

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

NOTE: It is important that you read the accompanying *Explanatory Note and Guidelines* document before completing this form.

1. Date this sheet was completed/updated:

29 June 1998

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Designation date

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Site Reference Number

2. Country: Jordan

3. Name of wetland: Azraq Oasis

4. Geographical coordinates: 31° 49'N 36°48'E

5. Altitude: (average and/or max. & min.) 500 M.

6. Area: (in hectares) 7372

7. Overview: (general summary, in two or three sentences, of the wetland's principal characteristics)

Most of the site comprises a large, seasonally flooded mudflat or playa fed by surface run-off during winter. The remainder comprises what were large perennial marshes fed by Druze and Shishan springs. The Druze springs have now dried up due to water abstraction while the other marshes fed by these springs are highly degraded. However, restoration basically through reverse pumping which was done by the Azraq Oasis Conservation Project during the period 1994-1998 recreated about 10-15 percent of the former Shishan marshes. Now it is the responsibility of RSCN to monitor the reserve and to implement the Azraq wetland reserve management plan prepared by the Azraq project manager Dr. Fariz.

8. Wetland Type (please circle the applicable codes for wetland types as listed in Annex I of the *Explanatory Note and Guidelines* document.)

marine-coastal: A . B . C . D . E . F . G . H . I . J . K

inland: L . M . N . O . P . Q . R . Sp . Ss . Tp . Ts
. U . Va . Vt . W . Xf . Xp . Y . Zg . Zk

man-made: 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9

Please now rank these wetland types by listing them from the most to the least dominant: R, 5, Ts, Tp

Note: 'Y' was an important habitat until 1992, but the springs have not flowed since.

9. Ramsar Criteria: (please circle the applicable criteria; see point 12, next page.)

1a . 1b . 1c . 1d | 2a . 2b . 2c . 2d | 3a . 3b . 3c | 4a . 4b

Please specify the most significant criterion applicable to the site: 2b

10. Map of site included? Please tick *yes* -or- *no*

(Please refer to the *Explanatory Note and Guidelines* document for information regarding desirable map traits).

11. Name and address of the compiler of this form:

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Please provide additional information on each of the following categories by attaching extra pages (please limit extra pages to no more than 10):

12. Justification of the criteria selected under point 9, on previous page. (Please refer to Annex II in the *Explanatory Note and Guidelines* document). **1b:** It is a good example of a saline, seasonal wetland in an arid region, while restoration activities in part of the site are expected to recreate a good example of a permanent marsh in a desert region; **1d:** part of the wetland is a permanent marsh, which of course is rare and unusual in desert regions. **2a:** It is the only known site for the Azraq Killifish (*Aphanius sirhani*). **2b:** wetlands in the Middle East region are localised and undergoing rapid and serious degradation owing to the acute water crisis and uncontrolled development. Many of the species present at Azraq are known from no other sites in Jordan and few other sites in the Middle East. **2c:** There are very few wetlands in this part of the world and therefore, Azraq probably continues to be of critical importance for passage and wintering waterbirds. **2d:** It is the only known site for the Azraq Killifish (*Aphanius sirhani*). **3b:** the seasonal mudflat probably continues to be critically important for passage and wintering waterbirds, but there have been no coordinated counts for at least six years.

13. General location: (include the nearest large town and its administrative region) South Azraq, Zarqa Governate
31°49'N 36°48E

14. Physical features: (e.g. geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth water permanence; fluctuations in water level; tidal variations; catchment area; downstream area; climate) **Geology:** The Azraq Basin lies at the north-west end of a much larger depression, the *Wadi es-Sirhan*, which extends for over 350 km south-east to *El Jawf* in Saudi Arabia. Both depressions were formed by block faulting in the late Cretaceous, and are located on the East Jordanian Limestone Plateau. The southern half of Azraq Basin is composed of Cretaceous and Tertiary limestones, marls and chalks, and the surface is coated with a flint hamma. The northern part is covered by basalts and tuffs, which were emitted from volcanoes and fissures between the Miocene and Pleistocene. Azraq Wetland Reserve lies on the junction between these two contrasting areas. Soils/substrates □ TC \ I 4 “1.2. 1.5. Soils/substrates” □ soils are light at the surface (sandy to silty clay), but heavy at lower depths (clay to clay loam). Soil pH varies widely, which has been attributed to high variation in salt content. In general, soils are calcareous and highly saline. Within the centre of Shishan Marsh (known as the *Dashsha*) a thick peat layer has formed, which overlays the clay/silt subsoil.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc) None currently, following acute degradation of the hydrological system.

