

# Information Sheet on EAA Flyway Network Sites (SIS) – 2017 version

Available for download from <http://www.eaaflyway.net/about/the-flyway/flyway-site-network/>

*Categories approved by Second Meeting of the Partners of the East Asian-Australasian Flyway Partnership in Beijing, China 13-14 November 2007 - Report (Minutes) Agenda Item 3.13*

## Notes for compilers:

1. The management body intending to nominate a site for inclusion in the East Asian - Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network. When there is a new nomination or an SIS update, the following sections with an asterisk (\*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.
2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.
3. Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Flyway Partnership Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

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## 1. Name and contact details of the compiler of this form \*:

Full name: Gombobaatar Sundev and Mrs B. Oyungerel      EAAF SITE CODE FOR OFFICE USE ONLY:

Institution/agency: Mongolian Ornithological Society and  
Ganga Lake PA administration

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**2. Date this sheet was completed \*:**

02/04/2016

**3. Country \*:**

Mongolia

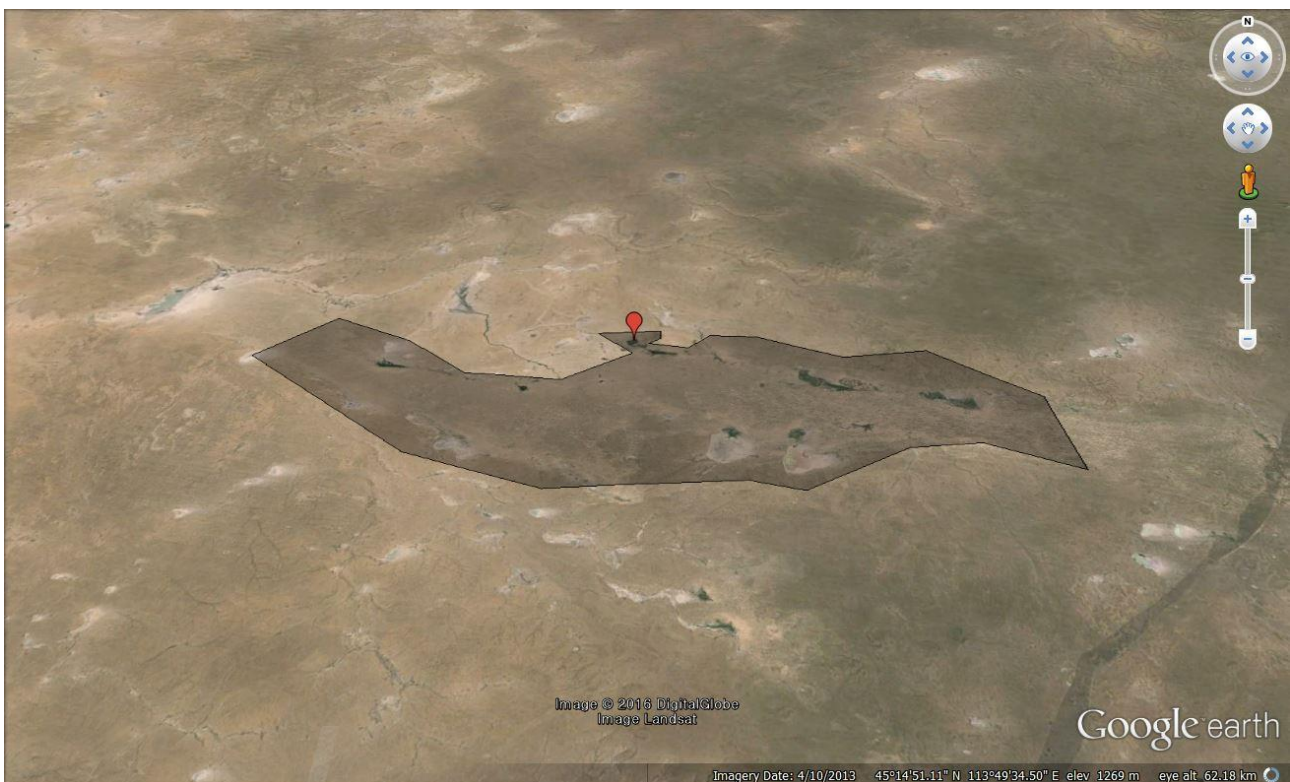
**4. Name of the Flyway Network site \*:**

Ganga Lake

**5. Map of site \*:**

The most up-to-date available and suitable map of the wetland should be appended to the SIS (only in digital format and shape file). The map must clearly show the boundary of the site. Please refer to the “Digitising Site Boundaries in Google Earth” file linked [here](#).

[Ganga Lake \[https://www.google.com/maps/d/viewer?mid=16aAwY95x\\_uNvzCkOWjc5fw68G6Y\]](https://www.google.com/maps/d/viewer?mid=16aAwY95x_uNvzCkOWjc5fw68G6Y)



**6. Geographical coordinates (latitude/longitude, in decimal degrees) \*:**

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.

45°18'22.6"N, 113°48'46.3"E

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

1294 m a.s.l.

**8. Area \*:**

The total area of the site, in hectares. If the areas of discrete site units are known, please also list each of these together with the names (or labels) used to identify and differentiate these units.

693 km<sup>2</sup> or 69,300 ha

**9. General overview of the site \*:**

A brief (two sentences) summary of the site, mentioning principal physical and ecological functions, and its importance for migratory waterbirds.

Ganga Lake is located at 12 km from Dariganga sum (county) of the Sukhbaatar aimag (province) in eastern Mongolia. Ganga Lake lies on the Dariganga Plateau and is a small saline lake (220 ha) in the steppe. It contains specific formations and combinations of water bodies, swampy areas, sand dunes, and dry steppe. The lake provides important breeding and stopover sites for globally threatened species, e.g. White-naped Crane *Antigone vipio*, Swan Goose *Anser cygnoid* and Great Bustard *Otis tarda*. A small number of herders reside in the vicinity of the lake. It is an ideal tourism development site because of historical sites in its vicinity and Whooper Swans *Cygnus cygnus* gather in the lake during autumn migration. In the basin of the lake, there are few other small lakes such as Ganga, Duut, Kholboo, Zegst, Tsagaan, Erdene, Sumt and Khoshmog Lakes, as well as sand dunes (Moltsog, Owoon and Kholboogjin Baruun). Zegst and Duut Lakes are fed by Dagshin spring waters and are surrounded by reeds. The southern shore of Ganga Lake is covered by shrubs and woodland. The rest of the area supports dry steppe and desert steppe. Tourism is being developed at the site. Due to poor management, the site is under pressure from off-road vehicles of local tourists. The total wetland area is 3,280 ha from which the lake Ganga is 220 ha and others are surrounding small lakes and wetlands.

**10. Justification of Flyway Site Network criteria \*:**

Please provide waterbird count information (with year of latest count) that demonstrates that the site meets the criteria of the Flyway Site Network (Annex 1). That is:

- it regularly supports > 20 000 migratory waterbirds; or,
- it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
- it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
- it is a "staging site" supporting > 5 000 waterbirds, or > 0.25% of a population stage at the site.

A listing of the populations of migratory waterbirds covered by the East Asian – Australasian Flyway Partnership and the 1% thresholds is attached (Annex 3).

- a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:
  - Criterion 2: The Ganga lake wetlands support the Vulnerable Swan Goose and Near Threatened White-naped Crane and Asian Dowitcher *Limnodromus semipalmatus* (Gombobaatar et al. 2011).
  - Criterion 6: The wetland supports over 1% of the flyway population of Swan Goose (1.5%; 680 individuals), Whooper Swan (4.1%; 1,472 individuals) and Ruddy Shelduck *Tadorna ferruginea* (2%; 600 individuals) (Batchuluun et al. 2012).
- b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:
  - i. The wetland supports 0.25% of the flyway population staging of the following species in single season: Swan Goose (1%; 700 individuals), Whooper Swan (2.1%; 757 individuals) and Ruddy Shelduck (0.9%; 557 individuals) (Batchuluun et al. 2012).
  - ii. None

The “staging site” criterion is particularly difficult to apply and application of this should be discussed with the Secretariat. Also note that some species have several populations that are very difficult to distinguish in the field.

