

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:

24-02-1997

FOR OFFICE USE ONLY

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Designation date

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Site Reference Number

2. Country:

Islamic Republic of Iran

3. Name of wetland: Lake Parishan and Dasht-e-Arjan

4. Geographical coordinates: approx. 29°30'N 52°00'E

5. Altitude: (average, max., min.) 2000 m (Arjan) ; 853 m (Parishan) 6. Area: 2,200 ha (Arjan); 4,000 ha (Parishan)

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

A largely seasonal freshwater lake and marsh at 2,000 m elevation in the Zagros mountains (Dasht-e-Arjan), and a permanent brackish to saline lake at 853 m elevation in the Zagros foothills (Lake Parishan). Both are extremely important for breeding and wintering waterfowl of a wide variety of species, including some threatened waterfowl species. Both lakes are protected within the Arjan Protected Area.

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 . Q . 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: O Q R Sp Ts N

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: 2c, 2b, 1a

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:

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).

1a: The wetlands of Dasht-e-Arjan and Lake Parishan are outstanding examples of freshwater and brackish to saline wetlands characteristic of the highlands of western Iran.

2a: Five species of threatened birds occur in appreciable numbers: the *Pelecanus crispus*, *Marmaronetta angustirostris*, *Aythya nyroca*, *Oxyura leucocephala* and *Aquila heliaca*.

2b: The wetlands support a very diverse flora and fauna, and thus maintain the genetic and ecological diversity of the region.

2c: Both wetlands support large breeding colonies of herons (Ardeidae) and ibises (Threskiornithidae).

3a: The lakes regularly hold over 20,000 waterfowl in winter.

3c: The wetland supports over 1% of the regional breeding populations of the waterbirds *Plegadis falcinellus* and *Platalea leucorodia*, and of the regional wintering populations of *Pelecanus onocrotalus*, *Phoenicopterus ruber*, 11 species of ducks (Anatidae), *Fulica atra*, *Grus grus* and *Larus ridibundus*.

13. General location: (include the nearest large town and its administrative region)

Lake Parishan and Dasht-e-Arjan are situated in the Province of Fars, in the Zagros mountains, 40-80 km west of Shiraz and 15-25 km south of Kazerun. There are several small settlements in the area.

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)

Dasht-e-Arjan and Lake Parishan are two very different wetlands situated only 15 km apart within the Arjan Protected Area. Dasht-e-Arjan is a shallow freshwater lake with extensive reedbeds. The lake lies enclosed in a basin, and is fed by two large springs on the western side and local run-off from winter rainfall and snow melt. It is unusual in that it drains out through a group of swallow-holes at its south-east corner. The bottom consists of alluvial mud. The wetland varies widely in size from year to year depending on rainfall, reaching about 2,400 ha after wet winters and decreasing to only a few hundred ha in years of drought. Most of the basin dries out in summer, but two large springs on the western side maintain some permanent marsh throughout the year. Much of the wetland freezes over in winter, and deep snow cover is not unusual. Good rainfall in recent years has resulted in a considerable expansion in the area covered by tall reeds.

Lake Parishan is a shallow, brackish to saline lake surrounded by marshes with halophytic vegetation. It lies enclosed in a drainage basin of about 29,000 ha in a broad valley between Zagros ranges, and is fed by a number of permanent springs and several seasonal watercourses. The salinity varies widely according to the size of the lake. At maximum, the lake is almost fresh and covers about 4,200 ha. During the dry years of the early 1970s, water levels were low, the lake was brackish to saline, marsh vegetation was confined to the western and eastern ends of the lake (near freshwater inflow), and there were large areas of bare saltflats in the south-west bay. Throughout much of the 1980s and 1990s however, water levels have remained high and the water is now almost fresh. There are extensive reedbeds in many parts of the lake. The lake has a muddy bottom.

The physiography of the region comprises oligo-miocene limestones that form spectacular escarpments, generally aligned as parallel ridges enclosing broad valleys with open oak woodland.

15. Hydrological values: (groundwater recharge, flood control, sediment trapping, shoreline stabilisation etc)

no information available

16. Ecological features: (main habitats and vegetation types)

Dasht-e-Arjan is a eutrophic lake. The marshes around it comprise extensive reedbeds of *Phragmites* and reedmace *Typha*, with fringing areas of rush and other aquatic plants. The surrounding flats are usually covered by terrestrial grasses or remain as bare baked mud, but in wet years sedges predominate. Lake Parishan has is an oligotrophic lake surrounded by eutrophic marshes. It also supports extensive beds of reeds and reedmace, as well as halophytic vegetation. Large areas of the semi-arid steppe around Lake Parishan have been converted to wheat fields. Nearby mountain sides are still covered with forests of oak, while the lower slopes are partially covered with steppic forest of almonds, hawthorn and hackberry. In much of the area, the shrub-like “Arjan” tree is conspicuous.

17. Noteworthy flora: (indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc)

At Dasht-e-Arjan there are extensive areas of reeds *Phragmites australis* and reedmace *Typha* sp. with fringing areas of rush *Juncus* spp. and other aquatic plants. In wet years the surrounding flats are covered with *Carex* sp. sedges. Lake Parishan also supports extensive reedbeds of *Phragmites* and *Typha*, as well as the halophytic species of *Salsola*, *Kochia*, *Camphorosma* and *Halocnemum*. Steppes are covered with oak *Quercus brantii*, and in much of the area the “Arjan” tree *Amygdalus erioclada* is growing very well.

18. Noteworthy fauna: (indicating, e.g., which species are unique, rare, endangered, abundant or biogeographically important; include count data, etc.)

Both Lake Parishan and Dasht-e-Arjan are extremely important for wintering waterfowl of a wide variety of species, and are also of considerable importance for breeding waterfowl, notably Dalmatian pelican (*Pelecanus crispus*), marbled teal (*Marmaronetta angustirostris*), ferruginous duck (*Aythya nyroca*) and white-headed duck (*Oxyura leucocephala*). The Dalmatian pelican is at the lake all year round and few breed there. Marbled teal breeds at Lake Parishan when conditions are suitable, and large numbers winter at the wetlands. The ferruginous duck occurs in small numbers all year round, and several pairs breed at Lake Parishan. The numbers of most other duck and coot *Fulica atra* have in recent years been well below the numbers in the 1970s, presumably because of increased disturbance by fishermen in motorised boats. However, improved agriculture to the south of the lake now provides better feeding habitat for greylag goose (*Anser anser*) and crane (*Grus grus*), whose numbers have increased substantially. The extensive reed-beds now support large breeding colonies of herons, egrets, glossy ibis (*Plegadis falcinellus*), white spoonbill (*Platalea leucorodia*) and purple swampphen (*Porphyrio porphyrio*). Water rail (*Rallus aquaticus*) and Baillon’s crake (*Porzana pusilla*) breed in the marshes of Dasht-e-Arjan. In wet years little bittern (*Ixobrychus minutus*) also breeds at Lake Parishan, as do large mixed heronry and some colonies of terns.

Wintering raptors include white-tailed eagle (*Haliaeetus albicilla*), marsh harrier (*Circus aeruginosus*), imperial eagle (*Aquila heliaca*), saker (*Falco cherrug*) and barbary falcon (*Falco pelegrinoides*). Breeding populations include lesser kestrel (*Falco naumanni*), black francolin (*Francolinus francolinus*), white-throated kingfisher (*Halcyon smyrnensis*), pied kingfisher (*Ceryle rudis*), moustached warbler (*Acrocephalus melanopogon*) and clamorous reed warbler (*A. stentoreus*). The great range of habitats within the protected area supports almost the full range of species typical for the montane steppe, pistachio-almond forest, oak forest and wetland systems of the central and southern Zagros mountains, as well as some species more typical of the Gulf coastal wetlands. A list with some bird counts is attached.

