 2a.** Distribution of fishing effort (hooks) by gear type in the IOTC area of competence in 2021

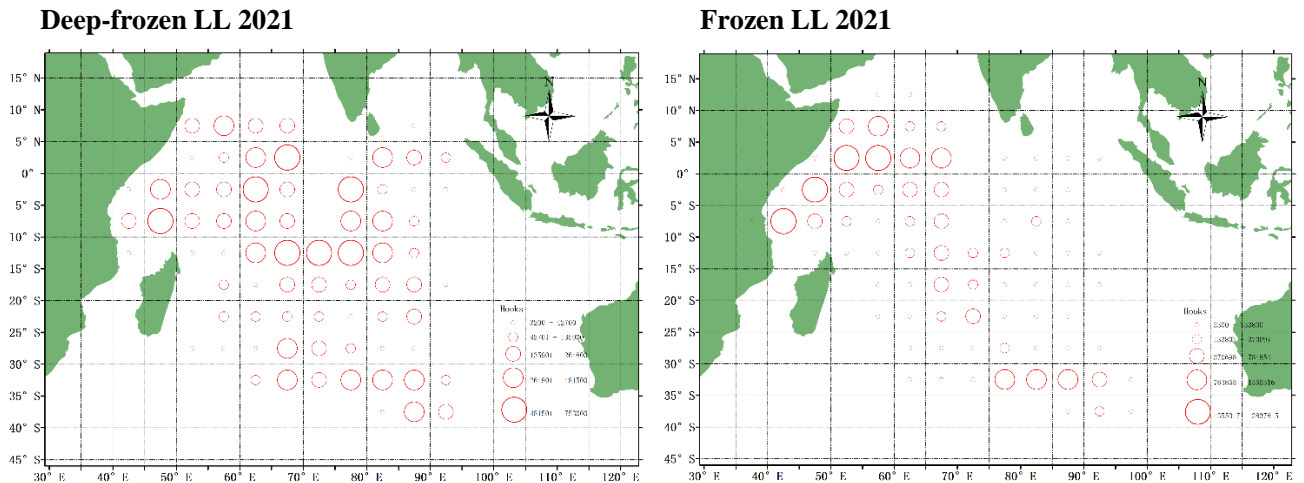


Figure 2b. Distribution of average fishing effort (hooks) of 2017-2021 by gear type in the IOTC area of competence

