

# Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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### 1. Name and address of the compiler of this form:

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DD MM YY

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Designation date

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Site Reference Number

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**2. Date this sheet was completed/updated:**

21 November 2010

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**3. Country:** Islamic Republic of Iran

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**4. Name of the Ramsar site:**

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Kanibarazan Wetland

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**5. Designation of new Ramsar site or update of existing site:**

**This RIS is for** (tick one box only):

- a) **Designation of a new Ramsar site** ; or  
b) **Updated information on an existing Ramsar site**

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**6. For RIS updates only, changes to the site since its designation or earlier update:**

**a) Site boundary and area**

**The Ramsar site boundary and site area are unchanged:**

or

**If the site boundary has changed:**

- i) the boundary has been delineated more accurately ; or  
ii) the boundary has been extended ; or  
iii) the boundary has been restricted\*\*

and/or

**If the site area has changed:**

- i) the area has been measured more accurately ; or  
ii) the area has been extended ; or  
iii) the area has been reduced\*\*

\*\* **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

**b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:**

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**7. Map of site:**

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) **a hard copy** (required for inclusion of site in the Ramsar List): ;  
ii) **an electronic format** (e.g. a JPEG or ArcView image) ;

iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

**b) Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchments boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a water body, etc.

The boundary has been defined by specifically incorporating all of the wetland habitats and taking into account the region's topography. The wetland's southern boundary is the foothill of the Gharedagh Mountain, the western boundary is the edge of the farmland and a dirt road; and the north east boundary is a drainage canal and a dirt road. The boundary ensures that there is as little interference as possible with the wetland system.

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**8. Geographical coordinates** (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

Central point: 36°59'57.4"N 45°46' 7.4" E

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**9. General location:**

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Kanibarazan Wetland is located in the north-west region of the Islamic Republic of Iran in the southern part of West Azarbaijan Province. It is located 30 km to the north of Mahabad City and south of Urmia Lake. The villages of Gharedagh, Khorkhore, Golhassan and Befravan are respectively 2.6, 2.7, 2.9, 3.5 km from Kanibarazan Wetland.

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**10. Elevation:** (in metres: average and/or maximum & minimum)

Average of 1,275 meters above the sea.

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**11. Area:** (in hectares)

927 hectares

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**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Permanent, shallow freshwater with diverse wetland vegetation communities. This wetland has a wide variety of habitats with extensive plant communities.

It is an important staging/feeding and breeding habitat for waterbirds. As more than 144 species of birds have been identified in this wetland, it has been named West Azarbaijan Province 'Bird's Paradise'.

It is important internationally for feeding, resting and breeding of different waterfowl. It receives nutrient water from surrounding agricultural land and is biologically productive with rich plankton and benthic invertebrate populations.

Urmia Lake and its southern satellite wetlands, especially Kanibarazan Wetland, are linked ecologically. This is of critical importance for Pelicans and Flamingos which use Urmia Lake and its islands for breeding and the satellite wetlands for feeding.

The main values and functions of the wetland are water purification, biodiversity, water storage and preventing salt water intrusion. The wetland has potential capacity for ecotourism, sight seeing, recreation, education and research.

### 13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 8 • 9

### 14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

**Criteria 2:** The site supports a number of threatened species.

English name	Scientific name	Protection Status			IUCN
		National	CITES Appendix	CMS Appendix	
Great White Pelican	<i>Pelecanus onocrotalus</i>	Pro	-	I	LC
Pygmy Cormorant	<i>Phalacrocorax pygmeus</i>	En	-	II	LC
Little Bittern	<i>Ixobrychus minutus</i>	Pro	-	II	LC
Purple heron	<i>Ardea purpurea</i>	Pro	-	II	LC
European Spoonbill	<i>Platalea leucorodia</i>	-	-	II	LC
White Stork	<i>Ciconia ciconia</i>	Pro	-	II	LC
Red-breasted Goose	<i>Branta ruficollis</i>	-	-	I	LC
Wigeon	<i>Anas penelope</i>	-	III	-	LC
Garganey	<i>Anas querquedula</i>	-	III	-	LC
Marbled Duck	<i>Marmaronetta angustirostris</i>	-	-	I	VU
White-headed Duck	<i>Oxyura leucocephala</i>	En	II	I	EN
Ferruginous Duck	<i>Aythya nyroca</i>	En	III	I	NT
Black-tailed Godwit	<i>Limosa limosa</i>	-	-	-	NT

