



Ramsar Information Sheet

Published on 29 January 2019

United Arab Emirates Hatta Mountain Reserve



Designation date	9 January 2019
Site number	2368
Coordinates	24°45'45"N 56°06'45"E
Area	2 100,00 ha

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 Hatta Mountain Reserve "HMR" is in the emirate of Dubai, United Arab Emirates, located in the Hajar mountains at the northern tip of a priority WWF Global 200 Ecoregion (Ecoregion 127, Arabian Highlands and Shrublands), HMR mountain ranges between 250 m and 1,060m and belong to the Oman-UAE ophiolite. Heavy rainfall events recharge the shallow aquifer of quaternary alluvium deposits and produce large flood discharges contribute to two major water bodies downstream behind Hatta and Al Ghabra dams.

Nevertheless, surface water, in the form of springs, flowing streams and pools support a rich diversity of rare and endangered mountain freshwater ecosystem and species as it provides opportunities for the sustenance and revival of local livelihoods. Around 132 species of plants recorded including 4 endemic species (*Pulicaria edmondsonii*, *Echinops erinaceus*, *Pteropyrum scoparium* and *Lindenbergia arabica*). 23 species of mammals were observed, including the Arabian Tahr (*Arabitragus jayakari*), Caracal lynx (*Caracal caracal schmitzi*), and, possibly, the critically endangered Arabian leopard (*Panthera Pardus nimr*), all considered threatened by the International Union for Conservation of Nature (IUCN) including other species of local conservation value such as Blandford's fox (*Vulpes cana*), Gordon's wildcat (*Felis sylvestris gordonii*).

HMR and the wetland area support 127 bird species 42 of them are water birds and the majority are migratory species of which 3% are considered threatened worldwide such as; Lappet-faced Vulture (*Torgos tracheliotos*), Egyptian Vulture (*Neophron percnopterus*), Greater Spotted Eagle (*Aquila clanga*), European Roller (*Coracias garrulus*) and 9% are of regional and local importance such as; Bonelli's Eagle (*Aquila fasciatus*).

The UAE has 2 species of endemic amphibians and 3 native species of freshwater fish, All are recorded in HMR, one fish species is considered near-threatened regionally and may be extinct (*Cyprinion watsoni*).

Around 80% of the species of dragonflies of UAE are recorded in Hatta including the endemic *Arabineura khalidi*, classified endangered regionally and worldwide by (IUCN).

HMR borders the Hatta Archeological site contains over 50 burials, dating back to the second half of the 3rd millennium BC (2500-2000 BC) commensurate with the traditional technique of Umm Al Nar cemeteries. The petroglyph discovered in Hatta are between the most diverse in the UAE.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

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

From year	1982
To year	2018

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Hatta Mountain Reserve
Unofficial name (optional)	محمية حنا الجبلية

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps	0
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Boundaries description

The site follows exactly the same borders of Hatta Mountain Reserve. The total reserve area used to be 27 sq km before the border modification between the two emirates Dubai and Ajman took place in 2017. The current size of the reserve is 22 sq km which matches the borders of the site.

The site covers the area of Hatta Mountain Reserve of 2156 ha, the reserve is located 2 km South of Hatta city, approximately 100 km east from Dubai and 80 km north-northeast of Al Ain city, mainly in the mountainous area at the borders between the UAE and Oman.

The reserve falls inside Dubai, Hatta administrative area (12900 ha) bordering Oman from the south and Ajman emirate from the West. Most of the reserve area is unpopulated because of its difficult access. The major settlement nearby is Hatta city with a population of about 12769 (Dubai statistics centre 2017).

Hatta administrative area (12900 ha) is the only mountain area for Dubai which is around 3% of the total area of the emirate. Hatta Mountain Reserve is protected by Decree No. 22 (2014) of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, Prime Minister of the UAE and Ruler of Dubai.

2.2.2 - General location

- a) In which large administrative region does the site lie?
- b) What is the nearest town or population centre?