16. Ecological features: (main habitats and vegetation types) Azraq lies within the Saharo-Arabian phytogeographic realm. As yet, the vegetation of the reserve has not been subject to a detailed study of habitat composition and distribution, but four main habitats can be identified: (i) perennial freshwater marsh; (ii) seasonal freshwater marsh; (iii) silt dune; and (iv) *qa* (or saline mudflat). The vegetation in the seasonal marshes was highly structured, comprising a patchwork of tall beds of emergents (eg., *Typha domingensis*, *Scirpus litoralis* and *Cladium mariscus*), areas of low grasses and sedges (eg. *Eleocharis palustris*), shallow pools with dense submergent macrophyte growth (eg. *Ruppia maritima* and *Chara tomentosa*), and exposed mud. These marshes were bordered by shallow banks, often lined with *Tamarix spp.* The majority of the seasonal marshes have been dry since 1996, and presently are highly degraded, while the small area that has been restored in Shishan Marsh is dominated by *Phragmites* owing to a lack of grazing.

The silt dunes support an open community of typical drought-tolerant plants, dominated by low

shrubs (*Tamarix spp.* and *Nitraria spp.*) and scattered Date Palms. However, outside Azraq Wetland Reserve the silt dunes are severely over-grazed and hence lack much of the natural vegetation.

The *qa* is devoid of plants, except the upper boundary that supports a sparse zone of halophytes, characterised by *Halopeplis amplexicaulis* and *Halocnemum strobilaceum*.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc) Probably several notable species, including possible species new to science. Work is planned to begin on the flora shortly.

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.) This is the only known site for the Azraq Killifish (*Aphanius sirhani*). Several waterbird species are likely to occur in internationally significant numbers, but full surveys have not been conducted for at least 6 years.

19. Social and cultural values: (e.g. fisheries production, forestry, religious importance, archaeological site etc.) Formerly very important, but no value presently.

Azraq Wetland Reserve and adjacent areas have a long and varied human history, largely owing to the water supplied by the once copious springs. Most archaeological research has focused on early prehistory, from the first human colonisation (250,000 B.P) down to the beginnings of agriculture and pastoralism (c. 9500-8000 B.P.). Only one settlement from this period has been found within the reserve boundaries, although ground surveys have been incomplete and other sites probably exist. These sites are of considerable interest to prehistorians.

In addition, the Azraq region marked the eastern boundary of the Roman Empire, and a number of Roman-Byzantine early Islamic structures are located within the site. The purpose and function of these features are unclear, since little research has been conducted on them. These features are largely covered by wind-blown silt and sand, and unfortunately parts of them have been badly damaged. However, one of the circular structures to the north-east of Soda Pool was restored in 1998.

The recent, traditional people of the Azraq Basin are pastoral nomads (bedouin), and the wetlands of Azraq were a key element in their livelihoods. Most of the bedouin now have resident lifestyles, and those that remain no longer have access to the wetlands.

The Arab *Druze* people came to the Azraq area after World War I and founded the village of *Druze* (now North Azraq), while the *Chechen* people arrived shortly afterwards (in the 1920s) from the Caucasus, and established the village of Shishan (now South Azraq).

From the earliest human occupation of the region until recently, the reserve has acted as a focus of human use within the Azraq Basin. It was critically important as a continuous source of freshwater, in addition to an abundance of wild game, reeds, and fish. The local villagers used to cut *Arundo*, *Phragmites*, and *Typha* for mat-making, basket-weaving, fodder, and roofing, while the spring pools were used for fish-farming. The marshes also provided high quality forage for domestic livestock, which included cattle, water buffalo, horses, sheep and camels.

Duck-hunting was a very popular activity in winter, and a hunting lodge was built on a hill overlooking the reserve. The activity was poorly controlled, and eventually banned in 1985. However, a high level of illegal hunting continued until at least 1992, and a wide variety of species, including herons and egrets, were shot.

Following the construction of the asphalt from Amman in the 1970s and subsequent growth of neighbouring villages, public use of the site has increased substantially. The reserve also became a

popular tourist attraction, and many families would visit the pools to picnic and bathe.

Following the initiation of the Azraq Conservation Project in 1994 and the associated restoration work, the reserve was fenced and has been used very little (i.e. occasional visits by archaeologists, ornithologists and school groups).

20. Land tenure/ownership of: (a) site: The site was included in the Azraq Desert National Park, which was declared by Royal Proclamation in 1965. However, the National Park was never established fully, owing to political unrest, and plans for it were abandoned during the 1970s. Currently legal ownership of the site rests with the Forest Department in the Ministry of Agriculture, and as such is the property of the treasury of the Hashemite Kingdom of Jordan. However, management of the Shishan Marshes ("Azraq Wetland Reserve") was allocated to RSCN under an agreement with the Ministry of Agriculture in 1977.