LC = Least Concern, EN = Endangered, NT = Near Threatened, Vu =Vulnerable,  
 National Protection status: Protected = Pro, Endangered = En

### Criteria 3

More than 144 bird species have been recorded here. Kanibarazan Wetland is one of the most important habitats for waterfowls in the region. For a list of species found at the site refer to the Appendix.

This site supports *Acanthalburnus urmianus* (F: Cyprinidae), which is endemic to Iran (especially found in Urmia Basin/Orumiyeh basin).

### Criteria 4

Because of the critical condition of Urmia Lake, many additional birds are attracted to Kanibarazan Wetland. It is an important staging/feeding and breeding ground for waterfowl, especially for the Greater Flamingo (*Phoenicopterus ruber*).

In addition, because it is a permanent wetland, the number of birds increase in Kanibarazan as other seasonal wetlands dry out in late summer and fall. This wetland is significantly important as a feeding habitat for the Great White Pelican (*Pelecanus onocrotalus*) which nests in Lake Urmia.

**Criteria 5**

During winter, the bird population decreases but in other seasons (April, November and December) this wetland regularly supports more than 20,000 birds.

During the 2004 census, the maximum bird count was 38,812 and in summer of 2005 it was 29,354[1], this included waders, coots, terns, and cormorants. Populations which were seen from 2005 – 2010 are listed.

Year	2005	2006	2007	2008	2009	2010
Population count	29354	23427	38797	28743	17441	27449

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**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) **biogeographic region:** The Palaearctic Biogeographic Realm

b) **biogeographic regionalisation scheme** (include reference citation)

1. Udvardy, M. D. F. (1975). A classification of the biogeographical provinces of the world. IUCN Occasional Paper, Vol. 18
  2. Olson et al., (2001). Terrestrial Ecoregions of the World: a new map of life on Earth.
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**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

**Geology**

Kanibarazan is located in sedimentary structural parts of Mahabad, Khoy, Alborz and Azarbaijan. It has special features. When the Permian stratigraphic calcareous sediments overlaying the sandstone formation was formed, this was then affected by the Hrsynyn Mountain creating phase, allowing syenite masses to penetrate into it. Also remnants of Cambrian, Alygmyvsyn and Kvartrnry formations are widespread in the region. The Alygmyvsyn formation is a consolidated mix of marine sediments that formed when lake regression completely converted sediments into limestone and marl. Also in some parts, lime slices can be seen which indicates the degradation and sedimentation activity resulting from lake transgression and regression.

The wetland bed consists of sticky mud while the surrounding wetland area is covered in dense calcareous rocks. The porosity and permeability of the dense rocks mean that they do not play a significant role in wetland water supply.

**Pedology:**

The region's soils are formed from accumulated alluvial sediments. Such soils are mainly fine textured and generally formed of clay and slit with characteristic slow drainage. Near the southern foothills, small pieces of stone and gravel are mixed with the bed's fine grain sediments. The result of sampling indicates a soil depth of 1.5 meters and the texture is mainly fine (45% clay, 45% slit, 10% sand). The soil is highly saline to a depth of 1.5 meters. Sodium chloride is the main salt in the soil, followed by magnesium chloride and calcium chloride. When the wetland is dry, a layer of salt accumulates on the soil surface.

**Climate:**

The climate is semi arid with cold winters and mild summers. Mahabad Weather Station is the nearest station to Kanibarazan Wetland. Based on data over a 19 year period, the annual average climate conditions of this wetland area are as follows: rainfall 436 mm; humidity 53.5%; maximum and minimum temperatures 18.9 °C and 6.7 °C respectively; number of days with rain 78.8; number of days with snow, or rain and snow 27.4.

**Hydrology and Hydrodynamics**

Apart from precipitation, the wetland has generally depended on Gharedagh spring water sources and also surplus water from upstream agricultural lands in Mahabad Plain (south and west of the wetland) and Miandoab Plain ( Simineroud River Basin in the south and east of the wetland ). Due to the seasonal nature of this resource, Kanibarazan Wetland has in the past, been a seasonal wetland and in past years was completely dry. However, with the construction of the Mahabad Plain Irrigation Network in 1971, Gharedagh Spring and surrounding submerged lands were cut by drainage canals. Now water enters the wetland from a main drainage canal adjacent to the western side and the wetland receives surplus water from another drainage channel to the east. Also, on the Mahabad River, downstream of Khorkhore Village, an opening has been built in the right bank through which some of the water has been diverted to an old river bed. After irrigation of agricultural lands in its path, the surplus water is discharged to the northern part of Kanibarazan Wetland as a seasonal source of water.

The maximum depth of water in spring (high water) is about 1.2 m and over most of the area it is less than 0.8 m. The deepest parts of the wetland are along the southern margin. In the northern part of the wetland the water depth is usually less than 0.5m.

**17. Physical features of the catchments area:**

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Kanibarazan Wetland is situated partly within the Mahbad River Basin. This basin is a sub-basin of the Urmia Lake Basin. Kanibarazan catchment has an area of 4,010 hectares. Its area stretches from the south reaches of Ghahredagh Mountain and from west, east and north. From a hydrological point of view, the wetland receives water from this basin including some water from irrigated land in the Mahabad Plain.

**18. Hydrological values:**

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc

One of the most important functions of this wetland is water purification. The wetland also prevents saltwater from Lake Urmia intruding into upstream areas and helps to regulate the region's micro climate.

**19. Wetland Types**

**a) presence:**

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

**Marine/coastal:** A • B • C • D • E • F • G • H • I • J • K • Zk(a)

**Inland:** L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U • Va  
Vt • W • Xf • Xp • Y • Zg • Zk(b)

**Human-made:** 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

**b) dominance:**

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Water occupies 70% of the wetland area

**20. General ecological features:**

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

This wetland has a wide variety of habitats including areas with different depths, reed beds and extensive plant communities. It is important internationally for feeding, resting and breeding of different waterbird species. The wetland receives nutrient water from agricultural lands and is biologically productive with rich plankton and benthic invertebrate populations.

**21. Noteworthy flora:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

In the Kanibarazan region, 45 plant species have been identified (so far) from 35 genera and 17 families. Altogether, 21 plant species make up the wetland community. Most species identified within the wetland are Graminae and Chenopodiaceae. The wetland also includes common reed, bulrush, sedge and tamarisk.

**22. Noteworthy fauna:**

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The table below lists waterbirds which are important at a national level.

English name	Scientific name/Family	National Status
Cattle Egret	<i>Bubulcus ibis</i>	Pro
Little Egret	<i>Egretta garzetta</i>	Pro
Gray Heron	<i>Ardea cinerea</i>	Pro
Squacco Heron	<i>Ardeola ralloides</i>	Pro
Greater Flamingo	<i>Phoenicopterus roseus</i>	Pro
Whooper Swan	<i>Cygnus cygnus</i>	Pro
Teal	Anatinae	Pro
Common Crane	<i>Grus grus</i>	Pro

National protection status: Protected: Pro

**23. Social and cultural values:**

- a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values

Feature	Current values	Potential values
Products		
Grass for livestock	**	**
Reed for construction works	*	**
Fishing	**	**
Hunting birds	***	***
Drinking water for livestock	**	**
Functions		
Control lake saltwater intrusion upstream	**	**
Degrading nutritional materials	**	**
Services ( potential talent )		
Ecotourism	-	***
Local sightseeing	-	***
Education and research	*	***

- No special value \* low value \*\*average value \* high value

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box  and describe this importance under one or more of the following categories:

- i) sites which provide 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:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where 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:

**24. Land tenure/ownership:**

a) within the Ramsar site:

Within the site there is no private land, by law all land belongs to the Department of the Environment (DOE)

b)in the surrounding area:

In the surrounding area approximately 10% is national land (owned by DoE) and the rest (90%) is agricultural land owned by local people.

**25. Current land (including water) use:**

a) within the Ramsar site:

In the open water part of the wetland, activities like straw harvesting, fishing, livestock grazing occur. However these activities are not significant.



b) in the surroundings/catchment:

The southern side of the wetland is used for farming, the western side of the wetland is used for irrigation, the eastern side is salt marsh and agricultural irrigated land. Most of the wetland basin is agricultural land with developed irrigation drainage canals and part of the drainage water is directed into the wetland.

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**26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

a) within the Ramsar site:

In the past, wetland water was supplied by Gharedagh Spring, water also came from surplus agricultural water from upstream lands on Mahabad Plain (in the south and the west of wetland) and also surplus water from Miandoab Plain (Simineroud River Basin in the south and the east of wetland). As a result of the seasonal nature of these sources, Kanibarazan Wetland was a seasonal wetland and in some years was completely dry. However, with construction of drainage canals and irrigation on Mahabad plain and Miandoab the wetland hydrology has changed and most of water now entering wetland is supplied through drainage channels and through a branch of Mahabad River and creeks. The wetland has become permanent.

b) in the surrounding area:

None

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**27. Conservation measures taken:**

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The wetland is currently located in a No-hunting Area of west Azarbaijan and is managed by the general office of DOE, the Mahabad Bureau. However, the administrative process is now underway to designate the area as a Wildlife Refuge under the Protected Area system of Iran.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?

A management plan for the wetland is being prepared by the general office of DoE with the assistance of the UNDP/GEF and DoE funded project on the Conservation of Iranian wetlands. The ecosystem approach will be applied and will be a participatory process involving local communities and environmental NGOs.

d) Describe any other current management practices:

This site has been chosen as a bird watching site and when it is completed, it will have some bird watching facilities.

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**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc

It has been proposed to designate the site as a Wildlife Refuge. A management plan is in preparation

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**29. Current scientific research and facilities:**

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

- This wetland is one of Urmia 's satellite wetlands that is chosen as one of three pilot wetlands by the Conservation of Iranian Wetlands Project (CIWP) funded by UNDP/GEF and DOE.
  - Kanibarazan Wetland economic valuation study was completed in 2008.
  - Kanibarazan Wetland study as comprehensive management of Urmia Lake Basin water resources was carried out by PANDAM consulting engineers.
  - Comprehensive tourism plan ordered by the province Cultural Heritage Organization was conducted by Tehran University.
  - Wetland winter census program is pooled while census is done globally.
  - Based on the Urmia Lake management plan, this wetland like other satellite wetlands and Urmia Lake will be monitored throughout the year.
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**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:** e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Environmental assessment and environment design for related recreational activities have been conducted with the Provincial Cultural Heritage Organization under the supervision of DoE. A general guidance booklet about the wetland has been published jointly by West Azarbaijan Province, the general office of DoE and the West Azarbaijan Cultural Heritage Organization.

A bird watching guidance booklet was published by NGOs with multilateral cooperation between DoE, CIWP, local communities and NGOs. A series of educational programs and awareness raising has been undertaken including training courses for local communities, brochure compilation for local birds, wetland introduction, educating ornithology, rural guest's entertainment and a festival celebration.

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**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Kanibarazan has been zoned for different uses and work is underway to establish it as a bird watching site. A 120 square meter, two floor building for bird watching has been constructed and traditional daily bivouacs can be seen around the wetland.

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**32. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

It is managed by the Department of Environment (DoE).

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**33. Management authority:**

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Farogh Sokhanvar  
Wetland (local) managed by head of Mahabad Office of DoE  
Mahabad Office of DoE  
Near Payamnour University, Shahrikandi Bld.

Tel: 0098 443 2333324  
Cell: 0098 9143443831

Hasan Abasnejad  
Wetland (provincial) managed by Director General of DoE General Office of west Azarbaijan Province  
General Office of DOE Modares Sq. Urmia – West Azarbaijan Province  
Tel: 0098 441 3826800  
Cell: 0098 9141473882  
E.mail: [abasnejad2000@yahoo.com](mailto:abasnejad2000@yahoo.com)

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#### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

- 1- Pandam consulting engineers, 2005. Water resources integrated management of Urmia Lake Basin, module 3, water for ecosystem, Ministry of Energy.
- 2- Kanibarazan wetland economic evaluation, 2008. General office of West Azarbaijan DOE.
- 3- Kanibarazan wetland administrative files in general office of west Azarbaijan DOE archive.
- 4- General office of west Azarbaijan natural environment expert experiences.

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Please return to: **Ramsar Convention Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**  
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)

## Appendix 1: Kanibarazan bird data (land birds and waterbirds)

Scientific name	Family	Species status			Protection status		
		Immigrant		Resident	National Status	Cites Appendix	IUCN
		●	○				
<i>Tachybaptus ruficollis</i>	Podicedidae			*			LC
<i>Podiceps cristatus</i>	Podicedidae			*			LC
<i>Podiceps grisegena</i>	Podicedidae			*			LC
<i>Podiceps nigricollis</i>	Podicedidae		*				LC
<i>Podiceps auritus</i>	Podicedidae	*					LC
<i>Pelecanus onocrotalus</i>	Pelicanidae	*			pr		LC
<i>Phalacrocorax pygmaeus</i>	Phalacrocoracidae			*	En		LC
<i>Botaurus stellaris</i>	Ardeidae			*			LC
<i>Ixobrychus minutus</i>	Ardeidae	*			pr		LC
<i>Bubulcus ibis</i>	Ardeidae	*			pr	III	LC
<i>Casmerodius albus</i>	Ardeidae			*	pr		LC
<i>Egretta garzetta</i>	Ardeidae			*	pr	III	LC
<i>Ardea purpurea</i>	Ardeidae	*			pr		LC
<i>Nycticorax nycticorax</i>	Ardeidae	*					LC
<i>Ardea cinerea</i>	Ardeidae			*	pr		LC
<i>Ardeola ralloides</i>	Ardeidae	*			pr		LC
<i>Platalea leucorodia</i>	Threskiorithidae	*					LC
<i>Plegadis falcinellus</i>	Threskiorithidae	*					LC
<i>Phoenicopterus ruber</i>	Phoenicopteridae	*		*	pr	II	LC
<i>Ciconia ciconia</i>	Ciconidae	*			pr	I	LC
<i>Anser anser</i>	Anatidae	*		*			LC
<i>Anser albifrons</i>	Anatidae		*				LC
<i>Branta ruficollis</i>	Anatidae		*			II	EN
<i>Cygnus cygnus</i>	Anatidae		*		pr		LC
<i>Cygnus olor</i>	Anatidae		*				LC
<i>Cygnus (colombianus) bewicki</i>	Anatidae		*				LC
<i>Tadorna ferruginea</i>	Anatidae			*			LC
<i>Tadorna tadorna</i>	Anatidae			*			LC
<i>Anas platyrhynchos</i>	Anatidae		*	*			LC
<i>Anas Penelope</i>	Anatidae		*			III	LC
<i>Anas strepera</i>	Anatidae		*				LC
<i>Anas querquedula</i>	Anatidae		*			III	LC
<i>Marmaronetta angustirostris</i>	Anatidae			*			VU
<i>Anas crecca</i>	Anatidae	*	*			III	LC
<i>Anas acuta</i>	Anatidae		*			III	LC
<i>Anas clypeata</i>	Anatidae		*			III	LC
<i>Netta rufina</i>	Anatidae		*				LC
<i>Aythya fuligula</i>	Anatidae		*				LC
<i>Aythya ferina</i>	Anatidae	*	*				LC
<i>Oxyura leucocephala</i>	Anatidae			*	En	II	EN
<i>Aythya nyroca</i>	Anatidae	*	*		En	III	NT
<i>Mergellus albellus</i>	Anatidae						LC
<i>Milvus migrans</i>	Accipitridae		*				LC
<i>Aquila chrysaetos</i>	Accipitridae			*	En	II	LC

<i>Aquila clanga</i>	Accipitridae		*			II	VU
<i>Circus cyaneus</i>	Accipitridae			*	pr	II	LC
<i>Circus aeruginosus</i>	Accipitridae			*	pr	II	LC
<i>Accipiter nisus</i>	Accipitridae			*	pr	II	LC
<i>Accipiter gentilis</i>	Accipitridae			*	pr	II	LC
<i>Buteo buteo</i>	Accipitridae			*	pr	II	LC
<i>Buteo rufinus</i>	Accipitridae			*	pr	II	LC
<i>Falco tinnunculus</i>	Falconidae			*	pr	II	LC
<i>Falco subbuteo</i>	Falconidae			*	pr	II	LC
<i>Falco peregrinus</i>	Falconidae			*	En	I	LC
<i>Falco cherrug</i>	Falconidae			*	En	II	EN
<i>Falco biarmicus</i>	Falconidae			*	En	II	LC
<i>Falco columbarius</i>	Falconidae			*	pr	II	LC
<i>Perdix perdix</i>	Phasianidae			*			LC
<i>Alectoris chukar</i>	Phasianidae			*			LC
<i>Coturnix coturnix</i>	Phasianidae			*			LC
<i>Grus grus</i>	Gruidae				pr	II	LC
<i>Fulica atra</i>	Rallidae			*			LC
<i>Gallinula chloropus</i>	Rallidae			*			LC
<i>Rallus aquaticus</i>	Rallidae			*			LC
<i>Tringa stagnatilis</i>	Scolopacidae			*			LC
<i>Tringa tetanus</i>	Scolopacidae			*			LC
<i>Actitis hypoleucos</i>	Scolopacidae			*			LC
<i>Philomachus pugnax</i>	Scolopacidae	*					LC
<i>Tringa nebularia</i>	Scolopacidae			*			LC
<i>Gallinago gallinago</i>	Scolopacidae			*			LC
<i>Calidris ferruginea</i>	Scolopacidae			*			LC
<i>Limosa limosa</i>	Scolopacidae	*					NT
<i>Numenius phaeopus</i>	Scolopacidae	*					LC
<i>Charadrius dubius</i>	Charadriidae	*					LC
<i>Charadrius hiaticula</i>	Charadriidae			*			LC
<i>Charadrius alexanderinus</i>	Charadriidae	*					LC
<i>Vanellus vanellus</i>	Charadriidae			*			LC
<i>Vanellus leucurus</i>	Charadriidae	*					LC
<i>Vanellus spinosus</i>	Charadriidae	*					
<i>Himantopus himantopus</i>	Recurvirostridae	*		*			LC
<i>Recurvirostra avoseta</i>	Recurvirostridae	*					LC
<i>Burhinus oedicumus</i>	Burhinidae			*			LC
<i>Glareola pratincola</i>	Glareolidae	*					LC
<i>Larus carus</i>	Laridae			*			LC
<i>Larus armenicus</i>	Laridae			*			LC
<i>Larus genei</i>	Laridae	*	*				LC
<i>Larus ridibundus</i>	Laridae			*			LC
<i>Chlidonias leucopterus</i>	Laridae	*					LC
<i>Sterna hybrida</i>	Laridae	*					LC
<i>Sterna caspia</i>	Laridae	*					LC
<i>Chlidonias hybridus</i>	Laridae	*					LC
<i>Pterocles orientalis</i>	Pteroclididae			*			LC
<i>Columba palumbus</i>	Columbidae			*			LC
<i>Columba livia</i>	Columbidae			*		III	LC

