



MONGOLIA



MONGOLIAN  
PROTECTED  
AREAS

## WETLANDS OF INTERNATIONAL IMPORTANCE

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# BUIR LAKE

2021



## CONVENTION ON THE WETLANDS OF INTERNATIONAL IMPORTANCE ESPECIALLY AS WATERFOWL HABITAT



### What is the RAMSAR Convention?

The Convention on the Wetlands of International Importance especially as Waterfowl habitat was first adopted on a meeting held in the Iranian city of Ramsar in February, 1971. Governments and non-governmental organizations from countries around the world negotiated and adopted the global treaty concerned about increasing loss and degradation of the wetland habitat for migratory water birds, one of the most vulnerable and irreparable ecosystems on the planet, due to a number of factors such as global warming, climate change and improper human activities and recognized the wetland ecosystem must be protected. The Convention is so named for the city Ramsar in Iran, where the treaty came into force. As of 2021, there are 171 Contracting Parties (member countries) and a total of 2,418 wetlands covering 254,563,791 hectares of international importance in List in the Appendix to the Ramsar Convention.



### Purpose of the Ramsar Convention

A purpose of the Convention is to provide a framework for national and international cooperation for conservation and wise use of wetlands and their resources. Its activities are regulated by inter-governmental treaties and agreements.

A primary reason for global signing the international Convention is to recognize that water fowl in their seasonal

migrations do transcend frontiers and so should be regarded as an international resource while considering that the wetlands, their key habitat, must be protected globally through the Convention.



### What is the wetland?

Wetlands are basically transition zones between terrestrial and water environments, where a specific ecosystem is created, supported, and interacted by water flows, soil nutrient cycles, and solar energy.

The Ramsar Convention uses a broad definition of the wetlands which include all lakes, rivers, streams, and ponds and their floodplains, wet grasslands, peatland, oasis, estuaries, deltas, mineral water bodies, tidal flats, mangroves, and other coastline areas, coral reefs, and all human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans. The definition under the Convention encompasses a variety of the wetlands and encourages preservation, protection, and wise (balanced) use of the globally significant biodiversity thereof through enhanced wetland conservation framework.



### How are areas designated and listed as the Ramsar sites?

Countries in the world signed the Convention do commit to designate and nominate suitable wetlands within their territories for the List of Wetlands of International Importance ("Ramsar List") based on the following nine criteria:

**A**

Sites containing representative, rare or unique wetland types:

#### Criterion 1

Sites contain representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region;

**B**

Sites of international importance for conserving biological diversity:

*Criteria based on species and ecological communities:*

**Criterion 2** Sites support vulnerable, endangered, or critically endangered species or threatened ecological communities;

**Criterion 3** Sites support populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region;

**Criterion 4** Sites support plant and/or animal species at a critical stage in their life cycles, or provide refuge during adverse conditions;

*Specific criteria based on water birds:*

**Criterion 5** Sites regularly support 20,000 or more individuals of a species or sub-species of water birds;

**Criterion 6**

Sites regularly support 1% or more of the individuals in a population of one species or subspecies of water birds;

*Specific criteria based on fish:*

**Criterion 7**

Sites support a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and /or values and thereby contributes to global biological diversity;

**Criterion 8**

Sites are an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend;

*Specific criteria based on other taxa:*

**Criterion 9**

Sites regularly support 1% or more of the individuals in a population of one species or subspecies of wetland-dependent non-avian animal species;