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):

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

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	127, Arabian Highlands and Shrublands
Freshwater Ecoregions of the World (FEOW)	Ecoregion ID : 443 Oman Mountains

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

Hajar mountains cover approximately 5% of the country area but receive about 30% of the total annual rainfall. Hatta watershed covers an area of 220km² of the Hajar mountains, the catchment basin is divided into ten major sub-catchment, the largest three are Muzirah (40km²), Hatta (30km²) and Thaby uphills (19km²). HMR include 20km² of Hatta sub-catchment while the rest of the sub-catchment (10km²) is on the Omani side.

Hatta water aquifer is part of the ophiolite mountain aquifer extends from Hatta (South) to Dibba (North). The mountains area of UAE is dissected by 58 drainage basins which vary in size from 5 – 5,000 Km². Some large wadis may have surface runoff once every several years, and the rest of the wadis may remain dry for longer periods. The hard and compact igneous and metamorphic rocks of the ophiolite complex provide for a rapid runoff for wadi aquifer storage and freshwater springs which are mostly ephemeral, with few perennial supplies. Groundwater is of the Magnesium Bicarbonate and Magnesium Chloride type and salinities are generally less than 2000 mg/l.

Heavy rainfall events over the mountains produce large flood discharges, a small part of the water infiltrates in the wadi beds resulting in groundwater recharge. Flood flow takes place generally in winter months between December and March. However, isolated and heavy flows may be observed in other months especially by the end of summer.

Hydrological services provided

The geology includes basic and ultrabasic igneous rocks as bedrock, including the world-famous Semail Ophiolite suite. Lying on top of bedrock, are relatively thick deposits of old and recent alluvium, comprising boulders, cobbles, gravels and sands, laid down in a high energy fluvial environment. Whilst the former does contain some groundwater in fractures and cavities, it is the latter, quaternary gravels which are the primary aquifer in the catchment, having an average permeability of about 5m/d and a porosity of 10-15%.

In Hatta sub-catchment we can recognise two type of aquifer; Semail Ophiolite and Quaternary gravels. The ophiolite suite comprises igneous and ultra-basic rocks which form the bedrock (base) to the aquifer systems and are themselves not considered as a productive aquifer.

The alluvium Wadi deposits comprise both recent and old, quaternary gravels which contain boulders, cobbles, pebbles, sands and gravels, of varying content and with varying degrees of cementation and compaction. Generally, the formation takes on the appearance of a moderately cemented conglomerate and is the predominant aquifer in the catchment.

The thickness of the alluvium aquifer varies from a few meters within the narrow stream valleys in the upper reaches to 20-40m within the middle and lower reaches.

The main sources for groundwater recharge are infiltration from precipitation and possible return flow from the existing dams.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

HMR holds a high number of species comparing with other protected areas in Dubai, the reserve represents a typical mountain and freshwater ecosystem of the Hajar mountain. Hatta sub-catchment maintains fresh and permanent water resources for many rare, endemic and threatened species.

Birds: HMR host and support 27% of the total count of birds of the UAE (127 species out of 464), 66% of the heron species (10 out of 15), 29% of hawks and eagles (8 species of 27), 75% of the bee-eater group (3 out of 4), 45% of old world fly catcher (15 of 37), 58% of wagtail group (8 out of 15). 18% of Hatta species are water birds and most of them are migratory species.

Mammals: HMR support 44% of the total species number recorded in UAE (23 out of 52) mammals species in Hatta belong to 8 orders and 10 families, 4 species are extinct (*Panthera pardus nimr*, *Canis lupus arabis*, *Hyena hyena* and *Gazella gazella cora*) and one is introduced (*Ammotragus lervia*).

Flora: 19% of the total plants species of UAE are recorded in Hatta (132 out of 688), four species are endemic to the Hajar mountains (*Pulicaria edmondsonii*, *Echinops erinaceus*, *Pteropyrum scoparium* and *Lindenbergia arabica*) and 3 are considered as rare (*Rumex limoniastrum*, *Ehretia obtusifolia* and *Pycnocycla caespitosa*).

