



Ramsar Information Sheet

Published on 27 May 2015

Oman Qurm Nature Reserve



Designation date: 19 April 2013
Ramsar ID: 2144
Coordinates: 23°37'12"N 58°28'41"E
Official area (ha): 106,83
Number of zones: 1

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a ' full ' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary The Qurm Nature Reserve is located in the Qurm neighborhood in the heart of the capital city of Muscat facing the Gulf of Oman at the foot of the Hajar Mountains.

The Qurm Nature Reserve is part of Wadi Aday catchment and supports one of the largest areas of natural mangrove forests in the Arabian Desert and Oman sea ecoregion. The area has high hydrological value as it is the only mangrove area in the city that provides natural control against tropical storms and cyclones that regularly affect the city of Muscat. Other hydrological values of this Ramsar Site include providing shoreline protection during cyclone, shoreline stabilization, maintenance of water quality as well as its role in natural water cycle. The area also functions as a retention pond of runoff water based on the monitoring data that been prepared by Japan International Cooperation Agency expert team.

The site supports 194 species of birds, 27 species of crustaceans, 48 species of molluscs and 40 species of fish. It provides shelter, nursery, spawning ground, and food supply for many juvenile fish species and promotes biodiversity in the region.

Recreational and aesthetic values of the site are high due to its location that is at the heart of the city. In the future, it will be developed into the first conservation/education site in the city with a state-of-the-art visitor center.

There is an archaeological site within the Qurm Nature Reserve. Excavations at the site found remains of fishing activities that might have been taking place more than 4,000 year ago.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Name

Institution/agency

Postal address

E-mail

Phone

Fax

2.1.2 - Period of collection of data and information used to compile the RIS

To year

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

The site is situated within the Qurm Nature Reserve. The Ramsar Site is smaller than the Qurm Nature Reserve and covers mangrove areas and waterways while the Qurm Nature Reserve consists of the Ramsar Site, recreational sites, and other related facilities.

2.2.2 - General location

a) In which large administrative region does the site lie?

Muscat - the Capital City of the Sultanate of Oman

b) What is the nearest town or population centre?

Muscat - the Capital City of the Sultanate of Oman

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes No

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes No

2.2.4 - Area of the Site

Official area, in hectares (ha): 106.83

Area, in hectares (ha) as calculated from GIS boundaries 103.16

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Western Indo Pacific Realm - Somali-Arabian Province - Oman Sea Ecoregion

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other ecosystem services provided Qurm Nature Reserve supports one of the largest areas of natural mangrove forest in the Arabian Desert and Oman sea ecoregion. The area has high hydrological value as it is the only mangrove area in the city that provides natural control against tropical storms and cyclones that regularly affect the city of Muscat (Cyclone Gonu of 2007, Cyclone Phet of 2010). Mangroves in general are an important form of natural flood defense. The Muscat coastline has a significant amount of mangrove forests, including mangroves that are established around the mouth of Wadi Aday and Qurm Nature Reserve (Cookson and Lepiece, 1997). Damage to large areas of mangroves could have severe consequences for Muscat Governorate as it normally takes 7 to 10 years for transplanted trees to mature (Al-Adhubi, 2009). Significant reductions in the natural coastal flood protection for that length of time would leave Muscat Governorate vulnerable to severe storm surges should a tropical storms hit the region. There is a lack of observed data on the extent of mangrove damage from past tropical storms that hit Muscat Governorate. But it has been well established from studies in other parts of the world that tropical cyclones can severely damage mangroves. For example, Bangladesh suffered loss of 8.5 million trees during a tropical cyclone that hit the region in 1998 (Kathiresan, 2007).

Criterion 8 : Fish spawning grounds, etc.

Justification The mangroves of Qurm Nature Reserve provide habitat and shelter for a range of juvenile fish species. Over 40 species of fish have been recorded at the site, including many commercial species such Killifish (*Aphanius dispar*), Grunter (*Terapon jarbua*), Silver-biddy (*Gerres sp.*), Glass fish (*Ambassis sp.*), Mullet (*Ellochelon vaigiensis*), Eyebrow goby (*Oxyurichthys ophthalmonema*), Indo-Pacific tropical sand goby (*Favonigobius rechei*), and the Insignia prawn-goby (*Cryptocentroides insignis*). The site thus supports essential ecological processes for fish stocks in Oman sea that is already undergoing considerable pressure from intensive commercial fishing.

3.2 - Plant species whose presence relates to the international importance of the site

For detailed taxonomic list of plant species please see the attachment OM2144taxo1505.docx under Taxonomic lists of animal and plant species.

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / ACTINOPTERYGII	 Aphanius dispar	Killifish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	
CHORDATA / ACTINOPTERYGII	 Cryptocentrus arabicus	Arabian goby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	
CHORDATA / ACTINOPTERYGII	 Ellochelon vaigiensis	Blackfin mullet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	
CHORDATA / ACTINOPTERYGII	 Favonigobius reichei	Tropical sand goby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	
CHORDATA / ACTINOPTERYGII	 Gerres oyena	Common silver biddy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>			
CHORDATA / ACTINOPTERYGII	 Oreochromis aureus	Tilapia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>			
CHORDATA / ACTINOPTERYGII	 Oxyurichthys ophthalmone	Eye-brow goby	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	
CHORDATA / ACTINOPTERYGII	 Parambassis siamensis	Glass fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>			
CHORDATA / ACTINOPTERYGII	 Terapon jarbua	Grunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Shelter and habitat for juveniles	

For detailed taxonomic list of animal species please see the attachment OM2144taxo1505.docx under Taxonomic lists of animal and plant species.

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

The site supports 194 species of birds, 27 species of crustaceans, 48 species of molluscs and 40 species of fish. For more information on plant and animal species please see the attachment OM2144taxo1505.docx under Taxonomic lists of animal and plant species.

The waterways of mangrove forests are ideal for young fishes to grow due to calm water, abundant food and shelters available there (e.g. aerial roots). Also, it serves as a nursery for high-valued commercial fish such as Mullet fish species (*Ellochelon vaigiensis*) and Mugil sp..

Over the last twenty years the mangrove covered area has expanded. Tall and healthy mangroves (*Avicenna marina*) are growing on shores along eastern and western water channels. Some natural seedlings are developing on shores near mouth of western water channel. Tall trees reach approximately 7m to 8m in height. Trees on shore of western water channel are taller and have bigger stems than trees on eastern shore.

The Qurm Nature Reserve is part of Wadi Aday catchment. For more information on the physical features of the catchment please refer to the attachment OM2144lit1505.docx under Other published literature.

Hydrological values of this Ramsar Site include providing shoreline protection during cyclone, shoreline stabilization, maintenance of water quality as well as its role in natural water cycle. The candidate area is also considered to function as a retention pond of runoff water based on the monitoring data that been prepared by Japan International Cooperation Agency expert team.

4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
I: Intertidal forested wetlands		1		Representative
J: Coastal brackish / saline lagoons		0		Representative

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
<i>Acacia tortilis</i>	Umbrella thorn/Talh	
<i>Aeluropus lagopoides</i>	Mamoncillo	
<i>Arthrocnemum macrostachyum</i>	Glaucous Glasswort	
<i>Avicennia marina</i>	White mangrove	
<i>Cistanche tubulosa</i>	Dwaneen/ Zib El deeb	
<i>Cornulaca monacantha</i>	Shook El Deeb/ Har/ Had	
<i>Crotalaria persica</i>		
<i>Cyperus conglomeratus</i>	Oshub	
<i>Halopyrum mucronatum</i>		
<i>Indigofera oblongifolia</i>	Hesar, Dahziz	
<i>Indigofera pseudointricata</i>	A'Neela	
<i>Juncus rigidus</i>	Sea rush/Namsah	
<i>Panicum turgidum</i>	Merkba/ Abo rkba/ Thmam	
<i>Prosopis cineraria</i>	Ghaf	
<i>Sporobolus ioclados</i>		
<i>Sporobolus virginicus</i>	Seashore drop seed	
<i>Ziziphus spina-christi</i>	Christ's thorn jujube/Sedr	

Invasive alien plant species

Scientific name	Common name	Impacts	Changes at RIS update
<i>Prosopis glandulosa</i>	Ghafbahri	Actually (major impacts)	No change
<i>Sesuvium portulacastrum</i>	Shoreline sea-purslane	Actually (major impacts)	No change

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
ARTHROPODA/MALACOSTRACA	<i>Eurycarcinus orientalis</i>					
ARTHROPODA/MALACOSTRACA	<i>Macrophthalmus depressus</i>					
ARTHROPODA/MALACOSTRACA	<i>Nasima dotilliformis</i>					
ARTHROPODA/MALACOSTRACA	<i>Perisesarma guttatum</i>					
MOLLUSCA/GASTROPODA	<i>Planaxis sulcatus</i>	tropical periwinkle				
MOLLUSCA/BIVALVIA	<i>Saccostrea cucullata</i>					
MOLLUSCA/GASTROPODA	<i>Terebralia palustris</i>	mangrove whelk				
ARTHROPODA/MALACOSTRACA	<i>Uca annulipes</i>					
ARTHROPODA/MALACOSTRACA	<i>Uca lactea</i>	Ring-legged Fiddler Crab				
ARTHROPODA/MALACOSTRACA						

Uca vocans

--	--	--	--	--

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWk: Mid-latitude desert (Mid-latitude desert)

Oman has two seasons: summer, which consists of five months (May to September), and winter, which consists of seven months (October to April). Climate of northern Oman is the typical desert climate with random and rare precipitation, high temperatures and continuous sunshine during daytime. Qurm Nature Reserve is located in the Muscat area. The average temperature varies from 24°C to 33°C. During summer the temperature can reach 50°C and the atmospheric humidity reaches up to 100%. In winter, the temperature ranges from 15°C to 22°C and the humidity is reduced to 50%.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

The Qurm Nature Reserve is part of Wadi Aday which is connected to the Oman Sea.

Although Wadi Aday is a typical Omani wadi, it is one of the largest wadis flowing through Muscat. The Wadi Aday basin is approximately 335 km². It consists of a large low-sloped upper catchment area that leads water to a narrow outlet (the Wadi Aday gorge) and of a downstream part that flows through Muscat city itself. For more information on the physical features of the catchment please refer to the attachment [OM2144lit1505.docx](#) under Other published literature.

4.4.3 - Soil

Mineral

Organic

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes No

Please provide further information on the soil (optional)

Surface soils under mangrove vegetation along two water channels are silty and clayey with humus accumulation under anaerobic condition. Depths of these surface soils are around 60cm to 70 cm in midstream of water channel and thinner at lower khawr. Sand layers are always recognized in subsurface. Salt marsh area covered by halophytes lies on the centre of Qurm Nature Reserve. Soils in this area are deep and sandy. Firm sand soils cover the surface and soft sand soils lie underneath. Rocky outcrops are observed on eastern border of this area and upstream areas of western shore along east water channel. Sand layers cover the areas near mouth of west water channel.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Marine water	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	Changes at RIS update
To downstream catchment	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

Tidal regimen is semidiurnal through a year showing diurnal inequality. The difference of tide level between high tide and low tide is 1.8 m at spring tide and 1.0 m at neap tide, respectively.

4.4.5 - Sediment regime

<no data available>

4.4.6 - Water pH

Alkaline (pH>7.4)

Please provide further information on pH (optional):

Khawr (lagoon) Qurm lies on the alluvial deposits at the mouth of Wadi Aday. The pH of the water ranges from 7 to 8.

4.4.7 - Water salinity

Euhaline/Eusaline (30-40 g/l)

Please provide further information on salinity (optional):

Surface waters in the lagoon (khawr) are relatively murky except at the khawr mouth. Water salinity was lower in the upper stream than downstream. The salinity in middle and lower channel was ranging from 3.0% to 3.9% and salinity in upper channel was about 2% while dissolved oxygen was about 5mg/l in mouth of khawr and 3.5mg/l in upper stream. The value of COD was increasing to the upper khawr but the values were less than 4mg/l.

4.4.8 - Dissolved or suspended nutrients in water

<no data available>

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ii) significantly different

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

Surrounding area has significantly different land cover or habitat types

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	Medium
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	Medium

Other ecosystem service(s) not included above:

Hydrological values of this Ramsar Site include providing shoreline protection during cyclone, shoreline stabilization, maintenance of water quality as well as its role in natural water cycle. The candidate area is also considered to function as a retention pond of runoff water based on the monitoring data that been prepared by Japan International Cooperation Agency expert team.

Recreational and aesthetic values of the site are high due to its location that is at the heart of the city. In the future, it will be developed into the first conservation/education site in the city with a state-of-the-art visitor center. The site receives some 500 people per year for bird watching and kayaking. Some 200 people along come during World Wetland Day activities as well as during holidays. During winter months (from November to March), the site is visited by school groups.

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes No Unknown

4.5.2 - Social and cultural values

<no data available>

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provincial/region/state government	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional):

Land within the Ramsar Site is owned by the Ministry of Environment and Climate Affairs and used for mangrove nursery and conservation purposes only.

Land in the surrounding area is owned by Muscat Municipality and used for roads, highway, residential area, commerce, hotels, sewage pipeline, park, and sport facilities.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Dr. Ahmed Mubarak Khamis Al-Saidi
 Director of Marine Environment Conservation
 Ministry of Environment and Climate Affairs
 Sultanate of Oman
 POB: 323, Postal code: 100, Al-Khawir
 Fax: (00968) 24602283, Tel: 24404756
 E-mail: amksaidi@yahoo.com

Provide the name and title of the person or people with responsibility for the wetland:

Dr. Ahmed Mubarak Khamis Al-Saidi, Director of Marine Environment Conservation, Ministry of Environment and Climate Affairs

Postal address: POB: 323, Postal code: 100, Al-Khawir
 Sultanate of Oman

E-mail address: amksaidi@yahoo.com

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site ' s ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use		Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Household sewage, urban waste water	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excess heat, sound, light	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please describe any other threats (optional):

Invasive plant species found at the site are Ghafbahri (*Prosopis juliflora*) and Shoreline Sea-purslane (*Sesuvium portulacastrum*) that were found to spread very fast and occupy a large area of the site. The second species was found to grow between mangrove trees and stifle the growth of new seedlings. Since those species reproduce quickly, the Ministry of Environment and Climate Affairs is carrying out regular eradication activities to minimize their effects and maintain a healthy status of the site.

Impacts from the surrounding urban area include changes in the watershed in Wadi Aday where the expanded road will reduce the capacity of the sediment to carry water. This means that a steady supply of freshwater to the mangrove system may be reduced and the likelihood of flash floods will increase. The footbridge at the Gulf Hotel restricts the channel affecting the sediment movements. The fishing facility, residential areas, and sewage pipes leaking may cause water pollution. Construction of Wadi Aday's Dam may cause hydrological change at the site. The area of the mangrove forests has been reducing.

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature reserve	Qurm Nature Reserve		whole

5.2.3 - IUCN protected areas categories (2008)

II National Park: protected area managed mainly for ecosystem protection and recreation

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Proposed

Species

Measures	Status
Control of invasive alien plants	Partially implemented

Human Activities

Measures	Status
Regulation/management of recreational activities	Partially implemented

Other: Conservation measures that were implemented include construction of fencing to control visitors and feral animals, e.g. goats, open wooden structure that provides shade for visitors, and a 45m long boardwalk to allow visitors access to the mangrove area. Coastal zone management plan and national management plan for conservation and restoration of mangrove that was developed under Japan International Cooperation Agency are implemented in the Qurm Nature Reserve.

Proposed conservation measures include:

- Extension of the shade area, construction of a new 150m board walking for bird watching, and a new bird watching hut.
- Continuation of the ongoing eradication program of invasive species, e.g. Ghafbahri (*Prosopis juliflora*), and Shoreline sea-purslane (*Sesuvium portulacastrum*).
- Regular control of the growth of mangrove seedlings to ensure that open areas of mudflat continue to be available for birds.

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site? Yes No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes No

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

Apart from the management plan that is under preparation, mangrove habitat plantation, monitoring and education guidelines were published and are in use.

The Sultanate of Oman is preparing to establish an Information Center within the Qurm Nature Reserve. It will be utilized as a research facility for monitoring, mangrove plantation techniques as well as an environmental education center. This center's activities will reach out to all countries within the region of the Regional Organization for the Protection of the Marine Environment (ROPME: www.ropme.org). The center is being built taking into account green building standards. Once completed in few years the center is expected to welcome many visitors of different interests.

Since 2008 the Ministry of Environment and Climate Change and JICA teams have been organizing monitoring, survey, education, and public awareness activities.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Plant community	Implemented
Plant species	Implemented

Since 2008 the Ministry of Environment and Climate Change and JICA teams have been organizing monitoring, survey, education, and public awareness activities.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Ghazanfar, SA, 1999, 'Coastal Vegetation of Oman', Coastal and Shelf Science, 49, Supplement A, pp.21-27.

Hilal S. Ali Al-Shukaili, 2011, Climatological regimes and their governing mechanisms over the Sultanate of Oman, (Master's thesis), University of Malaya, Institute of Biological Science, Faculty of Science, Kuala Lumpur.

Ministry of Environment and Climate Affairs & Japan International Cooperation Agency, 2014, The Qurm Environmental Information Center Project, Ides Inc. Appropriate Agriculture International Co., Ltd, Muscat.

Ministry of Regional Municipalities, Environment and Water Resources & Japan International Cooperation Agency, 2004, The Master plan study on restoration, conservation and management of Mangrove in the Sultanate of Oman, Pacific Consultants International Appropriate Agriculture International Co., Ltd, Muscat.

Ministry of Regional Municipalities and Water Resources, 2011, Flood Protection Scheme in Wadi Aday, Environmental Impact Assessment Study, Sogreah Oman, Muscat.

Royal Navy of Oman, 2013, Oman Maritime Book, Muscat.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<3 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Al Qurm Nature Reserve (Badar Al Bulushi, Ramsar Convention's STRP Focal Point in Oman, 02-07-2013)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation