

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

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

2 August 2011

3. Country:

Armenia

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.
Khor Virap Marsh

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 .

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:

No any major changes to the ecological character of the Ramsar site. The status of National Park was given in 2009 to the Ramsar site and adjacent territories.

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 catchment 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 of Khor Virap Marsh Ramsar site is the same as the boundary of Khor Virap State Sanctuary. On the North the Ramsar site is bordered by the country road crossing the wetland, on the West by so-called irrigation Kakhanov Canal, and from the South and East by drainage canal and farther by the slopes of Artashat hills.

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.

Approximate centre 39°53'16"N 044°34'18"E.

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.

Khor Virap Ramsar site is situated in the central part of Armenia in Ararat Marz (province). The site is 39 km far from the capital city Yerevan, 12 km far from the provincial capital Artashat (20,480 inhabitants, according to the results of the 2001 census) and 3 km far from the nearest village Poqr Vedi (3,170 inhabitants).

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

812.9-817.2 m a. s. l. (minimal altitude depends on water level of the marsh).

11. Area: (in hectares)

50.28 ha

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland. A freshwater marsh of semi-artificial origin, fed by irrigation canal, Khor Virap occupies the ancient Arax riverbed. The area consists of reedbeds surrounded by irrigation canal and drainage canals. Ornithological importance of the site is evident: over 100 species of waterbirds are recorded here, of them 30 are breeding. Of particular interest is successful breeding of globally threatened Marbled Teal (*Marmaronetta angustirostris*) and endangered (IUCN Red List) White-headed Duck (*Oxyura leucocephala*) and nationally threatened Pygmy Cormorant (*Phalacrocorax pygmaeus*), Gadwall (*Anas strepera*), Black-winged Stilt (*Himantopus himantopus*). The site supports also a number of mammal and fish species.

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).

Criterion 2: The area is visited regularly by globally endangered White-headed Duck (*Oxyura leucocephala*) (IUCN Red List), globally vulnerable Marbled Duck (*Marmaronetta angustirostris*) (IUCN Red List). These species are breeding here every 2-5 years. Other noteworthy breeding species are nationally threatened (according the Armenian Red List): Pygmy Cormoran (*Phalacrocorax pygmeus*), Black-winged Stilt (*Himantopus himantopus*), Gadwall (*Anas strepera*) and several species of puddle ducks. In terms of aquatic invertebrates big numbers of dragonfly species occur here, including endangered *Hemianax ephippiger* (Red Data Book of Armenia, 2010).

In terms of flora, the Sharp Rush (*Juncus acutus*) (listed in the Red Data Book of Armenia) is found in the territory of Ramsar site. Several plant species listed in the Red Data Book of Armenia occur in the support zone of Khor Virap Sanctuary (*Amberboa amberboi*, *A. moschata*, *A. sosnovskyi*, *A. turanica*), *Nonea polychroma*, *Cistanche salsa*).

Criterion 4: Up to 30 species of waterfowl are nesting here and more than 70 are visiting the site during seasonal migrations, of them are Purple Heron (*Ardea purpurea*) and Great Egret (*Ardea alba*).

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:

Caucasus Ecoregion, Yerevan Floristic Region.

b) biogeographic regionalisation scheme (include reference citation):

WWF/CEPF

Williams, L., N. Zazanashvili, G. Sanadiradze, A. Kandaurov (Ed.), 2006. An Ecoregional Conservation Plan for the Caucasus, Tbilisi: 222pp.

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 and Geomorphology

The total area of Khor Virap marsh is around 350 hectares. The relief of the marsh is flat with slightly wavy bottom. In immediate neighborhood of Khor Virap three-headed peak of the hill is raising 65 m above the level of the marsh. The hill is formed by Medium Devon dolomite limestone.

Khorvirapi waterlogged landscape is separated from other waterlogged areas of Ararat valley by limestone belts. This is explained by the fact that the ground waters flow through the limestone formations and gain carbon dioxide calcium, which finally form waterproof dense layers of travertine.

The Ramsar site is located in the middle of Ararat Valley just 30 km to the North-east from Mount Ararat, a high mountain plateau.

Origin.

Most probably Khor Virap Marsh arose after diversion of Arax from its ancient riverbed around 1,5 millennia ago. In 1960's Khor Virap Marsh was converted into agricultural land and was used first under cotton, later under melon and watermelon. However, already in 1980's the area was waterlogged again.

Hydrology

The hydrology of Khor Virap Marsh is not well studied. It seems, the feeding of the site is mixed, mainly through Hrazdan-Arax Canal 2 (so called Kakhanov Canal) but also by underground waters. However,

there is no data on water balance of the marsh. Precipitations are significant only from the end of April until the beginning of June.

Soils

In the Ramsar site swampy meadow soils are in complex with saline. Surrounding areas are covered by semidesert soils.

Climate

The Ararat Valley is typified by continental climate, with hot dry summers and comparatively cold winters.

Mean temperature ranges from -5°C in January to +26°C in July with an annual average of +12°C. There are 290 days annually with a daily temperature above Zero Centigrade. The vegetation period averages 250 days. Approximately 2,800 hours of sunshine per year are recorded for the area. The mean annual precipitation is 200 mm. Snow cover period is in average 40 days per year.

17. Physical features of the catchment area:

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

Physical features of the catchment area do not differ from those described for the Ramsar site (see paragraph 16).

18. Hydrological values:

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

Although direct measures were not done but seems Khor Virap Marsh plays significant role for flood mitigation downstream and for sediment trapping.

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 • **Ip** • 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.

Ip - 9 - 3

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.

Khor Virap Marsh is shallow area predominantly covered with emergent vegetation. The open water makes only 10-20% of total surface. Emergent vegetation consists of Reedmace (85%) and Reed (15%). Narrow-leaved Pondweed, Hornwort and Watermilfoil occupy open water areas which in summer are covered by Duckweed.

Khor Virap Marsh supports nesting of at least 30 species of birds (mainly waterfowl). More than 70 bird species are registered here mainly during the seasonal migrations.

Seems Khor Virap Marsh plays significant role for flood mitigation downstream and for sediment trapping.

The Ramsar site itself is widely used for hunting (mainly waterfowl, coypu), fishing (mainly crusian carp), reed harvesting (mainly for constructions) and in less extend cattle grazing. It has great potential for tourism development.

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.*

The surface of Khor Virap Marsh is covered on 80-90% by emergent vegetation, mainly Reedmace (*Typha latifolia* and *T. angustifolia*; ca. 85% of vegetation surface) and Reed (*Phragmites australis*; ca. 15% of vegetation surface). Dominant submerged plants are Narrow-leaved Pondweed (*Potamogeton strictifolius*), Hornwort (*Ceratophyllum demersum*) and Watermilfoil (*Miriophyllum spicatum*). In summer the water surface is covered by Star and Inflated duckweeds (*Lemna trisulca* and *L. gibba*).

duckweed

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.*

Of 30 nesting species of waterfowl of particular interest is successful breeding of globally threatened Marbled Teal (*Marmaronetta angustirostris*) and globally endangered White-headed Duck (*Oxyura leucocephala*) and nationally threatened Pygmy Cormorant (*Phalacrocorax pygmaeus*), Gadwall (*Anas strepera*), Black-winged Stilt (*Himantopus himantopus*), possibly Avocet (*Recurvirostra avosetta*), all in Red Data Book of Armenia. Among ca. 100 species of migrants are Great Cormorant (*Phalacrocorax carbo*), Great White Egret (*Egretta alba*), Purple Heron (*Ardea purpurea*), Spoonbill (*Platalea leucorodia*), Glossy Ibis (*Plegadis falcinellus*), Greylag Goose (*Anser anser*), Shelduck (*Tadorna tadorna*), Shoveler (*Anas chpeata*), Sociable Plover (*Chettusia gregaria*), Oystercatcher (*Haematopus ostralegus longipes*).

Noteworthy mammal species are Jackal (*Canis aureus*), Jungle Cat (*Felis chaus*), European otter (*Lutra lutra*), and the only non-native wild mammal Coypu (*Myocastor coypus*).

Of reptiles Dice Snake (*Natrix tessellata*) and Caspian Terrapin (*Mauremys caspica*) are quite common.

Of amphibians Marsh Frog (*Rana ridibunda*) is abundant.

Most important fish species is Crucian Carp (*Carassius auratus*); other species are under serious decline.

Of aquatic invertebrates big numbers of dragonfly species occur here, including endangered *Hemianax ephippiger* (Red Data Book of Armenia, 2010).

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:

The Ramsar site itself is widely used for hunting (mainly waterfowl, coypu), fishing (mainly crusian carp), reed harvesting (mainly for constructions) and in less extend cattle grazing.

The surroundings of the Ramsar site have exclusive cultural, archaeological, architectural, religious and historical values.

First settlements on this area are dated back to VIII millenium BC. In the neighborhood of Khor Virap Marsh on the 9 hills a new capital of Armenia Artashat was founded by king Artashes I in 166 BC. For the safety purposes it was located on the junction of Arax and Metsamor rivers. Romans called Artashat "Armenian Kartagen" for its fortifications. Artashat population exceeded 100 thousands. Many temples were built in the city, as well as the theatre. Ararat was destroyed in 58 AC by the Romans. However, it continued to stay Armenia's cultural and political center in the subsequent centuries. The ruins of Artashat were intensively excavated during the Soviet Period. The excavations renewed during the last decade.

