



MEMORANDUM OF UNDERSTANDING ON THE CONSERVATION AND MANAGEMENT OF MARINE TURTLES AND THEIR HABITATS OF THE INDIAN OCEAN AND SOUTH-EAST ASIA

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OMAN - NATIONAL REPORT 2019

(Prepared by Oman)

IOSEA MARINE TURTLES MEMORANDUM OF UNDERSTANDING - NATIONAL REPORTING 2019

IOSEA Marine Turtles MoU - National Reports

The purpose of completing the national report is to provide information on your country's implementation of the IOSEA Marine Turtle MoU including, as far as possible, contributions of cooperating non-governmental partners. Implementation will be assessed in terms of the six objectives of the Conservation and Management Plan (CMP). The online questionnaire is divided into these six main objectives, and asks specific questions in relation to the activities that need to be carried out to fulfil those objectives.

Please answer all questions as fully and as accurately as possible. It may seem time-consuming, but once you have completed the first report, the next time will be much easier because you can simply revise your existing report online. Comprehensive responses to the questions posed in Section 1.4 should satisfy many of the reporting requirements of the 2004 FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations, thereby avoiding duplication of effort.

Description text is provided below some of the questions to explain what information needs to be provided. Text boxes can be expanded to accommodate longer answers or to explain and provide additional information, beyond what is requested. Details of future plans are especially encouraged. Wherever possible, please try to indicate the source of information used to answer a particular question, if a published reference is available. Remember that you are sharing information with other countries about your progress, so that it may be of benefit to them. At the same time, you may find it useful to look at other countries' reports to get ideas for marine turtle conservation that might be adapted to your context.

When working on the online questionnaire, save your information by clicking on the "Save all" button inside each section. An auto-save feature also saves any changed responses every 30 seconds, and whenever you move between sections. Feel free to attach additional material (published reports, maps etc) to this questionnaire.

Throughout the questionnaire, alongside each question you will find one or more 3-letter abbreviations within square brackets. These are used to indicate the purpose for which the information provided will be used in the subsequent analysis of all of the national reports, as shown in the following table.

To some extent, the order in which these different types of information are listed below is a reflection of their importance – ranging from critical indicators of performance to factual details that are merely informative.

Abbreviation

Type

Treatment / Purpose

IND

Indicator

The information provided serves, in and of itself, as a key indicator of successful implementation or of pre-requisites for same (eg. of core actions undertaken, resource availability, capacity etc.)

PRI

Priorities

The collective data will be synthesized to give an indication of what has been done already (helping to avoid duplication of effort); what is generally not being done (gaps that need to be addressed); and what interventions or specific assistance may be required.

TSH

Trouble-shooting

Particular implementation problems and issues (possibly of special interest to a small group of countries) are identified/highlighted with a view to stimulating remedial action in the short-term.

BPR

Best practice

Well-documented examples of best practices / success stories will be compiled and presented as approaches that other Signatory States might consider pursuing (ie adopting or adapting to suit their own circumstances).

SAP

Self-Appraisal

Self-assessment of effectiveness and completeness of actions undertaken – intended to stimulate reflection within a given Signatory State on what more could or should be done in relation to a particular activity.

INF

Information

The information will be collected and compiled, with little or no modification, mainly for purpose of sharing of information that could be of interest or value to other readers and/or other analyses.

GENERAL INFORMATION

Signatory State:

Which agency or institution has been primarily responsible for the preparation of this report?

> Ministry of Environment and Climate Affairs

List any other agencies, institutions, or NGOs that have provided input:

Ministry of Tourism
 Ministry of Agriculture and Fisheries
 Oman Animal & Plant Genetic Resources Center
 Sultan Qaboos University
 Environment Society of Oman

Memorandum in effect in Signatory State since (dd/mm/yyyy):

> 16 March 2004 1 June 2004

This report was last modified (dd/mm/yyyy):

> 30 June 2019

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OBJECTIVE I: REDUCE DIRECT AND INDIRECT CAUSES OF MARINE TURTLE MORTALITY

1.1 Introduction to marine turtle populations and habitats, challenges and conservation efforts

Please introduce and summarise, in an abstract of less than a page, the marine turtle populations and their habitats in your country. Comment on their status and highlight the main conservation challenges and achievements to date. It is not necessary to list here by name the individual nesting beaches, feeding areas and developmental habitats that are important for marine turtles in your country, as this information can be generated from the 'Site-Threat' data sheets to be completed in Annex 1. **[INF]**

> There are five sea turtle species in Oman: Green, Hawksbill, Loggerhead, Olive Ridley and Leatherback. All of these species nests in Oman except the leatherback which only feeds in Omani waters .Green turtles mainly nest in Ras Al Had, with other small nesting areas in the beaches of sea of Oman and Arabian Sea. Nesating season is from end of April to October. The population of this species is about 20,000 nesting females, with a number of eggs range from 80 to 110 .loggerhead turtle mainly nest on Masirah Island and Barr Al Hikman , as well as other scattered nesting beaches. Their population is around 30,000 neating females. Nesting season is from June to October. Hawksbill turtles nest on Masirah and Demaniyat islands. Their population number around 600 nesting females. Nesting season is from February to March. Olive Ridley nest on masirah Island, with a population of around 150-400 nesting females. Nesting season is from February to March.

