Ramsar Information Sheet

Published on 11 April 2023

China

Beijing Yeya Lake Wetlands

Designation date	28 October 2022
Site number	2502
Coordinates	40°25'44"N 115°50'56"E
Area	4 007,84 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

Yeya Lake Wetland is situated within the Yeya Lake Nature Reserve with a total area of 4007.84 hectares and wetlands covering 72% of the Site. The Site is a typical inland wetland in Northern China and is the best example of near-natural wetland preserved in China's Capital. In Beijing itself, the features of the Site are quite unique and rare as it mainly contains marshes and provides various natural resources that benefits more than 20 million people living in Beijing. The main protected components of the Site are its different types of wetlands, biodiversity, and the wetland ecosystem. There are 501 plants, 361 birds, 5 amphibian, 13 reptilians, 16 mammals, and 25 fishes in the Site. Among birds, there are 3 critically endangered species, 8 endangered, and 14 vulnerable species in the IUCN red list, thus fulfilling Criterion 2. According to the data collected in the nature reserve over the past seven years, there have been more than 20,000 waterfowls inhabiting Yeya Lake wetland, which meet the Criterion 5. There are 9 species exceeding 1 % of their total biogeographic population in the Site, which fulfils the Criterion 6. Yeya Lake wetland is within East Asian-Australasian Flyway, where many migratory birds rest, propagate, and overwinter. Thus, Yeya Lake wetland is of international significance to the protection of migratory birds and of the biodiversity. In addition, Yeya Lake wetland also contributes to important ecological functions like hydrological regulating, climate regulation, water purification, carbon fixation and oxygen release, wind prevention and sand fixation. With 20 years of development of this nature reserve, Yeya Lake has been improving the effectiveness of conservation management and scientific monitoring, developing ecotourism, and promoting sustainable development of the wetland.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency: Nature Reserve Management Office in Yanqing District, Beijing

Postal address: West of Liuhaoying village, Kangzhuang town 102101, Yanqing District, Beijing

National Ramsar Administrative Authority

Institution/agency: Ramsar Administrative Authority of the People's Republic of China

Postal address: No.18 Hepingli East Road
Dongcheng District Beijing 100714
P.R. China

2.1.2 - Period of collection of data and information used to compile the RIS

From year: 2015

To year: 2021

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Beijing Yeya Lake Wetlands

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps: 0

Boundaries description

Yeya Lake wetland is located at the junction of Yanqing town, Kangzhuang town, and Zhangshan town in the north-western Yanqing district of Beijing. Covering a total area of 4007.84 ha, the whole Site is within the area of Yeya Lake Nature Reserve, whose north latitude is 40°22′34″ - 40°30′01″and east longitude is around 115°47′27″ -115°58′26″. The Site comprises a series of wetlands in the nature reserve, including the main lake water body and littoral zone of Guanting Reservoir, as well as the main channels of Caijia River and Guishui River.

The eastern boundary of this site stretches along the Guishui River to the eastern boundary of Guishui West Lake. The northern boundary of this site extends along Caijia River to the south of Jingxi Expressway. The southern boundary bounds the northwestern Kangzhuang Town. The southwestern boundary is connected to the Guanting Reservoir National Wetland Park of HuaiLai in Hebei Province. The river banks of Guishui River and Caijia River are embanked and fall in the Site. Moreover, the Site boundary excludes the residential areas and comprises only the wetland attributes.

2.2.2 - General location

a) In which large administrative region does the site lie? Beijing Yanqing District

b) What is the nearest town or population centre? Yeya Lake wetland covers three administrative towns: Yanqing town、Kangzhuang town、and Zhangshan town; as of 2020, there are 300,000 permanent residents living in Yanqing district.

