NATIONAL REPORTS TO THE IOTC SCIENTIFIC COMMITTEE IN 2024

Oman National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2024

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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 2024, final data for the 2023 calendar year must be provided to the Secretariat by 30 June 2024)	NO
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 2024, preliminary data for the 2023 calendar year were provided to the IOTC Secretariat by 30 June 2024). **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 2024, final data for the 2023 calendar year must be provided to the Secretariat by 30 December 2024).	NO
If no, please indicate the reason(s) and intended actions: **Please note that Oman is currently** evaluating, with the support of an external expert, the current data collection system to verify its compliance with regional and international standards, in particular the catches of the **artisanal and coastal fleets that are based on sampling.** The **preliminary results of the on-going review** (which started in July 2024) were presented to the WPTT last October 2024. It has already evaluated the related Oracle database and the statistical reports resulting from the collected information and data. Based on these findings a catch/effort analysis has been conducted and a retrospective revision of catch/effort figures for 2014-2022 is currently in progress.	

Oman will present a Report to the WPDCS in the forthcoming session of end November-early December and also to the forthcoming session of the SC, both to take place in Cape Town.

Details will be provided in the Final Report. Explaining the peak years 2019-2021 requires caution. At this time, it is not certain that the atypical high figures are indeed part of a trend or are circumstantial and not likely to be repeated. Estimates for 2022 and early monthly figures for 2023 suggest, in fact, a return to more moderate trends in effort and production.

Following the conclusions of the retrospective analysis, Oman will submit in the coming weeks revised tables of reported catches, in particular on tuna and tuna like species.

Executive Summary [Mandatory]

The total production of the Omani fishery sector amounted to around 794 thousand tons in 2023, with a slight increase of approximately 6% compared to 2022, with a total value amounting to about 531 million Omani riyals in 2023. Artisanal fishing contributed a percentage 89% of this production amounted to approximately 706 thousand tons with a value of 439 million Omani riyals, while The quantities of commercial fishing production amounted to 76,480 tons, forming a contribution rate of 9.6% of the total production, and the coastal fishing contributed by 0.7%, with catch quantities estimated at approximately 5,600 tons. Tuna species considered as highly valuable products for Omani consumers, have experienced significant increases in the total annual production until 2022, with a decrease in its production in 2023 by 7.4% compared with 2022.

1. BACKGROUND/GENERAL FISHERY INFORMATION [MANDATORY]

The coastline of Oman extends to about 3165 km on three different water bodies: Arabian Sea, Sea of Oman and the Arabian Gulf. the main characteristics of this coastline is the rich marine biodiversity and productive ecosystems with valuable fishery stocks. As the total production of the fishery sector in 2023 was around 793,771 tons with a total value of 531 million OMR. This production level showed an increase in the landing by 6% and the value increased by 13.2% compared to 2022.

Concerning Tuna and Tuna- like species, they have all shown a significant increase during the period 2019- 2022, with a slight decrease in 2023, except for kingfish and sharks which increased respectively by 124% and 10.3% in 2023 compared with 2022.

2. FLEET STRUCTURE [MANDATORY]

The Omani national fleet consists of three different segments: Artisanal, Costal and Industrial fleets:

- Artisanal fleet: There are two types of fishing units: Dhows (wooden or fiberglass vessels) and Fiberglass boats.
- Coastal fleet: the total number of vessels in 2023 was 285 vessels of which 188 are operative vessels. The majority of these vessels are situated in the Arabian Sea precisely from Ras AL Had in Al Sharqiya to Dhofar.
- Industrial fleet: consists of vessels undertaking large pelagic fishing activities.

i)- <u>Artisanal fishery</u>

Table 1a: Number of units in artisanal fleet operation in On- shore from 2019-2023.

Years		2019	2020	2021	2022	2023
Number of Units	Dhows	688	688	688	688	688
	Fiberglass	25030	25037	26103	26011	26533
Gear Type	LL, HL. N, BSN and T					

ii)- Coastal fishery

Table 1b: Number of costal vessels from 2019-2023.

Years	2019	2020	2021	2022	2023
Number of Vessels	162	220	237	264	285
Gear Type	LL, HL. N, GL				

iii)- Industrial fishery

Table 1c: Number of vessels operating in IOTC area of competence from 2019-2023.

Years		2019	2020	2021	2022	2023
Number of Vessels	**Longliners**	3	3	4	3	3
	Purse seiners	0	0	0	1	2
Gear Type		LL, TR , PS				
Size of Vessels		OAL: Above 30 m				

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

3.1 Fishing catches:

Table 2a. Artisanal Annual catches (mt) by species from 2019-2023

Species	2019	2020	2021	2022	2023
Yellowfin* Tuna	36735	68578	71473	71843	65866
Long tail Tuna	14650	27206	28136	31844	24865
Kawakawa	6684	8128	7335	6676	5784
Striped Bonito	1068	1487	2141	1820	1384
Frigate Tuna	1119	2450	6359	5301	4522
Skipjack	102	90	229	279	166
Other Tunas	1410	9083	10438	17845	15040
Sailfish	1470	2647	2868	3565	2997
King fish	2090	5906	7659	5514	12370
Sharks	4772	6068	5290	4774	5268
Total	70100	131643	141928	149461	138262

Table 2b. Coastal Fleet Catches (mt) in 2023

Species	2019	2020	2021	2022	2023

Yellowfin Tuna	41	30	35	41	47
Longtail Tuna	34	23	28	32	37
Kawakawa	18	13	16	18	22
Striped Bonito	9	7	8	9	10
Frigate Tuna	10	7	8	12	12
Skipjack	0	346	0	0	0
Other Tunas	976	305	790	930	1131
Sailfish	10	8	9	11	13
Kingfish	8	7	7	8	9
Sharks	300	245	275	305	342
Total	1406	991	1176	1366	1623

Table 2c. Industrial Fleet Annual Catches (mt) By Species from 2019-2023

Species	2019	2020	2021	2022	2023
Yellowfin Tuna	266	207	168	285	3743
Longtail Tuna	0	0	0	0	0
Kawakawa	0	0	0	0	53
Striped Bonito	0	0	0	0	0
Frigate Tuna	0	0	0	0	0
Skipjack	0	0	0	2.5	3686
Bigeye tuna	0	0	0	0.5	0.8
Other Tunas	160	54	153	97	878
Sailfish	14	3	5	14	13
Kingfish	0	0	0	0	0
Sharks	13	1	0	0	2
Total	453	265	326	282	8375

3.2 Estimated Fishing Effort:

Table 3a: Estimated Fishing Effort for Artisanal Fleet During 2023

Boat – Fishing Gear	Parameters	Total
FG (HL + TL)	Number of Boats	38431
	Estimated Effort	514181
	CPUE (Kg)	17702
	Estimated Catch (Ton)	127423
FG (NET)	Number of Boats	187019
	Estimated Effort	647392
	CPUE (Kg)	368859
	Estimated Catch (Ton)	280723
BEACH SEINE NET	Number of Boats	2964
	Estimated Effort	35870
	CPUE (Kg)	85244

	Estimated Catch (Ton)	65621
LAUNCH – FT	Number of Boats	3026
	Estimated Effort	36529
	CPUE (Kg)	21484
	Estimated Catch (Ton)	23612
LAUNCH – LINE + TL	Number of Boats	1726
	Estimated Effort	11542
	CPUE (Kg)	101592
	Estimated Catch (Ton)	46029

Table 3b: Estimated Effort of Coastal Vessels from 2019-2023

Years	Landing (mt)	No. of Vessels	Vessel – day number	Season Duration (month)	Catch/ Vessel - Year (mt)	Catch/ Vessel - Day (mt)
2019	3921	125	-	12	19	1
2020	4289	131	-	12	33	0.6
2021	4668	190	-	12	25	2.2
2022	5062	264	-	12	27	5.8
2023	5600	285	-	12	33	5.0