1.2 Best practice approaches to minimizing threats

Describe any protocol or approaches practiced in your country, which you consider exemplary, for minimising threats to marine turtle populations and their habitats, which may be suitable for adaptation and adoption elsewhere. [BRP] > Royal Decree (114/2001) and Royal Decree (6/2003) that protect wild species of sea turtles (locally). Ranger employed by Ministry of Environment and Climate Affairs (MECA) to patrol in protected areas (locally).
☐ Regional protection of sea turtle which are known to migrate to other countries beaches or coast. ☐ Regional cooperation in research for sea turtles, especially genetic studies. ☐ The Environment Society of Oman (ESO) has been managing a Marine Turtle Conservation programmer since 2008 that focuses on Loggerhead Turtle on Masirah Island. Additional regional work has been done on Hawksbill Turtle at the Dagar National Regional work in Ras Al Hadd and Loggerhead Turtle on Masirah Island in
collaboration with the MECA and (EWS-WWF). Royal Decree (20/2019) promulgates the marine life (wealth /resources)law.

1.3 Programmes to correct adverse economic incentives

1.3.1 Describe any socio-economic studies or activities that have been conducted among communities that interact with marine turtles and their habitats. **[BPR. INF]**

Elaborate on the nature of the socio-economic study/ activity undertaken, the results obtained (successful or otherwise) and the desirability/ suitability for replication.

Include references to published reports, where available.

- > \precent Awareness campaigns in local schools and women societies.
- ☐ scientific Visitor center was constructed in Ras Al Hadd Natural Reserve.
- ☐ Community outreach projects done by ESO on Masirah Island such as:
- -the annual Masirah Festival which takes place at the beginning of the loggerhead nesting season:
- -The deployment of signage and public information posters on Masirah Island Promoting turtle conservation.
- ESO hired three local field assistants on Masirah Island since 2009 (initially hired as part -time but now part of full time staff of the organization). The fields assistants have been receiving continuous training and capacity building on monitoring, field surveying, satellite tagging, data collection and management.
- 1.3.2 Which of these adverse economic incentives are underlying threats to marine turtles in your country? **[TSH]**
- ☑ High prices earned from turtle products relative to other commodities
- ☑ Lack of affordable alternatives to turtle products
- ☑ Ease of access to the turtle ressource (e.g. by virtue of proximity or ease of land/water access)
- ☑ Low cost of land near nesting beaches
- 1.3.3 Has your country taken any measures to try to correct these adverse economic incentives? [BPR]
 ☑ Yes (If yes, please describe these measures in detail)
- > \sqcap Ranger units have been established to increase protection and effective monitoring.
- Awareness campaigns were organized to increase social responsibility of the local communities.
- National committee for sea turtle conservation was formed in 2013 from the different agencies.

1.4 Reduction of incidental capture and mortality

1.4.1 Indicate, and describe in more detail, the main fisheries occuring in the waters of your country, as well as any high seas fisheries in which flag vessels of your country participate and interact with marine turtles.

Tick 'YES' to indicate that a fishery is present and interacting marine turtles or 'NO' to indicate that a fishery is not present or is not interacting with marine turtles. **[INF]**

If a fishery is present, use the text box to indicate, for example, the approximate geographic distribution of the fishery, how long it has been operating, how many vessels are involved, etc.

a) Shrimp trawls:

☑ Yes (Please provide details)

 \rightarrow ---(2011-2014 – shrimp trawls resources survey projectconducted by ministry of agriculture and fisheries wealth . the project was to survey wusta governorate by using trawls. Sometimes turtles caught during the trawls and it release to the sea).

b) Set gill nets:

☑ Yes (Please provide details)

> (A lot of drifted gill net are used by fishermen and trawling nets are used by companies as well as set gill nets are used by local fishermen).

c) Anchored Fish Aggregating Devices (FADs):

☑ Yes (Please provide details)

> (A lot of drifted gill net are used by fishermen and trawling nets are used by companies as well as set gill nets are used by local fishermen).

this method of fishing is now used in certain place in omani water but in small scale).

d) Purse seine (with or without FADs):

☑ Yes (Please provide details)

> used by fishermen close to the beach with no effect reported on sea turtles in oman

e) Longline (shallow or deepset):

☑ Yes (Please provide details)

> used by some companies' vessels and fisherman especially for tuna and shark fishing

f) Driftnet:

☑ No (Please provide details)

> common method in oman used by local fishermen

1.4.2 Please indicate the relative level of fishing effort and perceived impact of each of the above fisheries on marine turtles (e.g. in terms of by-catch) [TSH]. Select from one of the following descriptions: RELATIVELY HIGH, MODERATE, RELATIVELY LOW, NONE (i.e. not present), UNKNOWN (i.e. unable to answer for whatever reason).

a) Shrimp trawls

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing efforts:		V			
Perceived impact:	Ø				

- Source of information / clarification
- > Shrimp trawls are not used in Oman water.

b) Set gill nets

Please select only one per line

	UNKNOW	NON	RELATIVELY	MODERAT	RELATIVELY
	N	E	LOW	E	HIGH
Fishing effort:			\square		