Forty-four species of mammals have been recorded in Arjan protected area (which is larger than the Ramsar site!) including wolf (*Canis lupus*), golden jackal (*Canis aureus*), red fox (*Vulpes vulpes*), brown bear (*Ursus arctos*), striped hyena (*Hyaena hyaena*), caracal (*Lynx caracal*), jungle cat (*Felis chaus*), leopard (*Panthera pardus*), wild boar (*Sus scrofa*), goitred gazelle (*Gazella subgutturosa*), Persian ibex (*Capra hircus aegagrus*) and wild sheep (*Ovis ammon*). The Persian lion (*Panthera leo persica*) survived in the area until about 1940.

19. Social and cultural values: (e.g. fisheries production, forestry, religious importance, archaeological site etc.)

The region is renowned for its spectacular scenery.

20. Land tenure/ownership of:

(a) site: National Government

(b) surrounding area: National Government (as far as the Arjan protected area is concerned)

21. Current land use:

(a) site: subsistence fishing, reed-cutting, extensive grazing by domestic livestock

(b) surroundings/catchment: there are a few small settlements with orchards and gardens, some wheat cultivation and other crops.

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: Lake Parishan is under considerable threat from various sources, while Dasht-e-Arjan remains in reasonably good condition. Some 20 hectares of marsh at the extreme north-west corner of Lake Parishan were drained for agriculture about 18 years ago. Elsewhere around this lake, wet meadows have been replaced by cultivated fields which in places extend to the water's edge. A small area of fish ponds was established on the plains to the west of the lake in the early 1980s, and it is reported that 3 species of carp have been introduced to the lake. There has been a considerable increase in fishing activities, and the widespread use of outboard motor boats instead of traditional reedboats has resulted in disturbance to the waterfowl populations. Poaching remains a problem, as well as the accidental killing of waterfowl in fishing nets. Eutrophication may be a problem in the future because of domestic sewage and fertilizers, and some control over the spread of *Phragmites* may be necessary.

At Dasht-e-Arjan poaching is also a problem, as are two sets of high-tension power lines that cross the lake. They are dangerous to the birds and are spoiling the beautiful scenery of the lake. One of the lines has not been in use since it was constructed in the late 1970s.

(b) around the site: no information available

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)

A national park of 65,750 ha was established in 1972, but at the end of the 1970s after the revolution it was downgraded to a protected area of 52,800 ha. The area of the original national park was designated a UNESCO Biosphere Reserve in June 1976. There is a game guard station on a peninsula overlooking the western part of Lake Parishan. At both lakes hunting has been prohibited since 1973.

24. Conservation measures proposed but not yet implemented: (e.g. management plan in preparation; officially proposed as a protected area etc.)

The Ramsar Monitoring Procedure Mission that visited the lakes in 1992 made several recommendations: demarcating the borders of the site clearly with signs, upgrade the lakes and part of the Arjan reserve to wildlife refuge, prohibit any further drainage activities at lake Parishan, study the changes in aquatic vegetation of lake Parishan, create a visitors centre at the game guard station of Lake Parishan and if possible re-route the high-tension power lines across Dasht-e-Arjan.

25. Current scientific research and facilities: (e.g. details of current projects; existence of field station etc.)

The Ornithology Unit of the Department of the Environment has carried out annual mid-winter censuses since 1967, and many other surveys have been undertaken on other times of the year. Visiting researchers can be accommodated at the Game Guard Station.

26. Current conservation education: (e.g. visitors centre, hides, information booklet, facilities for school visits etc.)

no information available

27. Current recreation and tourism: (state if wetland is used for recreation/tourism; indicate type and frequency/intensity)

There must be some tourism according to the plans to build a visitors centre.

28. Jurisdiction: (territorial e.g. state/region and functional e.g. Dept of Agriculture/Dept. of Environment etc.)

Department of the Environment

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Islamic Republic of Iran

29. Management authority: (name and address of local body directly responsible for managing the wetland)

Department of the Environment, address as mentioned above (28)

30. Bibliographical references: (scientific/technical only)

Carp, E. (1980). *A Directory of Western Palearctic Wetlands*. IUCN, Gland, Switzerland.

Evans, M.I. (1994). *Important Bird Areas in the Middle East*. BirdLife International, Cambridge, United Kingdom.

Mansoori, J. (1983). *National Report on Iran's Wetlands of International Importance as Habitat for Waterfowl*. Prepared for the Groningen Conference, Netherlands, in May 1984.

Scott, D.A. (1976). *A List of the Wetlands of Iran*. Internal Report. Department of the Environment, Teheran, Iran.

Scott, D.A. (1995). *A Directory of Wetlands in the Middle East*. IUCN, Gland, Switzerland and IWRB, Slimbridge, United Kingdom.

Scott, D.A. and Smart, M. (1992). *Wetlands of the Seistan Basin, South Caspian and Fars, Islamic Republic of Iran*. Ramsar Convention Monitoring Procedure Report no. 26, Ramsar Convention Bureau, Gland, Switzerland.

UNEP/IUCN (1988). *Coral Reefs of the World. Volume 2: Indian Ocean, Red Sea and Gulf*. UNEP Regional Seas Directories and Bibliographies. IUCN, Gland, Switzerland / UNEP, Nairobi, Kenya.

WCMC (1990). Iran. In: Spagnesi, M (ed.), *Proceedings Conference on the Conservation of Wetlands of International Importance especially as Waterfowl Habitat, Cagliari, Italy, 24-29 November 1980*. Supplemento alle Ricerche di Biologia delle Selvaggina. Vol.III (1): 741-747.

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**List of bird species including counting results
Lake Parishan and Dasht-e-Arjan**

waterfowl

- globally threatened species

<i>Marmaronetta angustirostris</i>	5,500 w
<i>Oxyura leucocephala</i>	25 w
<i>Pelecanus crispus</i>	180 w

- 1% or more of Middle east population

<i>Anas acuta</i>	25,000 w
<i>Anas clypeata</i>	3,500 w
<i>Anas crecca</i>	45,000 w
<i>Anas penelope</i>	5,000 w
<i>Anas platyrhynchos</i>	14,000 w
<i>Anas strepera</i>	2,200 w
<i>Anser anser</i>	5,760 w
<i>Ardea cynerea</i>	255 w
<i>Ardeola ralloides</i>	200 br
<i>Aythya ferina</i>	20,000 w
<i>Aythya fuligula</i>	2,520 w
<i>Aythya nyroca</i>	150 w
<i>Casmerodius albus</i>	370 w
<i>Egretta garzetta</i>	350 w
<i>Fulica atra</i>	24,300 w
<i>Glareola pratincola</i>	30 br
<i>Grus grus</i>	2,200 w
<i>Himantopus himantopus</i>	100 w
<i>Larus ridibundus</i>	4,300 w
<i>Limosa limosa</i>	900 w
<i>Nycticorax nycticorax</i>	100 br/300 w
<i>Pelecanus onocrotalus</i>	800 w
<i>Phoenicopterus ruber</i>	7,080 w
<i>Platalea leucorodia</i>	200 w
<i>Plegadis falcinellus</i>	930 w
<i>Podiceps cristatus</i>	300 w
<i>Porphyrio porphyrio</i>	140 w
<i>Tadorna ferruginea</i>	4,180 w
<i>Tringa totanus</i>	290 w
<i>Vanellus indicus</i>	20 br
<i>Vanellus leucurus</i>	20+ br
<i>Vanellus vanellus</i>	4,000 w

other birds:

<i>Acrocephalus melanopogon</i>	br
<i>Acrocephalus stentoreus</i>	br
<i>Aquila clanga</i>	5 w
<i>Aquila heliaca</i>	7 w
<i>Ceryle rudis</i>	br
<i>Circus aeruginosus</i>	40 w
<i>Falco cherrug</i>	w
<i>Falco naumanni</i>	10-15 br
<i>Falco pelegrinoides</i>	w
<i>Francolinus francolinus</i>	br
<i>Halcyon smyrnensis</i>	br
<i>Haliaeetus albicilla</i>	4 w

all counts individual birds

br = breeding, w = wintering

sources: Evans, 1994 and Scott, 1995