Justification

Arthropoda: The research is still ongoing, but we recorded roughly around 500 species and still counting. with 9 are considered endemic, 5 of them are aquatic and water dependant beetels (*Limnebius parabolicus*, *Ochthebius harteni*, *Ochthebius Ochthebius*, *Laccobius (Microlaccobius)*, *Cercyon deserticola*), another 2 terrestrial endemics beetles are recorded (*Acompsophloeus arabicus* and *Hdnobius Hdnobius*) and 2 species of spiders (*Nesioneta arabica* and *Thyene imperialis*).

One new record to UAE of mygalomorph species (*Ischnocolus* spp) came from Hatta in 2014 belong to Family Theraphosidae, subfamily Ischnocolinae and genus *Ischnocolus*.

Dragonflies: 79% of the total species of UAE are recorded in HMR (19 out of 24) which is around 30% of the total number of species recorded in Arabia (19 out of 64).

Reptiles and amphibians: 30% of the total number recorded in the UAE (20 out of 67).

Mollusca: 2 land snails *Zootecus insularis* and *Pupoides coenopictus* and Four species of fresh water molluscs are recorded in Hatta out of 7 fresh water species recorded in the UAE (*Gyraulus piscinarum*, *Melanoides tuberculatus*, *Lymnaea (Radix) natalensis*) and the last one is vulnerable according to IUCN Criteria (*Gyraulus convexiusculus*).

One record of Clam shrimp comes from Hatta as well (Phylum Arthropoda, superclass Crustacea, class Branchiopoda, superorder Conchostraca, order Spinicaudata).

Criterion 4 : Support during critical life cycle stage or in adverse conditions

Criterion 7 : Significant and representative fish

21 species of freshwater fish species are recorded in Arabia, three native species of freshwater fish occur in the Emirates, all three of them in the wadis in Hatta; *Garra barreimiae*, the only endemic fish species in UAE (endemic to the UAE and Oman). The uncommon Cyprinid *microphthalmum (watsoni)* as the only record of this species in the UAE comes from Hatta. *C. watsoni* is considered threatened according to the IUCN regional red list assessment, it is probably now extinct in Hatta and the UAE after a recent habitat destruction. The third record is for the Arabian Killifish (*Aphanius dispar*). Arabian Killifish is primarily a species of coastal lagoons, but, as a secondary freshwater species, is found widely distributed in the mountain wadis of the UAE.

Justification

The scarcity of fresh surface water in the UAE (as in Arabia generally) limits both the number and variety of freshwater fish that are found. The three-native species of fish are known to occur in the mountain wadis of the UAE. *Garra barreimiae* and *Cyprinid microphthalmum* are members of the carp family (Cyprinidae) while *Aphanius dispar* belonging to a large family commonly known as egg-laying toothcarps (Cyprinodontidae). Except for the Arabian killifish these species do not have common names either in English or, apparently, in Arabic. No UAE wadis flow continuously at the surface throughout the year, so all local wadi fish are adapted to survive for extended periods in isolated pools. However, little is known in detail about their adaptations and life histories and even basic information on diet, reproduction and longevity are presently lacking.

Garra barreimiae, named after the Buraimi oasis, is by far the most common native species. In many wadis *G. barreimiae* is the only fish present. They are small (adults are generally ca. 4.5–7 centimetres) and mottled brown in colour, typically dark but varying somewhat with the surroundings. Larger adults sometimes show more colourful red, white or blue markings, probably related to breeding status. They feed on detritus and algae and have a specialised mouth plate that functions as a suction device. They resemble aquarium catfish as they nuzzle their way over gravel and rock surfaces, but they dart about frantically when approached in shallow pools where they are vulnerable to terrestrial and avian predators. A cave dwelling 'blind' population of *G. barreimiae*, recorded from a single location of less than 10 km² by Banister (1984) is often referred to as the 'Omani blind cave fish,' and there has been discussion of its taxonomic status. Kruckenhauser et al. (2011) found that it is not genetically removed from adjacent surface-dwelling populations of *G. barreimiae*. Because the Omani blind cave fish is not accepted as an independent species, but included in *G. barreimiae*, it is categorized as LC which has previously been categorized as threatened. In Oman, there has been great attention to the 'blind' population of *G. barreimiae* 'Omani blind cave fish'

Criterion 8 : Fish spawning grounds, etc.

Justification

The genus *Garra* is known from East Africa to South Asia. A small number of species and subspecies are endemic to the mountains of southwestern Arabia such as *G. smarti* discovered in 2009. No wadis in UAE flow continuously at the surface throughout the year, so all local wadi fish must be able to survive for extended periods in isolated pools. However, little is known in detail about their adaptations and life histories and even basic information on diet, reproduction and longevity is presently lacking.








G. barreimiae has a behavioural tendency to explore upstream, which probably facilitates dispersal when the wadis flow. Smaller adults have been observed to climb several metres up waterfalls, using the wet surface of the splash zone adjacent to the main flow of water, sometimes wriggling, sometimes jetting forward, resting periodically with pectoral fins spread, the mouth plate engaged for suction, and the tail twisted and pressed flat against the rock. Little is known about the life history of *G. barreimiae* in the wild. Several anecdotal reports of the release of eggs and sperm during transport of specimens, provoking speculation that spawning may be triggered by turbulence, mimicking that of a wadi in spate. *G. barreimiae* will cannibalise its own eggs if conditions permit.

Despite the small size of the adult fish ca. 4.5–7 it can carry around 500 eggs which could be one of the survival techniques of *G. barreimiae* in such a harsh environment (Hamidan, N. A, pers. comm.), eggs are usually released after heavy rain events when the water level is at its maximum.
















G. barreimiae is highly adaptive to mountain ecosystem, it can tolerate water temperatures up to ca. 40°C (104°F) and salinity up to one-third that of sea water (Haas 1982).
































Criterion 9 : >1% non-avian animal population














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

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Echinops erinaceus</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Regionally important Endemic to Hajar mountains
<i>Ehretia obtusifolia</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Rare record
<i>Lindenbergia arabica</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Regionally important. Endemic to Hajar mountains.
<i>Pteropryum scoparium</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Regionally important. Endemic to Hajar mountains.
<i>Pulicaria edmondsonii</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Regionally important. Endemic to Hajar mountains.
<i>Pycnocycla caespitosa</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Rare record
<i>Rumex limoniastrum</i> 		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>		Rare record

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 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5								
Birds																
CHORDATA/AVES	<i>Aquila clanga</i> 	Greater Spotted Eagle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
CHORDATA/AVES	<i>Aquila fasciata</i> 	Bonelli's Eagle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		"RB" Rare breeder
CHORDATA/AVES	<i>Himantopus himantopus</i> 	Black-winged Stilt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		"ND" Native and declining Local breeder
CHORDATA/AVES	<i>Merops apiaster</i> 	European Bee-eater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		"RB" Rare breeder
CHORDATA/AVES	<i>Merops persicus</i> 	Blue-cheeked Bee-eater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		"RB" Rare breeder
CHORDATA/AVES	<i>Neophron percnopterus</i> 	Egyptian Vulture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN 	<input type="checkbox"/>	<input checked="" type="checkbox"/>		"RI" Regionally important
CHORDATA/AVES	<i>Oenanthe monacha</i> 	Hooded Wheatear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		"RB" Rare breeder
CHORDATA/AVES	<i>Torgos tracheliotus</i> 	Lappet-faced Vulture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN	<input type="checkbox"/>	<input type="checkbox"/>		"RI" Regionally important
CHORDATA/AVES	<i>Turdoides squamiceps</i> 	Arabian Babbler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		"RR" Restricted range

