MAURITIUS National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2023

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INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 15/02 (and other data related CMMs as noted below), final scientific data for the previous year were 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 2023, final data for the 2022 calendar year must be provided to the Secretariat by 30 June 2023)	YES 30/06/2023
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 2023, preliminary data for the 2022 calendar year were provided to the IOTC Secretariat by 30 June 2023). **REMINDER:** Final longline data for the previous year are due to the IOTC Secretariat by 30 Dec of the current year [e.g., for a National Report submitted to the IOTC Secretariat in 2023, final data for the 2022 calendar year must be provided to the Secretariat by 30 December 2023).	YES 30/06/2023
If no, please indicate the reason(s) and intended actions:	

Executive Summary

In 2022, Mauritius had 4 purse seiners, 1 supply vessel and 13 industrial longliners operating in the tuna fishery. The four purse seiners are large freezer vessels with three having an overall length of 89.4 m each and the fourth one is 71.95 m. The longliners are all industrial boats of more than 24 meters in length. In 2022, there was no semi-industrial longliner in operation.

All the longliners carried out fishing activities inside and outside the EEZ of Mauritius and a total of 31 fishing trips were undertaken for a total of 2171 fishing days and a deployment of 6877244 hooks. The majority of the catch consisted of yellowfin (47.8%) followed by bigeye (27.2%), albacore (15.2%), and swordfish (3.0%). Their total catch amounted to 3384.8 tonnes and the CPUE was 0.49kg/hook. These longliners transhipped most of their main catch which included yellowfin, albacore, bigeye and swordfish at sea while the remaining catch were unloaded at Port Louis for the local market.

The Mauritian purse seiners operated between latitude 12°N to 10°S and longitude 46° to 69°E. The total catch of the four purse seiners amounted to 25804.68t comprising 36.9% yellowfin, 53.4% skipjack and 8.0% bigeye tuna for 695 positive sets out of a total of 717 sets.

Sampling exercises were carried out on the catches that were unloaded in port by the industrial longliners. 2110 fishes were sampled on the industrial longliners operating inside and outside the EEZ. In the artisanal fishery, 330 fishes were sampled for length frequency. Sampling exercises were also carried out on the Mauritian purse seiners when they called at Port Louis and 4017 fish were measured.

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1. BACKGROUND/GENERAL FISHERY INFORMATION

Industrial tuna fishing started in Mauritius in the late nineteen seventies. A first Mauritian purse seiner, 'Lady Sushil' was launched in 1979 and eight years later another purse seiner, the 'Lady Sushil II' joined the fleet. A third purse seiner, 'Cirné', started operations in 1991. Until 1997, the three vessels were operating for the local canning factory. However, due to financial problems and change in the administration of the factory, the vessels were sold off and the factory had to rely on import of raw materials to meet its commitments. In 2013, a Mauritius-flagged vessel restarted operating in the purse seine fishery after an absence of 13 years.

The number of purse seiners has gradually increased over the years from 3 since 2019 to reach 4 vessels in 2022. The total catch of the four purse seiners operating between latitudes 17°N to 10°S and longitudes 46° to 69°E amounted to 25804.68t comprising of 36.9% yellowfin, 53.4% skipjack and 8.0% bigeye tuna for 695 positive sets out of a total of 717 sets.

Since the COVID-19 pandemic, the Observer Programme has been put on hold. The Observer program were usually being carried out by the staff of the Ministry of Blue Economy, Fisheries, marine Resources and Shipping. There is actually plan to recruit observers on a contract basis.

The Mauritian longline fishery started in 1970 when a longliner under the aegis of the local tuna canning factory. Due to various problems, the vessel stopped operation soon after. The Mauritian surface longline fishery targeting mainly swordfish (*Xiphias gladius*) started in the eighties. During experimental longlining for tuna during 1986-88, a few swordfish were caught in the coastal waters of Mauritius (Roullot et al, 1988).
Commercial longline fishing started in 1999 when a small surface longliner started fishing for swordfish in the Mauritian waters. Since then, the number of vessels has gradually increased as promoters were encouraged to exploit the swordfish resource. The Mauritian longline fishing vessels were all semi-industrial vessels less than 24M in length. In 2022, there were thirteen industrial longliners targeting tuna species. The industrial longliners landed a total of 3384.8tonnes of fish. For these longliners operating both in and out of the EEZ, the majority of the catch consisted of yellowfin (47.8%) followed by bigeye (27.2%), albacore (15.2%) and swordfish (3.0%).

An artisanal fishery around Anchored Fish Aggregating Devices (AFADS) exists since 1985. A number of FADs are set at distances ranging from 2 to 12nm from the coast. There are approximately 350 fishermen that are registered to fish around the AFADs. In 2022, catch around the AFADs amounted to 178.4t.

2. FLEET STRUCTURE

In 2022, the Mauritian tuna fleet consisted of four purse seiners, thirteen surface longliners and one supply vessel (Table 1). The purse seiners operated mostly outside the EEZ of Mauritius namely on the high seas and in the EEZ of Seychelles. The Overall Length and Gross Tonnage of the purse seiners range from 71.95 to 89.4 metres and 2347 to 2667 tons respectively.

The surface longliners are vessels of more than 24 meters in length and operated mostly outside the EEZ. The sizes of the vessels range from 29.50 to 41.60 meters and their Gross Tonnage range from 98 to 320 tons. Mauritius has only one supply vessel that services its purse seiners. The supply vessel is 30M in length and has a GT of 287t. Table 1 shows the number of vessels of the National fleet which operated in the IOTC area of competence by gear type and size from 2018 to 2022.

Table 1: Number of vessels operating in the IOTC area of competence, by gear type and size (2018 – 2022)

Year	Gear	Number of vessels	Number of fishing days	GT	LOA (m)	Preservation Methods
2018	Surface longline	13	1112	21.2 – 97	16.1 – 23.8	Chilled/Frozen
	Purse seine	2	511	2667	89.4	Frozen
	Supply vessel	1	183 days at sea	287	30	
2019	Surface longline	15	1326	17.27-97.40	13.50-23.80	Chilled/Frozen
	Purse seine	3	681	2667	89.4	Frozen
	Supply vessel	1	198 days at sea	287	30	
2020	Surface longline	2	141	38.41-49.0	13.50-20.10	Chilled/Frozen
	Purse seine	3	678	2667	89.4	Frozen
	Supply vessel	1	215 days at sea	287	30	
2021	Surface longline	1	84	49	20.1	Chilled/Frozen
	Purse seine	3	854	2667	89.4	Frozen
	Supply vessel	1	217 days at sea	287	30	
2022	Surface longline	13	2170	98-320	29.50-41.60	Frozen
	Purse seine	4	558	2347 -2667	71.95-89.40	Frozen
	Supply vessel	1	217 days at sea	287	30	

3. CATCH AND EFFORT (BY SPECIES AND FISHERY)

All fishing operations of the tuna fishing vessels under the Mauritian flag are monitored regularly by the Vessel Monitoring System (VMS). Moreover, the catch is verified though the fishing logbooks submitted by the vessels' masters. It is mandatory for the vessels to submit logbooks and if a vessel fails to submit its logbook, it is subjected to penalties. The catch of the vessels landing at Port Louis is also monitored during landing at port and this is done by the officers based at the Port State Control Unit.