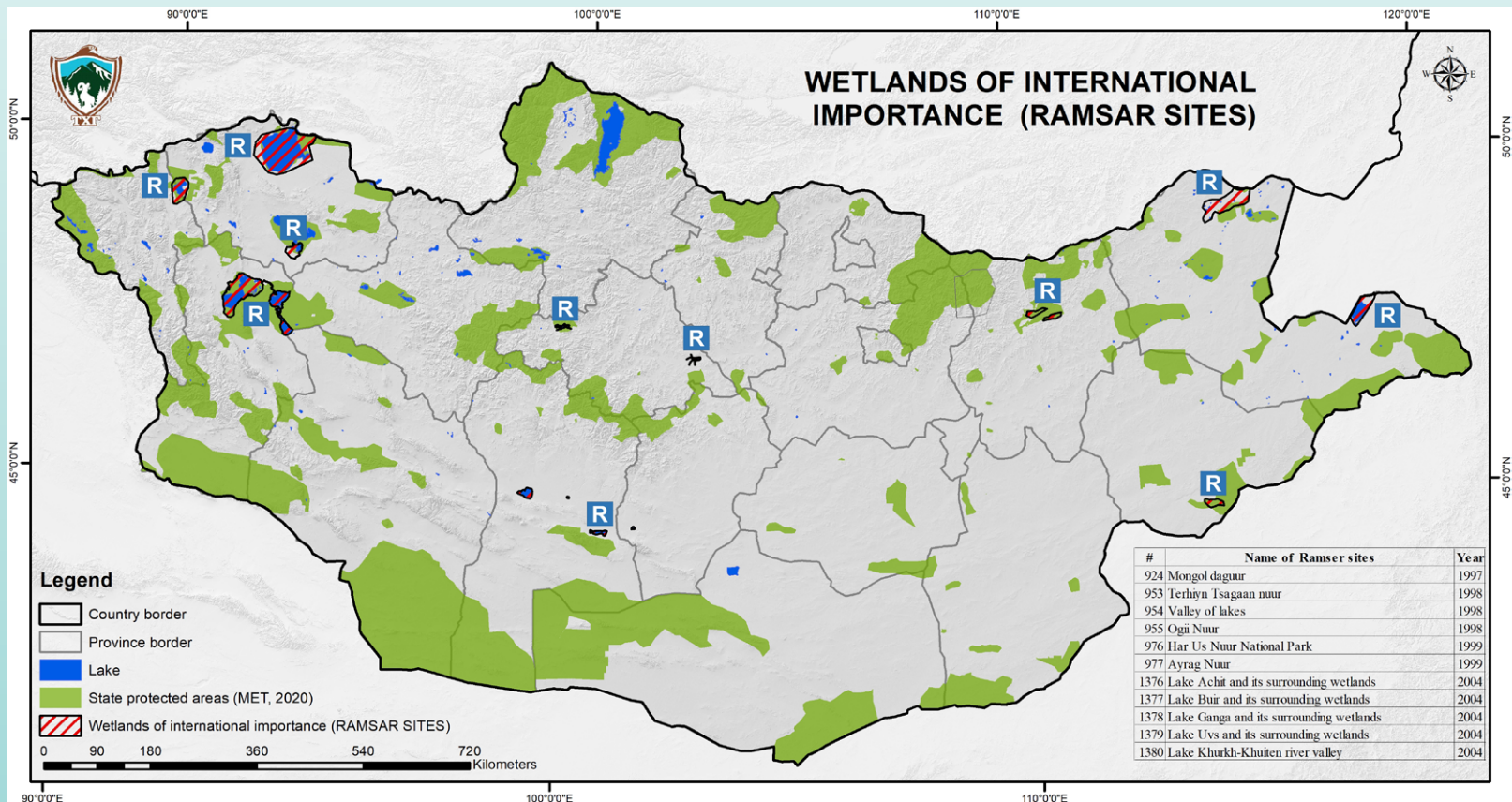
## MONGOLIA AND THE RAMSAR CONVENTION

Mongolia officially signed the Convention on Wetlands of International Importance especially as Waterfowl habitat on April 8, 1998 and became the 104th Contracting Party. The Contracting Parties to the Convention act as its policy making unit represented by the Governments of the countries signed. Thus, the officially recognized body representing Mongolia at

the Ramsar Convention is the Ministry of Environment and Tourism.

As the Contracting Party to the Convention, Mongolia commits to implement the wetlands conservation management, submit its performance progress reports, and regularly take part in implementation of the Convention activities under its commitment to the Convention.