<i>Columba oenas</i>	Columbidae			*			LC
<i>Streptopelia turtur</i>	Columbidae	*				III	LC
<i>Bubo bubo</i>	Strigidae			*	pr		LC
<i>Athena noctua</i>	Strigidae			*	pr		LC
<i>Strix aluco</i>	Strigidae			*	pr		LC
<i>Caprimulgus europaeus</i>	Caprimulgidae	*					LC
<i>Apus apus</i>	Apodidae	*			pr		LC
<i>Alcedo atthis</i>	Alcedinidae			*			LC
<i>Coracias garrulus</i>	Coraciidae	*					NT
<i>Meropus apiaster</i>	Meropidae	*					LC
<i>Merops superciliosus</i>	Meropidae	*					
<i>Upupa epops</i>	Upupidae	*					LC
<i>Picoides medius</i>	Picidae			*			
<i>Picus viridis</i>	Picidae		*				LC
<i>Dendrocopos syriacus</i>	Picidae			*			LC
<i>Melanocorypha bimaculata</i>	Alaudidae			*			LC
<i>Galerida cristata</i>	Alaudidae			*			LC
<i>Eremophila alpestris</i>	Alaudidae			*			LC
<i>Calandrella rufescens</i>	Alaudidae			*			LC
<i>Lullula arborea</i>	Alaudidae			*			LC
<i>Riparia riparia</i>	Hirundinidae	*					LC
<i>Hirundo rustica</i>	Hirundinidae	*					LC
<i>Motacilla flava</i>	Motacillidae			*			LC
<i>Motacilla cinerea</i>	Motacillidae			*			LC
<i>Motacilla alba</i>	Motacillidae			*			LC
<i>Anthus campestris</i>	Motacillidae	*					LC
<i>Anthus spinoletta</i>	Motacillidae	*					LC
<i>Lanius minor</i>	Laniidae	*					LC
<i>Eritacus rubecula</i>	Turdidae	*					LC
<i>Irania gutturalis</i>	Turdidae	*					LC
<i>Luscinia megarhynchos</i>	Turdidae	*			pr		LC
<i>Phoenicurus ochrurus</i>	Turdidae			*			LC
<i>Saxicola torquata</i>	Turdidae	*					LC
<i>Oenanthe oenanthe</i>	Turdidae	*					LC
<i>Oenanthe finschii</i>	Turdidae	*					LC
<i>Oenanthe isabellina</i>	Turdidae	*					LC
<i>Turdus torquatus</i>	Turdidae	*					LC
<i>Acrocephalus melanopogon</i>	Syviidae	*					LC
<i>Acrocephalus schoenobaenus</i>	Syviidae	*					LC
<i>Acrocephalus scirpaceus</i>	Syviidae	*					LC
<i>Acrocephalus stentoreus</i>	Syviidae		*				LC
<i>Sylvia curruca</i>	Syviidae	*					LC
<i>Parus lugubris</i>	Paridae			*			LC
<i>Parus caeruleus</i>	Paridae			*			LC
<i>Emberiza citrinella</i>	Embrizidae			*			LC
<i>Miliaria calandra</i>	Embrizidae			*			LC
<i>Emberiza melanocephala</i>	Embrizidae	*					LC
<i>Emberiza schoeniclus</i>	Embrizidae			*			LC
<i>Rhodopechys sanguinea</i>	Fringillidae			*			LC
<i>Carduelis carduelis</i>	Fringillidae			*			LC

<i>Passer domesticus</i>	Ploceidae			*			LC
<i>Passer hispaniolensis</i>	Ploceidae			*			LC
<i>Oriolus oriolus</i>	Oriolidae	*					LC
<i>Sturnus vulgaris</i>	Sturnidae			*			LC
<i>Sturnus roseus</i>	Sturnidae	*			pr		LC
<i>Pica pica</i>	Corvidae			*			LC
<i>Garrulus glandarius</i>	Corvidae			*			LC
<i>Pyrrhocorax pyrrhocorax</i>	Corvidae			*			LC
<i>Pyrrhocorax graculus</i>	Corvidae			*			LC
<i>Corvus frugilegus</i>	Corvidae			*			LC
<i>Corvus corone</i>	Corvidae			*			LC
<i>Corvus corax</i>	Corvidae			*			LC

LC = Least Concern, EN = Endangered, NT = Near Threatened, Vu =Vulnerable, pr :Protected, Endangered  
 Summer migratory species •, Winter migratory species 0