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha): 4007.84

Area, in hectares (ha) as calculated from GIS boundaries: 4006.901

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	Palaearctic region
Freshwater Ecoregions of the World (FEOW)	ECO_ID 636

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided	Yeya Lake Wetlands belongs to the Yongding river system, which is at the downstream reaches of Guishui River. Formed by the alluvial sediments of Guanting reservoir flood plains, Caijia River, and Guishui River, Yeya Lake's hydrological processes are mainly influenced by the reservoir regulation and natural hydrological processes of the Caijia and Guishui river. The Site is comprised of Guanting reservoir, tributaries of Guishui river, reservoir ponds, adjacent swamp, and seasonal flooded areas that are connected through Guishui river or seasonal inundations. Guishui river stems from Huanglong and Heilong ponds in Yongning and Shangmo village, which is one of three major inflowing streams of the Guanting reservoir. Guishui River features an annual runoff volume of 120 million cubic meters. Guanting reservoir, as a dominant source of water for Yeya Lake wetland, holds a total volume of 4.16 billion cubic meters and controls the hydrological activity across the 47,000 square kilometers of Yongding river system. Influenced by the artificial regulation, the annual water level of Guanting reservoir has remained relatively stable with annual fluctuations from one to two meters. From July to August every year, Yanqing saw its rainfall uprising intensively, which could lead to river flooding, which Yeya Lake wetland may help regulate and contain.
Other ecosystem services provided	1. Supply Services Water Supply function: Yeya Lake wetland takes up a quarter of Guanting reservoir's area that holds up to 550 million cubic meters. 2. Regulation Services (i) Climate regulation: Yeya Lake has enormous water surface and lush plant coverage near the banks that helps in the water evaporation and plant transpiration processes. In hot seasons, the land and lake's air exchange makes the nearby climate milder and moister than other drier regions. (ii) Water purification and pollution retention: The runoff from the surrounding agricultural land contains fertilizers and other wastes. These pollutants sink in the lake and get absorbed by hygrophytes through chemical and biochemical transformation. (iii) Carbon fixation and Oxygen release: The plants in Yeya Lake wetland play a role in the CO2 and O2 dynamics and reduces greenhouse effects. (iv) Wind prevention and sand fixation: Yeya Lake is situated in the north-western sandstorm tuyere zone. The vast area of the wetland allows incremental growth of wetland plants that help in reducing water and soil loss and controlling wind and sand erosion. Thus, the wetland can prevent soil from eroding because of the storm, precipitation, or runoff. 3. Supporting Services The wetland is essential for maintaining the regional biodiversity as it provides abundant food sources and habitat for different taxa. 4. Cultural Services (i) Scientific Research: The Site's administration has established a monitoring systems by co-operating with more than 20 scientific research institutes, who have provided important scientific and technological support for wetland protection and management. (ii) The ecological knowledge coming through these investigations is used for public education covering various thematic activities. (iii) Every year, 300,000 people come to Yeya Lake Wetland for bird watching, photography, leisure and sightseeing.

☑ Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information: Yeya Lake Ramsar Site provides suitable habitats for many rare and endangered species. According to the IUCN Red List, there are 4 critically endangered (CR) species (2 waterfowls), 6 endangered (EN) species (4 waterfowls), and 14 vulnerable (VU) species (10 waterfowls) in Yeya Lake Wetland. Yeya Lake Wetlands is the largest wetland protected area of the capital Beijing. From 2016 to 2021, critically endangered (CR) species, Baer's Pochards were recorded every year, but the overall number was thin with no more than 10 individuals per year. However, recent monitoring statistics show that Baer's Pochards have been breeding in the Yeya Lake wetland. This also shows that the Yeya Lake wetland is of great significance for maintaining the population of Baer's Pochard as an endangered species. In addition, endangered and vulnerable species such as Oriental Stork, Eastern Curlew, and Great Bustard also appear in Yeya Lake Wetland every year, but the population is relatively small with no more than 10 individuals.

☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers: 27704

Start year: 2015

End year: 2021

Source of data: Monitoring Data in Yeya Lake Nature Reserve

Optional text box to provide further information: Monitoring data shows that the number of waterfowl inhabiting Yeya Lake Wetland is 24126, 21776, 23854, 31440, 25976, 26985, and 39773 respectively from 2015 to 2021, among which Anatidae shorebirds are dominant in Yeya Lake Wetland. See the waterfowl monitoring data table for more details.