In 2022, the industrial longliners undertook 31 fishing trips covering 2170 fishing days with a deployment of 6877244 hooks (Table 2b). The total catch of the industrial longline fleet was 3384.8t. The vessels have been targeting tuna species which are usually gilled and gutted with both the head and tail off. The CPUE was 0.49kg/hook. Yellowfin tuna made up 47.8% of the catch followed by bigeye (27.2%), albacore (15.2%), and swordfish (3.0%). The other species caught were marlins (1.7%) and sharks (0.7%) as well as some skipjack and sailfish.

A total of 558 fishing days was recorded for the four super freezer purse seiners and 717 sets were deployed out of which, 695 were positive (Table 2b). The total catch amounted to 25804.68 tonnes with a catch composition of 36.9% of yellowfin tuna, 53.4% skipjack tuna, 8.0% bigeye tuna and 0.04% albacore tuna. Miscellaneous fishes constituted 1.7% of the total catch. The purse seiners operated between 12 °N to 10 °S and longitude 48 ° to 68 °E (Figure2b). 78.9% of the catch (20350.41t) was made on log-associated schools whilst 21.1% (5454.32t) was from free school. The majority of the log-associated catch originated from artificial logs (97%) and only 3% of the log-associated catch was made on natural logs. Skipjack constitutes 61% of catch on the artificial logs with 28% of yellowfin and 9% of bigeye. On the natural logs, skipjack made up 60% of the catch followed by 33% yellowfin and 6% bigeye. The catch on free schools comprised 68% of yellowfin and 27% of skipjack.

The tables below 2a and 2b show the annual catch and effort of the Mauritian flagged longliners (Table 2a) and of the Mauritian flagged purse seiners (Table 2b) in the IOTC area of competence.

It is to be noted that in 2018 and 2019, there were some Mauritian flagged longliners that were active both inside and outside the EEZ, but in 2020 and 2021, there was only one Mauritian longliner that was active inside the EEZ. In 2022, Mauritius has under the Bareboat Charter, chartered 12 longline vessels with Seychelles and one vessel has been purchased by a Mauritian company.

Table 2a. Annual catch and effort of Mauritian flagged longliners in the IOTC area of competence (2018 – 2022)

Species	Catch in Kg				
	2018	2019	2020	2021	2022
Yellowfin	259120	324872	33790	11774	1617649
Bigeye	86851	113043	183	20	921033
Albacore	45839	18913	18090	7961	513226
Swordfish	328756	267645	1010	65	102781
Billfishes	22436	25610	2540	690	58257
Other billfishes	13699	11442	0	0	12171
Sharks	10631	8138	0	0	23684
NEI	53725	34615	2577	1278	136021
Effort (No. of hooks)	1445477	1553466	129500	84000	6877244

Table 2b. Annual catch and effort of Mauritian flagged purse seiners operating in the IOTC area of competence (2018 – 2022)

Species	Catch (tonnes)				
	2018	**2019**	**2020**	**2021**	**2022**
Yellowfin	11322	12287	9681	9641	9521
Bigeye	1784	1895	1515	1953	2053
Skipjack	9283	12742	9210	14129	13792
Albacore	16	16	19	10	10
Total	22405	26940	20425	25733	25376
Effort (No. of sets)	650	808	691	804	717

The figures 1a and 1b below show the historical annual catch for the Mauritius longline and purse seine fleet respectively. Regarding the longline fleet, there has been an increase in the catch made by all the longliners since 2014. This was mainly due to the development of the fleet from 5 to 15 vessels in 2019 except for the period 2009 to 2014 where there was a decrease in the number of active vessels in this fishery. In 2021, only one semi-industrial vessel was operational. It is to be noted that in 2016, 3 longliners started to operate in Mozambique and they were joined by 7 other longliners which continued their activities in the Mozambican waters up to 2019. For the year 2022, 13 Industrial Longline vessels carried out fishing activities both inside and outside the EEZ.

The catch of the Mauritius purse seine fleet has known a gradual increase from 2013 to 2019 except for 2020 where the purse seine catch was 20 425t (Figure 1b). This was followed by an increase in 2021 mainly contributed by a higher catch of the skipjack tuna. In 2013, only one small purse seiner with a G.T of 678t was operational from October to December followed by the coming in operation of 5 additional small purse seiners of the same size and 1 super freezer purse seiner with a GT of 2667t in 2014. The 5 small purse seiners stopped operating in 2016. A third purse seiner joined the fishery in 2019. In 2021, the purse seine fishery consisted of 3 purse seiners and 1 supply vessel. Based on the historical catches, majority of the catch consisted of yellowfin (37%-63%) followed by Skipjack (29%-55%). A gradual increase was noted in the percentage catch of skipjack from 29 % in 2015 to 55% in 2021. This was reversed in 2019 with 47% of skipjack caught. The highest percentage of yellowfin in the total catch was observed in 2016 with 63%. It was followed by a decrease in 2017 and a slight increase in 2018. In 2019, the percentage of yellowfin in the catch decreased again to reach 46%. To be in line with the catch limitation imposed on the yellowfin tuna, there has been a further decrease in the catch of yellowfin in 2020 and 2021 as compared to the 2019 catches. In 2022, despite having 4 purse seiners in the Mauritian fleet, the catch was slightly low compared to that of 2021. This was due to the allocated quota on yellowfin tuna catch for 2022, the vessels were obliged to respect the allowance catch on the yellowfin tuna and therefore the total catch was not higher than that of 2021.

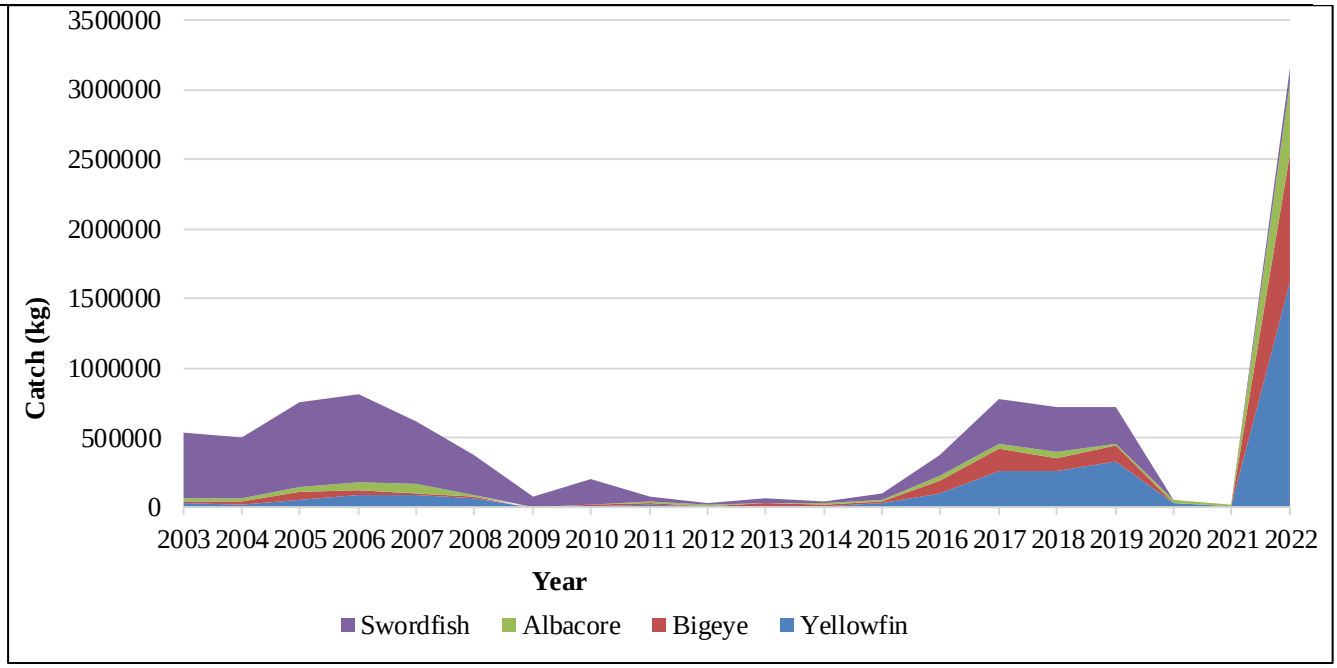

Figure 1a. Historical annual catch of the primary species for the Mauritius longline fleet in the IOTC area of competence (2003 – 2022)

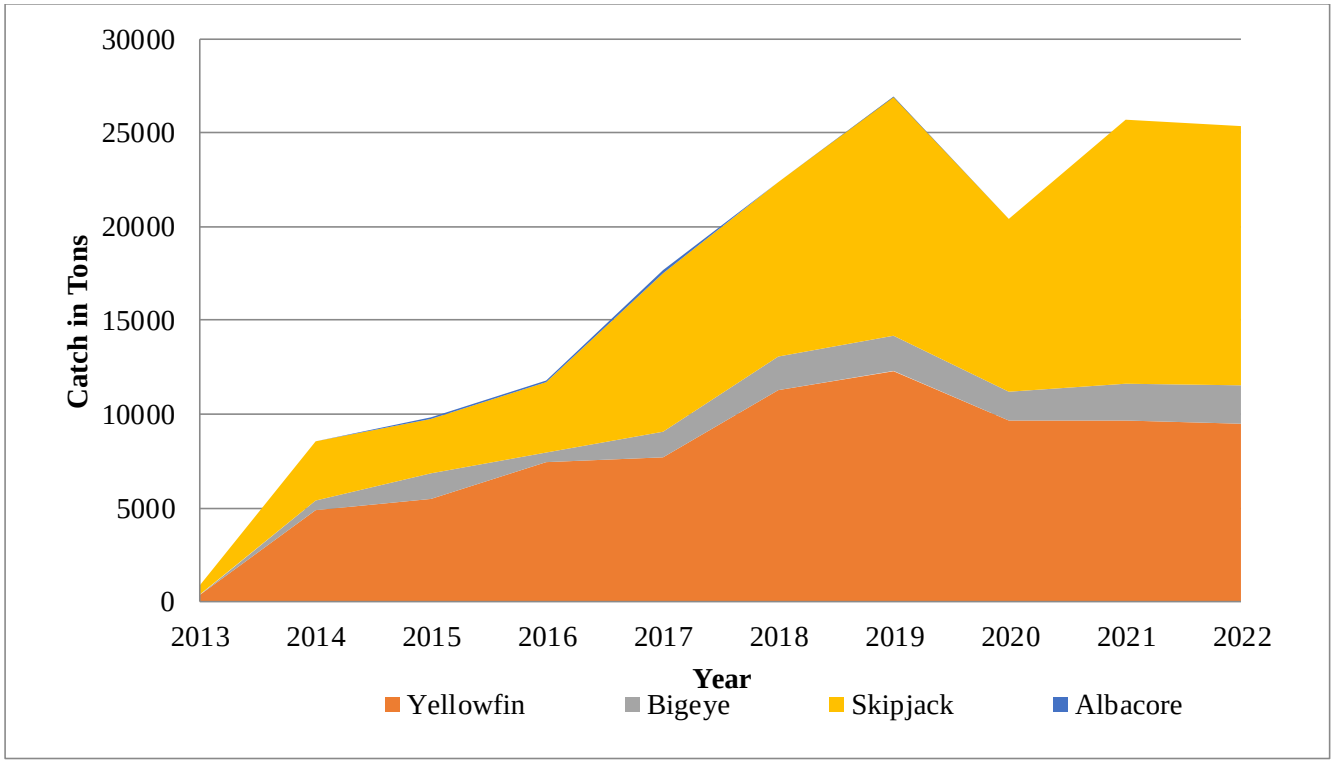

Figure 1b: Historical annual catch for the Mauritius purse seine fleet in the IOTC area of competence (2013-2022)

Figures 2a (i) and (ii) show the fishing effort of the Mauritius longline fleet and that of the Mauritius purse seine fleet in 2022. There were 13 Mauritius flagged longliners involved in the industrial tuna fishery and a total of 6877244 hooks were deployed. Regarding the Mauritius flagged purse seiners, fishing effort was concentrated in the region found to the North of the EEZ of Mauritius. The geographical distribution of the fishing effort extended mostly between 5°N to 5°S and 49° to 68°E (figure 2a ii).

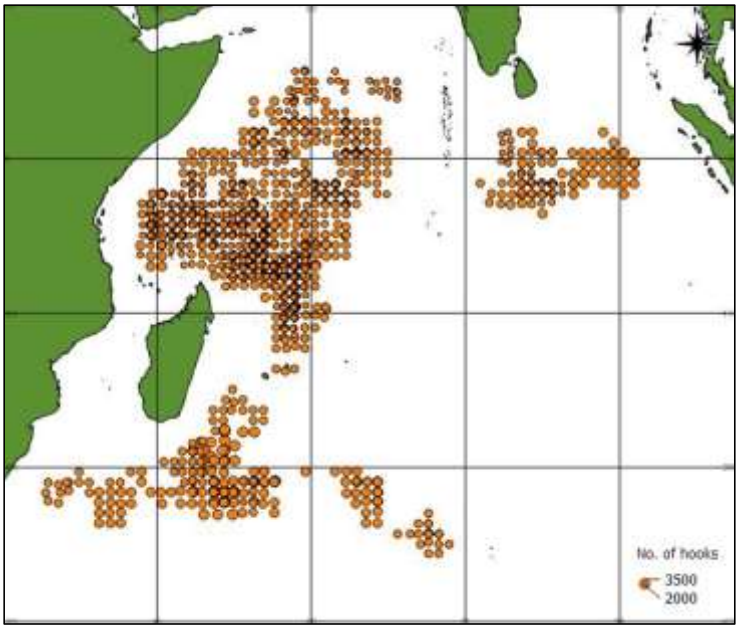

Figure 2a (i): Fishing effort (no. of hooks) -Mauritius-flagged longliners (2022)

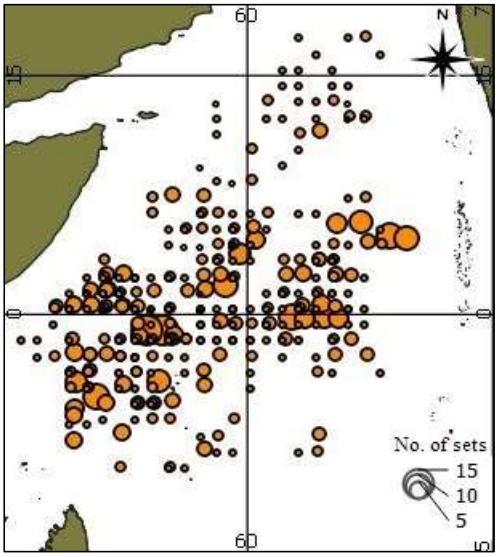

Figure 2a (ii): Fishing effort (no. of sets) - Mauritius-flagged purse seiners (2022)

Figures below 2b (i) and (ii) show the fishing effort of the Mauritius industrial longline fleet and that of the Mauritius purse seine fleet from 2018 to 2022. The fishing effort of the national longline fleet operating in the EEZ was concentrated between latitudes 5°N to 15°S and 45°E to 68°E. During the last five years, the fishing

effort of the Mauritius purse seine fleet covered an extended area over the high seas and in the EEZ of Seychelles mostly concentrated between latitudes 8°N to 9°S and longitudes 45°E to 69°E.

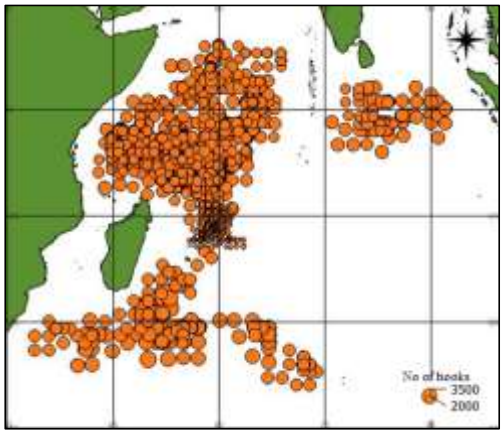

Figure 2b (i): Fishing effort (no. of hooks) -Mauritius-flagged longliners (2018 -2022)

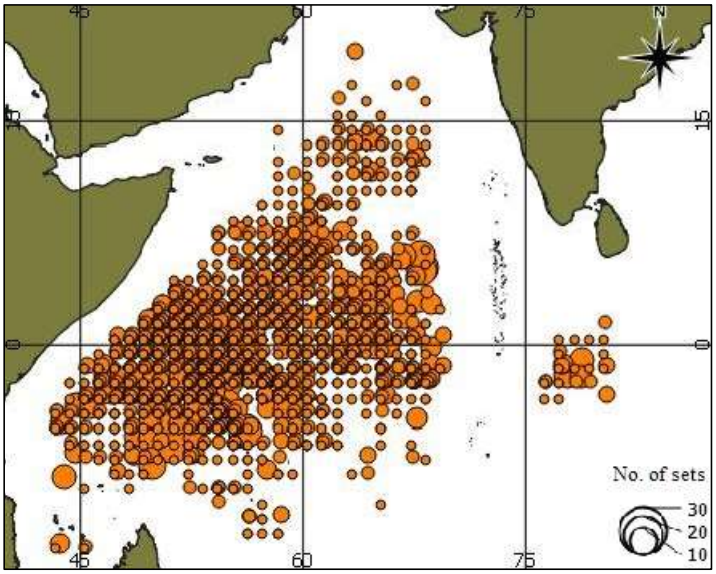

Figure 2b (ii): Fishing effort (no. of sets) - Mauritius-flagged purse seiners (2018 – 2022)

Figures 3a (i) to (ii) show the maps of distribution of catch for the longline and purse seine national fleets in 2022. The longline catches are concentrated around 3° to 14°S and 45°to 61°E in the EEZ. For the national purse seine fleet, catches of the tropical tuna were concentrated between 8°N to 08°S and 49°E to 68°E.

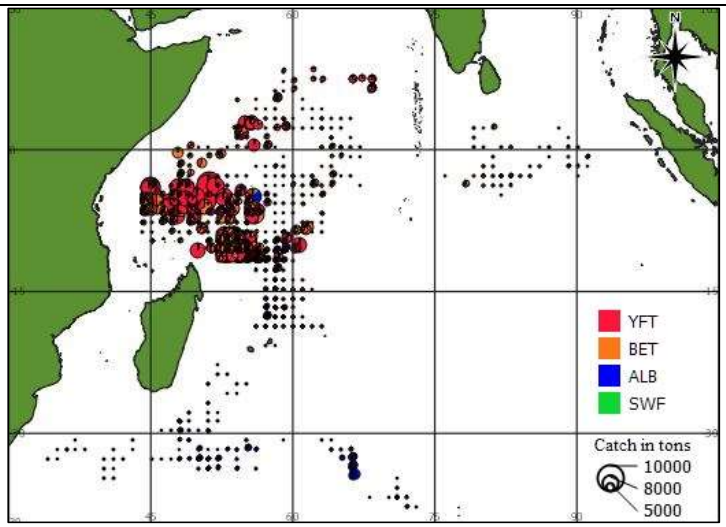

Figure 3a (i). Distribution of catch by species for the Mauritian flagged longliners in the EEZ (2022)

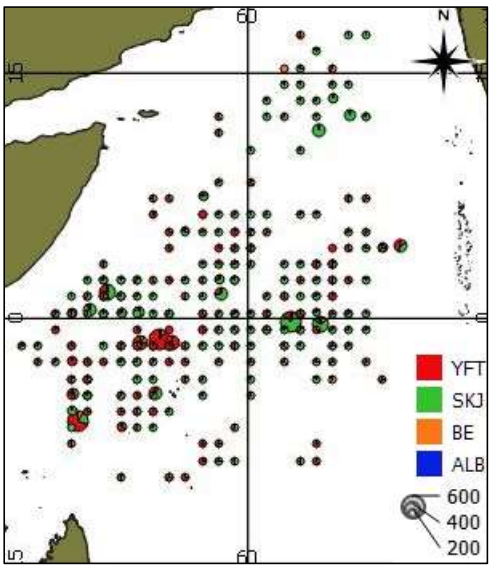

Figure 3a (ii). Distribution of catch by species for the Mauritian flagged purse seiner (2022)

In figures 3b (i) to 3b (ii), the catches for the national longline and purse seine fleet have been aggregated for the last five years 2018 to 2022. The spatial concentration of catches from 6°S to 12°S and 45° to 62°E can be observed for the national longline fleet in the last five years. Regarding the national purse seine fleet, the spatial catch distribution from 2017 to 2021 and 2018 to 2022 are more or less similar. Catches were concentrated in areas extending from 6°N to 8°S and 49°E to 69°E.

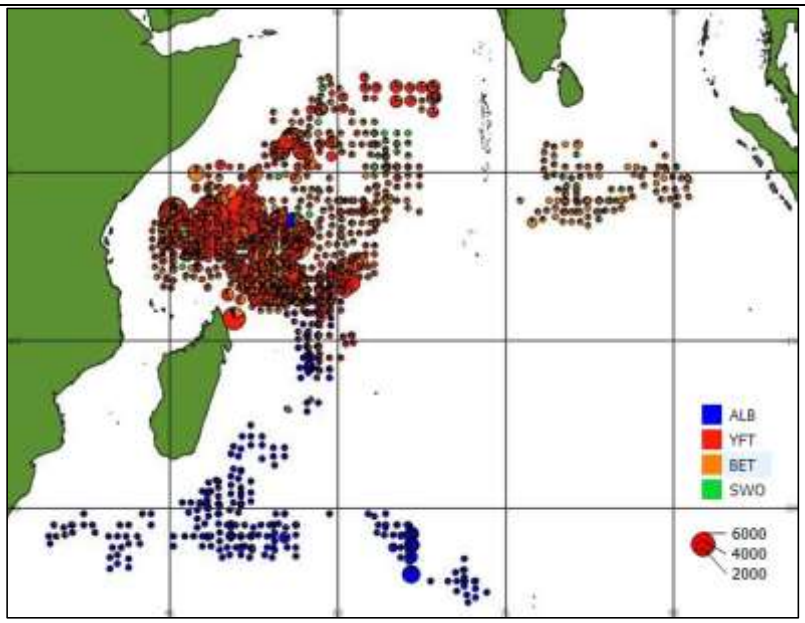

Figure 3bi. Distribution of catch by species for the Mauritian flagged longliners in the EEZ (2018–2022)

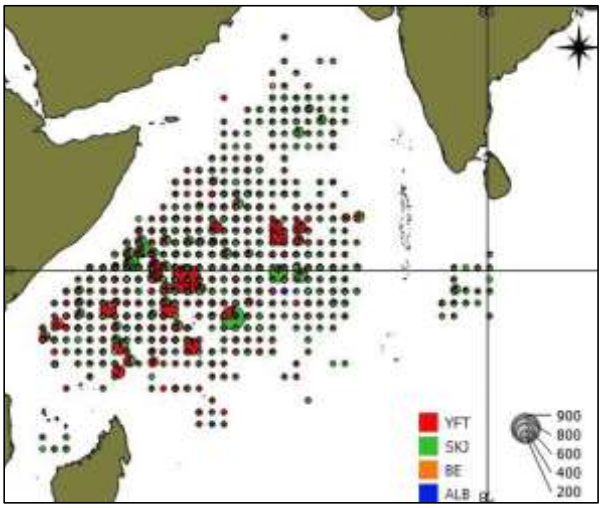

Figure 3bii. Distribution of catch by species for the Mauritian flagged purse seiners in the EEZ (2018–2022)

4. RECREATIONAL FISHERY

The sports/recreational fishing is an important activity for the tourism industry as well as for the local recreational fishermen. Around 60 sports/recreational fishing boats are involved in this fishery. The main fishing gear is trolling and the fishery supplies the local market with an estimated amount of about 350 tonnes. The main species comprises marlins, sailfish, tuna, common dolphinfish and wahoo. International big game fishing competitions which are usually held on an annual basis could not be carried out in the last two years due to the COVID-19 pandemic. In 2022, since all restrictions were waved off, the tourism industry has recovered gradually from the pandemic. Hence, the estimation of the sports was maintained at 350 tonnes.

5. ECOSYSTEM AND BY-CATCH ISSUES

Skippers, masters and agents of vessels have been sensitised on the conservations and management measures related to sharks; namely Resolutions 12/09, 13/05, 13/06, 17/05 and 18/02. Those resolutions are included in the fishing licence as mandatory conditions. The skippers/masters have also been informed of their obligation to comply with Resolution 19/03 concerning mobulid rays. Furthermore, identification guides on pelagic sharks have been distributed to the masters of the national-flagged vessels. Mauritius has already implemented its NPOA-sharks

5.1 Sharks

5.1.1. NPOA sharks

Mauritius has a National Plan of Action for the Conservation and Management of Sharks (NPOA- Sharks, Mauritius) since 2015 which has been submitted to the IOTC. In the NPOA, a series of actions have been described to ensure the conservation and management of sharks. These include:

(i) Decrease fishing effort in any fishery where shark catch is unsustainable;

(ii) Improve data collection and monitoring of shark fisheries;

(iii) Train all concerned in identification of shark species;

(iv) Facilitate and encourage research on sharks;

(v) Improve the utilization of sharks caught; and

(vi) Ascertain control over access of fishing vessels exploiting shark stocks.

5.1.2. Sharks finning regulation

Sharks finning are banned in Mauritius. All vessels licensed to fish for tuna and tuna-like species are bound by the licence conditions to comply with the different IOTC resolutions, more specifically to Resolution 17/05. Licence conditions are legally binding under Section 37 of the Fisheries and Marine Resources Act 2007

5.1.3. Blue shark

Skippers/Masters are bound to report any catch of blue sharks. The skippers/masters have to abide by Resolution 18/02 as per licence conditions. All blue sharks reported in the logbooks have been transmitted to the IOTC. The catch of blue sharks is monitored through the collection fishing logbook and submission of observer reports. Table 3 shows the total number and weight of sharks, by species, retained by the national fleet in the IOTC area of competence from 2018 to 2022 while the total number of sharks, by species, released/discarded by the national fleet in the IOTC area of competence (2018 – 2022) are shown in table 4.

Table 3: Total number and weight of sharks, by species, retained by the national fleet in the IOTC area of competence (2018-2022)

Year	No. of sharks	Species	Weight (Kg)
2018	138	*Prionace glauca*	3074
	432	*Isurus oxyrhinchus*	6006
	104	*Isurus paucus*	1351
	1	*Carcharinus limbatus*	50
	10	*Carcharinus falciformi*	200
	18	*Sphyrna sp*	600
2019	65	*Prionace glauca*	1455
	394	*Isurus oxyrhinchus*	5478
	62	*Isurus paucus*	810
	1	*Carcharinus falciformi*	202
	9	*Sphyrna sp*	573
2020	42	*Carcharinus limbatus*	1050
2021	1	*Carcharhinus falciformis*	11
2022	67	*Prionace glauca*	1477
	313	*Isurus oxyrhinchus*	4349

Table 4: Total number of sharks, by species, released/discarded by the national fleet in the IOTC area of competence (2018–2022)

Year	No. of sharks released	Species
2018	1(released alive)	*Rhincodon typhus*
2019	Nil	Not applicable
2020	1	*Prionace glauca*
	982	*Carcharhinus falciformis*
	3	*Carcharhinus longimanus*
	1(released alive)	*Rhincodon typhus*
2021	462 (released alive)	*Carcharhinus falciformis*
	267	*Carcharhinus falciformis*
	1 (released alive)	*Rhincodon typhus*
	3 (released alive)	*Carcharhinus longimanus*
	2	*Carcharhinus longimanus*
2022	1 (released alive)	*Carcharhinus longimanus*
	2	*Carcharhinus longimanus*
	117 (released alive)	*Carcharhinus falciformis*
	212 (released dead)	*Carcharhinus falciformis*
	5	*Carcharhinus falciformis*

5.2 Seabirds

As reported in the Implementation Report for Mauritius, there was no incidental bycatch of seabirds by the Mauritian longliners in 2022. Nil encounters with seabirds have been reported in the fishing logbooks received from the Mauritius-flagged vessels in 2022. Five vessels operated south of 25^0S but they were all equipped with bird scaring lines and also made use of line weighting.

It is to be noted that masters and agents of the licensed vessels have been provided with "Seabirds Identification cards for fishing vessels operating in the Indian Ocean" whereby identification techniques and mitigation measures are described.

5.3 Marine Turtles

The protection of marine turtles and eggs of marine turtles is ensured under Sections 16 (1) (c) and 17 (1) (c) of the Fisheries and Marine Resources Act 2007.

Furthermore, vessels' agents and masters have been provided with the 'Marine Turtle Identification Cards – for Indian Ocean Fisheries' depicting different species of turtles, techniques of releasing hooked turtles as well as some literature related to the ecology of marine turtles, threats to marine turtles; amongst others. Also, the license conditions of Mauritius make provision for compliance to Resolution 12/04.

Other measures taken by Mauritius related to the conservation of marine turtles have been included in the 'Reporting of progress of implementation of the FAO Guideline to Reduce Sea Turtle Mortality in Fishing Operation and on the implementation of resolution 12/04 on marine turtles' which was submitted to the Secretariat on the 09 March 2023. Interactions with Marine turtles by the Mauritian purse seiners in 2022 has been reported to the IOTC in the Form 1DI.

5.4 Other ecologically related species (e.g., cetaceans, mobulid rays, whale sharks)

The Fisheries and Marine Resources Act 2007 makes provision for the protection of marine mammals under Section 17 (1) (d) as stipulated: "*no person shall land or cause any person to land, sell or have in his possession in Mauritius or in the maritime zones any marine mammal".*

No catch of cetaceans, mobulid rays and marine mammals have been recorded for the national fleet in the IOTC area of competence for the most recent five years. However, interactions with these species have been submitted to the IOTC in the appropriate IOTC Form.

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS

6.1. Logsheet data collection and verification

Catch data is being collected from the fishing logbooks since 2001. The fishing licence conditions make it mandatory for all the fishing vessels to submit duly filled in logbooks to the Ministry upon arrival in port. All

the fishing positions are verified for accuracy against the Vessel Monitoring System (VMS) and landing data from the Port State Control Unit (PSCU), Mauritius Ports Authority and fishing agents. A total of 31 logbooks from the industrial longliners and 39 logbooks from the purse seiners were processed.

6.2. Vessel Monitoring System

The Vessel Monitoring System was set up in 2005 and is based at the Albion Fisheries Research Centre (AFRC). It is regulated by the Fisheries and Marine Resources (VMS) Regulations Government Notice No. 247 of 2022, The VMS monitors the positions, speed and direction of fishing vessels by means of satellite-based tracking systems. The vessel sends the data reports to the Land Earth Station (LES) at regular interval via a satellite network which transmits the data to a database on the Server at the Fisheries Monitoring Centre at AFRC.

A Mauritian Fishing Licence is issued to a fishing vessel (local or foreign) only if it is equipped with a valid and operational satellite-based reporting device on-board. The VMS assists in the management of licensed vessels in the Exclusive Economic Zone (EEZ) of Mauritius. The reporting and movement of these vessels are monitored at the FMC on a regular basis. Any fishing vessel suspected of illegal fishing activities may be prosecuted and fined accordingly. Any discrepancies in the reporting and any anomalies in the logbook entries checked against the VMS database may result in the forfeit of the logbook deposit fee as well as revocation the Fishing Licence. In 2022, 98 licensed fishing vessels were monitored for tuna and tuna-like species.

6.3. Observer scheme

The deployment of observers on board of the National fleet started in February 2015. The technical staff of the Fisheries Department were trained as observers by the SWIOFP, the COI and the OCUP programme. The observers follow the SWIOFP protocol.