*Map 1. Sites in Mongolia designated in the Ramsar Convention Appendix List*



# BUIR LAKE AND ITS SURROUNDING WETLANDS

Name: **Buir Lake and its' surrounding wetland**

Ramsar site number: 1377

Area: 104,000 hectares (ha)

Coordinates: 47°48 N, 117°40 E

Altitude: 581m

Designation date: 22-03-2004



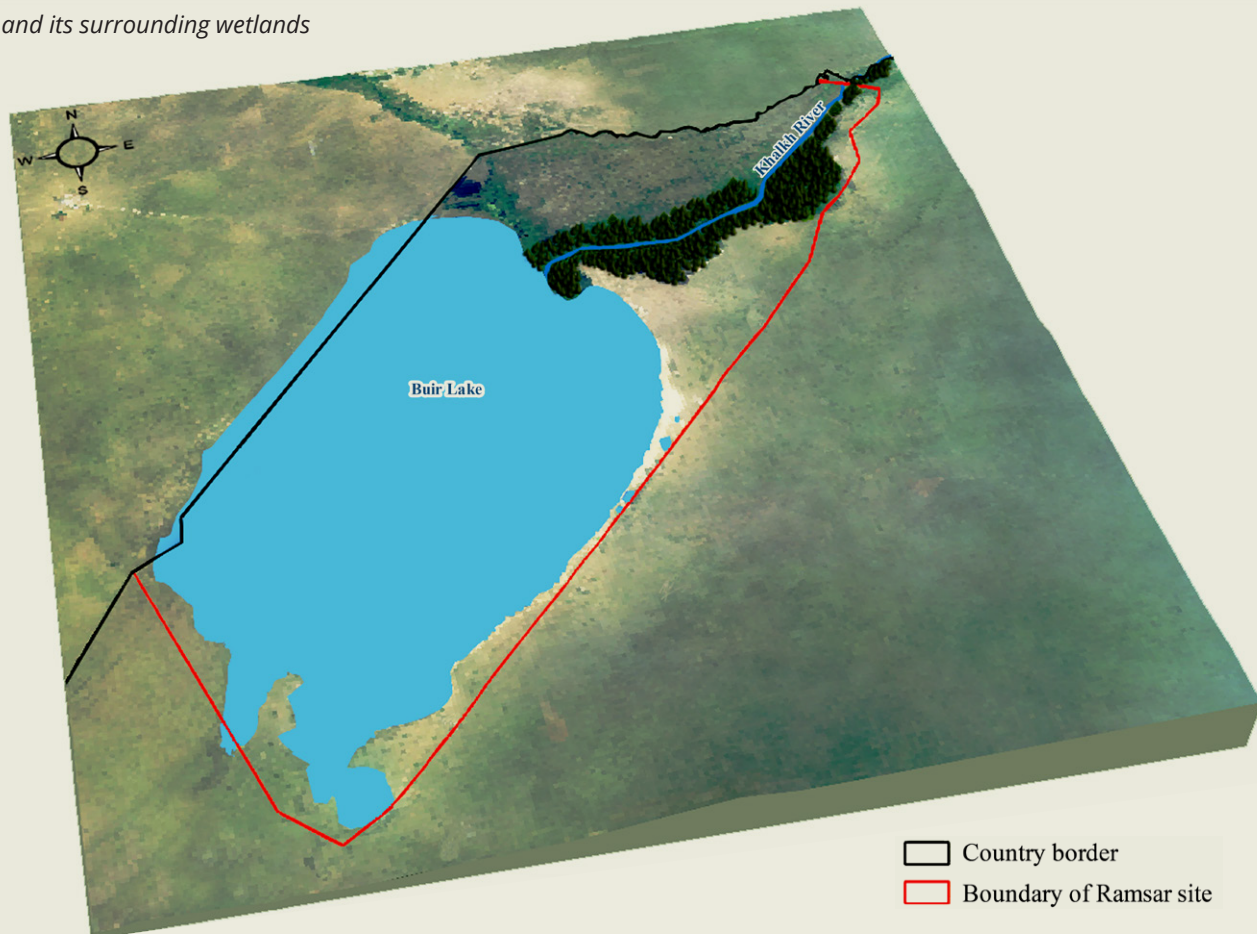
## WETLANDS IN EASTERN MONGOLIA AND THEIR IMPORTANCE

