Sultanate of Oman National Report to the Scientific Committee of

the Indian Ocean Tuna Commission, 2014

INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

In accordance with IOTC Resolution 10/02, 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
In accordance with IOTC Resolution 10/02, 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).	YES
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).	

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Executive Summary

The total production of the Omani fishery sector amounted to around 206,000 Tons in 2013, with a slight increase of approximately 7.7% compared to 2012.

Tuna species, considered as highly valuable products for Omani consumers, have experienced tremendous fluctuations in their total annual production and decreasing from 5501T in 2012 to 2172T in 2013. This fluctuation of coastal tuna activities finds probably its origin, among others, in the modification of environmental factors, predator-prey relationship, spawning problems (Dr. Al Qu mi, 2011) and the actual reduction of the industrial pelagic fleet. In the industrial fleet ,the number of vessels decreased from 10 vessels in 2011 to 5 vessels in 2013. 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 massively 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), observer programme (underdevelopment) 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 2013 was 206,000 tons with a total value of 166 million OMR. This production level showed an increase in the landing of 7,7% and an increase of 16% in the value compared to 2012.

Concerning Tuna and Tuna- like species, they have all shown considerable increase during the period 2009- 2012, except for Yellowfin Tuna & Indian Mackerel which have experienced sharp decrease respectively by 39% and 21% for the same period. However, in 2013, the tuna and tuna –like species, have all shown considerable decreasing, except for Yellowfin Tuna which has experienced sharp increasing.

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 2013 was 96 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 10% of the total fishery production year.

• 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 – 2013.

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

ii)- Coastal fishery

Table 1b: Number of costal vessels from 2009 – 2013.

Years	2009	2010	2011	2012	2013
Number of Vessels	19	33	49	56	96
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
Number	Long liners	17	13	10	8	5
of Vessels	Trawlers	32	25	18	0	0
Gear Type		LL, PS				
Size of Ves	sels	OAL: Above 30 m				

2. CATCH AND EFFORT (BY SPECIES AND GEAR)

3.1 Tuna catch series by segment:

Table 2a. Artisanal Annual catches (mt) by species from 2009 – 2013.

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

*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. Costal Fleet Catches (mt) in 2013.

Costa	Costal Fleet					
Species	2013					
YellowfinTuna	3					
Long tail Tuna	4					
Kawakawa	5					
Striped Bonito	0					
Frigate Tuna	0					
Skipjack	0					
Other Tunas	0					
Sailfish	4					
Indian Mackerel	0					

Sharks	45
Total	61

Table 2c. Industrial Fleet Annual Catches (mt) By Species from 2009-2013.

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

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

3.2 Estimated Fishing Effort:

Table 2d. Estimated Fishing Effort for Artisanal Fleet During 2013

Boat – Fishing Gear	Parameters	Total
	Number of Boats	43417
FG (HL + TL)	Estimated Effort	494290
	Estimated Catch (Ton)	48356
	CPUE (Kg)	999
	Number of Boats	46533
FG (NET)	Estimated Effort	585511
	Estimated Catch (Ton)	80236
	CPUE (Kg)	1169
	Number of Boats	1925
BEACH SEINE NET	Estimated Effort	15507
	Estimated Catch (Ton)	15048
	CPUE (Kg)	2721
	Number of Boats	1410
LANUCH - NET	Estimated Effort	22897
	Estimated Catch (Ton)	12168
	CPUE (Kg)	2305
	Number of Boats	2109
LANUCH – LINE - TL	Estimated Effort	25766
	Estimated Catch (Ton)	11426
	CPUE (Kg)	2440

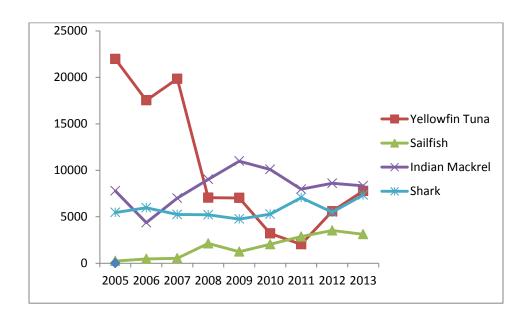
Table 2e. Estimated Effort of Coastal Vessels in 2013.

Landing (mt)	Number of Vessels	Season Duration	Catch/ Vessel/	Catch/ Vessel/	Catch/ Fishing/
			Year (mt)	Day (mt)	Day

Table 2f. Estimated Effort of Industrial Fishing Activity from 2009 – 2013.

	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			

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, other tuna species have experienced drastic ups and downs during

the last two decades. There seems to be noticeable declines during the years 1992, 2000 and 2010 while top landings were during the years 1988, 1996, 2004 and 2005.

3.4. Tuna catch Distribution maps:

The Artisanal fleet is not entirely 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 2009-2013.

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

^{*}SHA, Carcharindae 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 do a comprehensive study about shark fisheries in the Sultanate, through the collection of the results of studies and reports on fisheries sharks next to gather available data and information necessary other different parties (Sultan Qaboos University) for this type important traps and do analyzed to develop a plan national management.

^{**}SPHY, Sphyrnidae shark species.

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 it 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 in 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 fishery sector, the Ministry of Agriculture and Fisheries is starting to implement VMS for the coastal fleet & artisanal fleets

6.3. Observer program

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.

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
of a national plan for the	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	General Directorate for the development of fishery resources Project research development aims to do a comprehensive study about shark fisheries in the Sultanate, through the collection of the results of studies

	plans,	and reports on fisheries sharks
	including shark	next to gather
	fishery	available data
	management	and information
	plan.	necessary other
		different parties
	2-develop a	(Sultan Qaboos University)for
	national plan for	this type
	the management of shark	important traps
		and do analyzed
	fisheries in the Omani waters	to develop a plan
		national
	include targets international	management
	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	
	recommendation	
	s 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 socioeconomic aspects of coastal tuna fishers.	This project still on going. Phase I was started in 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/inter national cooperation. 3-Survey Oman's environments to identifying	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

					elasmobranch birthing and nursery grounds.	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 countrie s	646,91 4 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 O ₂ data were collected. Finally, all data were analysed and recommendations were advised too for this project.

Biological &	From	0	Agriculture and	1-Evaluate the	
Dynamic survey for	2007 to	Oman	Fisheries	stock of the small	
the Small Pelagic	2011		Development	pelagic fishery in	
Fishery which is			Fund	Omani waters.	
Economically			Turia	oman waters.	
Important in the				2-Study the	
Omani Waters				biological	
omain waters				characteristics for	
				the small pelagic	
				and the	
				environmental	The project
				ecosystem that	targeted 3 species
				live on.	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
13/03	On the recording of catch and effort by fishing vessels in the IOTC area of competence	Paragraphs 1–11	Under implementation
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

Res. No.	Resolution	Scientific requirement	CPC progress
			executive regulations
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. Also, the official authorities took the necessary administrates actions to inform the vessels owners about the resolution and its obligation and they were instructed to fully implement it.
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. Reminder: Resolution 12/06 will supersede Resolution 10/06 on 1 July 2014	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 fisheries authority is examining some prosed scenario to apply this program.
10/02	Mandatory statistical requirements for IOTC members and cooperating non contracting parties	Paragraphs 1-7	Implementation under progress, and the statistical department will report those information to the secretary in the coming future.
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, and in this year there are a new project taking place to produce a NOPA-sharks.

8- LITERATURE CITED

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