## 11. Wetland Types \*:

List the wetland types present (see Annex 2). List the wetland types in order of their area in the Flyway Network site, starting with the wetland type with the largest area.

### Inland wetland:

- Q -- **Permanent saline/brackish/alkaline lakes.**
- R -- **Seasonal/intermittent saline/brackish/alkaline lakes and flats.**
- Sp -- **Permanent saline/brackish/alkaline marshes/pools.**
- Ss -- **Seasonal/intermittent saline/brackish/alkaline marshes/pools.**
- Zk(b) – **Karst and other subterranean hydrological systems, inland**

## 12. Jurisdiction \*:

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

Dariganga Natural Park Administration, Dariganga sum, Sukhbaatar Province. Ministry of Nature, Environment and Tourism

### 13. 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 and the title and/or name and email address/phone number of the person or persons in this office with direct responsibility for managing the wetland.

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Local Governor, Dariganga sum, Sukhbaatar Province

In collaboration with

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### 14. Bibliographical references \*:

A list of key technical references relevant to the wetland, including management plans, major scientific reports, and bibliographies, if such exist. Please list Web site addresses dedicated to the site or which prominently feature the site, and include the date that the Web site was most recently updated. When a large body of published material is available about the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

Adiyasuren, Ts. 1998. National environmental management and wetland diversity conservation policy. *In the proceedings of the International Workshop on Wetland Conservation in Mongolia and North –East Asia*. Ulaanbaatar 16-19 Sep. 1997. p.1-11. (in English)

Badley, J., Busuttil, S., Brookhouse J., Gombobaatar, S., Goroshko, O., Rowland, S., Thomas, M., Uuganbayar, Ch. 2005. *Important bird area surveys in Eastern Mongolia*. Ulaanbaatar. 73 pp. (in English and Mongolian)

Badrakh, S. 1982. *Plantation research report of Dariganga soum territory*, from the Land Policy Institute source.

- Batchuluun, D., Tseveenmyadag, N., Bodisaikhan, Kh. and Dashnyam, Sh. 2012. *Report on Avian influenza surveillance study in 2009-2011*. Ulaanbaatar, Mongolia p.164-165. (in Mongolian and English)
- Bold A. 2005. Birds of Lake Buun Tsagaan and its vicinity. *Birds, Amphibians, and Reptiles in Mongolia*. 2: 23-32. (in Mongolian)
- Boldbaatar, Sh. Review of Birds of Airag Lake and its vicinity. *Scientific Proceedings of the Institute of Biology of the Mongolian Academy of Sciences* 27: 52-61. (in Mongolian)
- Delany, S. 2006. *Waterbird Population Estimates*, Fourth edition. Wetlands International.
- Dulamtsereen S., 2001. *Dornod Mongolian (Dornod, Sukhbaatar province) wild mammals*. Ecosystem of Eastern Mongolia. UB, p. 18-27.
- Fomin V. E., Bold A. 1991. *Bird Catalogue of Mongolia*, Moscow, p. 39.
- Piechoki R. 1968. *Beitrage zur Avifaune der Mongolei*. Teil I. Non-Passeriformes. *Mitt. Zool. Mus.* Berlin. Bd.44. Heft. 2:149-292.
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- Ganbold, E. and Tsetsegmaa, D. 1998. Status report on wetland flora and priorities for conservation. *In the proceedings of the International Workshop on Wetland Conservation in Mongolia and North –East Asia*. Ulaanbaatar 16-19 Sep. 1997. p. 38-45 (in English)
- Gombobaatar, S. 2004. Wintering waterbirds (Anseriformes) and their conservation. *2004 International Symposium on Migratory Birds*, Gunsan, Korea. p.187-201. (in English)
- Gombobaatar, S. and Monks, E.M. (compilers), Seidler, R., Sumiya, D., Tseveenmyadag, N., Bayarkhuu, S., Baillie, J. E. M., Boldbaatar, Sh., Uuganbayar, Ch. (editors). 2011. *Regional Red List Series Vol. 7. Birds*. Zoological Society of London, National University of Mongolia and Mongolian Ornithological Society. 1036 pp. (in English)
- Gombobaatar, S. (compiler), Brown, H.J., Sumiya, D., Tseveenmyadag, N., Boldbaatar, Sh., Baillie, J.E.M., Batbayar, G., Monks, E.M., Stubbe, M. (editors). 2011. *Summary Conservation Action Plan for Mongolian Birds. Regional Red List Series Vol. 8*. Zoological Society of London, Mongolian Ornithological Society and National University of Mongolia. 145 pp. (in English)