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	GITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/AVES	 <i>Upupa epops</i>	Common Hoopoe; Eurasian Hoopoe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		"RB" Rare breeder
Fish, Mollusc and Crustacea																		
CHORDATA/ACTINOPTERYGII	 <i>Aphanius dispar</i>	Arabian killifish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic species UAE has only three freshwater fish species.
CHORDATA/ACTINOPTERYGII	 <i>Cyprinion watsoni</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	NT regionally	UAE has only three fish species in UAE
CHORDATA/ACTINOPTERYGII	 <i>Garra barreimiae</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic species UAE has only three freshwater fish species.
MOLLUSCA/GASTROPODA	 <i>Gyraulus convexiusculus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Threatened Regionally	
Others																		
CHORDATA/MAMMALIA	 <i>Acomys dimidiatus</i>	Arabian Spiny Mouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	NT in the UAE	
CHORDATA/MAMMALIA	 <i>Ammotragus lervia</i>	aoudad	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>		Introduced
ARTHROPODA/INSECTA	 <i>Arabicnemis caerulea</i>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic species Egg and Nymph stage
CHORDATA/AMPHIBIA	 <i>Bufo arabicus</i>	Arabian Toad	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic regionally Only two amphibians for the UAE
CHORDATA/AMPHIBIA	 <i>Bufo dhufarensis</i>	Dhufar toad	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic regionally Only two amphibians for the UAE
CHORDATA/MAMMALIA	 <i>Canis lupus arabs</i>	Arabian Wolf	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	Extinct in the wild in UAE and VU in Arabia.	
CHORDATA/MAMMALIA	 <i>Caracal caracal schmitzi</i>	Caracal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	VU in UAE	
CHORDATA/REPTILIA	 <i>Echis omanensis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic to Arabia
CHORDATA/MAMMALIA	 <i>Felis silvestris gordonii</i>	Gordon's wildcat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	EN in UAE	
CHORDATA/MAMMALIA	 <i>Gazella gazella cora</i>	Mountain gazelle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	Extinct in the wild in Hatta and VU in UAE.	
CHORDATA/MAMMALIA	 <i>Hemitragus jayakari</i>	Arabian tahr	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	35	2016	1.4	EN	<input type="checkbox"/>	<input type="checkbox"/>	CR in UAE.	Endemic to Hajar mountains
ARTHROPODA/INSECTA	 <i>Limnebius arabicus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic
ARTHROPODA/ARACHNIDA	 <i>Nesioneta arabica</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic
CHORDATA/REPTILIA	 <i>Omanosaura cyanura</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic to Arabia
CHORDATA/REPTILIA	 <i>Omanosaura jayakari</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic to Arabia

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ MAMMALIA	 <i>Ovis ammon</i>	argali	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>		Introduced probably Historical record	
CHORDATA/ MAMMALIA	 <i>Panthera pardus nimr</i>	Arabian Leopard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				CR 	<input type="checkbox"/>	<input type="checkbox"/>	Extinct in the wild in UAE and CR in Arabia.		
ARTHROPODA/ INSECTA	 <i>Paragomphus sinaiticus</i>		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	NT Regionally	Egg and Nymph stage	
CHORDATA/ REPTILIA	 <i>Pseudocerastes persicus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	VU Regionally		
ARTHROPODA/ ARACHNIDA	 <i>Thyene imperialis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic	
CHORDATA/ REPTILIA	 <i>Trachylepis tessellata</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Endemic to Arabia	
CHORDATA/ MAMMALIA	 <i>Vulpes cana</i>	Blanford's Fox	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	VU in UAE		

1) Percentage of the total biogeographic population at the site

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 mountains are composed primarily of ophiolite. This comprises a suite of ultrabasic rock types, and the prevalent water type in Hatta tends towards the higher end of the pH scale. Two larger wadis, Wadi Hatta and Wadi Al Amed as well as numerous smaller ones dissect the mountains. The following main habitat types can be distinguished:

- Mountain slopes and scree; Mountain slopes cover by far the largest proportion of the protected area, and loose scree, rocks and boulders are strewn across the surface. The characteristic plant community of the slopes is the *Acacia tortilis*-*Euphorbia larica* community, which is widespread throughout the region. The ground layer is quite species-rich compared with desert communities, leading to a high biodiversity with a markedly different flora from that elsewhere in Dubai. *Acacia* and *Euphorbia* are accompanied by a host of other species, some of the more common of which include: *Aristida adscensionis*, *Aristida abnormis*, *Cenchrus ciliaris*, *Convolvulus virgatus*, *Cymbopogon commutatus*, *Gaillonia aucheri* (= *Plocama a.*), *Gymnocarpus decandrus*, *Heliotropium calcareum* (= *H. brevilmbe*), *Lavandula subnuda*, *Leucas inflata*, *Ochradenus arabicus*, *Polygala erioptera*, *Pseudogaillonia hymenostephana* (= *Plocama h.*), *Tephrosia apollinea*, *Tricholaena teneriffae* and *Vernonia arabica*. The small tree *Moringa peregrina* is occasionally present in gullies. Very rare plant species in Hatta at the highest sites include *Rumex limoniastrum*, *Ehretia obtusifolia* and *Pycnocycla caespitosa*.

- Mountain terraces: Mountain terraces are a conspicuous feature of the two larger wadis. Despite the low cover values, this habitat is often characterised by a wealth of different species, at least over larger areas such as *Cornulaca monacantha*. Furthermore, annuals can be a striking feature of the mountain terraces, especially on the silty patches. Some of the more widespread ones include *Enneapogon desvauxii*, *Notoceras bicornis*, *Plantago ciliata*, *Plantago ovalis* and the mauve-flowering annual *Erucaria hispanica*.

- Mountain terrace walls; Terrace walls are more -or-less vertical and as a result, they support little vegetative growth. A characteristic species of this habitat, however, is the woody perennial *Lindenbergia arabica*.

- Wadis with running water and pools, both permanent and intermittent;

The Hatta Mountain Conservation Area is characterised by a network of mountain wadis, and numerous side wadis. The substrate varies substantially, often within a few metres, depending on the precise location in the wadi bed. Cobbles and boulders are characteristic of the centre of the main wadi beds, but fine gravels and even sand are deposited in specific micro-sites, especially along the sides of the wadi. After heavy rainfall, water flows through both two main wadis causing flash floods, this could lead to the relocation of boulders, gravel and silt, this natural dynamic process is typical in Hajar mountains and could change the locations of seasonal pools and even the disappearance of some of the permanent ones. Typical wadi plant is the tall perennial grass *Saccharum griffithii*, which grows where moisture prevails under the rocky substrate. Also, widespread, especially at the lower elevations in deeply incised wadis is the evergreen fig *Ficus cordata* ssp. *salicifolia*. Another typical shrub is *Dyerophytum indicum* and wadi tree is *Ziziphus spina-christi*, which attracts numerous insects when in flower.

- Reservoirs (i.e. specifically used for water storage); The northern reservoir behind Al Ghabra dam is associated with Wadi Al Amed, and it occupies an area of about 0.1 km². The shoreline of this wadi is 2.8 km. The southern reservoir behind Hatta dam, covering an area of 0.3 km², its perimeter is ca. 6 km. Neither reservoir supports much vegetation around the margins, although reedbeds are developed very locally in the southern one.

- Reedbeds

Towards the entrance into Wadi Hatta proper, patchy reedbeds dominated by *Arundo donax*.

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

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Lakes and pools >> P: Seasonal/intermittent freshwater lakes	Seasonal/intermittent pools	2	31	Unique
Fresh water > Lakes and pools >> Tp: Permanent freshwater marshes/pools	Permenant pools	3	0.001	Rare

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
6: Water storage areas/Reservoirs	Water reservoir	1	36	Unique

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Wadi terraces	82
Mountain slopes	2007

4.3 - Biological components

4.3.1 - Plant species

Optional text box to provide further information

Plants species list is provided as additional material.

4.3.2 - Animal species

Optional text box to provide further information

Complete species is provided as additional material.