## Appendix II: Physicochemical parameters of Kanibarazan Wetland

Elements	Fitst round of studies May.2004			Maximum allowed	unit
	creek	South wetland	North wetlan		
<b>EC</b>	2.5	2.92	2.35		ds/m
<b>Total hardness</b>					
<b>PH</b>	8.1	9.1	8.4	6.5-9	
<b>TDS</b>	1531	1778	1438	30,002.00	g/l
<b>NO3</b>	1.15	0.00	0.35	100	ppm
<b>NH4</b>	0.23	0.61	0.42		ppm
<b>PO4</b>	0.04	4.23	0.26		mg/l
<b>NO2</b>	0.12	0.00	0.03	10	mg/l
<b>K</b>	0.9	0.24	0.07		mg/l
<b>Na</b>	18.12	18.25	12.73		mg/l
<b>Mg</b>	10.2	7.72	6.85		mg/l
<b>Ca</b>	4.1	2.85	3.62		mg/l
<b>SO4</b>	2.7	8.15	4.22		mg/l
<b>Cl</b>	18.3	17.3	13.9		mg/l
<b>HCO3</b>	4.61	2.75	4.55		mg/l
<b>CO3</b>	0.0	0.85	0.55		mg/l
<b>DO</b>	9.15	8.9	5.3	>4.0	ppm
<b>BOD</b>	10.7	15	17		ppm
<b>COD</b>	54	56	120		ppm
<b>Cu</b>	0.027	0.025	0.024	0.3	ppm
<b>Zn</b>	0.007	0.058	0.008	0.26	ppm
<b>Al</b>	0	0	0	5	ppm
<b>As</b>	0	0	0		ppm
<b>Hg</b>	0	0	0	0.003	ppm
<b>Fe</b>	0.001	0.008	0.000	0.7	ppm
<b>Mn</b>	0.011	0.01	0.006		ppm
<b>Cd</b>	0.02	0.024	0.019	0.08	ppm
<b>Ni</b>	0.049	0.037	0.038	0.1	ppm
<b>Co</b>	0.069	0.056	0.046	1	ppm
<b>Pb</b>				0.1	ppm



## Appendix III: Physicochemical parameters of Kanibarazan Wetland

Elements	Fitst round of studies Sep.2004			Maximum allowed	unit
	نهر	تالاب جنوبی	تالاب شمالی		
<b>EC</b>	3.3	3.5	15.8		ds/m
<b>Total hardness</b>	325	1550	2525		
<b>PH</b>	8.6	9.9	9.2	6.5-9	
<b>TDS</b>	790	20 50	8917	30,002.00	g/l
<b>NO3</b>		0*00	0*00	100	ppm
<b>NH4</b>	0.62	0.8	7.74		ppm
<b>PO4</b>	0.56	0.21	0.25		mg/l
<b>NO2</b>	0.1	0*00	0*00	10	mg/l
<b>K</b>	0.14	0.71	0.88		mg/l
<b>Na</b>	4.3	73.5	112.2		mg/l
<b>Mg</b>	40	26	40		mg/l
<b>Ca</b>	4.2	5	2.5		mg/l
<b>SO4</b>	4.35	22.5	1		mg/l
<b>Cl</b>	3.25	79.5	146.2		mg/l
<b>HCO3</b>	3.75	3	8.25		mg/l
<b>CO3</b>	0.35	0.62	1.01		mg/l
<b>DO</b>	10.4	8.3	10*0	>4.0	ppm
<b>BOD</b>	4.6	1.2	5.6		ppm
<b>COD</b>	26	36	130		ppm
<b>Cu</b>	0.006	0.006	0.019	0.3	ppm
<b>Zn</b>	0.036	0.016	0.114	0.26	ppm
<b>Al</b>	0	0	0.061	5	ppm
<b>As</b>					ppm
<b>Hg</b>				0*003	ppm
<b>Fe</b>	0.186	0.141	0.411	0.7	ppm
<b>Mn</b>	0.036	0.017	0.072		ppm
<b>Cd</b>	0.008	0.006	0.032	0.08	ppm
<b>Ni</b>	0.021	0.018	0.123	0.1	ppm
<b>Co</b>	0.008	0.009	0.066	1	ppm
<b>Pb</b>	0	0	0	0.1	ppm