Gombobaatar S and Jargalsaikhan P. 2011. *Birds of Khurkh-Khundi*. Mongolian Ornithological Society, National University of Mongolia, Ministry of Nature, Environment, and Tourism. Ulaanbaatar. p.1-99. (in Mongolian)

Gombobaatar S., Batmunkh D, K.Ozaki, Yo. Shigeta. 2011. *Studies on migration of Whooper Swan (Cygnus cygnus) breeding in Lake Buun Tsagaan in Bayankhongor Aimag and Lake Sangiin Dalai in Uvurkhangai Aimag*. Ornithological Laboratory of the National University of Mongolia, Mongolian Ornithological Society, Yamashina Institute for Ornithology, Japan, World Wildlife Health Organization, Central Laboratory of Veterinary & Sanitation, Ulaanbaatar. Mongolia. p.1-18. (in Mongolian)

Munkhbayar Kh., Munkhbaatar M. and Ariunbold J. 2001, *Amphibians and Reptiles in the Eastern Mongolia*. Ecosystem of Eastern Mongolia. UB, 70-79.

Newman, S.H., Iverson S.A, et al. 2009. *Migration of Whooper Swan (Cygnus cygnus) and Outbreaks of Highly Pathogenic Avian Influenza H5N1 virus in Eastern Asia*. PLoS ONE 4 (5/e5729). (in English)

Prosser, D.J., Takekawa J.Y., et al. 2009. Satellite-marked waterfowl reveal migratory connection between H5N1 outbreak areas in China and Mongolia. *Ibis* 151: 568–576.

*Research report of the Institute of Biology, MAS*. 2006-2011. Ulaanbaatar, Mongolia. (in Mongolian)

*Report of project "Conservation of Ugiii Lake Ecosystem"*. 2005. Ogii Lake Ecosystem. Ulaanbaatar. 2005. (in Mongolian)

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Jeroen, R., Joop J., Jan W., Gombobaatar, S. 2005. The north-eastern Mongolian steppes: a stopover site of importance for Pacific Golden Plovers. *Wader Study Group* 108: 20.

Takekawa, J.Y., Shane R. et al. 2009. Geographic variation in Bar-headed Geese *Anser indicus*: connectivity of wintering areas and breeding grounds across a broad front. *Wildfowl* 59: 100-123.

Tsegmid. Sh. 1969, *Mongolian physical geography*. Ulaanbaatar

Tseveenmaydag N. 2004. Birds of Mongol Daguur Strictly Protected Area and its wetland, *Rare Bird Species of Mongol Daguur SPA*. Ulaanbaatar, Mongolia. (in Mongolian)

Tseveenmaydag N. Bold A. 2005. Birds of Ugii Nuur. *Birds, Amphibians, and Reptiles in Mongolia* 1: 33-41. (in Mongolian)

World Wildlife Fund. 2003. *Report on the Environmental Impact Assessment of Durgun hydro-electric dam*. Ulaanbaatar. p. 1-206. (in Mongolian)