Built at the site of the ruins of ancient capital Artashat, Khor Virap Monastery is significant because it is where Saint Gregory the Illuminator (the patron-saint of Armenia) was imprisoned in a deep dungeon for

13 years by the then pagan King Trdat III. After the King released Saint Gregory from the dungeon, Saint Gregory healed the King and converted him to Christianity in 301 AD, making Armenia the first country to adopt Christianity as its state religion. Currently Khor Virap is one of the most popular destinations in Armenia.

Local inhabitants use the neighboring land for vineyards, orchards, and crops.

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:

The land of the Ramsar site is exclusively state owned.

b) in the surrounding area:

Surrounding hills (areas of archaeological interest) are state owned. Part of the marsh to the South from the State Sanctuary is owned by the community of Village Poqr Vedi. The land under the Khor Virap Monastery is owned by the Armenian Apostolic Church. Agricultural land is privatized.

25. Current land (including water) use:

a) within the Ramsar site:

Amateur hunting and angling, cattle watering and grazing, reed harvesting, water use for irrigation.

b) in the surroundings/catchment:

Growing of crops, vine, fruits, live-stock raising, tourism.

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:

Water level drop as consequence of unsustainable use of water for irrigation, overgrazing, fires during the winter period, poaching.

b) in the surrounding area:

Garbage dumping, factor of disturbance (such as visiting of unorganized tourists, especially during the breeding season).

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 territory of Khor Virap Ramsar site is fully covered by Khor Virap State Sanctuary, managed by “Khosrov Forest Reserve” State Non-commercial Organization.

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?:

No; however, plans are to develop and implement Khor Virap marsh management plan by the «Khosrov Forest Reserve» SNCO with support of Dutch-Armenia Wetland Trust Fund and GEF Small Grants Programme.

d) Describe any other current management practices:

None; however, plans are to develop and implement together with «Khosrov Forest Reserve» SNCO and the community of Village Poqr Vedi with support of Dutch-Armenia Wetland Trust Fund and GEF Small Grants Programme.

28. Conservation measures proposed but not yet implemented:

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

Artificial regulation of water-level in the marsh is planning to develop and implement together with «Khosrov Forest Reserve» SNCO and the community of Village Poqr Vedi with support of Dutch-Armenia Wetland Trust Fund and GEF Small Grants Programme.

29. Current scientific research and facilities:

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

Recent research has been made by the NGO Professional and Entrepreneurial Orientation Union in 1999-2001 and 2007 in frames of the Ramsar SGF funded projects «Ecological & Economical Valuation of Armenian Wetlands: a Step Towards the Elaboration of the National Wetland Policy» and «Development, Formulation of Implementation Strategy, and the Launch of the National Wetland Policy in Armenia». The Department of Science of «Khosrov State Reserve» SNCO is responsible for biodiversity monitoring.

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.

No, however, plans are to develop and implement various CEPA activities together with «Khosrov Forest Reserve» SNCO and the community of Village Poqr Vedi with support of Dutch-Armenia Wetland Trust Fund and GEF Small Grants Programme.

31. Current recreation and tourism:

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

No; however, plans are to develop and implement various tourist activities together with «Khosrov Forest Reserve» SNCO and the community of Village Poqr Vedi with support of Dutch-Armenia Wetland Trust Fund and GEF Small Grants Programme.

32. Jurisdiction:

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

National Government Decree N 975-N on Establishment of Khor Virap State Sanctuary and defining its management body («Khosrov Forest Reserve» SNCO) was issued on 25 January 2007.

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.

«Khosrov Forest Reserve» State Non-commercial Organization (SNCO);
Director Varantsov Barseghyan, mobile phone +371 94 010224.
E-mail: Karen_jender@yahoo.com (Attn.: Varantsov Barseghyan)
Postal address: Mr. V. Barseghyan, Director, «Khosrov Forest Reserve» SNCO, Town Vedi, Ararat Marz, Armenia

34. Bibliographical references:

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

- Adamian, M., 1985. The Birds of Armenia. Vol. 1, Yerevan: 232 pp. [in Armenian]
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Adamian, M., & D. Richman, 1997. Pocket Guide to Birds of Armenia. N.-Y. : 265 pp.
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Agricultural Map of Armenian SSR, 1984. Moscow-Yerevan : 190 pp. [in Russian]
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Jenderedjian, K., A. Babayan, V. Vardanian, S. Hakobyan, V. Narimanyan, A. Pahlevanyan, H. Rubenyan, M. Voskanov, G. Kirakossian, 2002. Ecological & economical valuation of Armenian wetlands: a step towards the elaboration of the national wetland policy. Ramsar 1999 SGF Report. Professional and Entrepreneurial Orientation Union. Yerevan: 91 pp.
Jenderedjian, K., A. Jenderedjian, T. Salathe, S. Hakobyan, 2004. About Wetlands, and around Wetlands in Armenia. Yerevan: 64 pp.
Red Data Book of Armenia. The Animals. 2010. Yerevan: 368 pp. [in Armenian]
Red Data Book of Armenia. The Plants. 2010. Yerevan: 509 pp. [in Armenian]

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