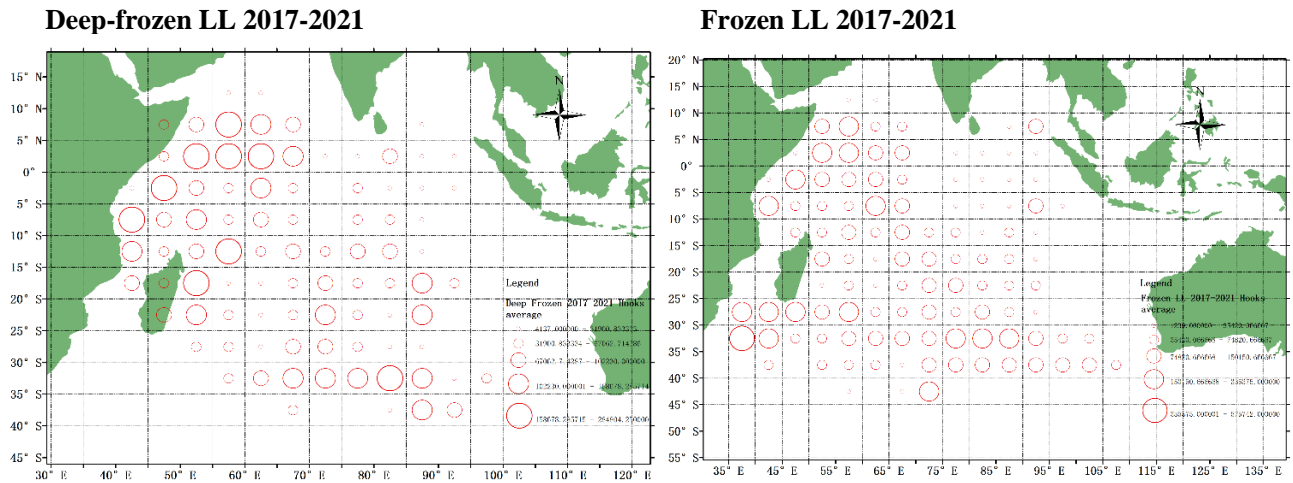
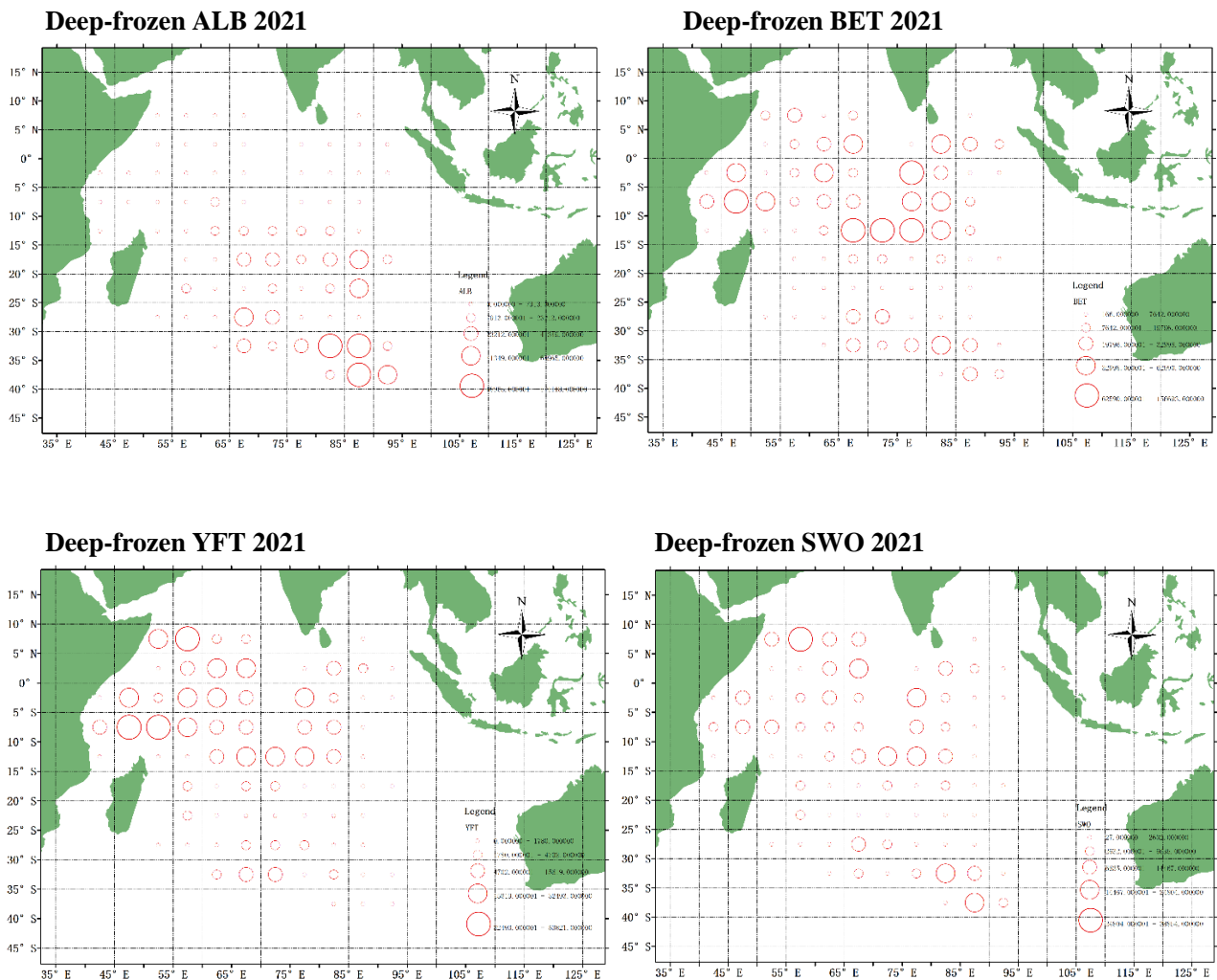
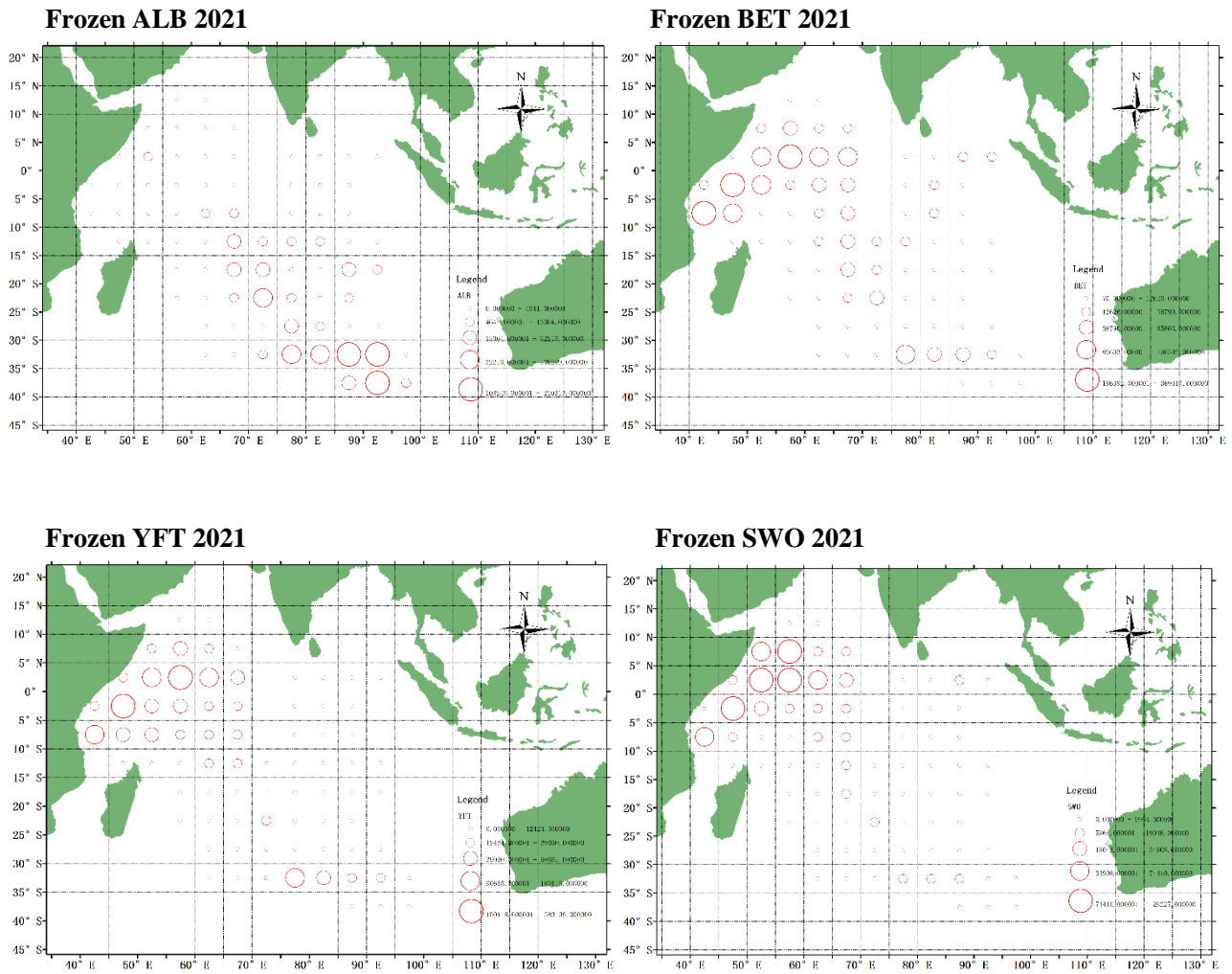


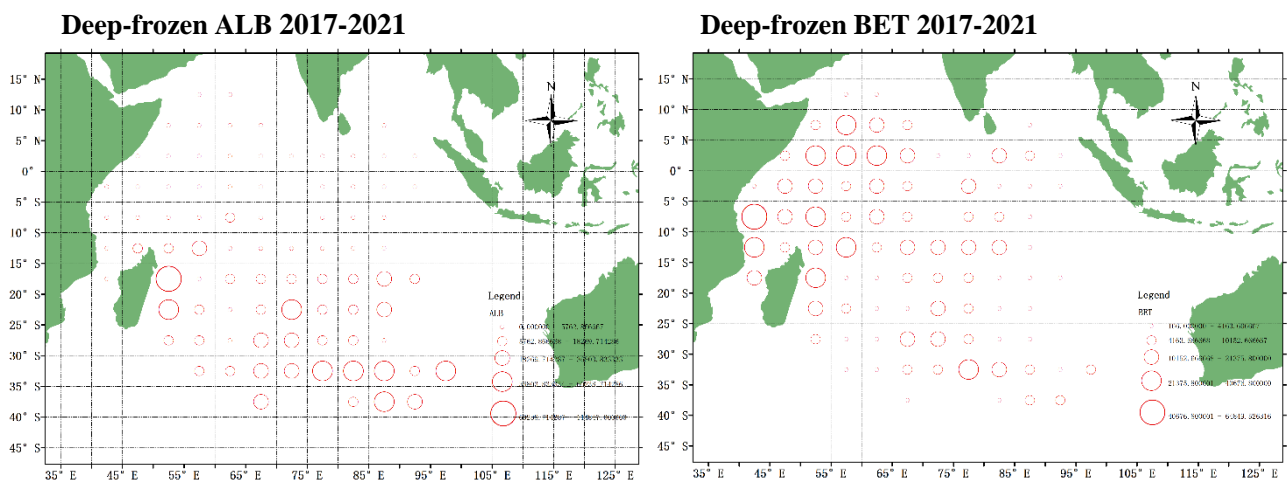
Figure 3a. Distribution of longline catch (kg) by gear type and species in the IOTC area of competence in 2021



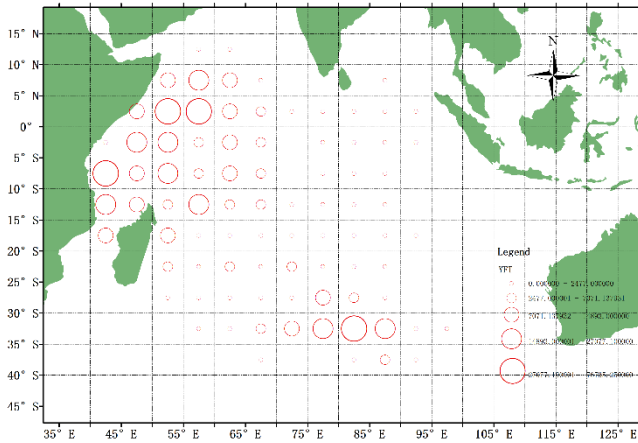




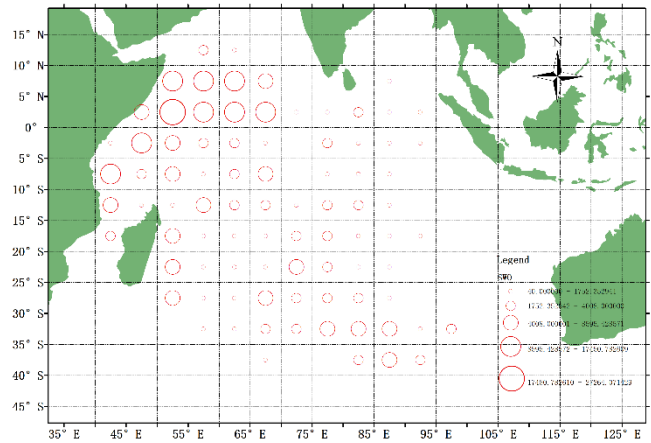
**Figure 3b. Distribution of longline catch by gear type and species in the IOTC area of competence (average of 2017-2021)**



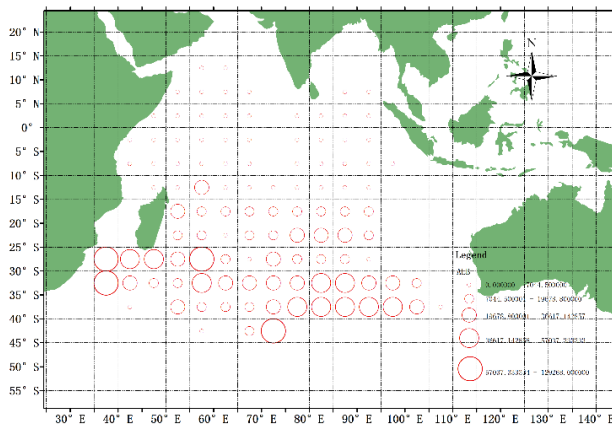
**Deep-frozen YFT 2017-2021**



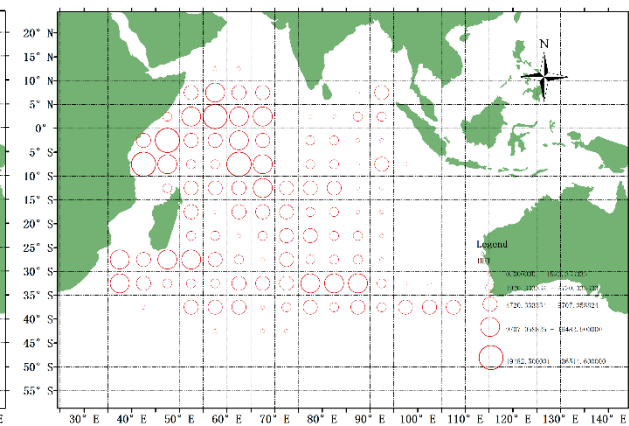
**Deep-frozen SWO 2017-2021**



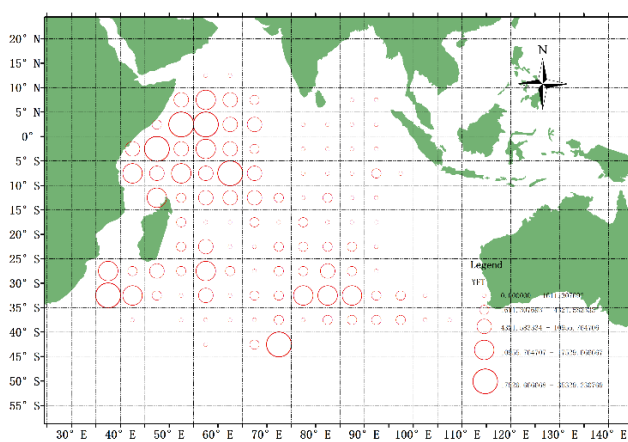
**Frozen ALB 2017-2021**



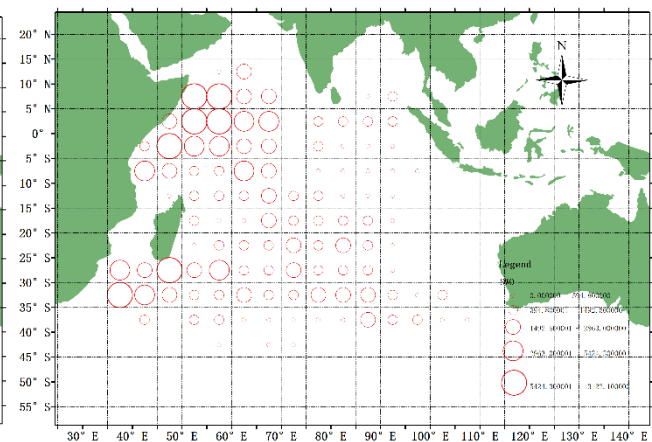
**Frozen BET 2017-2021**



**Frozen YFT 2017-2021**



**Frozen SWO 2017-2021**



**4. RECREATIONAL FISHERY [MANDATORY]**

Not applicable. China is not operating recreational fishing in the Indian Ocean.

**5. ECOSYSTEM AND BYCATCH ISSUES [MANDATORY]**

China is making efforts to contribute to 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 major responsibility for China's tuna fishery 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, which was used for biological study and ecological risk analysis for sharks. Through 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 is involved in bycatch mitigation initiatives from various programs.

## 5.1 Sharks [Mandatory]

China attaches great importance to the implementation of fishing vessels operating in the Indian Ocean. In the newly revised *Notice of the General Office of the Ministry of Agriculture and Rural Affairs on Doing a Good Job in the International Implementation of the Tuna Fishery (2022)*, which are corresponding regulations on the filling of logbooks and the protection of bycatch sharks. China does not approve distant water fishery projects that target sharks and requests all distant water fishery companies and fishing vessels to take effective measures to avoid or reduce shark bycatch as much as possible. Except for the shark species prohibited by RFMOs to keep on board, bycatch sharks should be fully utilized (i.e. all fish bodies and fins except the head, viscera, and skin should be kept), and shark fins should not be cut off to discard the shark body. The weight of shark fins kept on board shall not exceed 5% of the shark's body weight until the fishing boat arrives at the first port of discharge. To facilitate port inspection or relevant high sea boarding & inspection, tuna longline fishing vessels shall pack the shark fins and corresponding fish bodies that are allowed to be kept on board in bags made of degradable materials; or bundle the severed shark fins in on the same shark body; or separate the shark fins from the fish body, mark them accordingly, and store them in the same cabin to ensure that the fins and fish body of the same shark are easy to identify. China prohibits keeping, transshipping, or unloading Indian Ocean thresher sharks, oceanic whitetip sharks, and mobulid rays in ports on fishing vessels.

### 5.1.1. NPOA sharks [Desirable]

The National Plan of Action for Conservation and Management of Sharks has yet to be developed.

### 5.1.2. Sharks finning regulation [Mandatory]

In the newly revised *Notice of the General Office of the Ministry of Agriculture and Rural Affairs on Doing a Good Job in the International Implementation of the Tuna Fishery (2022)*, which are corresponding regulations on the implementation of shark finning regulations. Except for the shark species prohibited by RFMOs to keep on board, bycatch shark fins should not be cut off to discard the shark body. The weight of shark fins kept on board shall not exceed 5% of the shark's body weight until the fishing boat arrives at the first port of discharge. To facilitate port inspection or relevant high sea boarding & inspection, tuna longline fishing vessels shall pack the shark fins and corresponding fish bodies that are allowed to be kept on board in bags made of degradable materials; or bundle the severed shark fins in on the same shark body; or separate the shark fins from the fish body, mark them accordingly, and store them in the same cabin to ensure that the fins and fish body of the same shark are easy to identify.

### 5.1.3. Blue shark [Mandatory]

Blue shark catches are being routinely recorded based on the catch statistics program and observer program. All observers were required to collect catch, effort, size, and discard data of blue sharks and submitted the data to the IOTC secretariat by 29 June. China is collecting blue shark biological and ecological information based on longline observer program. Species-specific catch and effort data are recorded in the logbook.

**Table 3: Total number and weight of sharks by species retained in the IOTC area of competence (2017-2021).**

**Table 3a Blue shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Deep LL	1863	67268
2018	Deep LL	4551	162382
2019	Deep LL	1267	42665
2020	Deep LL	1458	50572
2021	Deep LL	2531	89463

**Table 3b Blue shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Frozen LL	4307	112483
2018	Frozen LL	2425	40058
2019	Frozen LL	3168	87784
2020	Frozen LL	3237	75435
2021	Frozen LL	1700	60562

**Table 3c Oceanic whitetip shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Deep LL	784 (discarded)	No data (discarded)
2018	Deep LL	767 (discarded)	No data (discarded)
2019	Deep LL	476 (discarded)	No data (discarded)
2020	Deep LL	1264 (discarded)	No data (discarded)
2021	Deep LL	158 (discarded)	8848 (discarded)

**Table 3d Oceanic whitetip shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Frozen LL	321 (discarded)	No data (discarded)
2018	Frozen LL	638 (discarded)	No data (discarded)
2019	Frozen LL	568 (discarded)	No data (discarded)
2020	Frozen LL	586 (discarded)	No data (discarded)
2021	Frozen LL	29 (discarded)	1624 (discarded)

**Table 3e Shortfin mako shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Deep LL	1108	36765
2018	Deep LL	945	32867
2019	Deep LL	399	15436
2020	Deep LL	54	2357
2021	Deep LL	154	6468

**Table 3f Shortfin mako shark**

Year	Gear	Catch (number)	Catch (kg)
2017	Frozen LL	594	18757
2018	Frozen LL	195	7241
2019	Frozen LL	135	7837
2020	Frozen LL	176	11325
2021	Frozen LL	70	2940

**Table 4: Total number of sharks, by species, released/discarded in the IOTC area of competence (2017-2021). 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 [Mandatory]

China attaches great importance to the implementation of fishing vessels operating in the Indian Ocean. In the newly revised *Notice of the General Office of the Ministry of Agriculture and Rural Affairs on Doing a Good Job in the International Implementation of the Tuna Fishery* (2022), which are corresponding regulations on the protection of seabirds. Mitigation measures on the Chinese longline fleet are being implemented according to the management measures, bird-scaring lines, night-setting, and/or line weighting. Most of China's 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. In 2021, no seabird was observed by four Chinese observers in the Indian Ocean area.

## 5.3 Marine Turtles [Mandatory]

China attaches great importance to the implementation of fishing vessels operating in the Indian Ocean. In the newly revised *Notice of the General Office of the Ministry of Agriculture and Rural Affairs on Doing a Good Job in the International Implementation of the Tuna Fishery* (2022), which are corresponding regulations on the protection of sea turtles. All longline fishing vessels must be equipped with de-hooks, and encourage the use of circle hooks as much as possible to reduce damage to sea turtles that may be caught by accident. Sea turtles should be released safely as required in case of bycatch. All longline fishing vessels must be equipped with de-hooks, and encourage the use of circle hooks as much as possible to reduce damage to sea turtles that may be caught by accident. Sea turtles should be released safely as required in case of bycatch. Shallow longline fishing vessels (most hooks are located in water depths of less than 100m) must use circle hooks, baiting finfish is encouraged and squid is not encouraged. The companies should record the incidental catching of sea turtles during the operation period, and collect and report the incidental catching situation promptly according to the regulations. Since 2008, the Chinese management department has provided free turtle release tools, such as de-hooks, line cutters, and dip nets for all longline fishing vessels. Also, teach the officers and crews how to safely release sea turtles at sea. China's fishery authorities organize training to explain how to identify bycatch species and the relevant treatment requirements for reducing the mortality of bycatch species for fishery companies every year. All longline fishing vessels are equipped with turtle identification guides and map posters. Observers are responsible for recording species-specific interactions of marine turtles in longline fisheries, including the number of turtles caught, their fates, and release status. In March 2021, a Leatherback turtle was caught and released alive by observer WANG JIAQIANG in vessel LU RONG YUAN YU 201.

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

China attaches great importance to the implementation of fishing vessels operating in the Indian Ocean. In the newly revised *Notice of the General Office of the Ministry of Agriculture and Rural Affairs on Doing a Good Job in the International Implementation of the Tuna Fishery* (2022), which are corresponding regulations on the protection of marine mammals and whale sharks. Purse seine fishing is prohibited from fishing tuna schools following cetaceans or whale sharks when cetaceans or whale sharks are sighted. When there are cetaceans or whale sharks unintentionally encircled in the purse seine net, the purse seiner vessel shall stop the net roll, release the cetacean or the whale shark, and report it to the China Oversea Fishery Data Center. Observers are responsible for recording species-specific interactions of marine mammals in longline fisheries, including several species caught, their fate, and release status. No national plan of action for marine mammals is under development. In 2021, no marine mammal or whale was observed by four Chinese observers in the Indian Ocean area.

**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 (2017-2021).**

**Table 5a Marine turtles**

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2017	Deep LL	Leatherback	4	Loggerhead turtle	1		
2018	Deep LL		No mortality				
2019	Deep LL		No mortality				
2020	Deep LL		No mortality				
2021	Deep LL	Leatherback	1				

**Table 5b Marine turtles**

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2017	Frozen LL		No mortality				
2018	Frozen LL		No mortality				
2019	Frozen LL		No mortality				
2020	Frozen LL		No mortality				
2021	Frozen LL		No mortality				

**Table 5c Marine mammals**

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2017	Deep LL		No mortality				
2018	Deep LL		No mortality				
2019	Deep LL		No mortality				
2020	Deep LL		No mortality				
2021	Deep LL		No mortality				

**Table 5d Marine mammals**

Year	Gear	Species	Catch (number)	Species	Catch (number)	Species	Catch (number)
2017	Frozen LL		No mortality				
2018	Frozen LL		No mortality				
2019	Frozen LL	Striped dolphin	1				
2020	Frozen LL		No mortality				
2021	Frozen LL		No mortality				

## 6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [MANDATORY]

### 6.1. Log sheet data collection and verification [Mandatory]

China started the pilot logbook data submission system in 2005 to obtain more detailed information about catch and fishing efforts as required by the IOTC. In 2006 the Bureau of Fisheries, Ministry of Agriculture and Rural Affairs, required all tuna fishing vessels to fill out logbooks and return them to the Bureau of Fisheries. The Bureau also announced that the implementation of the logbook program would be considered as one of the main factors for renewing fishing permission and licenses. With the support of the China Overseas Fisheries Association (COFA) and the 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 2021, 100% of the logbooks have been returned to the SHOU for data checking. All the information in those logbooks has been entered into the national tuna fishery database at SHOU and is being processed. Preliminary analyses showed that the data quality of logbooks has improved than before. As indicated above, records for bycatch species, low-value species, in particular, are developing higher quality.

## 6.2. Vessel Monitoring System [Mandatory]

The Regulations on the Management of Distant Water Fisheries have been implemented since 2003, to strengthen the supervision and management of DWF. In 2020, the revised *Regulations on the Management of Distant Water Fisheries* were issued and implemented. All the Chinese longline vessels operating in the Indian Ocean have been equipped with the VMS system. Implement the most stringent monitoring system for distant water fishing vessels in the world, requiring reporting of vessel positions every 1 hour, which is higher than the internationally accepted requirement of reporting every 4 hours, and strictly preventing fishing vessels from illegally crossing the border.

## 6.3. Observer scheme [Mandatory]

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 the Scientific Observer program 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, 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 for 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 have taken place in recruitment, training, 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 2021.

**Table 6.** Annual longline observer coverage by operation, e.g., percentage of hooks observed (2017-2021).

Year	Gear	Hooks deployed	Number of observers	Hooks observed	Coverage
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%
2020	Deep & Frozen LL	27,860,364	3	1,420,779	5.09%
2021	Deep & Frozen LL	34,043,659	4	1,702,418	5.00%

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

No information is prepared for Figure 4.

## 6.4. Port sampling prog [Mandatory]

China set up a port sampling program in early 2012. The program was designed for vessels that 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 2021, about 239 individuals were measured from port sampling (Table 8).

**Table 7.** Number of vessel trips or vessels actively monitored, by species and gear

No information is prepared for Table 7.

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

Species	Number of individuals measured	Fishing gear
Albacore	107	Frozen longline
Bigeye tuna	101	Frozen longline
Blue shark	31	Frozen longline

## 6.5. Unloading/Transshipment of flag vessels [Mandatory]

**Table 9.** Transshipment at sea of Chinese longline fleet in 2021 (unit: metric ton)

<b>IOTC Species</b>	<b>Transshipment at sea</b>
Albacore	2611.5
Yellowfin	2886.4
Bigeye	4457.4
Blue Marlin	255.4
Black Marlin	155.7
Sailfish	34.7
Swordfish	1621.4
Oil fish	463.1

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

China has been monitoring marlin catch by logbooks and observer programs. As marlins are not the main target species of Chinese longline fisheries, the catch level is low especially in recent years (see Table 2i-2n).

**6.7. Gillnet observer coverage and monitoring [Desirable]**

Not applicable. China is not operating gillnet fishery in the Indian Ocean.

**6.8. Sampling plans for mobulid rays [Mandatory]**

Not applicable. China is not operating subsistence and artisanal fisheries in the Indian Ocean.

**7. NATIONAL RESEARCH PROGRAMS [DESIRABLE]**

China has launched several domestic research projects regarding tuna fisheries and the 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 Shanghai Ocean University are collecting and analysing biological and size composition data based on the national longline observer program. Some of the results have been presented to relevant IOTC working parties.

**7.1. National research programs on blue shark**

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

**7.3. National research programs on sharks**

**7.4. National research programs on oceanic whitetip sharks**

**7.5. National research programs on marine turtles**

**7.6. National research programs on thresher sharks**

No information is prepared for 7.1-7.6.