### **15. 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.

Ganga Lake and the surrounding wetlands are formed in the lowlands that were created by wind actions. Ganga Lake region is very rich in extinct volcanoes, with the Dariganga-volcano crater and basaltic volcanic rocks commonly found. Saline lakes such as Ganga, Kholboo, Zuun Kholboo, Tsagaan, Erdene, Sumtiin, Khoshmugt and Red Dried-up Lakes are fed by rain and small springs. A small lake called Khoshmugt Lake is located in the N & S Kholboo sand dune, which is 2 km long and 800 m wide. In July and August, the Ganga Lake's average water temperature is 20.1° to 22.2°C. The lake bottom is muddy. General mineralization is 2.58 g/l and the lake is classified as carbonic.

### **16. Physical features of the catchment area:**

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

Ganga Lake and the surrounding wetlands is a well-visited site due to historical and traditional exhibitions and natural sites including Altan Ovoo, Dariganga ethno-group. Ganga Lake and surroundings belong to the Pacific Drainage consisting of lakes of Carbon origin, temporary lakes and small streams that flow in and out of those lakes (Tsegmid, 1969). Zegst and Duut Lakes are fed by small streams of Dagshin stream, located in the south of Darigaga soum center. Climate is similar to that of the southern steppe in Mongolia. Average air temperature is –20 to -24°C in January and the hottest is in July, 21-24°C. Average wind speed is 8 m/sec.

### **17. Hydrological values:**

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

This group of the wetlands is an essential source of ground water. Small springs feed these lakes.



### 18. General ecological features:

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

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

Lake Ganga and surrounding wetlands are open steppe habitats with *Stipa* and Chee grass *Achnatherum* spp.. Small patchy trees and sand dunes cover some areas. Wet meadows and open saline valleys have halophyte plants (Badrakh,1982).

### 19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy 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 SIS.*

(Please add here the species which do not come under sec no 14)

The dominant species of plants of the arid areas are , couch grass *Cleistogenes songorica*, crested wheat grass *Agropyron cristatum* and forbs including sagebrush *Cymbaria daurica*, wild onion *Allium lineare*, cinquefoil species *Potentilla bifurca* and *P. acaulis*, *Haplophyllum dauricum*, and heart-leaved *Bergenia crassifolia*. Coverage of vegetation is 40 to 50% with average height of 15-18 cm. This type of vegetation is ideal for livestock throughout the year. The dominant species of the meadow are grasses such as couch grass, meadow-grass, bent-grass and others including sedges *Carex duriuscula*, *Carex caespitosa*, *Carex coriophora*, and couch grass. The meadow vegetation cover ranges from 60 to 70% on average. The average summer production of plants is 500-600 kg/ha. Dominant species in sand dunes are grasses such as lyme-grass, couch grass, köleria, and forbs including sagebrush, *Haplophyllum dauricum*, locoweed *Oxytropis spp.*, and snakeweed. In addition to the solitary elms that grow in the sand, sparse elm and willow patches are common.

### 20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 10. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.*

(Please add here the species which do not come under sec no 14)

The following species of animals live in the Ganga Lake area: Daurian Pika *Ochotona daurica*, Siberian Marmot *Marmota sibirica*, Daurian Ground Squirrel *Citellus dauricus*, Dwarf Hamster *Phodopus sungorus*, Transbaikalian Hamster *Cricetulus pseudolgriseus*, Narrow-skulled Vole *Microtus gregalis*, Brandt's Vole *Lasiopodomys brandtii*, Mongolian Gerbil *Meriones unguiculatus*, Corsac Fox *Vulpes corsac*, Tolai Hare *Lepus tolai*, Mongolian Gazelle *Procapra gutturosa*, Long-eared Hedgehog *Erinaceus anritus*, Red Fox *Vulpes vulpes*, Eurasian Badger *Meles meles* and Gray Wolf *Canis lupus* (Dulamtsere, 2001). There are 111 species of birds inhabiting the Ganga Lakes. Among these, 12 species are resident, 99 migratory, 32 breeding visitors, and 62 passage migrants (Piechoki, 1968; Piechoki and Bolod, 1972; Fomin and Bold, 1991; Tseveenmyadag, 1998; Gombobaatar et al. 2011). The following 7 species of amphibians and reptiles live in Ganga Lake region: Radde's Toad *Bufo raddei*, Asiatic Grass Frog *Rana chensinensis*, Toad-headed Agama *Phrynocephalus versicolor*, Mongolian Racerunner *Eremias argus*, Pallas's Coluber *Elaphe dione*, Steppe Ribbon Snake *Psammopis lineolatus*, and Central Asian Viper *Akgistrodon halys*. A total of 60 individuals of Asiatic Grass Frog were counted in a 1,000 m area at Dagshin river (Munkhbayar et al. 2001). Spiny Loach *Cobitis taenia*, a small fish lives in the Lake Ganga (Purevtseren, 2002). In mid of 1980s, Golden Carp *Carassius auratus*, Amur Catfish *Parasilurus asotus* and European Carp *Cyprinus carpio* were introduced from Tuul river to Ganga Lake.

**21. Social, economic and cultural values:**

**a)** Describe if the site has any general social, economic 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 wetland has a high potential for eco-tourism, recreation, environmental education and scientific research. However, eco-tourism has not been developed yet due to poor condition of infrastructure. Recent years, tourism development has been rapidly improving based on activities such as watching migratory Whooper Swan, Shiliin Bogd mountain and Ganga lake historical sites.

**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? (Double-click the checkbox to check and choose "Checked" under "Default Value" from "Check Box Form Field Options" window)

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:

**22. Land tenure/ownership:**

a) Within the Flyway Network site:

State owned but used by local governor

b) In the surrounding area:

State owned but used by local governor

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

a) Within the Flyway Network site:

State owned but used by local governor

b) In the surroundings/catchment:

State owned but used by local governor

**24. 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 Flyway Network site and b) In the surrounding area:

Due to climate change in recent years the area of the lake has been decreasing, which is becoming the main ecological concern in the area. Many livestock graze around the lake, which causes overgrazing of pasture land, as well as pollution of the lake water, as during the hot days many livestock stay in the lake water. These actions also cause an increase of sand movements. Soil pollution occurs due the degradation of plants and soil. Breeding bird populations have been declining because of disturbance from people and destruction by livestock.

**25. Conservation measures taken:**

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Flyway Network 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.

Ganga Lake and the surrounding lakes are state protected, classified as a Natural Monument Area since 1993 (Oyungerel, 1993) in accordance to the Strictly Protected Area Law. A Management Action Plan was issued in 2005. The main purpose of the plan is to preserve Ganga Lake ecosystem and develop ecotourism, and conserve the complex Monuments area of Ganga Lake and its ecological conditions.

**b)** If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate, see Annex 3):

Ia ; Ib ; II ; III ; IV ; V ; VI ; N/A

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

If yes, is it being implemented?: If no, is one being planned?

Ganga lake PA staff and local governor have undertaking all activities and actions in accordance with the management action plan.

**d)** Describe any other current management practices:

None

## **26. Conservation measures proposed but not yet implemented:**

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

It is necessary to protect the lake, marsh land and wet meadows of Ganga Lake system in order to create suitable habitat and conditions for breeding waterbirds. Protection action and activities focus on the preservation of migratory birds' breeding sites and habitats in large numbers. It is also necessary to maintain the ecological balance and prevent the extinction of biodiversity by saving the whole ecosystem and developing sustainable and responsible ecotourism in the lake.