Table 3c: Estimated Effort of Industrial Fishing Activity from 2019-2023

Years	Landing (mt)	No. of Vessels	Vessel – day number	Season Duration (month)	Catch/ Vessel - Year (mt)	Catch/ Vessel - Day (mt)
2019	19985	4	351	12	625	56.94
2020	40180	8	366	12	5022	13.70
2021	45744	9	365	12	5083	13.93
2022	51803	7	365	12	7400	20.27
2023	76480	18	365	12	4249	11.64

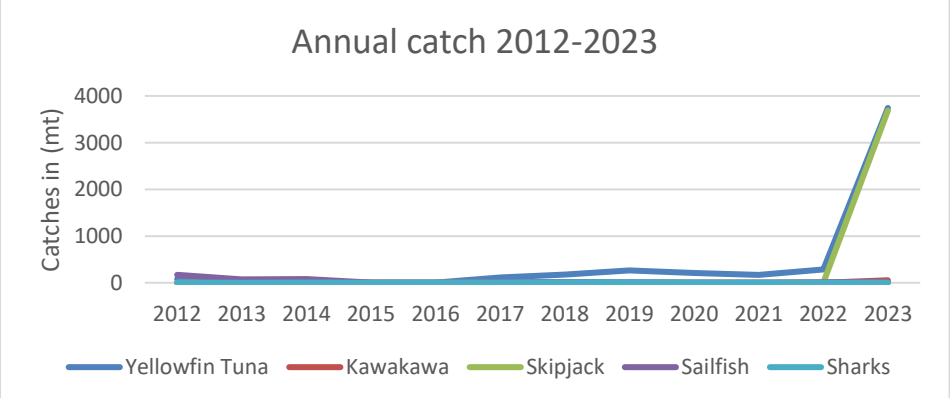

Figure 1a. Historical annual catch for the national industrial fleet, by primary species

It's noticeable from the historical annual catch series that yellowfin tuna catches are increasing in the last years and getting their peak in 2023. Skipjack and kawakawa getting zero catch for the last years by commercial fleet until 2023 as they reached 3686 tons and 53, respectively. Skipjack fishes caught by purse seiners vessels that have been started since 2022 in high seas with the registration of an industrial purse seiner. While, kawakawa caught in the Omani EEZ. Sharks and sailfish catches fluctuated in all last years.

3.3. Tuna Effort Distribution maps:

Figure 2a and 2b maps of distribution of fishing effort by national fisheries are NOT AVAILABLE

