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Sultanate of Oman National Report to the Scientific Committee of the Indian Ocean Tuna Commission, 2015

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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 long line.	YES 13/07/2015
In accordance with IOTC Resolution 15/05, provisional **long line 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 long line data for the previous year is due to the Secretariat by 30 Dec of the current year [e.g. for a National report submitted to the Secretariat in 2013, final data for the 2012 calendar year must be provided to the Secretariat by 30 December 2013).	YES 13/07/2015

Table of Contents

Executive Summary

The total production of the Omani fishery sector amounted to around 211,000 Tons in 2014, with a slight increase of approximately 2.4% compared to 2013.

Tuna species, considered as highly valuable products for Omani consumers, have experienced tremendous fluctuations in their total annual production and decreasing from 54371 mt in 2013 to 49066 mt in 2014. This fluctuation of coastal tuna activities finds its origin, in the actual reduction of the industrial pelagic fleet and probably in the modification of environmental factors, predator-prey relationship and spawning problems (Dr. AlQumi, 2011). In the industrial fleet, the number of vessels decreased from 10 vessels in 2011 to 3 vessels in 2014. 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. Artisanal and coastal fleets have, however, increased 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 (VMS) and Port Sampling Program (PSP), and a scheme to enhance the quality of data gathered in order 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 but are still in their starting stages.

1. BACKGROUND/GENERAL FISHERY INFORMATION

The coastline of Oman extends to about 3165 km. 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 2014 was 211,000 tons with a total value of 166 million OMR. This production level showed an increase in the landing of 2.4% and no change in the value compared to 2013.

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.

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 hulls) and Fibre glass boats.
- Costal fleet: the total number of vessels in 2014 was 93 vessel, with a high concentration in the Arabian Sea, and precisely from Ras AL Had in Sharqiya to Dhofar.
- Industrial fleet: consist of vessels undertaking pelagic and demersal fishing activities and represents only 0.3% of the total fishery production.

2. FLEET STRUCTURE

The national fishing fleet consists of three main segments:
i)- Artisanal fishery
ii)- Coastal fishery
iii)- Industrial fishery

i)- Artisanal fishery

Table 1a: Number of units in artisanal fleet operation in On- shore from 2009 – 2014.

Years		**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Number of Units	Dhows	612	695	704	698	711	694
	Fibre Glass	14330	18031	18031	19245	20631	21616
Gear Type	LL, HL. N, BSN						

ii)- Coastal fishery

Table 1b: Number of costal vessels from 2009 – 2014.

Years	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Number of Vessels	19	33	49	56	96	93
Gear Type	LL, HL. N, GL					

iii)- Industrial fishery

Table 1c: Number of vessels operating in IOTC area of competence from 2009– 2013.

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

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 – 2014.

Artisanal Fleet						
Species	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Yellow fin* Tuna	6202	2580	1948	5501	7736	7178
Long tail Tuna	8052	8564	10217	14274	12972	11158
Kawakawa	2336	2214	3113	4597	4315	4034
Striped Bonito	155	180	562	488	307	1140
Frigate Tuna	737	1314	1577	944	1014	395
Skipjack	11	80	22	94	8	23
Other Tunas	55	369	2027	198	231	290
Sailfish	803	1831	2660	3338	3041	1047
Indian Mackerel	10125	10022	7953	8589	8319	6796
Sharks	4503	5148	7009	5341	7283	6473
Total	28376	27154	30078	43364	45226	38534

*the data concerning the landing of this species from 2008 until now, under investigation to examine their accuracy, the outcome of this investigation will be submitted later to the scientific committee.

Table 2b. Coastal Fleet Catches (mt) in 2014.

Costal Fleet	
Species	**2014**
YellowfinTuna	**2**
Long tail Tuna	**3**
Kawakawa	**0**
Striped Bonito	**3**
Frigate Tuna	**0**
Skipjack	**0**
Other Tunas	**0**
Sailfish	**0**

Indian Mackerel	**7**
Sharks	**99**
Total	**114**

Table 2c. Industrial Fleet Annual Catches (mt) By Species from 2009- 2014.

Industrial Fleet						
Species	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Yellow fin Tuna	919	622	73	78	30	27.8
Long tail Tuna	0	0	0	0	0	0
Kawakawa	0	0	0	0	0	0
Striped Bonito	8	1	0	0	0	0
Frigate Tuna	0	0	0	0	0	0
Skipjack	0	0	0	0	0	0
Other Tunas	0	0	0	1027	291	449.1
Sailfish	429	202	202	170	72	0
Inadian Mackerel *	816	70	4	0	0	0
Sharks	248	130	23	2	0	6.8
Total	2465	1025	302	1277	393	483.7

*This type of species are targeted only by trawling vessels.

3.2 Estimated Fishing Effort:

Table 2d. Estimated Fishing Effort for Artisanal Fleet During 2014

Boat – Fishing Gear	Parameters	Total
FG (HL + TL)	Number of Boats	43836
	Estimated Effort	492327
	Estimated Catch (Ton)	43972
	CPUE (Kg)	6549
FG (NET)	Number of Boats	44514
	Estimated Effort	492455
	Estimated Catch (Ton)	67424
	CPUE (Kg)	11515
BEACH SEINE NET	Number of Boats	1959
	Estimated Effort	19257
	Estimated Catch (Ton)	27910
	CPUE (Kg)	81247
LANUCH - NET	Number of Boats	2966
	Estimated Effort	41221
	Estimated Catch (Ton)	12985
	CPUE (Kg)	16152
LANUCH – LINE - TL	Number of Boats	439
	Estimated Effort	4655
	Estimated Catch (Ton)	1118
	CPUE (Kg)	6797

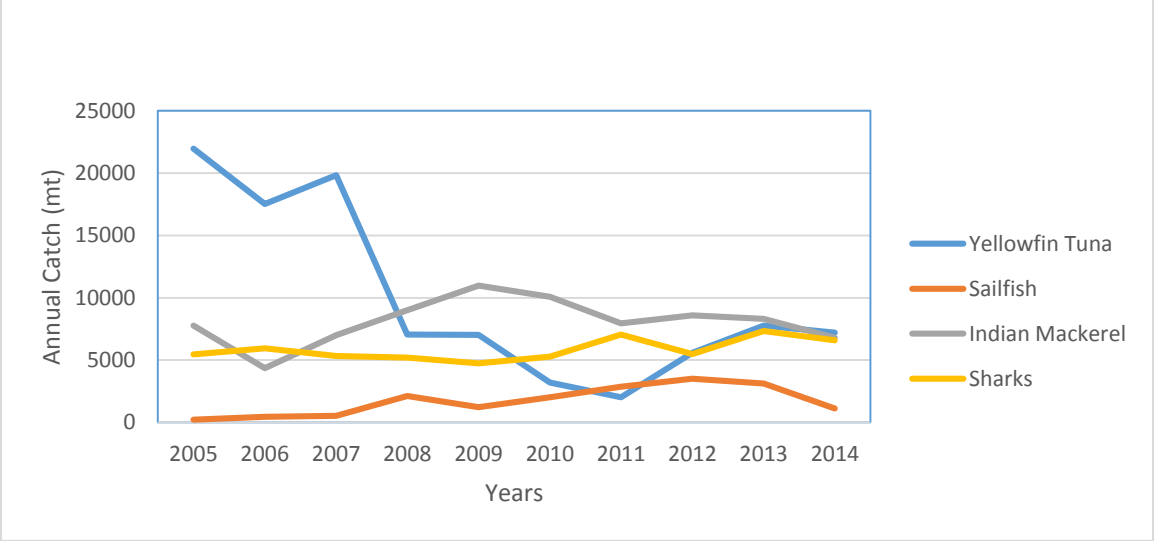
Table 2e. Estimated Effort of Coastal Vessels in 2014.

Landing (mt)	Number of Vessels	Season Duration	Catch/ Vessel/ Year (mt)	Catch/ Vessel/ Day (mt)	Catch/ Fishing/ Day
2618	93	12	28	-	-

Table 2f. Estimated Effort of Industrial Fishing Activity from 2009 – 2014.

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

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



It is to be retained from this historical catch series is that while the catches can be considered on a relatively continuous, but slight increase for sail fish, sharks and Indian mackerel. Tuna species have experienced drastic ups and downs during the last decade. There seems to be noticeable declines for yellowfin tuna in 2008 and decline for most of species during the year 2014, while top landings were during the years 2005, 2007, 2012 and noticeable increase for yellowfin tuna in 2013.

3.4. Tuna catch Distribution maps:

The Artisanal fleet is not equipped with VMS system. The only segment monitored by VMS is the industrial fleet. Since the artisanal segment represents 90% 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 no recreational tuna fishery and tuna like species in Oman.

5-Ecosystem and by catch issues

5.1 Sharks

The fishing activities of Sharks in the Sultanate are not a specialized fishery targeting primarily this species.

Table 3: Total catch of sharks by the Industrial fleet in the IOTC area from 2009-2014.

Species	2009	2010	2011	2012	2013	2014
SHA*	248	130	23	2	0	6.8
SPHY**						

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

Sharks are considered as the most important and successful inhabitants of the seas for millions of years. Recent trends in global elasmobranch landings indicate that this group is in serious decline in many areas of the world, including the Indian Ocean. From this point, the Sultanate of Oman established a project in the Assessment of Shark Population Movements, Delineations and Breeding Grounds. This project aims to determine the population movements and explore the

possible need for individual stock management / international cooperation .In addition, General Directorate for the development of fishery resources Project research development aims to undertaken a comprehensive study about the shark fisheries in the Sultanate. This study consists of the collection of the results of the studies and reports on sharks that gather data and information available with other partners (Sultan Qaboos University). 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.

5.2 Seabirds

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

5.3 Marine Turtles

Environment Society of Oman (ESO) is running a project in this field, which aims to assist the Ministry of Environment and Climate Affairs (MECA) with collection of important biological and ecological information on turtles of Oman and to assist with the development
of appropriate conservation management plans for their protection.

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

No available data.

6 National data collection and processing systems

6.1. Log sheet data collection and verification

A primary log sheet has been established and is in the process of its approval. This logbook system records daily information for each trip delivering three documents (copies): One goes for the vessel, the second goes for the port 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 on time data. The data received by the department is 2 hours afterwards. Due to the developments in fisheries sector, the Ministry of Agriculture and Fisheries is planning to expand it to cover small outboard motor powered fishing skiffs (artisanal fleet) and integrate the data generated from the system with those of the naval, coastguard and air force. For this need, the sultanate of Oman

with a collaboration with FAO lunched a project (Improvement of Vessel Monitoring Systems in Oman) to improve the VMS performance.

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 programme

This programme was started from 1985 through a joint Omani – American committee via a specialized company called 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 sellin. However, data collecting efficiency seems to be not that accurate due to:

- Changes in fishing seasons
- Changes in landing sites
- Gear shifting by the fishermen

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	☒ 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 shark fisheries arising from FAO and suitability with the local conditions of exploitation 3-Propose legislation and implementing regulations to crystallize the	General Directorate for the development of fishery resources Project research development aims to undertaken a comprehensive study about the shark fisheries in the Sultanate. This study consists of the collection of the results of the studies and reports on sharks that gather data and information available with other partners (Sultan Qaboos University). The project intends, after the review of the existing studies and field trips in the main fishing of the country, to develop a national plan for the conservation and management of the shark fishery in the Sultanate.

					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 cadres working in the management of fisheries	
Management of the Exploited Coastal Tuna Fisheries Resources of the Sultanate of Oman	From 2011 to 2014	Oman	231,500 OMR	Agriculture and Fisheries Development Fund	1-To generate additional information on 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	This project still on going. Phase I was started in collecting data and samples on tuna species.

					fishers.	
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 Oman's environments to identifying elasmobranch birthing and nursery grounds.	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 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 recommendations were advised too for this project.
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 were gathered from determined regions. 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. Respond with progress made to recommendations of the SC and specific Resolutions relevant to the work of the Scientific Committee [to be updated annually to include most recent Conservation and Management Measures adopted by the Commission].

Res. No.	Resolution	Scientific requirement	CPC progress
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 enhancing progressively 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	Under progress, the statistic department will try to meet this requirement in the coming future.
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

Res. No.	Resolution	Scientific requirement	CPC progress
13/05	On the conservation of whale sharks (Rhincodon typus)	Paragraphs 7-9	Fishing for marine mammals is prohibited according to the Sultanate of Oman Marine fishing and living aquatic resources protection law and its executive regulations
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 progress to develop NPOA-sharks, which will incorporate the relevant requirement under this resolution. 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
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
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 by 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 the cut of fins of sharks by the fishermen, unless they get approval from the authorities. Also, there is an on-going scientific research program on sharks, and hope to get some good result regarding the suitable fishing gears to avoid the by catch of sharks. Overall, satisfactorily monitored and under progress for 8 & 10,

Res. No.	Resolution	Scientific requirement	CPC progress
			and in this year there are a new project taking place to produce a NOPA-sharks.

9- LITERATURE CITED

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6- 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).