## **27. Current scientific research and facilities:**

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

Within the framework of the UN biodiversity project research has been conducted in the Ganga Lake Monument Area on fish and birds. However, these surveys were not conducted in a standard systematic manner. During the soil studies in 1982, the soil was studied to define the chemical, physical and morphological features. Constant monitoring work on water regulation, quality and biodiversity of Ganga and Duut Lakes were carried out from 1982 through 1992. From 1997 the

Institute of Meteorology and Hydrology (Davaa et al. 2001) started monitoring work on water regime, quality and biodiversity of Ganga and Duut Lake by establishing permanent water study posts around this area. The surveys showed that there are issues concerning the public on the degradation of the environment at Ganga Lake.

**28. 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.

There are no educational facilities, such as visitor centers or observation hides.

**29. Current recreation and tourism:**

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

The major and famous tourist routes are: *Golden-Ovoo-Ganga Lake-Taliin Agui-Shiliin Bogd*. "Dariganga" summer camp for children and "Dagshin" resting area for local tourists, situated next to *Zegst* Lake. Local and international tourist attraction sites such as Dariganga sum center, *Golden-Ovoo* and *Duut* Lake are situated very close to the protected area. It means that the consequences of poorly managed tourism will be potentially high to the nature and ecology of the lake. Every year at the end of September and early October, migratory swans gather in the area and many local people visit the site to observe them.

**30. Threats \*:**

Which of the following threats is present historically – when the threat stopped but the effects are still there (H), currently (C) or potentially (P)?

	Historically	Currently	Potentially
<b>Residential and commercial development</b>			
housing and urban areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
commercial and industrial areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
tourism and recreation areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Agriculture and aquaculture</b>			
annual and perennial non-timber crops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
wood and pulp plantations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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livestock farming and ranching	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
marine and freshwater aquaculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Energy production and mining**

oil and gas drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mining and quarrying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
renewable energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Transportation and service corridors**

roads and railroads	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
utility and service lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
shipping lanes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
flight paths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Biological resource use**

hunting and collecting terrestrial animals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
gathering terrestrial plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
logging and wood harvesting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
fishing and harvesting aquatic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Human intrusions and disturbance**

recreational activities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
war, civil unrest and military exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
work and other activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Natural system modifications**

fire and fire suppression	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
dams and water management/use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other ecosystem modifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Invasive and other problematic species and genes**

invasive non-native/alien species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
problematic native species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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introduced genetic material

**Pollution**

household sewage and urban waste water

industrial and military effluents

agricultural and forestry effluents

garbage and solid waste

air-borne pollutants

excess energy

**Geological events**

volcanoes

earthquakes/tsunamis

avalanches/landslides

**Climate change and severe weather**

habitat shifting and alteration

droughts

temperature extremes

storms and flooding

**Please write here any additional threats and comments/queries you have on the threats.**

## **Annex 1: Criteria for the inclusion of sites in the Flyway Site Network**

(From the Partnership Text)

To be considered for inclusion in the Flyway Site Network, this Partnership adopts the following criteria:

- a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:
  - Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
  - Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
  - Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
  
- b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:
  - i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.
  - ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.
  
- c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.



## Annex 2: Ramsar Classification System for Wetland Type

The codes are based upon the Ramsar Classification System for Wetland Type as approved by Recommendation 4.7 and amended by Resolutions VI.5 and VII.11 of the Conference of the Contracting Parties. The categories listed herein are intended to provide only a very broad framework to aid rapid identification of the main wetland habitats represented at each site.

To assist in identification of the correct Wetland Types to list in section 19 of the RIS, the Secretariat has provided below tabulations for Marine/Coastal Wetlands and Inland Wetlands of some of the characteristics of each Wetland Type.