(b) surrounding area: The area surrounding the site is largely privately owned.

21. Current land use: (a) site: Current land use within the site is limited largely to salt extraction. (b) surroundings/catchment: Surrounding area is largely agricultural.

22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects: (a) at the site: Abstraction of water from the Azraq Basin by the government and local farmers increased dramatically from the early 1980s. Currently, 502 wells abstract about 51 MCM/yr, of which over 95% is from the upper aquifer (over twice the natural recharge rate). About 50% of the water is abstracted by the government in order to supply towns and villages in north Jordan (eg. Amman and Zarqa), while the remainder is used locally by farmers. By the end of 1992, all springs within the site had ceased to flow.

In June 1994, water input to the Shishan Marshes was re-established by pumping water from a local Government well field via the pipes of the abandoned pumping station located near Soda Spring. Initially, the rate was 0.25 MCM/yr, but was increased the following October to 1.5 MCM/yr. This is only 10% of the former input to the marsh and is only guaranteed until 1999.

(b) around the site: Other threats outside Azraq Wetland Reserve include severe over-grazing, rubbish dumping and the construction of dams in *wadis* that feed the seasonal mudflat.

23. Conservation measures taken: (national category and legal status of protected areas - including any boundary changes which have been made: management practices; whether an officially approved management plan exists and whether it has been implemented) Conservation management began with the production of a draft management plan for the Shishan Marshes in 1979, which resulted in the erection of a 2 m high wire perimeter fence during 1979-1980. The aim was to eradicate grazing pressure within the reserve and control human access, but the fence fell into disrepair and by the late 1980s several gaps allowed free access to both humans and grazing animals. There was very little management activity during the 1980s, with the only notable exception being a complete ban on hunting in 1985.

In 1994, a three-year GEF funded project was initiated, part of which aimed to restore and manage Azraq Wetlands Reserve. This resulted in a variety of management activities during 1994-1997, of which the most notable was the return of a supply of water to the Shishan Marshes in June 1994 (following lack of water for two years). Initially, this was 0.25 MCM/yr, but the flow was increased to 1.5 MCM/yr in October of that year. Currently, the marshes receive about 1.3-1.5 MCM/yr. The water is received from

the pumping wells of the Ministry of Water and Irrigation, and has been chemically treated before arrival at the site.

In addition, five permanent staff were recruited and partially trained for the management of Azraq Wetland Reserve (ie. Shishan Marshes), and a new management plan was produced for this area in 1996. A new perimeter fence was also erected during 1995-1996, which largely deters illegal grazers. Construction of a visitors centre began in 1997 and is due for completion in late 1998. The GEF funding was subsequently extended until the end of 1999.

As for the rest of the Ramsar Site, it has received little (if any) conservation attention during its entire existence (ie. 21 years), even the boundaries have not been marked on the ground.

24. Conservation measures proposed but not yet implemented: (e.g. management plan in preparation; officially proposed as a protected area etc.) The management plan for Azraq Wetland Reserve produced in 1996 is being completely revised and improved currently, and it is expected that Azraq Wetland Reserve will be a fully-functioning reserve by early 1999. A wide diversity of projects are planned under the new management plan for the years 1998-2002, while GEF funding is secured up until the end of 1999.

No plans exist for the rest of the Ramsar Site, although the Royal Society for the Conservation of Nature has proposed for the creation of a committee responsible for steering the sustainable use and development of the entire catchment area and especially the area outside the Azraq Wetland Reserve (i.e. the rest of the Ramsar site).

25. Current scientific research and facilities: (e.g. details of current projects; existence of field station etc.) A laboratory has recently been established within Azraq Wetland Reserve, and a number of applied research projects are planned (eg. impact of buffalo on wetland communities, and conservation biology of *Aphanius sirhani*).

26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.) None currently, but an education officer will be recruited shortly at Azraq Wetland Reserve and a comprehensive education programme will be developed for both teachers and their students.

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity) None currently, but Azraq Wetland Reserve is due to open in late 1998 and an accompanying Tourism Development Plan for the Azraq Region is in the early stages of preparation.

28. Jurisdiction: (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.) Located in the Zarqa Governate and owned by the Forest Department in the Ministry of Agriculture. Management of the Shishan Marshes ("Azraq Wetland Reserve") was allocated to The Royal Society for the Conservation of Nature under an agreement with the Ministry of Agriculture in 1977.

29. Management authority: (name and address of local body directly responsible for managing the wetland) Azraq Wetland Reserve is managed by the Royal Society for the Conservation of Nature, PO Box 6354, Amman 11183; Tel. + 962 6 553 9731.

30. Bibliographical references: (scientific/technical only)

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