The observer has a clear set of objectives regarding data which they have to record. Training and qualification are prerequisite prior to deployment on board. There is a code of conduct which has to be respected on board such respect of hierarchy, confidentiality and most importantly the authority of the Captain on vessel operation and safety at sea. Observers must also be aware of cultural awareness including eating customs and religious practices. Observers must also be acquainted with nautical terms related to the parts of as ship. All observers must have undergone formal STCW95 approved courses in personal survival training (PST) and CPR & first aid before being deployed to sea to know how to behave in emergency situations.

Data collection includes vessel characteristics, biological and ecological information. All information are recorded on data capture forms where FAO and IOTC data codes whenever possible. Otherwise full information must be provided. For species, IOTC and FAO 3-alpha codes are used to identify species. The observers are provided with a manual to be able to identify any species including fish, marine mammals and turtles, seabirds and sharks.

Catch composition are determined through stratified or proportional sampling where length frequency data are recorded to a precision of 0.5% of the overall length. Weight measurement are taken on an accurate scale such as hand or mechanical scales depending on the situation and availability.

Different reports have to be submitted to the coordinator such as the deployment, five-day report status and the final trip report.

Observers were deployed mostly on purse seiners and at a lesser extent on longliners from 2015 to 2019. During that period, Mauritius has been able to maintain an observer coverage of at least 15%; for the 2019 Observer's Program, a 25.6% coverage was achieved through the deployment of three observers covering a total of 181 sets and 169 days at sea. Table 5 shows the annual observer coverage on the Mauritius flagged longliners and purse seiners from 2015 to 2019. Since the COVID-19 pandemic in 2020, the Observer Programme has been put on hold. Since then, the NOP has not been relaunched, as the Ministry has a project of recruiting observers.

Table 5. Annual observer coverage (2015-2022)

Year	Gear	Period	Number of Days
2015	Purse seine	26/02/15 – 03/05/15	69
		06/04/15 – 17/06/15	71
		06/05/15 – 15/07/15	70
2016		23/03/16 – 01/06/16	78
		01/06/16 – 10/08/16	71
		08/09/16 – 17/11/16	71
2017		04/10/17 – 13/12/17	71
2018	Purse seine	02/05/18 – 11/07/18	71
		30/05/18 – 05/08/18	68
	Longline	03/11/18 – 14/11/18	16
		17/11/18 – 28/11/18	12
		03/11/18 – 14/11/18	16
		17/11/18 – 29/11/18	13
2019	Purse Seiner	17/05/19 -07/06/19	20
		11/06/19 -22/06/19	11
		23/06/19 -01/07/19	8
		11/07/19 -21/07/19	11
		01/07/19 -18/07/19	16
		24/07/19 -25/08/19	31
		25/08/19 -02/09/19	6
		29/08/19 -02/10/19	35
		10/10/19 -01/11/19	23
2020	Longliner + Purse seiner	N/A	NIL
2021	Longliner + Purse seiner	N/A	NIL
2022	Longliner + Purse seiner	N/A	NIL

6.4. Port sampling programme

Port sampling program started since the coming into operation of the first Mauritian purse seiners in the 1980's. The sampling programme consists of sampling exercises that are carried out on the catch of tuna and tuna-like species unloaded by Mauritian flagged as well as on foreign licensed vessels. Data collection sheets have been designed to enable the recording of length and species composition. Different length measurements are recorded depending on the type of fish processing. Fork length measurements are recorded for whole fish. Other measurements such as the operculum to keel or base of pectoral to the base of the anal fin are recorded for tunas, marlins or swordfish that are processed and unloaded by the local longliners. Table 6 shows the number of active vessels which were monitored.

Table 6. Number of vessels active monitored, by species and gear

Species	No. of vessels	
	Purse seine	Longline
Yellowfin	3	3
Skipjack	3	3
Bigeye	3	3
Albacore	NIL	3
Black marlin	NIL	3
Blue Shark	NIL	NIL
Blue Marlin	NIL	NIL
Oceanic white Shark	NIL	NIL
Striped marlin	NIL	3
Silky Shark	NIL	NIL
Swordfish	NIL	3

Table 7. Number of individuals measured, by species and gear

Species	No. of individuals measured	
	Purse seine	Longline
Yellowfin	1013	584
Skipjack	2527	26
Bigeye	136	307
Albacore	NIL	1168
Black marlin	3	10
Blue Shark	NIL	NIL
Blue Marlin	1	NIL
Oceanic white Shark	3	NIL
Striped marlin	NIL	3
Silky Shark	334	NIL
Swordfish	NIL	12

6.5. Unloading/Transhipment of flag vessels

Mauritius acquired its purse seine fleet in 2013 and transshipment activities were initially recorded in Victoria, Seychelles in October 2013. In 2022, the Mauritius-flagged purse seiners transshipped a total of 22436.5 tonnes of tuna in Seychelles out of which a certain quantity was destined for Mauritius and the remaining to various destinations including EU countries. Tables 8 and 9 show the quantities of fish landed per species by the Mauritian flagged longliners and purse seiners in ports within the IOTC area of competence. The tables 10 and 11 show the quantities of fish which were transshipped in 2022 in ports by the Mauritius longline and purse seine fleet.

Table 8: Quantities (tons) landed in port by Mauritian flagged longliners in 2022

Port	Species												Total
	ALB	YFT	BET	SWO	BUM	BLM	MLS	BILL	SKJ	BSH	MAK	Others	
Port Louis	78.1	82.9	85.9	19.6	30.3	7.9	1	3.9	1.7	2.3	0.2	93.8	407.6

Table 9: Quantities (tons) landed in ports by Mauritian flagged purse seiners in 2022

Port	Species						Total
	YFT	SKJ	BET	ALB	FRI	Other	
Port Louis	886.0	1438.0	224.0	2.3	7.7	4.5	2562.5
Victoria	266.5	26.7	0.0.0	0.0	3.0	0.0	296.2
Total	**1152.5**	**1464.7**	**224.0**	**2.3**	**10.7**	**4.5**	**2858.7**

Table 10: Quantities (tons) transhipped in port by Mauritius-flagged longliners in 2022

Port	Species											Total
	ALB	YFT	BET	SWO	BUM	BLM	MLS	SKJ	BSH	MAK	Others	
Port Louis	376	431.9	390	19.8	9.2	1.3	0.3	3.3	2.8	0.3	33.9	1268.1

Table 11: Quantities (tons) transhipped in port by Mauritius-flagged purse seiners in 2022

Port	Species						Total
	YFT	SKJ	BET	ALB	FRI	Other	
Victoria	8395	12157	1593	0	186.4	105.1	22436.5

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

Catches of Striped Marlin, Black Marlin and sailfish are reported to the Secretariat as per Resolutions 15/02. Masters and Skippers have been sensitized on the need to report these species. Masters and skippers are bound to comply with Resolution 18/05. Mauritian vessels do not target these species and the catch limits referred in Resolution 18/05 do not apply. The Masters/skippers are aware that they have to report their catch in accordance with the requirements of resolution 15/01. Monitoring of the catches is done through logbook data. Observers were also placed on the Mauritian vessels from 2015 to 2019.