One of the primary roles wetlands play is that it acts as an ecological regulator for maintaining water regimes and wildlife (flora and fauna) habitats. Eastern Mongolia (steppe ecosystem) is home to 29.4% of the total lakes and wetlands in the country. The lakes and wetlands in the steppe region are basically dispersed according to their occurrence and rich in aquatic organisms. Thus, the lakes and wetlands in the region provide important stopover and resting points to many species of water and shorebirds on their migration flyways. The lakes and wetlands in Eastern Mongolia lie along a main route of East Asian-Australian-Asian flyway provided the strategically important area for stopping over, resting, and feeding of thousands of water and shorebirds migrating from South Asia and Australia to Siberia. As such, the region is a part of the internationally recognized important bird areas. One of major wetlands in Eastern Mongolia is Buir Lake and its surrounding wetlands.

## LOCATION

Buir Lake and its surrounding wetlands lie in a depressed area (581 m a.s.l.) located at 969 km from Ulaanbaatar, the Capital City of Mongolia and at 314 km from Dornod aimag (provincial) centre and at 20 km from Khalkhgol soum in Eastern Mongolia. According to the administrative unit distribution, the Lake and its surrounding wetlands entirely belong to a territory of Khalkhgol soum of Dornod province which borders with a territory of China in the north and northeast. Buir Lake and its surrounding wetlands cover a total of 104,000 hectares (ha): 61,500 ha of Buir Lake and the rest are wetlands in its vicinity.

**Map 2.** Buir lake and its surrounding wetlands



## JUSTIFICATION FOR DESIGNATING AS THE RAMSAR CONVENTION SITE:

Buir Lake is the largest lake in Eastern Mongolia. The lake and its surrounding wetlands are highly important for the migratory birds located along East Asian-Australian flyway route. In addition, the Lake Buir is abundant by fish stocks so that it has economic importance for local communities.

Buir Lake and its surrounding wetlands was officially listed as the Ramsar site on March 22, 2004 as they met the first six out of nine criteria for designation and inclusion of areas in the Ramsar Convention List.

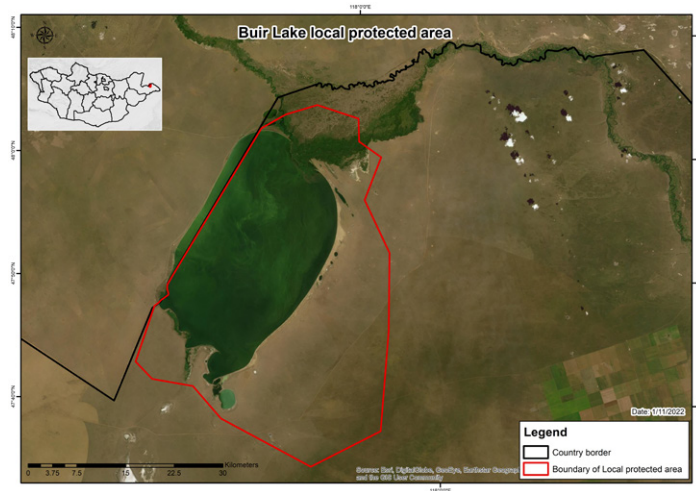
## INCLUSION OF THE WETLANDS IN THE PROTECTED AREA NETWORK

There are 11 areas in Mongolia listed as the Ramsar sites. Out of them, eight areas are included in the State Protected Area (PA) network. However, Buir Lake and its surrounding wetlands are not included in the State PA network.

Buir Lake and its surrounding wetlands were first taken under local protection by Decision No.08 issued by the 6th meeting of Dornod Aimag (Provincial) Citizen's Representative Khural (Local Parliament) held in 2014. According to the Decision, a total of 141,101,119 ha encompassed the Lake and its surrounding wetlands were protected locally with a period of five year upon consideration of their ecological importance. In 2019, the local protection duration was extended until 2043.

Currently, a total of 85,290 ha or 82 percent of Buir Lake and its surrounding wetlands, the Ramsar site, are under the local protection.

**Map 3.** Buir Lake local protected area



## SPECIFIC HABITAT FEATURES OF BUIR LAKE AND ITS SURROUNDING WETLANDS

Buir Lake and its surrounding wetlands contain a number of small streams, lakes, and ponds that provide water sources to Khalkh River and Buir Lake and their surrounding areas are distributed by steppe fauna and flora communities.

Buir Lake and its surrounding wetlands lie in Amur River Basin, which includes North East China, Far Eastern Russia, and Eastern Mongolia, regarded as an important surface water source in the Basin.

In its area, Buir Lake is the 5th largest lake in Mongolia. Stretched from the northeast to the southwest, the Lake is 40 km long; 21 km wide; its shoreline length is 118 km; its drainage area is 20200 km<sup>2</sup>; and its water depth is 6-10 m in average, the deepest part reaches 10-50 m; and the depths with 8 m and above account for 30% of the Lake's total area. There are a 3-5 m high sand dams formed by water push and continued along the southern shore of the Lake. Some of these sand dams are interrelated with the Lake.

According to the hydrological network, Khalkhol River inflows into the Lake Buir, while Orshun River outflows from it and then inflows into Dalay Lake in a territory of China. There are seven natural springs (Khar Uzuur Mankhan, Altan Goly Eh (upstream of Altan River), Ust Jalga, Ar Sumyn, Khulstay, Bayan, and Tugeemel) and over 20 lakes and ponds (e.g. Bayan, Nariinii Khuduu, Nuden Toirom, and Khulst, Takhir). Buir Lake is the freshwater lake, which is dominant by the chemical elements such as hydro carbonate, chloride, sodium, and calcium.

Started from the area (1,443 m a.s.l.) in Great Khyangan Range in a territory of China, the Khalkhol River (or Khalkh River) runs through a territory of Hulunbuir town and then a territory of Khalkhol soum of Dornod aimag in Mongolia.

The River meanders delineate borders of the two neighboring countries and reach Buir Lake. Khalkh River is inflowed by Khailaast River and branched into two parts in its downstream. One part of the branches runs towards Buir Lake in the northwest. Other part, called as Shariljyn River, runs into Orshun River without a reach into Buir Lake. Khalkh River is 233 km long and its drainage area is 17,000 km<sup>2</sup>.

The drainage area of Khalkh River, namely its northeastern part and a tributary of Orshun River are extremely swampy and distributed by dense reed stands. Accordingly, Khalkh River floodplain, Bayan Lake, and Orshun River originated from Buir Lake provide favourable nesting grounds to numerous species of migratory waterfowls



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## BIODIVERSITY

### MAMMAL

Buir Lake and its surrounding wetlands, the Ramsar site, support 25 species of mammal including 15 abundant and 10 rare (threatened) species. Amongst, there are Roe deer (*Capreolus pygargus*), Grey wolf (*Canis lupus*), Red fox (*Vulpes vulpes*), Corsac fox (*Vulpes corsac*), and Eurasian badger (*Meles meles*) from large mammals and Daurian pika (*Ochotona daurica*), and Tolai hare (*Lepus tolai*) from small mammals abundantly occurring with the site. During its spring and autumn movements, the Mongolia gazelle (*Procapra gutturosa*) occurs in large herds.



## BIRD

Buir Lake and its surrounding wetlands are distributed by 236 bird species including 37 resident and 199 migratory species. According to their occurrence and residence, there are 115 nesting species, 59 transit migrant species, seven wintering species, nine vagrant species, and nine species whose nesting in the region has not been identified yet. The rest of the species recorded in the wetlands are data deficient. In addition, there are 17 species recorded in the Red Book of Mongolia; five very rare species and 12 rare species as per the Fauna Law of Mongolia; 13 species recorded in the Asian Red Book; six and 27 species recorded in the Lists of the Appendices 1 and 2 of CITES, respectively; and six and 26 species included in the Lists of Appendices 1 and 2 to the Convention of Migratory Species of Wild Animals (CMS), respectively. Buir Lake and its vicinity are distributed by at least 20,000 individuals of waterfowl in summer. The species, whose populations occurring at the Lake and its surrounding wetlands are estimated at 1% and above according to their geographical region, are Great crested grebe (*Podiceps cristatus*): 380 individuals (1.5%); Great cormorant (*Phalacrocorax carbo*): 5000 individuals (5%), Black stork (*Ciconia nigra*): 5 individuals (5%), Swan goose (*Anser cygnoides*): 1803 individuals (3%); Ruddy shelduck (*Tadorna ferruginea*): 500 individuals (1%); and Northern lapwing (*Vanellus vanellus*): 1260 individuals (1.3%).

A half or 50 percent of Swan goose's global population are recorded at Buir Lake. This shows that the Lake is the most important destination for the large bodied beautiful threatened species in Asia.



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## FISH AND OTHER AQUATIC SPECIES

Buir Lake is distributed by 40 fish species of 11 families. Amongst, there are 16 game species recorded and the rest are the species that play important roles in food chains of the game species. Among the game species recorded in the Lake, the Spotted steed (*Hemibarbus maculatus*) and Grass carp (*Ctenopharungodon idella*) do occur in quite limited numbers; the Amur grayling (*Thymallus grubei*) and Burbot (*Lota lota*) are getting rare; the Taimen (*Hucho taimen*) and Lenok (*Brachymystax lenok*) are getting endangered; the Amur pike (*Esox reichertii*), Amur carp (*Cyprinus rubrofuscus*), Topmouth culter (*Culter alburnus*), Mongolian redfin (*Chanodichthys mongolicus*), Amur skin-carp or Barbel (*Hemibarbus labeo* Pall), Amur ide (*Leuciscus waleckii*), Amur (Japanese) catfish (*Parasilurus asotus*), Prussian or Gibel carp (*Carassius gibelio*), and Redfin (*Pseudaspius leptocephalus*) are abundant in the Lake. The small species such as Amur bitterling (*Rhodeus sericeus*), Chinese lizard gudgeon (*Saurogobio dabryi*), and Khanka gudgeon (*Squalidus chankaensis*) do play important roles in food chains of the fish species in the Lake.

There are 57 plankton species distributed in Buir Lake. Amongst, there are six species of Cyclopidae, 19 species of cyclops or water copepods and 32 species of rotifers distributed. Moreover, there are over 200 aquatic insects (benthos) species recorded in the Lake. The species such as Tubifex sp., Tendipes semireductus, Ephemerella sibirica, Aeschna coluberculus, Lestes sponsa, Sympetrum flaveolum, Sympetrum vulgatum, Dytiscus dauricus, Hydrous

dauricus, Glossiphonia heteroclite, Helobdella stagnalis, Gammarus lacustris; the deep parts are distributed by Nematoda, Chironomidae, Dahurinaia dahurica, Cristaria plicata, and Middendorffinaia mongolica are abundant in vegetated parts of the Lake. Tributary streams to the Lake are abundant by the mollusks such as Limnaea stagnalis, Radix auricularia, Planorbis planorbis, Valvata stelleri, and Sphaerium sp. From the algae, there are totally 51 species including 24 diatom, 16 green, seven blue green, and two black, and two dinophyte algae species distributed.

The Leander modestus listed in the Mongolian Red Book is the very rare species that is only found in Buir Lake throughout Mongolia.