3.4. Tuna Catch Distribution maps:

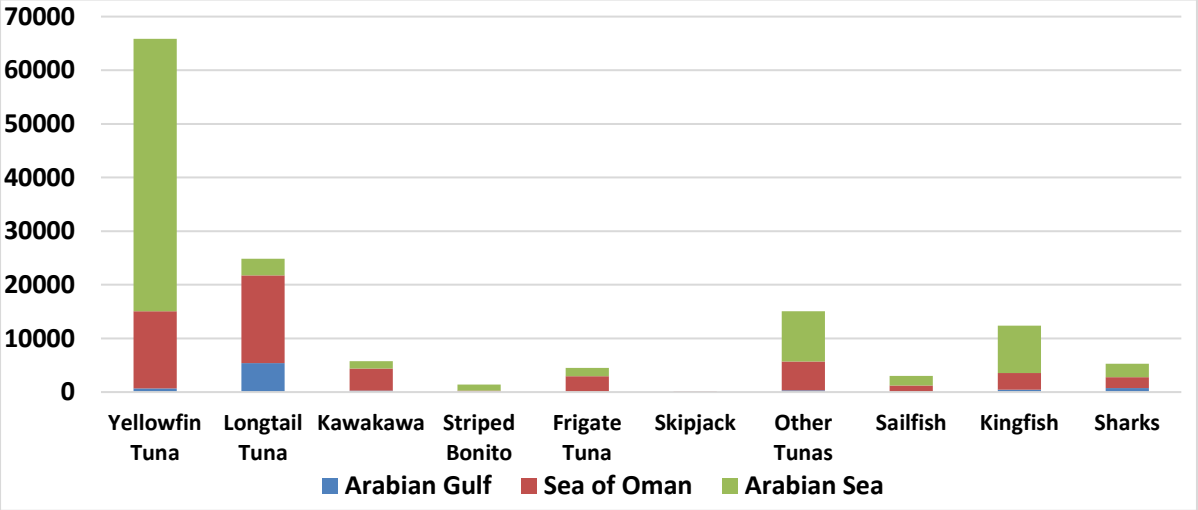

Figure 3a. Map of distribution of fishing catch by species for the national fisheries in the IOTC area of competence in 2023

The figure above shows that the tuna species mostly distributed in Arabian Sea. Yellowfin tuna recorded the highest catches followed by longtail tuna compared with the other tuna species. Note skipjack catches are mainly caught in the high seas or other EEZ where industrial purse seiners registered in Oman operate with a licence.

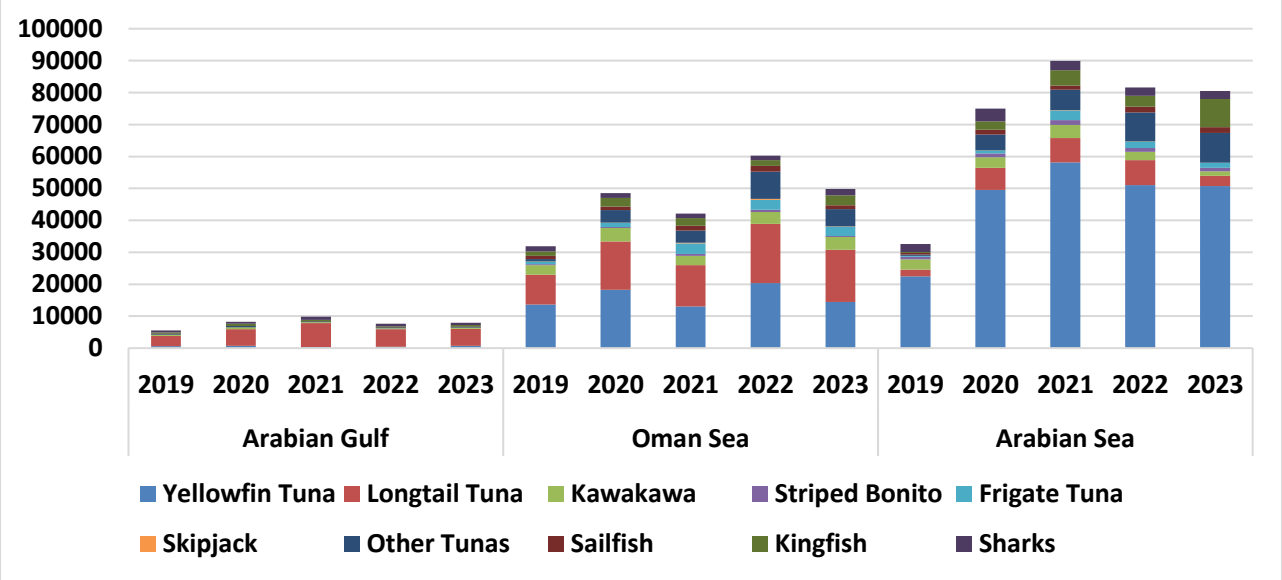

Figure 3b. Map of distribution of fishing catch by species for the national fisheries in the IOTC area of competence in 2019-2023

The figure above shows that the tuna species mostly distributed in Arabian Sea, followed by Oman Sea, and the lowest amount of tuna found in Arabian Gulf. Yellowfin tuna recorded the highest catches followed by longtail tuna compared with the other tuna species.

4. RECREATIONAL FISHERY [Mandatory]

There is no recreational fishery for tuna and tuna like species in Oman.

5. ECOSYSTEM AND BYCATCH ISSUES [Mandatory]

5.1 Sharks [Mandatory]

5.1.1. NPOA sharks [Desirable]

The Sultanate of Oman is currently in the process of developing an NPOA-sharks, which aims to set a management scheme for these resources, with the perspective to ensure their conservation and sustainable exploitation. Plus, some endangered species were monitored under CITES agreement. Shark fining is banned by the Oman Fishing law.

5.1.2. Blue shark [Mandatory]

No project in place

5.2 Seabirds [Mandatory]

No project in place

5.3 Marine Turtles [Mandatory]

Environment Society of Oman (ESO) is working in a project in this field. This study will help the Ministry of Agriculture, Fisheries and water Resources incorporate in its legislation sound conservation measures for the protection of these creatures

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

A project done to study the sustainable and economic aspects of rays fisheries in Oman:

It aims to focus on the biodiversity of rays, evaluate their species according to international and local indicators of the risk of extinction, identify the state of rays fisheries and the challenges they face. In addition to identifying the commercial species traded in local markets and landing sites, document them in terms of scientific classification, and methods of marketing and trading, and contribute to developing a national plan for the management of rays fisheries in the Sultanate of Oman.

6. NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS [Mandatory]

Please note that Oman is currently evaluating, with the support of an external expert, the current data collection system to verify its compliance with regional and international standards, in particular the catches of the **artisanal and coastal fleets that are based on sampling.** The **preliminary results of the on-going review** (which started in July 2024) were presented to the WPTT last October 2024. It has already evaluated the related Oracle database and the statistical reports resulting from the collected information and data.
Based on these findings a catch/effort analysis has been conducted and a retrospective revision of catch/effort figures for 2014-2022 is currently in progress
Oman will present a Report to the WPDCS in the forthcoming session of end November-early December and also to the forthcoming session of the SC, both to take place in Cape Town.
Following the conclusions of the retrospective analysis, Oman will submit in the coming weeks a revise tables of reported catches, in particular on tuna and tuna like species.

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

A primary logsheet has been established and is ready for use. This logbook system records daily information for each trip delivering three documents (copies): One goes for the vessel, the second goes for the port authority and the last for the Ministry of Agriculture, Fisheries & Water Resources.

To date, onboard observer and logbook schemes are in the early stage of implementation. Plans have been made for a stepwise implementation of logbooks for certain fleet segments. At present
data collection on artisanal and coastal fisheries is entirely based on sampling. Data for the industrial fleet concerns a few longliners and 3 industrial purse seiners. This information is based
on real data from VMS and log-books, including e-logbooks on board the purse seiners.

6.2. Observer scheme

The Ministry has initiated an observer scheme to monitor the landings through this program for industrial fishing vessels fishing in the EEZ. It is, however, the objective of this Ministry to make a special focus on the industrial fleet and especially onboard the vessels targeting tuna species within the IOTC convention area. To date, no onboard observer scheme has yet been implemented for industrial vessels fishing in high seas in Oman.

6.3. Port sampling programme [Mandatory]

Statistical fisheries data collection in Oman began in 1984, as part of a joint Omani-American committee established during that period to foster cooperation between the two countries. These early statistics laid the foundation for the methodologies **based on a sampling approach** to estimate total fish production by month, region, and fish species, with specific focus on artisanal and coastal fisheries This development involved financial resources, human capabilities, and technical systems for data collection, storage and analysis. Fisheries statistics personnel received specialized training both within Oman and abroad.

Over time, the fisheries statistical monitoring programme underwent multiple stages of development and improvement. At present the programme relies on a **robust infrastructure involving human resources for data collection, processing, and analysis, advanced data collection systems, and well-structured databases**. Additionally, **statistical tools and techniques** have been introduced to assess the current statistical and computational practices and verify statistical results through parallel methodologies. **Automatic diagnostic procedures** have been introduced to provide regular indicators related to data consistency and reliability.

Intensive training programmes have also been implemented, focusing on practical marine statistics to address current needs for accuracy, inspection, and changes. Several of these programs were executed: Athens in July-August 2010, University of Reading in England from May 28 to June 6, 2013, and in the Netherlands.

The port-based sampling system involves **42 data collectors who cover over 156 landing sites**. Data collection records fish species and weights as they are landed and includes first-sale prices, as well as average weight of individuals. An electronic data recording device is used that has an inbuilt catalogue of species to be used for species identification; **this practice is reported to have improved in recent years the detail of information reported**.

Data collection on fishing effort is performed independently by recording the fishing activities of fishermen on the previous day (1 if fished or 0 if otherwise). Occasionally the effort query refers to the total days worked during the reference month.

Sampling operations are conducted according to **well-prepared guidelines and protocols and are supervised effectively.** The quality of landings data submitted to the database is generally good. An important point concerns the trip duration which is missing in some places, on the assumption that it will automatically be set to 1 by the system. This practice can impede the occasional use of trip durations that are shorter than one day.

The data collected in PSP included artisanal fishery, industrial fishery, fish export & import and companies The data collection system has been reviewed and improved since then, and it is considered that the Ministry has an adequate system for the small-scale fishery while further improvement of the data collection system is still needed for coastal and artisanal (dhows) fleets.

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

No project in place

6.5. Gillnet observer coverage and monitoring [Desirable]

No project in place

6.6 Sampling plans for mobulid rays [Mandatory]

No project in place

7. NATIONAL RESEARCH PROGRAMS [Desirable]

7.1. National research programs on blue shark
No program

7.2. National research programs on Striped Marlin, Black Marlin, Blue Marlin and Indo-pacific Sailfish
No program

7.3. National research programs on sharks
No program

7.4. National research programs on oceanic whitetip sharks
No program

7.5. National research programs on marine turtles
1. **Evaluating Hatching Success and Emergence Success in Loggerhead Nests on Masirah Island by Environment Authority:** Quantify hatching success along different sections of the beach, identify and evaluate factors impacting hatchling emergence, and implement appropriate management measures to maximize hatchling production in this declining population.

2. **Sea Turtle Satellite Tracking Project by Environment Authority:** Strengthening the system of protecting and rehabilitating species and restoring habitats, as well as contributing information to studying the nesting conditions and natural habitats of sea turtles, as satellite tracking devices work to know the movement of turtles, their behaviour, nesting and feeding sites, and to track more numbers of green turtles, in addition to building local capacities and unifying local and international efforts to implement best practices for protecting sea turtles.

7.6. National research programs on thresher sharks
No program

Table 4. Summary table of national research programs, including dates

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
1 . Long term monitoring program of crustacean fisheries	•Shrimp fisheries 1997 -to present	Oman	-	Fisheries research Directorate	review the general status of the lobster and shrimp fishery in Oman	Assessment of biological characteristics (Lc, Lm, mean size) during fishing seasons. The stock size and catch by CMSY analysis

2. Long term monitoring program of important commercial pelagic and demersal fisheries	•Lobster fisheries 1987-to present 2005 - to present	Oman and GCC countrie	-	Fisheries research Directorate	review the general status of the stock in Oman	The stock status in the Omani waters was evaluated using the total length to assess biological reference points (growth, recruitment and mortality) and biological characteristics (Lc and Lm). The kingfish fisheries in GCC waters were assessed using length based analysis to estimate the per recruit analysis.
3. Monitoring of oceanography parameters	2001- to present	Oman	-	Fisheries research Directorate	Study marine environmental variability	1. Monthly collection of physics and chemical oceanography parameters 2.Monthly sampling of biological samples such as phytoplankton and zooplankton 3. Monthly sampling for ocean acidification program 4. HABs monitoring
4. Ocean acidification program	2024-Continuous	GCC-Countries	-	Fisheries research Directorate	To study CO2 system of ocean and the acidification	Monthly sampling for ocean acidification program, analyzing the pH and Total Alkalinity of Omani coastal waters

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

Table 5. Scientific requirements contained in Resolutions of the Commission, adopted between 2012 and 2023

Res. No.	Resolution	Scientific requirement	CPC progress
12/04	On the conservation of marine turtles	Paragraphs 3, 4, 6–10	Under progress, and it will be included in the new proposed law.
12/09	On the conservation of thresher sharks (family alopiidae) caught in association with fisheries in the IOTC area of competence	Paragraphs 4–8	Under progress, and it will be included in the new proposed law.
13/04	On the conservation of cetaceans	Paragraphs 7– 9	Fishing for cetaceans is prohibited according to the Sultanate Law of Marine fishing and living aquatic resources
13/05	On the conservation of whale sharks (*Rhincodon typus*)	Paragraphs 7– 9	This type of shark is of no interest to fishermen and never gets caught as no purse seines are deployed in Omani waters.
13/06	On a scientific and management framework on the conservation of shark species caught in association with IOTC managed fisheries	Paragraph 5–6	Sultanate of Oman is in the process of adopting a NPOA-sharks, which will incorporate the relevant requirements under this Plan. Furthermore, the law prohibits discard of any part of sharks and cutting the fins. Furthermore, the official authorities took the necessary actions to inform the vessels owners about the resolution content and they were instructed to fully comply with.
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–10	Ongoing, the data gathering system is progressing to accommodate the updated requirements.
15/02	Mandatory statistical reporting requirements for IOTC Contracting Parties and Cooperating Non-Contracting Parties (CPCs)	Paragraphs 1–7	Under implementation, and the statistical data had been reported
17/05	On the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 6, 9, 11	Under implementation, and the statistical data had been reported
18/02	On management measures for the conservation of blue shark caught in association with IOTC fisheries	Paragraphs 2-5	Under implementation, and the statistical data had been reported
18/05	On management measures for the conservation of the Billfishes:	Paragraphs 7 – 11	These species are not reported in our fishery, as they rarely get caught by our fleets.

Res. No.	Resolution	Scientific requirement	CPC progress
	Striped marlin, black marlin, blue marlin and Indo-Pacific sailfish		
18/07	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraphs 1, 4	Oman is working progressively to enhance the data collecting system.
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	Catch under threshold from industrial fleet
19/03	On the Conservation of Mobulid Rays Caught in Association with Fisheries in the IOTC Area of Competence	Paragraph 11	Under progress, and it will be included in the new proposed law.
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	Catch under threshold from industrial fleet
22/04	On a regional observer scheme	Paragraph 12	The Ministry has initiated an observer scheme to monitor the landings through this program. It is, however, the objective of this Ministry to make a special focus on the industrial fleet and especially onboard the vessels targeting tuna species within the IOTC convention area. To date, no onboard observer scheme has yet been implemented in Oman. However, a port sampling system has been established.
23/07	On reducing the incidental bycatch of seabirds in longline fisheries.	Paragraphs 3–7	Applied by terms of reference in fish authorization, to be included in the new proposed law.

9. LITERATURE CITED [Mandatory]

1. Fishery Statistical Book (2020,2021,2022,2023). Fisheries Statistic & Information Department, Ministry of Agriculture, Fisheries and water resources.
2. Marine and Fisheries Science Center - Oman
3. Project of Vessel Monitoring System in Oman
4. Environment Authority - Oman