6.7. Gillnet observer coverage and monitoring

No gillnet vessel is registered under the Mauritian flag

6.8 Sampling plans for mobulid rays

Up to now, no mobulid rays have been reported in the national fleet and since 2019, Resolution 19/03 for the conservation of Mobulid rays is mandatory as per the fishing licence conditions.

7. NATIONAL RESEARCH PROGRAMS

7.1. to 7.6 It is to be noted that no research programs are being carried out on blue shark, sharks, striped marlin, black marlin, blue marlin, indo-pacific sailfish, oceanic whitetip sharks, marine turtles and thresher sharks.

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

Table 12. Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2022.

Res. No.	Resolution	Scientific requirement	CPC progress
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Licensed fishing vessels have been notified about the mitigation measures proposed under this resolution. Furthermore, marine turtles and their eggs are protected by the Mauritian law as specified in Sections 16 and 17 of the Fisheries and Marine Resources Act 2007, Act no. 27 of 2007.
12/06	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	No encounter with seabirds has been reported in the fishing logbooks. All vessels have been advised on the application of the seabird mitigation measures. Furthermore, 'Seabird Identification Cards' provided by the IOTC, have been distributed to the agents of the Mauritius-flagged vessels.
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Skippers of national flagged vessels have been trained in the identification of thresher sharks and have been informed to release live specimens of thresher sharks caught. They have also been provided with identification guides. No vessel has reported any encounter with thresher sharks
13/04	On the conservation of cetaceans	Paragraphs 7– 9	As per the logbooks of the fishing vessels, there has been no encirclement of cetaceans by the Mauritius-flagged purse seiners. Skippers have to report any interaction with cetaceans. Also, the Fisheries and Marine Resources Act 2007, Act No. 27 of 2007 has prohibited the fishing of marine mammals, under Section 17. Compliance with Resolution 13/04 for the conservation of cetaceans is mandatory as per the fishing licence conditions.
13/05	On the conservation of whale sharks (*Rhincodon typus*)	Paragraphs 7– 9	The masters and agents of the Mauritius-flagged vessels have already been sensitised on the importance to comply with Res 13/05.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Mauritius is not a shark-fishing nation and does not issue licenses to foreign vessels targeting sharks. However, guides related to the shark identification have been distributed among the agents of the Mauritius-flagged vessels to avoid the retention of endangered shark species which are under the IOTC mandate on board. Moreover, the NPOA-sharks of Mauritius highlights the conservation of sharks caught as bycatch. Data on sharks was submitted to the IOTC on 30/06/23.
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	As per the license conditions, it is mandatory for the vessels to keep on board a copy of the logbook which has provision for daily recording the catch and effort. Logbooks are collected and data after each trip of each vessels. The data is then input and analysed. Logbook data is also verified against VMS record and declarations at landing ports.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	Data on mandatory statistical reporting is regularly submitted to the IOTC in June of every year. All the data pertaining to Resolution 15/02 for the year 2022 was submitted to the IOTC Secretariat on the 30/06/23 in accordance with the reporting requirements.
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	Mauritius is not a shark-fishing nation and does not issue licenses to foreign vessels targeting sharks. However,

Res. No.	Resolution	Scientific requirement	CPC progress
			guides related to the shark identification have been distributed among the agents of the Mauritius-flagged vessels to avoid the retention of endangered shark species under the IOTC mandate on board. Moreover, the NPOA sharks of Mauritius highlights the conservation of sharks caught as bycatch. Data on sharks was submitted to the IOTC on 30/06/23.
18/02	On management measures for the conservation of blue shark caught in association with IOTC fisheries	Paragraphs 2-5	Mauritian vessels catching blue shark are required to record their catch in the logbooks. This data is reported as per Resolution 15/02. As per the fishing licence conditions it is mandatory for the skippers to record catch data on blue sharks.
18/05	On management measures for the conservation of the Billfishes: Striped marlin, black marlin, blue marlin and Indo-Pacific sailfish	Paragraphs 7 – 11	All fishing vessels have to report in their logbooks Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish catches and whether released alive and/or discarded. Data about marlins are submitted to the IOTC in accordance with the Resolution 15/02. Compliance with Resolution 18/05 for the conservation of bill fishes is mandatory as per the fishing licence conditions.
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	The Implementation Report was submitted to the Secretariat on 09/03/23 and includes all measures taken for the reporting obligations regarding the mentioned resolutions in the different sections of the report. All columns in the form 1RC are filled as required and reporting of zero catches is done as per Resolution 18/07 in the appropriate format.
19/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence (*If not provided under Res 21/01 below*)	Paragraph 22	Mauritius did not make any over-catch under Res. 19/01. This was due to the fact that meetings were held with operators to sensitise them on the need to decrease the yellowfin catches. A decrease in the yellowfin catch was noted both in 2020 and 2021 when compared to the catch of 2019. It is to be noted that during the Commission meeting in 2020, Mauritius took the commitment to pay back any excess catch if any this year and the next year if any. However there was no over-catch.
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Compliance with Resolution 19/03 for the conservation of Mobulid rays is mandatory as per fishing licence conditions since 2019.
21/01	On an Interim Plan for Rebuilding the Indian Ocean Yellowfin Tuna Stock in the IOTC Area of Competence (*If not provided under Res 19/01 above*)	Paragraph 23	In 2022, Mauritius made an over-catch of 701 tons which will be deducted from its quota in 2023 and 2024 respectively.
22/04	On a regional observer scheme	Paragraph 12	Note that the National Observer Programme (NOP) has ceased since the COVID 19 pandemic. Since then, the NOP has not been relaunched, as the Ministry has a project of recruiting observers to be placed on Mauritian fleet, instead of deploying officers of the Ministry.

9. LITERATURE CITED

1. Fisheries and Marine Resources Act 2007
2. Implementation Report 2022 for Mauritius (IOTC-2023-CoC20-IR17[E)
3. National Report 2022 (IOTC-2022-SC25-NR17)
4. Compendium of active Conservation and Management measures for the Indian Ocean Tuna Commission