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

**Table 10.** Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2021.



Res. No.	Resolution	Scientific requirement	CPC progress
11/04	On a regional observer scheme	Paragraph 9	<b>Paragraph 9.</b> China has reported of the number of vessels monitored and the coverage achieved by gear type in accordance with the provisions of this Resolution.
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	<p><b>Paragraphs 3, 4.</b> Interactions with marine turtles have been recorded and reported by observers. Detailed data of each observer trip has been submitted to the IOTC secretariat by 29 June.</p> <p><b>Paragraph 6.</b> Fishermen are required to help recover marine turtles captured and released. De-hooking techniques and guidelines have been equipped onboard fishing vessels.</p> <p><b>Paragraph 7.</b> Not applicable, no corresponding fishery.</p> <p><b>Paragraph 8.</b> Line cutters and de-hookers are in place on board 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 fishing vessels.</p> <p><b>Paragraph 9.</b> Not applicable, no corresponding fishery.</p> <p><b>Paragraph 10.</b> No national plan of action for marine turtles is under development.</p>
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	<b>Paragraphs 3-7.</b> China has complied with the requirements. Implementation of seabird conservation measures is documented in the national report. All the Chinese longline vessels operating in the area south of 25-degree South are required to comply with this CMM. Mitigation measures on Chinese longline vessels are being implemented according to the management measures, bird-scaring lines, night-setting, and/or line weighting.
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	<p><b>Paragraph 4.</b> The incidental catch of thresher sharks was released directly onboard, and the fishermen are required to record and report incidental catches of thresher sharks in logbooks.</p> <p><b>Paragraph 5.</b> Not applicable, no corresponding fishery.</p> <p><b>Paragraph 6.</b> This information is required to be collected in the observer program.</p> <p><b>Paragraph 7.</b> Specific projects or biological sampling for tissues (vertebrae, reproductive tracts, stomachs, etc.) has not been set up for thresher sharks.</p> <p><b>Paragraph 8.</b> China has submitted partial catch data on sharks.</p>
13/04	On the conservation of cetaceans	Paragraphs 7– 9	Not applicable. China is not operating purse seine fisheries in the Indian Ocean.
13/05	On the conservation of whale sharks ( <i>Rhincodon typus</i> )	Paragraphs 7– 9	Not applicable. China is not operating purse seine fisheries in the Indian Ocean.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraphs 5–6	<b>Paragraphs 5-6.</b> China has complied with the requirements. Oceanic whitetip sharks were released onboard by fishermen. The fishermen made records of the incidental catch of oceanic whitetip sharks 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 1–10	<b>Paragraphs 1-10.</b> China has complied with the requirements. Detailed data on the vessel, trip, gear configuration, operations, catch & effort have been

Res. No.	Resolution	Scientific requirement	CPC progress
			submitted to the IOTC secretariat by 29 June (forms IRC, 3CE, 4SF, 1D1, 1DR).
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	<b>Paragraphs 1-7.</b> China has complied with the requirements. Detailed data on the total catch, catch, and effort data, bycatch, and size data have been submitted to the IOTC secretariat by 29 June (forms IRC, 3CE, 4SF, 1D1, 1DR).
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	<b>Paragraphs 6.</b> China has complied with the requirements. Detailed data on the catch, catch, and effort data, discards, and size frequency have been submitted to the IOTC secretariat by 29 June (forms IRC, 3CE, 4SF, 1D1, 1DR). <b>Paragraphs 9,11.</b> China is making its effort in making a contribution to 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 major responsibility for China's tuna fishery 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, which was 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 is involved in bycatch mitigation initiatives from various programs.
18/02	On management measures for the conservation of blue sharks caught in association with IOTC fisheries	Paragraphs 2-5	<b>Paragraph 2.</b> China has complied with the requirements. Blue shark catches are being routinely recorded based on the catch statistics program and observer program. <b>Paragraph 3.</b> All observers were required to collect catch, effort, size, and discard data of blue sharks and submitted the data to the IOTC secretariat by 29 June. <b>Paragraphs 4-5.</b> China is collecting blue shark biological and ecological information based on longline observer program. Species-specific catch and effort data are recorded in the logbook.
18/05	On management measures for the conservation of the Billfishes: Striped marlin, black marlin, blue marlin, and Indo-Pacific sailfish	Paragraphs 7 – 11	<b>Paragraphs 7-8.</b> China has complied with the requirements. China has submitted the catch and effort data of Striped Marlin, Black Marlin, Blue Marlin, and Indo-pacific Sailfish to the IOTC secretariat by 29 June. <b>Paragraphs 9-11.</b> National plan of action for sustainable exploitation and conservation of Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish has yet to be developed.
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	<b>Paragraphs 1, 4.</b> China has included information in its Annual Reports on actions taken to implement its reporting obligations for all IOTC fisheries.
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence	Paragraph 22	<b>Paragraph 22,</b> Not applicable. China is not operating gillnet fisheries in the Indian Ocean.
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in	Paragraph 11	<b>Paragraph 11,</b> Not applicable. China is not operating subsistence and artisanal fisheries in the Indian Ocean.

Res. No.	Resolution	Scientific requirement	CPC progress
	the IOTC Area of Competence		

## 9. LITERATURE CITED [MANDATORY]

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