## FLORA

In the north from Buir Lake, the Daurian steppe vegetation species occur, while the Manchurian steppe vegetation species occur in the east from the Lake. There are 100 xerophytic species, 102 hygrophytic species, 12 aquatic species, 18 wetland species, and 64 halophytic species recorded within the surrounding areas of the Lake. In addition, there are the aquatic vascular plant species such as *Acorus calamus*, *Potamogeton perfoliatus*, *Potamogeton vaginatus*, *Polygonum amphibium*, *Nymphoides peltatum*, *Myriophyllum spicatum*, *Myriophyllum verticillatum*, *Ceratophyllum demersum* and *Hippuris vulgaris* densely grown in the bays and corners (1-2 m distances) with reed stands in the southeast and northwest of the Lake. The grounds abundant with these numerous plant species provide favourable breeding and growing grounds for many species of fish in the Lake.



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## OTHER APPLICABLE INTERNATIONAL TREATIES AND CONVENTIONS

2009

### Important Bird Areas in Mongolia (MN068)

Buir Lake and its surrounding wetlands are distributed by the globally threatened Swan goose (*Anser cygnoides*) in large numbers. In 2012 summer, a half or 50% of the species global population were recorded at Buir Lake. The Baikal teal (*Anas formosa*), Lesser kestrel (*Falco naumanni*), Siberian crane (*Grus leucogeranus*), White-naped crane (*Grus vipio*), Great bustard (*Otis tarda*), and Relict gull (*Larus relictus*) do occur at the Lake and its wetlands. The region is dominant by the Eurasian steppe and desert biomes. The species such as Great crested grebe (*Podiceps cristatus*), Great cormorant (*Phalacrocorax carbo*), Grey heron (*Ardea cinerea*), Ruddy shelduck (*Tadorna ferruginea*), Common shelduck (*Tadorna tadorna*), and Northern lapwing (*Vanellus vanellus*) do occur in their populations equal and above 1% of their regional populations during their migrations. Upon consideration of these justifications, a total of 90,476 ha of Buir Lake and its surrounding wetlands were recorded as a part of IBAs in Mongolia in 2009

2016

### East Asian-Australian Flyway Network (EAAF126)

There are the globally threatened bird species such as Swan goose (*Anser cygnoides*), Common pochard (*Aythya ferina*), White-naped crane (*Grus vipio*), Falcated duck (*Anas falcata*), Black-tailed godwit (*Limosa limosa*), and Asian dowitcher (*Limnodromus semipalmatus*) recorded at Buir Lake. Furthermore, the Lake and its wetlands do support about 40,000 individuals of waterfowls and the populations more than 1% of their global population of the species such as Great cormorant (*Phalacrocorax carbo*): 5,486 individuals (4,5%); Swan goose (*Anser cygnoides*): 1,226 individuals (1,8%); Ruddy shelduck (*Tadorna ferruginea*): 1,143 individuals (1,9%); Pacific golden plover (*Pluvialis fulva*): 1,303 individuals (1,8%). The Lake and its wetlands are included in the flyway network



## THREAT

A key threat to Buir Lake and its surrounding wetlands is fishing. Breeding ground in Buir Lake is relatively small, but it overlaps with fishing ground. Populations of game fish species have declined due to catching and hunting of the species during their breeding seasons. In addition, game fish species populations have become dominated by juveniles in terms of their ages and body sizes of the game species become smaller represented that they are being affected by bio-ecological changes. Large amounts of fish, water birds, *Gammarus lacustris*, mosquito larvae, and other benthic plants and organisms including mollusks are caught and destroyed by the fish nets put and abandoned in the Lake. Besides, eutrophication takes place

in the Lake's bottom due to the household wastes leftover and entering the Lake. Also, benthic sediments and plants are harvested by fish nets that made aquatic plant roots loosen and removed; consequently loosen and removed plants are pushed by water into outer edges of the Lake. Remnants of these accumulated materials and swamps increasingly appear in outer edges of the Lake.

Lately, in average 7000 vacationers or holiday makers visited Buir Lake every travel season. As numbers of travelers and visitors were increased from year to year, the wastes leftover and earth roads along the Lake's shore have been increasing.



## CONSERVATION MANAGEMENT

Buir Lake and its surrounding wetlands are under local protection and its daily conservation is managed by the local government. Furthermore, Buir lake-Menen Steppe Basin Authority carries out conservation management in accordance with the Law on Water of Mongolia.

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