4.4 - Physical components

4.4.1 - Climate

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

The elevation ranges within the relatively small area of 21 00ha from 365 m to nearly 1000 m a.s.l. However, large tracts of the mountains lie below 600 m. The area is characterized by a mean annual rainfall of 125.6 mm and a mean temperature of 27.8°C. The maximum and minimum recorded temperatures are 40.8°C and 11.2°C,

Metrological data from the nearby Masfut climatic station; with data dating back to 1979 till 2008 for the acquired daily rainfall records revealed that the mean annual rainfall recorded between the hydrological years of (1979- 1980) and (2016-2017) in both Masfut and Hatta stations is 125.6 mm. An obvious decline in rainfall records could be noticed since 1997. This decrease exceeded 50% in the annual rainfall amounts recorded over the basin indicating drier conditions than the previous years, the year of 1997 corresponds also to the time of Hatta Dam construction.

4.4.2 - Geomorphic setting

a) Mnimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- 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.

Hatta Watershed is one of the east coast catchments covers an area of 22000ha, the watershed is divided into ten major sub-catchment, the largest three are Muzirah sub-catchment (40km2), Hatta sub-catchment (29km2) and Thaby uphill sub-catchment (19km2). HMR covers 19km2 of Hatta sub-catchment, while the upper-stream area of Hatta sub-catchment (10km2) falls on the Omani side. The entire region is mostly dry throughout the year but may generate surface water runoff during rainy seasons. The runoff generation from the rainfall behaves differently from one wadi to another according to the nature of the topography and headwater catchments. In the mountains, most surface flow is in the form of flood, a small part of the water infiltrates in the wadi beds resulting in groundwater recharge. The majority of the run-off water in Hatta sub-catchment ends up downstream behind Hatta dam and Al Ghabra dam.

4.4.3 - Soil

- Mineral
- Organic
- No available information

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)

The bedrock for the Hatta part of the mountains is Ophiolite. The rock is extremely low in silica and thus ultrabasic. Ultrabasic bedrock is typically associated with the development of poor soils deficient in important nutrients and high in toxic heavy metals. In arid climates, this geology can lead to extremely basic soils, with alkalinity reaching in excess of pH11 in groundwater, adding to the potential difficulties of an ultrabasic environment. The prevailing soil series exist in Hatta Mountain is Barren –rocky (80 – 90%) associated with brown, very shallow, well-drained, sandy loam, skeletal soils with a surface covered with stones (>75%) occurring over steep side slopes of denudational hills (Periodite / Dunite / Gabbro)

4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present
Usually seasonal, ephemeral or intermittent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from rainfall	<input checked="" type="checkbox"/>
Water inputs from groundwater	<input type="checkbox"/>
Water inputs from surface water	<input type="checkbox"/>

Water destination

Presence?
Feeds groundwater
To downstream catchment

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

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

Hatta catchment is one of the east coast catchments. The entire region is mostly dry throughout the year but may generate surface water runoff during rainy seasons. The runoff generation from the rainfall behaves differently from one wadi to another according to the nature of the topography and headwater catchments. In the mountains, most surface flow is in the form of flood, a small part of the water infiltrates in the wadi beds and the alluvium deposits resulting in groundwater recharge. The groundwater is the main source of supply for agricultural activities downstream (557 farms). Heavy rainfall events over the mountains produce large flood discharges. Most of the annual rainfall, therefore, reach the dams, in some cases, corresponds to a relatively high annual runoff. Flood flow takes place generally in winter months between December and March. However, isolated and heavy flows may be observed in other months especially by the end of summer. Evaporation, on the other hand, is the major source of water loss in the area. Evapotranspiration losses are negligible compared to the evaporation losses because the area is mainly characterized by bare rocks of no vegetation cover.

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site
- Significant accretion or deposition of sediments occurs on the site
- Significant transportation of sediments occurs on or through the site
- Sediment regime is highly variable, either seasonally or inter-annually
- Sediment regime unknown

4.4.6 - Water pH

- Acid (pH<5.5)
- Circumneutral (pH: 5.5-7.4)
- Alkaline (pH>7.4)
- Unknown

Please provide further information on pH (optional):

In arid climates, this geology can lead to extremely basic soils, with high alkalinity vary between 8-9.