Perceived impact:		Ø		
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- Source of information / clarification
- > Set gill nets been used in certain fishing areas, this method also effecting feeding areas of turtles.

c) Anchored Fish Aggregating Devices (FADs)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:					
Perceived impact:	Ø				

- Source of information / clarification
- > Not common method of fishing in Oman.

d) Purse seine (with or without FADs)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing efforts:		 ✓			
Perceived impact:	V				

- Source of information / clarification
- > Used on only small scale, without any direct to turtles.

e) Longline (shallow or deepset)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:					
Perceived impact:	V				

f) Driftnet

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:				7	
Perceived impact:				Ø	

- Source of information / clarification
- > Occasionally affect turtles that get trapped in these nets.

g) Others (from 1.4.1 g))

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:				7	
Perceived impact:				Ø	

- Source of information / clarification
- > Trawling, set gill net and drift gill nets could affect the turtle's life occasionally in Omani waters. No data available.

- 1.4.3 Describe any **illegal fishing** that is known to occur in or around the waters of your country that may impact marine turtles. Describe the measures being taken to deal with this problem and any difficulties encountered in this regard. **[TSH]**
- > Trawling and drift gill nets (illegal poaching of green turtle on small scale) have affected the population of sea turtles.

1.4.4 Which of the following methods are used by your country to minimise incidental capture/mortality of marine turtles in fishing activities? [IND]

- a) **Appropriate handling** of incidentally caught turtles (e.g. resuscitation or release by fishersusing equipment such as de-hooking, line cutting tools and scoop nets)

 ☑ UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)
- > Fisherman release live turtles if they are caught in their nest or lines .
- b) **Devices that allow the escape of marine turtles** (e.g. turtle excluder devices (TEDs) or other measures that are comparable in effectiveness)

☑ UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

- > No devices have introduced as there is no shrimp trawling in oman waters.
- c) Measures to avoid encirclement of marine turtles in purse seine
- ☑ UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)
- > Not a common fishing practice .
- d) **Appropriate combinations** of hook design, type of bait, depth, gear specifications and fishing practices

☑ UNDER INVESTIGATIONS or NOT APPLICABLE (Details/future plans)

e) Monitoring and recovery of fish aggregating devices (FADs)

☑ UNDER INVESTIGATION or NOT APPLICABLE

f) Net retention and recycling schemes

☑ UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

g) **Spatial and temporal control of fishing** (e.g. seasonal closures of fishing activities)

☑ YES (Details/future plans)

- > Spatial and temporal control are effect to protect certain species of fish or crustacean.(they are not specific to sea turtles but there could be ancillary benefits for turtles)
- h) Effort management control

☑ YES (Details/future plans)

- > There are protected areas for protecting turtle beaches as Ras al HADD BEACHES AND Demaniyat Islands Beaches .
- -Rangers units are covering most Oman's cost.

1.4.5 Which of the following programmes has your country developed - in consultation with the fishing industry and fisheries management organisations - to promote implementation of measures to minimise incidental capture and mortality of turtles in national waters and in the high seas? [IND]

Please use the corresponding text boxes to explain/clarify each of your responses, including 'NOT APPLICABLE' responses, and indicate future plans in this regard. [IND]

Please describe the collaboration, when/where the programmes were introduced, any difficulties encountered, and general results obtained (i.e. successful and unsuccessful). Provide references to publications, where available.

a) Onboard observer programmes

Χ

☑ NOT APPLICABLE (Details/future plans)

b) Vessel monitoring systems

☑ YES (Details/future plans)

c) **Inspections** (i.e. at sea, in port, at landing sites)

☑ YES (Details/future plans)

d) **Training programmes / workshops** to educate fishers

☑ YES (Details/future plans)

e) Informative videos, brochures, printed guidelines etc.

☑ YES (Details/future plans)

1.4.6 Are the mitigation measures described in 1.4.4 and 1.4.5 periodically reviewed and evaluated for their efficiency? **[SAP]**

☑ YES (Please give details)

- 1.4.7 In your country, what types of data collection, research and development have been undertaken to support the reduction of marine turtle incidental catch (while taking into consideration the impact of various mitigation measures on other species)? **[SAP]**
- > Data is collected and analyzed by the ministry of environment and climate affairs and other related ministries and research organization such as Sultan Qaboos University and other research centers. The data collected includes flipper tagging data, counting of turtles tracks in the beach, satellite tracking ,...etc.
- 1.4.8 Has your country exchanged information and provided technical assistance (formally or informally) to other Signatory States to promote the activities described in 1.4.4, 1.4.5 and 1.4.7 above? **[SAP]** ✓ YES (If yes, please give details of the exchanges/technical assistance)
- > (exchange of information and experts with other countries and organization has been done through participation in the region and international meetings and conferences).

1.5 Addressing harvest of, and trade in, marine turtles; and protecting of habitat

1.5.1 Does your country have legislation to prohibit direct harvest and domestic trade in marine turtles, their eggs, parts and products; and to protect important turtle habitats? **[IND]**

Please provide details (title/date) of the relevant legislation, as well as any exemptions (e.g. for traditional harvest) under that legislation.

☑ YES

> harvesting of turtles and their eggs is illegal by the national low).

1.5.2 Which, among the following list, are economic uses and cultural values of marine turtles in your country? [INF]

Please rate the relative prevalence / importance of each consumptive or non-consumptive use. Use the text boxes below each rating to explain or clarify your responses.

a1) Meat consumption

☑ YES

a2) Meat consumption: relative prevalence/importance

☑ LOW

b1) Egg consumption

b2) Egg consumption: relative prevalence/importance

☑ LOW

c1) Shell products

☑ YES

c2) Shell products: relative prevalence/importance

☑ LOW

d1) Fat consumption

☑ NO

d2) Fat consumption: relative prevalence/importance

☑ UNKNOWN

e1) Traditional medicine

☑ YES

e2) Traditional medicine: relative prevalence/importance

☑ LOW

f1) Eco-tourism programmes

f2) Eco-tourism programmes: relative prevalence/importance

☑ HIGH

g1) Cultural / traditional significance

☑ YES

g2) Cultural/traditional significance: relative prevalence/importance

☑ MODERATE

1.5.3 Please indicate the relative level and impact of traditional harvest on marine turtles and their eggs.

[IND, TSH]

	RELATIVELY HIGH	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E
Level of harvest:					
Impact of harvest:				V	

1.5.4 Have any domestic management programmes been established to limit the levels of intentional harvest? **[SAP]**

Use the text box to give details.

☑ YES

National legislation
 Public awareness
 Monitoring programes
 NGO'S Partnerships

- 1.5.5 Describe any management agreements negotiating between your country and other States in relation to sustainable levels of traditional harvest, to ensure that such harvest does not undermine conservation efforts. **[BPR]**
- > Monitoring and awareness campaigns to ensure the conservation process in such area of illegal consumptim.

1.6 Minimizing mortality through nesting beach programmes

1.6.1 Measures and effectiveness

First, tick one of the YES/NO-boxes to indicate whether or not your country has any of the following measures in place to minimise the mortality of eggs, hatchlings and nesting females. If yes, then **estimate the relative effectiveness** of these measures. **[IND, SAP]**

Use the text boxes below each rating to elaborate on your responses, including any lessons learned that might be of value to other Signatory States, and indicate your plans for the coming year. Please explain any "Not Applicable (N/A)" responses.

a1) Monitoring/protection programmes

☑ YES

a2) Monitoring/protection programmes: relative effectiveness

☑ GOOD

b1) Education/awareness programmes

☑ YES

b2) Education/awareness programmes: Relative effectiveness

☑ GOOD

c1) Egg relocation/hatcheries

☑ NO

d1) Predator control

☑ YES

d2) Predator control: Relative effectiveness

☑ LOW

e1) Vehicle / access restrictions

☑ YES

e2) Vehicle/access restriction: relative effectiveness

☑ GOOD

f1) Removal of debris / clean-up

☑ YES

f2) Removal of debris /clean-up: relative effectiveness

☑ GOOD

g1) Re-vegetation of frontal dunes

☑ NO

q2) Re-vegetation of frontal dunes: relative effectiveness

☑ UNKNOWN

h1) Building location/design regulations

☑ YES

h2) Buidling location/design regulations: relative efectiveness

☑ GOOD

i1) Light pollution reduction

☑ YES

i2) Light pollution reduction: Relative effectiveness

☑ EXCELLENT

1.6.2 Has your country undertaken any evaluation of its nest and beach management programmes? [SAP]

Use the text box to elaborate on your response, if necessary.

☑ YES

> A lot of research and studies have been carried out by (MECA)national institutions such as Sultan Qaboos University(SQU), University of Nizwa and the research council(TRC) and (ESO)

OBJECTIVE II: PROTECT, CONSERVE AND REHABILITATE MARINE TURTLE HABITATS

2.1 Measures to protect and conserve marine turtle habitats

- 2.1.1 What is being done to protect critical habitats outside of established protected areas? (NB: It is assumed that legislation relating to established protected areas will have been described in Section 1.5.1) [BPR, SAP]
- > By law and through Royal Dagree (6/2003)turtles species are protected . Rangers are Monitoring to ensure the implementation of the low . Declaration of marine protected areas.
- 2.1.2 Are assessments routinely made of the environmental impact of marine and coastal development on marine turtles and their habitats? **[IND, SAP]**

- > It is usually done by academic institutions as SQU , TRC and university of nizwa at the national and international level.
- 2.1.3 Is marine water quality (including marine debris) monitoring near turtle habitats? If yes, describe the nature of this monitoring and any remedial measures that may have been taken. **[SAP]** ☑ YES
- > Throughout the country, water quality is monitored in two phases each year by the national marine pollution monitoring program.
- 2.1.4 Are measures in place to prohibit the use of poisonous chemicals and explosives? **[SAP]** Use the text box to elaborate on your response. ☑ YES
- > The measures that are used are according to Basel, Rotterdam and Stockholm convention. In addition, there is a national monitoring program. Cooperation with ROPME to conserve marine environment and measure deposition. There are laws that prohibit use of poising chemicals within sea areas.

2.2 Rehabilitation of degraded marine turtle habitats

2.2.1 Are efforts being made to recover degraded coral reefs? If yes, give details (location, duration, effectveness, lessons learned, future plans etc.). **[IND, SAP]**

Provide sufficient details of the measures taken, especially those measures shown to have been effective in recovering degraded coral reefs. Please indicate future plans in this regard.

☑ YES (Details/future plans)

- > Coral reef cleaning Campinas are conducted through the year annually at different places in oman by marine specialist divers and voulunteer. Also artificial coral reef has been deployed in several areas. There are many action plans to protect coral reef ecosystem such as coastal zone management and coral reef management plan.
- 2.2.2 Are efforts being made to recover degraded mangrove habitats that are important for turtles? If yes, give details (location, duration, effectiveness, lessons learned future plans etc.). **[IND, SAP]**
 ☑ YES (Details/future plans)
- > There are mangrove conservation, restoration and management programs established in Oman. These include plantation projects, started since 2001 up to the present. More than 600,000 seedlings have many regions. Also there are many environmental education programmers on mangrove for school students, Omani women societies and other involved stakeholders. In addition Declaration some area of mangroves us protected areas.
- 2.2.3 Are efforts being made to recover degraded sea grass habitats? If yes, give details (location, duration, effectiveness, lessons learned future plans etc.). **[IND, SAP]**☑ YES (Details/future plans)
- > Research has been done by SQU on the economics of Sea grass as by fuel.

OBJECTIVE III: IMPROVE UNDERSTANDING OF MARINE TURTLE ECOLOGY AND POPULATIONS THROUGH RESEARCH, MONITORING AND INFORMATION EXCHANGE

3.1 Studies on marine turtles and their habitats

3.1.1 Give a list of available literature that includes baseline information from studies carried out in your country on marine turtle populations and their habitats. **[INF]**

> Al Kindi, A. Y. A., Mahmoud, I. Y., Al Habsi, A. A., Al Bahry, S. N., Al Gheilani, H. M., & Bakheit, C. S. (2006). The Effect of Physical and Human Factors on Beach Selection by Green Turtles (Chelonia mydas) at Ras Al-Hadd Reserve, Oman. Chelonian Conservation and Biology, 5(2), 289–294.

Baldwin, R.M. 1999. The ecology and conservation status of sea turtles of Oman. In: The Natural History of Oman: A Festschrift for Michael Gallagher. M. Fisher, S.A. Gazanfar and J.A. Spalton (eds), pp89-98. Backhuys publishers, Leiden.

Baldwin, R., G.R. Hughes, and R.I.T. Prince. 2003. Loggerhead turtles in the Indian Ocean. Pages 218-232 in Bolten, A.B. and B.E. Witherington (editors). Loggerhead Sea Turtles. Smithsonian Institution Press, Washington, D.C.

Casale, P. 2015. Caretta caretta (North West Indian Ocean subpopulation). The IUCN Red List of Threatened Species 2015: e.T84127873A84127992. http://dx.doi.org/10.2305/IUCN.UK.2015-

4.RLTS.T84127873A84127992.en. Downloaded on 16 June 2017

Conant, T.A., Dutton, P.H., Eguchi, T., Epperly, S.P., Fahy, C.C., Godfrey, M.H., MacPherson, S.L., Possardt, E.E., Schroeder, B.A., Seminoff, J.A. and Snover, M.L., 2009. Loggerhead sea turtle (Caretta caretta) 2009 status review under the US Endangered Species Act. Report of the loggerhead biological review Team to the National Marine Fisheries Service, 222, pp.5-2.Fefer, S and Manski, D. 2009. U.S. Department of Interior Technical Assistance Assessment. Daymmaniyat Islands and Ras al Hadd Turtle Nature Reserves, Oman. Unpublished report submitted to Ministry of Environment and Climate Affairs, Oman. 75pp.

Hare, S., 1991. Turtles Caught Incidental to Demersal Finfish Fishery in Oman. Marine Turtle Newsletter 53: 14-16. (http://www.seaturtle.org/mtn/archives/mtn53/mtn53p14.shtml?nocount)

IUCN 1986. The Proposed Daymaniyat Islands National Nature Reserve Management Plan. Unpublished report submitted to the Ministry of Commerce and Industry, Sultanate of Oman. pp45.

Mendonça, V.M., Al-Kiyumi, A.A., Al-Saady, S.M., Grobler, H.J., Erzini, K., Said, A.B., Al Hamriy, S., Al-Rasbiy, A., Mendonca, V.M., Al-Kiyumi, A.A. and Al-Saady, S.M., 2001. Environment of the nesting and feeding grounds for endangered turtle species in Dhofar (Southern Oman). In Proceedings of the 1st International Conference on Fisheries Aquaculture and Environment in the Northwest Indian Ocean(pp. 151-159). Oman.

Mendonça, V.M., Al Saady, S., Al Kiyumi, A. and Erzini, K., 2010. Interactions between Green Turtles (Chelonia mydas) and Foxes (Vulpes vulpes arabica, V. rueppellii sabaea, and V. cana) on turtle nesting grounds in the Northwestern Indian Ocean: impacts of the fox community on the behavior of nesting sea turtles at the Ras Al Hadd turtle reserve, Oman. Zoological studies, 49(4), pp.437-452.

"Mendonca VM, Al Kiyumi AA, Al Saady SM, Erzini K, Al Hamriy S, Bait Said AS.

2005. Ecology of the green turtle (Chelonia mydas) on Hino Island and Marbat Area, on

the Arabian Sea shores. Proc 21st Int Symp Sea Turtle Biol Conserv Philadelphia, USA, 2001. NOAA Tech Memo NMFS-SEFSC 528:246-247.

Pilcher, N. J., Antonopoulou, M., Perry, L., Abdel-Moati, M. A., Al Abdessalaam, T. Z., Albeldawi, M., Baldwin, R., et al. 2014. Identification of Important Sea Turtle Areas (ITAs) for hawksbill turtles in the Arabian Region. Journal of Experimental Marine Biology and Ecology, 460, 89-99.

Rees, A.F. and Baker, S.L., 2006. Hawksbill and olive ridley nesting on Masirah Island, Sultanate of Oman: an update. Marine Turtle Newsletter, 113, pp.2-5.

Rees, A.F., Al Saady, S., Broderick, A.C., Coyne, M.S., Papathanasopoulou, N. and Godley, B.J., 2010. Behavioural polymorphism in one of the world's largest populations of loggerhead sea turtles Caretta caretta. Marine Ecology Progress Series, 418, pp.201-212.

Rees, A.F., Al-Kiyumi, A., Broderick, A.C., Papathanasopoulou, N. and Godley, B.J., 2012. Each to their own: inter-specific differences in migrations of Masirah Island turtles. Chelonian Conservation and Biology, 11(2), pp.243-248.

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3.1.2 Have **long-term** monitoring programmes (i.e. of at least 10 years duration) been initiated or planned for priority marine turtle populations frequenting the territory of your country? **[IND, BPR]**

- > Monitoring programmers conducted by MECA include Ras Al Hadd monitoring started in 1977. Masirah Island monitoring started 1977 as well; while in Dimanyat and Hallniyat Islands it started in 1999 and 2000, respectively. The data collected include the measurements of turtle tracks, mortality and migration, etc. Additional monitoring, addressing nesting beach surveys, have been done on masirah island from 2006 by the environment society of Oman. ESO's recent monitoring efforts also included beach use surveys and stranding beach surveys.
- 3.1.3 Has the genetic identity of marine turtle populations in your country been characterised? [INF, PRI]

> Some studies on green and loggerheads have been conducted by SQU.

3.1.4 Which of the following methods have been or are being used to try to identify migration routes of turtles? Use the text boxes to provide additional details [INF, PRI]

a) Tagging

☑ YES (Details/future plans)

> Long term monitoring program on Green, Loggerhead, Hawksbill, and Olive ridley turtle by flipper tagging program stated in 1977.

b) Satellite tracking

☑ YES (Details/future plans)

- > Several efforts have been conducted by MECA with local partners on satellite tracking projects, these notably include:
- ☐ 2006: Loggerhead turtle of Masirah: in 2005 a three year project to assess and evaluate sea turtle populations in Masirah island as well as establish a sustainable, general management plan for the island and the surrounding areas Barr al Hikman and the island in the Masirah channel) was initiated. One of the focal activities in 2006 is to track 10 nesting females to their possibly remote foraging areas as many of flipper tagging have so far revealed very little of their migratory behavior.
- ☐ 2008: Olive Ridley turtles of Masirah: migration and behavior are ,studied in general, not only for this population but for all the 4 nesting species as a whole in oman. Later, in the summer of 2008, a green turtle telemetry project took place at Masirah providing evidence of migration routes and raising awareness of this threatened and depleted population.
- ☐ 2011-2012: deployment of 4 satellite tracking on Hawksbills turtle on Damaniyat islands by EWS-WWF, in collaboration with MECA and the Environment society of Oman (ESO). Fitting of 18 satellite tags on Loggerhead turtles nesting at Masirah Island.
- ☐ 2016: Masirah Island Female Loggerhead Turtle Tracking 2016
- A project of OEN MECA DOS -ESO USFWS 50ES in conjunction with the partners and sponsors detailed below. 7 Loggerhead Turtle.
- ☐ Gulf Green Turtle Project 2016-2019.
- ☐ Oman Female Loggerhead Turtle Tracking 2017
- In 2017 the team visited Hallaniyat Islands in Southern Oman (Dhofar), to install tags for the first time on loggerheads in Oman outside of Masirah.

The tagging data will be used to evaluate the nesting frequency, interesting habitat use, post nesting migration and and foraging habitat use. Processed data will also be used to investigate the spatial overlap with local fisheries.

- 3.1.5 Have studies been carried out on marine turtle population dynamics and survival rates (e.g. including studies into the survival rates of incidentally caught and released turtles)? [INF, PRI]
 ☑ YES
- > Only in eggs and hatchlings, but there are some data have been gathered previously through monitoring programs for returned , lost and dead turtles and also for measuring length and width of turtles.
- 3.1.6 Has research been conducted on the frequency and pathology of diseases in marine turtles? [INF, PRI]

☑ YES

- > Only ectoparasities and toxicology (metals in organs)
- 3.1.7 Is the use of traditional ecological knowledge in research studies being promoted? [BPR, PRI]

 ☑ YES
- > Individuals from local communities are employed and trains as rangers in order to keep them involved. Their knowledge and expertise are used to monitor the turtle nests, tracks and to conduct tagging.

3.2 Collaborative research and monitoring

- 3.2.1 List any **regional** or **sub-regional action plans** in which your country is already participating, which may serve the purpose of identifying priority research and monitoring needs. **[INF]**

Use the text box to elaborate on your response.

> ROPME

CBD

CITES

MECA also cooperated with WES-WWF and US FWS monitoring programs.

- 3.2.2 On which of the following themes have collaborative studies and monitoring been conducted? Use the text boxes to describe the nature of this international collaboration or to clarify your response. Answer 'NO' if the studies/monitoring undertaken do not involve international collaboration. [INF, PRI]
- a) Genetic identity
- ☑ YES (Details/future plans)
- b) Conservation status
- ☑ YES (Details/future plans)

c) Migrations

☑ YES (Details/future plans)

d) Other biological and ecological aspects

☑ YES (Details/future plans)

3.3 Data analysis and applied research

- 3.3.1 List, in order of priority, the marine turtle populations in your country in need of conservation actions, and indicate their population trends. **[PRI]**
- > Loggerhead Caretta caretta (CC); Olive Ridley Lepidochelys olivacea (LO); Green Chelonia mydas CM); Hawksbill Eretmochelys imbricata (EI); Leatherback Dermochelys coriacea (DC);
- 3.3.2 Are research and monitoring activities, such as those described above in Section 3.1, periodically reviewed and evaluated for their efficacy? **[SAP]** ☑ YES
- > It's done by MECA.
- 3.3.3 Describe how research results are being applied to improve management practices and mitigation of threats (in relation to the priority populations identified in 3.3.1, among others). **[SAP]**> Certain research were applied for establishement of protected area of turtles in oman: Ras al Hadd and Dymaniyat Island sea turtle natural reserve.

3.4 Information exchange

- 3.4.1 Has your country undertaken any initiatives (nationally or through collaboration with other Range States) to standardise methods and levels of data collection? [BPR, INF]

 ☑ YES [If yes, please give details of the agreed protocol(s)]
- 3.4.2 To what extent does your country exchange scientific and technical information and expertise with other Range States? **[SAP, IND]**
 ☑ OCCASIONALLY
- 3.4.3 If your country shares scientific and technical information and expertise with other Range States, what mechanisms have commonly been used for this purpose? Comment on any positive benefits/outcomes achieved through these interactions. **[INF]**
- > -Meeting, workshop, conferences and training, regionally and internationally.
- National reports.
- 3.4.4 Does your country compile and make available to other countries data on marine turtle populations of a regional interest?

Please give details [INF]

☑ YES

OBJECTIVE IV: INCREASE PUBLIC AWARENESS OF THE THREATS TO MARINE TURTLES AND THEIR HABITATS, AND ENHANCE PUBLIC PARTICIPATION IN CONSERVATION ACTIVITIES

4.1 Public education and information programmes

4.1.1 Describe the educational materials, including mass media information programmes that your country has collected, developed and/or disseminated. **[INF, PRI]**

Details/future plans:

- > Posters , booklet and brochures
- TV and radio programs, signs and boards on beaches, as well as the distribution of educational materials in coastal areas.
- Seminar, lectures for school and local peoples and tourism.
- Environmental days celebration
- Beach cleaning campaigns
- Deployment of awareness signs on masirah islang and damaniyat island .
- 4.1.2 Which of the following groups have been the targets of these focused education and awareness programmes described in above in Section 4.1.1? **[PRI, INF]**
- ☑ Policy makers
- ☑ Local/Fishing communities
- ☑ Tourists
- ☑ Media
- ☑ Students
- ☑ Scientists
- 4.1.3 Have any community learning / information centres been established in your country? [BPR, SAP]

Please give details and indicate future plans

☑ YES

OBJECTIVE V: ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

5.1 Collaboration with, and assistance to, signatory and non-signatory States

- 5.1.1 Has your country undertaken a national review of its compliance with Convention on International Trade in Endangered Species (CITES) obligations in relation to marine turtles? **[SAP]** ☑ YES (If yes, please elaborate briefly)
- 5.1.2 Does your country have, or participate/cooperate in, CITES training programmes for relevant authorities? **[SAP]**
- ☑ YES (If yes, please provide details of these training programmes)
- 5.1.3 Does your country have in place mechanisms to identify **international** illegal trade routes (for marine turtle products etc.)? Please use the text box to elaborate on how your country is cooperating with other States to prevent/deter/eliminate illegal trade. **[SAP]**

Please give details of particularly successful interventions and prosecutions; and/or mention any difficulties experienced that impede progress in this area. Please provide references to any published reports (e.g. already prepared for CITES purposes) that give a more ample explanation.

☑ YES

5.1.4 Which international compliance and trade issues related to marine turtles has your country raised for discussion (e.g. through the IOSEA MoU Secretariat, at meetings of Signatory States etc.)? **[INF]** > none

5.2 Prioritisation, development and implementation of national action plans

5.2.1 Has your country already developed a national **action plan** or a set of **key management measures** that could eventually serve as a basis for a more specific action plan at a national level? **[IND]**

Please explain.

☑ YES

- > we have management plane for all protected areas
- 5.2.3 Please indicate, from your country's standpoint, the extent to which the following **local** management issues require **international** cooperation in order to achieve progress. **[PRI]** In other words, how important is **international** cooperation for addressing these issues? Please select only one per line

	NOT AT ALL	LIMITE D	IMPORTAN T	ESSENTIA L
Illegal fishing in territorial waters				
Incidental capture by foreign fleets		V		
Enforcement/patrolling of territorial waters		Ø		
Hunting/harvest by neighboring countries				\(
Poaching, illegal trade in turtle products				
Development of gear technology		Ø		
Oil spills, pollution, marine debris				☑
Training / capacity- building			V	

Alternative livelihood development		V	
Identification of turtle populations			V
Identification of migration routes		Z	
Tagging / satellite tracking			Ø
Habitat studies			7
Genetics studies		7	

5.3 Cooperation and Information exchange

5.3.2 Has your country developed, or is it participating in, any networks for cooperative management of shared turtle populations? **[BPR, INF]** ☑ YES (if yes, give details)

5.4 Capacity-building

- 5.4.1 Describe your country's needs, in terms of human resources, knowledge and facilities, in order to build capacity to strengthen marine turtle conservation measures. **[PRI]**
- > build capacity needed for the following :
- -marine turtle conservation
- -illegal trading of marine turtle and their products
- economic value of marine turtle
- 5.4.3 Specifically in relation to **capacity-building**, describe any partnerships developed or planned with universities, research institutions, training bodies and other relevant organisations. **[BPR]** > SOU

5.5 Enforcement of conservation legislation

5.5.2 Has your country conducted a review of policies and laws to address any gaps, inconsistencies or impediments in relation to marine turtle conservation? If not, indicate any obstacles encountered in this regard and when this review is expected to be done. **[SAP]**

Please give details.

5.5.3 From the standpoint of law enforcement, has your country experienced any difficulties achieving cooperation to ensure compatible application of laws across and between jurisdictions? **[TSH]**

Please give details.

☑ YES

OBJECTIVE VI: PROMOTE IMPLEMENTATION OF THE MOU, INCLUDING THE CMP

6.1 IOSEA Marine Turtle MoU membership and activities

- 6.1.1 What has your country already done, or will it do, to encourage other States to sign the IOSEA MoU? **[INF]**
- > no action has been done or taken to encourage other states to sign the IOSEA
- 6.1.2 Is your country **currently** favourable, in principle, to amending the MoU to make it a legally binding instrument? **[INF]**

✓ NO VIEW

6.1.3 Would your country be favourable, over a **longer time horizon**, to amending the MoU to make it a legally-binding instrument? **[INF]**

☑ NO VIEW (Use the text box to elaborate on your response, if necessary)

6.2 Secretariat and Advisory Committee

What efforts has your country made, or can it make, to secure funding to support the core operations of the IOSEA MoU (Secretariat and Advisory Committee, and related activities)? **[IND]**> USUAL voluntary funding id paid to IOSEA

6.3 Resources to support implementation of the MoU

- 6.3.1 What funding has your country mobilised for **domestic** implementation of marine turtle conservation activities related to the IOSEA Marine Turtle MoU? Where possible, indicate the specific monetary values attached to these activities/programmes, as well as future plans. **[IND]** > not available
- 6.3.2 Has your country tried to solicit funds from, or seek partnerships with, other Governments, major donor organizations, industry, private sector, foundations or NGOs for marine turtle conservation activities? **[IND]**

 $\ensuremath{\square}$ NO

6.4 Coordination among government agencies

6.4.1 Has your country designated a lead agency responsible for coordinating national marine turtle conservation and management policy? If not, when is this information expected to be communicated to the IOSEA MoU Secretariat? **[IND]**

Please elaborate, as necessary.
☑ YES

- > Directorate General of Nature conservation at MECA
- 6.4.2 Are the roles and responsibilities of all government agencies related to the conservation and management of marine turtles and their habitats clearly defined? **[IND]**

Use the text box to elaborate.

☑ YES

6.4.3 Has your country ever conducted a review of agency roles and responsibilities? If so, when, and what was the general outcome? If not, is such a review planned and when? **[SAP]**

This question seeks to ascertain whether Signatories have made a serious examination of which agencies have a role to play in marine turtle conservation, either directly or indirectly, and which therefore should be apprised of the IOSEA MoU and its provisions.

If no internal review of interagency roles and responsibilities has been or will be undertaken, please elaborate if only to indicate that the necessary arrangements are already clear and not in need of further review.

☑ YES (Use the text box to elaborate)

> National committee for sea turtle conservation was formed 2013

ANNEX 1: SPECIES, HABITAT AND THREAT DATA [PRI, INF] PLEASE COMPLETE A SEPARATE SECTION FOR EACH SITE/AREA

Site 1

Name of site/area:

>> Masirah island-Al Sharqyia South Oman

On-site research activities:

☑ Tagging

☑ Satellite tracking