### Marine/Coastal Wetlands

- A -- **Permanent shallow marine waters** in most cases less than six metres deep at low tide; includes sea bays and straits.
- B -- **Marine subtidal aquatic beds**; includes kelp beds, sea-grass beds, tropical marine meadows.
- C -- **Coral reefs.**
- D -- **Rocky marine shores**; includes rocky offshore islands, sea cliffs.
- E -- **Sand, shingle or pebble shores**; includes sand bars, spits and sandy islets; includes dune systems and humid dune slacks.
- F -- **Estuarine waters**; permanent water of estuaries and estuarine systems of deltas.
- G -- **Intertidal mud, sand or salt flats.**
- H -- **Intertidal marshes**; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
- I -- **Intertidal forested wetlands**; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.
- J -- **Coastal brackish/saline lagoons**; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- K -- **Coastal freshwater lagoons**; includes freshwater delta lagoons.
- Zk(a) – **Karst and other subterranean hydrological systems**, marine/coastal

### Inland Wetlands

- L -- **Permanent inland deltas.**
- M -- **Permanent rivers/streams/creeks**; includes waterfalls.
- N -- **Seasonal/intermittent/irregular rivers/streams/creeks.**
- O -- **Permanent freshwater lakes** (over 8 ha); includes large oxbow lakes.
- P -- **Seasonal/intermittent freshwater lakes** (over 8 ha); includes floodplain lakes.
- Q -- **Permanent saline/brackish/alkaline lakes.**
- R -- **Seasonal/intermittent saline/brackish/alkaline lakes and flats.**

- Sp -- **Permanent saline/brackish/alkaline marshes/pools.**
- Ss -- **Seasonal/intermittent saline/brackish/alkaline marshes/pools.**
- Tp -- **Permanent freshwater marshes/pools;** ponds (below 8 ha), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.
- Ts -- **Seasonal/intermittent freshwater marshes/pools on inorganic soils;** includes sloughs, potholes, seasonally flooded meadows, sedge marshes.
- U -- **Non-forested peatlands;** includes shrub or open bogs, swamps, fens.
- Va -- **Alpine wetlands;** includes alpine meadows, temporary waters from snowmelt.
- Vt -- **Tundra wetlands;** includes tundra pools, temporary waters from snowmelt.
- W -- **Shrub-dominated wetlands;** shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder thicket on inorganic soils.
- Xf -- **Freshwater, tree-dominated wetlands;** includes freshwater swamp forests, seasonally flooded forests, wooded swamps on inorganic soils.
- Xp -- **Forested peatlands;** peatswamp forests.
- Y -- **Freshwater springs; oases.**
- Zg -- **Geothermal wetlands**
- Zk(b) – **Karst and other subterranean hydrological systems, inland**

Note: “**floodplain**” is a broad term used to refer to one or more wetland types, which may include examples from the R, Ss, Ts, W, Xf, Xp, or other wetland types. Some examples of floodplain wetlands are seasonally inundated grassland (including natural wet meadows), shrublands, woodlands and forests. Floodplain wetlands are not listed as a specific wetland type herein.

#### **Human-made wetlands**

- 1 -- **Aquaculture (e.g., fish/shrimp) ponds**
- 2 -- **Ponds;** includes farm ponds, stock ponds, small tanks; (generally below 8 ha).
- 3 -- **Irrigated land;** includes irrigation channels and rice fields.
- 4 -- **Seasonally flooded agricultural land** (including intensively managed or grazed wet meadow or pasture).
- 5 -- **Salt exploitation sites;** salt pans, salines, etc.
- 6 -- **Water storage areas;** reservoirs/barrages/dams/impoundments (generally over 8 ha).
- 7 -- **Excavations;** gravel/brick/clay pits; borrow pits, mining pools.
- 8 -- **Wastewater treatment areas;** sewage farms, settling ponds, oxidation basins, etc.
- 9 -- **Canals and drainage channels, ditches.**
- Zk(c) -- **Karst and other subterranean hydrological systems, human-made**

## **Annex 3: IUCN Protected Areas Categories System**

IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.

### **Ia Strict Nature Reserve**

Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.

### **Ib Wilderness Area**

Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

### **II National Park**

Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

### **III Natural Monument or Feature**

Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

### **IV Habitat/Species Management Area**

Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

### **V Protected Landscape/ Seascape**

A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

### **VI Protected area with sustainable use of natural resources**

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Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.