4.4.7 - Water salinity

- Fresh (<0.5 g/l)
- Mxohaline (brackish)/Mxosaline (0.5-30 g/l)
- Euhaline/Eusaline (30-40 g/l)
- Hyperhaline/Hypersaline (>40 g/l)
- Unknown

Please provide further information on salinity (optional):

The salinity from Hatta Reservoir recorded 0.18 ppt

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

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 i) broadly similar ii) significantly different site itself.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High
Wetland non-food products	Other	Medium
Genetic materials	Genes for tolerance to certain conditions (e.g., salinity)	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Climate regulation	Local climate regulation/buffering of change	Medium
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Medium
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Inspiration	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	High
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	High
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High
Scientific and educational	Type location for a taxon	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	Low
Pollination	Support for pollinators	High

Within the site:

Outside the site:

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

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland

Description if applicable

The UAE people used the falaj system, which is the traditional groundwater management and ancient irrigation system involving a shallow lateral tunnel dug uphill to intersect the water table. Aflaj (plural of falaj) are still found in a number of areas in the UAE. One well-maintained falaj is still available downstream in the city of Hatta near to the farm's area. The falaj in Hatta is seasonal and become functional mainly in winter after rain.

- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples
- iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

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
Local authority, municipality, (sub)district, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public ownership	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Commercial (company)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other

Category	Within the Ramsar Site	In the surrounding area
No information available	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

Hatta Mountain Reserve (2100ha) falls inside Dubai emirate within Hatta administrative area (12900ha) bordering Oman from the south and Ajman emirate from the West. Most of the reserve area is unpopulated because of its difficult access. The major settlement nearby is Hatta city with a population of about 12769 (Dubai statistics centre 2017).
 Dubai Electricity and Water Authority (DEWA) have identified a need for a Pumped Storage Power (PSP) Project, located within Hatta Mountain Reserve, to act as a power storage facility for energy generated at the Mohammed Bin Rashid Al Maktoum Solar Park. The facility will allow a greater response to electricity demand – either supporting generation through peak load times or allowing the provision of energy during the night-time period when solar facilities are not able to generate. The upper stream reservoir covers an area of 25ha. The project is still in its initial phase, an environmental impact assessment for the project is under preparation.

5.1.2 - Management authority

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

As per Local Law No 11 of 2003: Dubai Municipality, Environment Department, Natural Resources Conservation Section.

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

Eng. Alya Abdulrahim Abdulla Amin Alharmoudi, Head Of Environment Department

Postal address:

PO Box 67
 Bani Yas Road, Diera
 Dubai, United Arab Emirates

E-mail address:

aaaamin@dm.gov.ae

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	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tourism and recreation areas	Low impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact	Medium impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Water abstraction	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Agriculture and aquaculture

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

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Renewable energy	Medium impact	High impact	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Gathering terrestrial plants	Low impact	Low impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hunting and collecting terrestrial animals	Low impact	Low impact	<input checked="" type="checkbox"/>	<input 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	Low impact	Low 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	High impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Vegetation clearance/ land conversion	Low impact	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	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Garbage and solid waste	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Excess heat, sound, light	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts	Medium impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature extremes	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storms and flooding	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Protected area	Hatta Mountain Reserve		whole

5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Partially implemented

Human Activities

Measures	Status
Research	Partially implemented

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

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Implemented
Birds	Implemented

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

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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

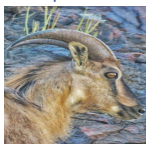
<no file available>

vi. other published literature

<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Male *Arabis jayakari* (*Hamad Hashem 10-04-2018*)



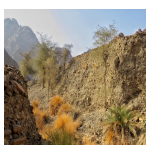
Hatta Dam (*Maral Chreiki, 11-02-2017*)



Seasonally flooded wadi (*Hamad Hashem 10-04-2018*)



Terrace with old settlement (*Hamad Hashem 10-04-2018*)



Typical wadi (*Hamad Hashem 10-04-2018*)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation