Sultanate of Oman National Report to the Scientific Committee of The Indian Ocean Tuna Commission, 2018

Directorate General of Fisheries Resources Development

Ministry of Agriculture & Fisheries

INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 15/02, final scientific data for the previous year was provided to the Secretariat by 30 June of the current year, for all fleets other than longliners.	YES was provided on 13/08/2018
In accordance with IOTC Resolution 15/05, provisional longline data for the previous year was provided to the Secretariat by 30 June of the current year [e.g. for a National report submitted to the Secretariat in 2013, preliminary data for the 2012 calendar year was provided to the Secretariat by 30 June 2013). REMINDER: Final longline data for the previous year is due to the Secretariat by 30 Dec of the current year	YES was provided on 13/08/2018

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Executive Summary:

The total production of the Omani fishery sector amounted to around 348,000 Tons in 2017 with an increase of approximately 24% compared to 2016.

Tuna species considered as highly valuable products for Omani consumers, have experienced significant increases in the total annual production and increasing (for Tuna and Sharks species) from 47,517 mt in 2015 to 54,824mt in 2016 and to 57,426 mt in 2017. This increase finds its origin, in the dynamism shown by the traditional fleet on the tuna coastal resources and probably the slowdown of the fishing pressure in the Yemen waters. For the industrial fleet, the number of vessels decreased from 10 vessels in 2011 to 3 vessels in 2014 and to 1 vessel in 2017. This reduction in the industrial fishing capacity was initiated by the national Authorities for the purpose of restructuring the industrial fishing sector to improve its competitiveness and efficiency. At the annual IOTC meeting in 2018, the Sultanate has submitted a revised version of its Fleet Development Plan which is scheduled to be implemented in the upcoming years. Artisanal and coastal fleets have, however, increased slightly in the number of vessels and fishermen.

For the monitoring aspects of the Tuna fishery, the Omani Government has introduced the logbook data collection scheme, the Vessel Monitoring System (Upgrading the system is ongoing), Port Sampling Program (PSP), and a scheme to enhance the quality of data gathered in order to contribute to manage and sustain efficiently the Omani fisheries.

At the same time, the Government started to run and monitor several other projects for other marine species such as sea birds and marine turtles. While the sea birds program is still in its starting stages, the turtle program has been launched and several assessment missions and reports have been completed and multiple public awareness sessions and fishermen sensitisation programs have been executed particularly in Massirah Island. A very informative conference has been organized in October 2018 by the Environment Society of Oman during which the status of loggerhead sea turtles has been presented and

discussed by a large audience of Government participants and other concerned stakeholders.

1. BACKGROUND/GENERAL FISHERY INFORMATION

The coastline of Oman extends to about 3165 km on three different water bodies: Arabian Sea, Sea of Oman and the Arabian Gulf. The rich marine biodiversity and productive ecosystems with valuable fishery stocks are the main characteristics of this coastline. The total production of the fishery sector in 2017 was around 348,000 tons with a total value of 227 million OMR. This production level showed an increase in the landing of 24 % in volume and 11% in the value compared to 2016.

Concerning Tuna and Tuna- like species, they have all shown considerable increase during the period 2009- 2012. However, the tuna fishery has shown a slight decrease from 2012 to 2014, followed by a significant increase in 2015, 2016 and 2017.

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.
- Costal fleet: the total number of vessels in 2017 was 144 vessels, with a high concentration in the Arabian Sea, and precisely from Ras AL Had in Al Sharqiya to Dhofar.
- Industrial fleet: consists of vessels undertaking pelagic fishing activities and represents only 0.1% of the total fishery production in 2017.

2. FLEET STRUCTURE

i)- Artisanal fishery

Table 1a: Number of units of artisanal fleet operation in in- shore waters.

Years		2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Units	Dhows	612	695	704	698	711	694	684	688	681
	Fiberglass	14330	18031	18031	19245	20631	21616	22237	22720	23232
Gear Type	LL, HL. N, BSN									

ii)- Coastal fishery

Table 1b: Number of costal vessels from 2009 – 2017.

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Vessels	19	33	49	56	96	93	129	140	144
Gear Type	LL, HL. N, GL								

iii)- Industrial fishery

Table 1c: Number of vessels operating in Oman EEZ and IOTC area of competence from 2009– 2017.

Years		2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Vessels	Long liners	17	13	10	8	5	3	1	1	1
	*Trawlers	32	25	18	0	0	0	0	0	0
Gear Type		LL, , TR								
Size of Vessels		OAL: Above 30 m								

*Trawlers were working exclusively inside the territorial waters.

3. CATCH AND EFFORT (BY SPECIES AND GEAR)

3.1 Tuna catch series by segment:

Table 2a. Artisanal Annual catches (mt) by species from 2009 – 2017.

Artisanal Fleet									
Species	2009	2010	2011	2012	2013	2014	2015	2016	2017
Yellow fin* Tuna	6202	2580	1948	5501	7736	7178	14947	20848	19292
Long tail Tuna	8052	8564	10217	14274	12972	11158	13954	14540	20893
Kawakawa	2336	2214	3113	4597	4315	4034	4900	5553	7818
Striped Bonito	155	180	562	488	307	1140	4541	4572	1692

Frigate Tuna	737	1314	1577	944	1014	395	684	1078	1184
Skipjack	11	80	22	94	8	23	16	216	55
Other Tunas	55	369	2027	198	231	290	1616	390	1109
Sailfish	803	1831	2660	3338	3041	1047	2249	1754	1622
King fish	3765	4060	3369	5612	4175	4970	3984	7007	3333
Sharks	4503	5148	7009	5341	7283	6473	6738	7507	4965
Total	22016	21192	25494	40387	41082	36708	53629	63465	61963

*An investigation and review of landing data for all tuna species from 2008 to 2017 are still ongoing. The outcome of this investigation will be submitted later to the IOTC scientific committee.

Table 2b. Coastal Fleet Catches (mt) in 2017.

Costal Fleet	
Species	2017
YellowfinTuna	6
Long tail Tuna	1
Kawakawa	1
Striped Bonito	3
Frigate Tuna	0
Skipjack	0
Other Tunas	0
Sailfish	1
Kingfish	8
Sharks	116
Total	136

Table 2c. Industrial Fleet Annual Catches (mt) By Species from 2009- 2017.

Industrial Fleet									
Species	2009	2010	2011	2012	2013	2014	2015	2016	2017
Yellow fin Tuna	919	622	73	78	30	27.8	1	6	110
Long tail Tuna	0	0	0	0	0	0	0	0	0
Kawakawa	0	0	0	0	0	0	0	0	0
Striped Bonito	8	1	0	0	0	0	0	0	0

Frigate Tuna	0	0	0	0	0	0	0	0	0
Skipjack	0	0	0	0	0	0	0	0	0
Other Tunas	0	0	0	1027	291	449.1	4	8	179
Sailfish	429	202	202	170	72	0	2	8	10
Kingfish	0	0	0	0	0	0	0	0	0
Sharks	248	130	23	2	0	6.8	0	0	4
Total	1649	955	298	1277	393	483.7	7	22	303

3.2 Estimated Fishing Effort:

Table 2d. Estimated Fishing Effort for Artisanal Fleet During 2017

Boat – Fishing Gear	Parameters	Total
FG (HL + TL)	Number of Boats	50945
	Estimated Effort	616442
	CPUE (Kg)	7978
	Estimated Catch (Ton)	68511
FG (NET)	Number of Boats	52292
	Estimated Effort	620356
	CPUE (Kg)	9760
	Estimated Catch (Ton)	73525
BEACH SEINE NET	Number of Boats	2068
	Estimated Effort	23653
	CPUE (Kg)	117454
	Estimated Catch (Ton)	35989

LAUNCH – NET	Number of Boats	5099
	Estimated Effort	83668
	CPUE (Kg)	9435
	Estimated Catch (Ton)	30414
LAUNCH – LINE – TL	Number of Boats	486
	Estimated Effort	6282
	CPUE (Kg)	5818
	Estimated Catch (Ton)	1164

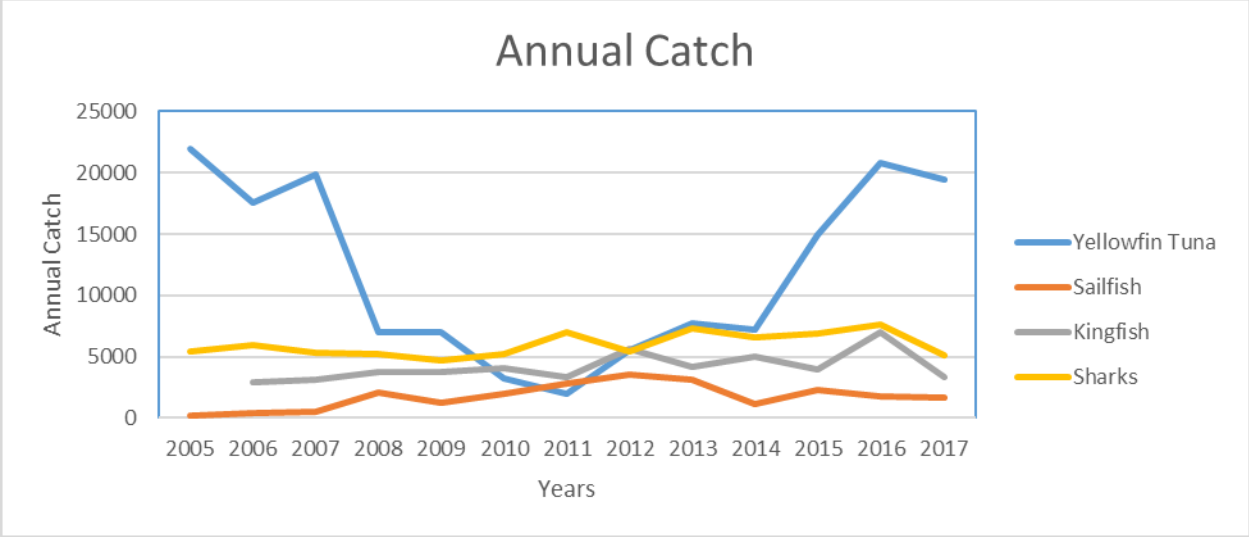
Table 2e. Estimated Effort of Coastal Vessels in 2017.

Landing (mt)	Number of Vessels	Season Duration	Catch/ Vessel/ Year (mt)	Catch/ Vessel/ Day (mt)	Catch/ Fishing/ Day
3140	110	12	28	5.1	-

Table 2f. Estimated Effort of Industrial Fishing Activity from 2009 – 2017.

Long liners						
Years	Landing (mt)	No. of Vessels	Vessel – day number	Season Duration (month)	Catch/ Vessel - Year (mt)	Catch/ Vessel - Day (mt)
2009	1965	17	1205	7	116	1.63
2010	889	13	918	12	68	0.97
2011	1400	10	1139	12	140	1.23
2012	1292	8	896	12	162	1.44
2013	398	5	423	10	80	0.94
2014	590.1	3	464	12	197	1.27
2015	210	1	70	4	210	3.00
2016	163	1	131	7	163	1.32
2017	398	1	231	10	398	1.89

Figure 1: Historical annual catch for the national fleet, by species



It is to be retained from this historical catch series that while the catches can be considered as relatively stable for sailfish, kingfish and sharks, the tuna species have experienced drastic ups and downs since 2005 and before. There seems to be drastic declines for yellowfin tuna between 2008 and the following years, while top landings were during the years 2005, 2007, 2012 and noticeable increase for yellowfin tuna in, 2015, 2016 and 2017. The yellowfin tuna catches seem to come back to the more flourishing between 2005 -2007 after a period of decline between 2008 and 2014.

3.4. Tuna catch Distribution maps:

The Artisanal fleet is so far not equipped with any monitoring system. The only segment monitored by VMS is the industrial fleet. Since the artisanal segment represents 99.7% of the tuna fishing activity, it is therefore of no interest to map the distribution of the catch and effort pertaining only to industrial activities.

4-Recreational fishery

There is insignificant recreational fishery for tuna and tuna like species in Oman.

5-Ecosystem and by catch issues

5.1 Sharks

The fishing activities of Sharks are limited to a small fraction of artisanal fleet all over the coastline, estimated to be at 10% of the small scale fishing fleet. This fraction of fishermen is considered as targeting the shark resources while the rest of the artisanal fleet (90%) is getting sharks only as by-catch of the tuna fishing activities.

Table 3: Total catch of sharks by the Industrial fleet in the IOTC area from 2009-2017.

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017
SHA* SPHY**	248	130	23	2	0	6.8	0	6	4

*SHA, Carcharinidae shark species.
**SPHY, Sphyrnidae shark species.

The Sultanate of Oman is currently in the process of adopting the NPOA-sharks, which aims to set a management scheme for these resources, with the perspective to ensure their conservation and sustainable exploitation.

5.2 Seabirds

The Government started to run a project in this field but there is no available data at this time.

5.3 Marine Turtles

Environment Society of Oman (ESO) has just finished a project in this field and its final report is under review. This study will help the Ministry of Agriculture and Fisheries incorporate in its legislation sound conservation measures for the protection of these creatures..

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

There is an ongoing project on humpback whale in the Arabian sea and its outcomes will be shared with IOTC secretariat as soon as the report is ready.

6 National data collection and processing systems

6.1. Log sheet data collection and verification

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 and Fisheries.

6.2. Vessel Monitoring System

Vessel Monitoring System (VMS) was implemented in Oman in 2001. It was introduced at that time only for industrial fishery. The real challenge faced with the VMS implementation is the impossibility to get real time data. The data received by the department is currently 4 hours afterwards. Due to the developments in the fisheries sector, the Ministry of Agriculture and Fisheries is planning to install a new tracking system that covers all the fishing fleet including the small outboard motor powered fishing skiffs (artisanal fleet). For this purpose, the sultanate of Oman, with the collaboration of FAO, launched the project (Vessel Monitoring Systems) to install a new tracking system to improve its efficiency and integrate other departments and authorities. The project is the tendering phase to select the appropriate contractor.

6.3. Observer programs

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.

6.4. Port sampling program

This program was launched since 1985 through a joint Omani – American committee via a specialized company named Shemonix. This company trained several officers from the statistical fishery section in order to improve the efficiency of the data collectors and sampling programme. 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.

6.5. Unloading/Transhipment

According to the law of Sultanate of Oman, transhipment is prohibited at sea but the vessels operating within IOTC convention area are monitored in conformity with the IOTC regulations.

7. NATIONAL RESEARCH PROGRAMS

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

Project title	Period	Countries involved	Budget total	Funding source	Objectives	Short description
Establishment of a national plan for the management of shark fisheries	From 1/9/2014 To 30/8/2016	Oman	170.000 Omani Rials	General Directorate for the development of fishery resources	☒ [redacted] 1-keep up with the recommendations of international conventions aimed at the development of national plans, including shark fishery management plan. 2-develop a national plan for the management of shark fisheries in the Omani waters include targets international plan for the management of	undertaken a comprehensive study on the shark fisheries in the Sultanate. This study consists of the review of previous studies and reports on sharks and gather data and information available with other partners (Sultan Qaboos University, Marine Research Centre…). The project intends, after the review of the existing studies and field trips in the main fishing ports of the country, to develop a national plan for the conservation and management of the shark fishery in the Sultanate. The NPOA is completed and is in the process of adoption by national authorities.

					shark fisheries arising from FAO and suitability with the local conditions of exploitation 3-Propose legislation and implementing regulations to crystallize the recommendations of the National Plan and the proposed incorporation into the ongoing work by the legislation for the management of shark fisheries 4-Upgrading and rehabilitation of national staff working in the management of fisheries	
Management of the Exploited Coastal Tuna	From 2011 to	Oman		Agriculture and Fisheries Development	1-To generate additional information on	This project is still ongoing. Phase I was started in

Fisheries Resources of the Sultanate of Oman	2014		231,500 OMR	Fund	the biology and stock characteristics of some coastal tuna species. 2-To relate the possible oceanographic features for inter-annual variations in tuna catches of traditional fisheries. 3-To gather data on socio-economic aspects of coastal tuna fishers.	collecting data and samples on tuna species.
Assessment of Shark Population Movements, Delineations and Breeding Grounds in the Sultanate of Oman	From 2009 to 2011	Oman	100,000 Omani Rials	Agriculture and Fisheries Development Fund	1-determine population movements and delineations by initiating a tagging programmer in Omani waters. 2- explore the possible need for individual stock management/international cooperation. 3-Survey	Elasmobranch is in serious decline in many areas of the world, including Indian Ocean. Recommendations by FAO to collect basic fishery data and implement management plans have been heeded by the Sultanate of Oman, and lead to the undertaking of a project to assess the status and utilization of Oman's elasmobranch resources. However, the management recommendations

					Oman's environments to identifying elasmobranch birthing and nursery grounds.	arising from this project will be of limited value without understanding the migratory behaviour of the shark populations in Omani waters. It is therefore proposed that a follow-up project be initiated to address this issue and allow more effective management of this important marine resource.
Survey of the Demersal Fish Stocks of the Arabian Gulf and Sea of Oman	From 2007 to 2011	GCC countries	646,914 OMR	GCC countries companies, banks and investors	The main objective was to assess the status of stocks of demersal fish species in the western region of the Arabian Gulf and the Gulf of Oman.	Under the supervision of the General Secretariat of the Gulf Cooperation Council, the Kuwait Institute for Scientific Research initiated this project by 5 cruises collecting biological and biomass density data along the 6 countries(GCC). Accompanying temperature, salinity and dissolved O2 data were collected. Finally, all data were analysed and the project outcomes were already submitted for the parties involved.

Biological & Dynamic survey for the Small Pelagic Fishery which is Economically Important in the Omani Waters	From 2007 to 2011	Oman		Agriculture and Fisheries Development Fund	1-Evaluate the stock of the small pelagic fishery in Omani waters. 2-Study the biological characteristics for the small pelagic and the environmental ecosystem that live on.	The project targeted 3 species of small pelagic. All data required for these species were collected and analysed. Finally, recommendations were advised.

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

Table 9. provides the progress achieved with regard to recommendations of the SC and specific Resolutions relevant to the work of the Scientific Committee [to be updated annually to include most recent Conservation and Management Measures adopted by the Commission].

Res. No.	Resolution	Scientific requirement	CPC progress
15/01	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–11	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.
15/05	On conservation measures for striped marlin, black marlin and blue marlin	Paragraph 4	These species are not reported in our fishery, as they rarely get caught by our fleets.
13/04	On the conservation of cetaceans	Paragraphs7–9	Fishing for cetaceans is prohibited according to the Sultanate of Oman Marine fishing and living aquatic resources protection law and its executive regulations
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	Paragraphs 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.
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 consideration for implementation within the NPOA - sharks
12/06	On reducing the incidental by catch of seabirds in long line fisheries.	Paragraphs 3-7	Oman will make these requirements, mandatory in the new proposed law for commercial fishing vessels

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.
11/04	On a regional observer scheme	Paragraphs 9	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.
05/05	Concerning the conservation of sharks caught in association with fisheries managed by IOTC	Paragraphs 1-12	It is prohibited to cut the sharks fins by the fishermen, unless they are authorized to do so by the competent authorities. There is also an on-going scientific research program on sharks, and hope to get some good results regarding the suitable fishing gears to reduce the by catch of sharks.
16/06	On measures applicable in case of non-fulfilment of reporting obligations in the IOTC	Paragraph 1	Oman is working progressively to enhance the data collecting system.

9- LITERATURE CITED

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5- Regional Commission for Fisheries (RECOFI), 2010. fourth meeting of the working group on fisheries management, report of the FAO/ RECOFI Workshop on Fishery Stock Indicators and Stock Status, Tehran/Iran, 26-29 July (2009).
6- Establishment of A National Plan for Management of Shark Fisheries
7- Project of Vessel Monitoring System in Oman