☑ Criterion 6 : >1% waterbird population

Optional text box to provide further information: There are 9 species of waterfowl in Yeya Lake, which exceed 1% threshold. Among them, the population of the Black stork, Bean geese, Falcated Duck, and common crane is relatively stable, which can reach 1% standard even in recent years. The number of white-naped cranes also tends to be stable, reaching more than 10 in recent years. The population of Mallard in Yeya Lake Wetland is large, keeping it at thousands all year round, which is one of the dominant species in Yeya Lake Wetland.

3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Birds																	
CHORDATA / AVES	*Acrocephalus sorghophilus*	☑	☐	☐	☐	☐	☐	☐	☐				CR	☐	☑	National Second-Class Protected Animal	
CHORDATA / AVES	*Acrocephalus tangorum*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Anas falcata*	☐	☐	☑	☐	☐	☑	☐	☐	1979	2015 to 2021	2.4		☐	☐		Criterion 6: 1% of Pop. Size: 830
CHORDATA / AVES	*Anas platyrhynchos*	☐	☐	☑	☐	☐	☑	☐	☐	18000	2015 to 2021	1.2	LC	☐	☐		Criterion 6： 1% of Pop. Size:15000
CHORDATA / AVES	*Anser cygnoid*	☑	☐	☐	☐	☐	☐	☐	☐	219	2015 to 2021		VU	☐	☑	National Second-Class Protected Animal	
CHORDATA / AVES	*Anser erythropus*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☑	National Second-Class Protected Animal	
CHORDATA / AVES	*Anser fabalis*	☐	☐	☑	☐	☐	☑	☐	☐	1458	2015 to 2021	7.1	LC	☐	☐		Criterion 6： 1% of Pop. Size: 205
CHORDATA / AVES	*Aquila clanga*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐	National First-Class Protected Animal	
CHORDATA / AVES	*Aquila heliaca*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Aquila nipalensis*	☑	☐	☐	☐	☐	☐	☐	☐				EN	☐	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Aythya baeri*	☑	☐	☑	☐	☐	☑	☐	☐	7	2016 to 2021	1.4	CR	☐	☑	National First-Class Protected Animal	Criterion 6： 1% of Pop. Size: 5
CHORDATA / AVES	*Aythya ferina*	☑	☐	☐	☐	☐	☑	☐	☐	406	2015 to 2021		VU	☐	☐		
CHORDATA / AVES	*Ciconia boyciana*	☑	☐	☐	☐	☐	☑	☐	☐	2	2015 to 2019; 2021		EN	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Ciconia nigra*	☐	☐	☑	☐	☐	☑	☐	☐	4	2015 to 2021	3	LC	☐	☐	National First-Class Protected Animal	Criterion 6： 1% of Pop. Size:1
CHORDATA / AVES	*Clangula hyemalis*	☑	☐	☐	☐	☐	☑	☐	☐	1	2017		VU	☐	☐		
CHORDATA / AVES	*Coturnicops exquisitus*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐	National Second-Class Protected Animal	
CHORDATA / AVES	*Emberiza aureola*	☑	☐	☐	☐	☐	☐	☐	☐				CR	☐	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Falco cherrug*	☑	☐	☐	☐	☐	☐	☐	☐				EN	☐	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Grus grus*	☐	☐	☑	☐	☐	☑	☐	☐	4043	2015 to 2021	26.9	LC	☐	☐	National Second-Class Protected Animal	Criterion 6： 1% of Pop. Size:150
CHORDATA / AVES	*Grus japonensis*	☑	☐	☐	☐	☐	☐	☐	☐	2	2021		VU	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Grus leucogeranus*	☑	☐	☐	☐	☐	☑	☐	☐	3	2015		CR	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Grus monacha*	☑	☐	☐	☐	☐	☐	☐	☐	2	2015 to 2021		VU	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Grus vipio*	☑	☐	☑	☐	☐	☑	☐	☐	22	2015 to 2021	2.2	VU	☑	☐	National First-Class Protected Animal	Criterion 6： 1% of Pop. Size:10

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Ichthyaetus relictus*	☑	☐	☐	☐	☐	☑	☐	☐	9	2017 to 2019; 2021		VU	☑	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Mergus squamatus*	☑	☐	☐	☐	☐	☑	☐	☐	2	2016		EN	☐	☐	National First-Class Protected Animal	
CHORDATA / AVES	*Numenius madagascariensis*	☑	☐	☐	☐	☐	☑	☐	☐	4	2015 to 2021		EN	☐	☑	National Second-Class Protected Animal	
CHORDATA / AVES	*Otis tarda*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Pelecanus crispus*	☑	☐	☑	☐	☐	☑	☐	☐	6	2015	6	NT	☑	☑	National First-Class Protected Animal	Criterion 6： 1% of Pop. Size:1
CHORDATA / AVES	*Platalea leucorodia*	☐	☐	☑	☐	☐	☑	☐	☐	112	2015 to 2021	1.1	LC	☐	☐	National Second-Class Protected Animal	Criterion 6： 1% of Pop. Size:100
CHORDATA / AVES	*Platalea minor*	☑	☐	☐	☐	☐	☑	☐	☐	2	2019		EN	☐	☑	National First-Class Protected Animal	
CHORDATA / AVES	*Podiceps auritus*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐	National Second-Class Protected Animal	

1) Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Yeya Lake Wetland, belongs to the Palaearctic realm, with the elevation from 460m to 482m and includes 1/4 of the total water surface area of Guanting Reservoir and also the main tributaries of Guishui River.
Ecosystem Components：
– Biological resources
Yeya Lake wetland is rich in biological resources. There are 22 national first-class and 63 second-class protected animals, 4 critically endangered species, 7 endangered, and 14 vulnerable species in the IUCN red list. It is the biggest wintering site of Common Cranes in the north China, with the population of more than 4000 individuals.
– Climate
Yeya Lake Wetland features the continental monsoon climate. The average annual temperature is 8.4 °C. The annual average precipitation is 466 mm.
– Soil
The main parent materials of soil are main alluvial and diluvial. Soil types are mainly consisting of fluvo-aquic soil, paddy soil and cinnamon soil.
– Water Resource
Guishui River is one of the three major water sources of Guanting Reservoir, possessing nine perennial or seasonal tributaries of different sizes.
– Wetland Types
As a part of Guanting Reservoir, Yeya Lake Wetland has the largest reservoir area of 2087.15 ha, followed by swamp grassland with an area of 378.65 ha, 248.19 ha of ponds, 111.65 ha of forest swamp, and 40.76 ha of river. The total wetland area is 2886.97 ha, accounting for 72.0% of the Site.
Ecological Process：
– Breeding and migration of birds
Every summer, various birds breed in the wetland; in winter, the wetland is the wintering ground for countless waterfowls. In spring and autumn, the migrating seasons, the site has become an essential stopover.
– Hydrological process
The hydrological processes of this wetland are mainly controlled by the natural hydrological processes of Guishui River and the artificial regulations connected to reservoirs. Due to the influence of artificial regulation, the annual water level of Guanting Reservoir has changed less than 1 - 2 meters since its establishment.
Ecological services：
– Water Conservation and Regulation
Yeya Lake Wetland is the impounded area and water flow regulator in the lower reaches of Guishui River, which plays an important role in preventing floods and alleviating agricultural droughts.
– Climate Regulation
Heat and water exchange in the horizontal direction of the lake makes the climate around it slightly milder and wetter than other arid areas.
– Water Purification and Pollution Degradation
There are many aquatic plants in this wetland. They can gather heavy metal sand nutrients, and the microorganisms can decompose pollutants, purify water quality and degrade pollution.
– Carbon Fixation and Oxygen Release
Plants can fix and reduce CO2 in the atmosphere, meanwhile providing and increasing oxygen, thereby maintaining the dynamic balance between CO2 and O2 in the earth's atmosphere and reducing the greenhouse effect.
– Wind Prevention and Sand Fixation
Yeya Lake wetland is lushes with vegetation is humid, which can prevent soil from erosion due to wind, precipitation, and runoff
– Maintaining the Biodiversity.
Yeya Lake Nature Reserve is rich in biodiversity, which provides a place for many wild animals and plants to survive and inhabit. It is an important biological habitat in Beijing and even North China.
– Scientific Research, Public Education and Tourism
The management authority of the Yeya Lake Nature Reserve has cooperated with many institutions to carry out scientific research at the Site. Every year, 300,000 people come here for touristic purposes.
Threats：
Yeya Lake Wetland is protected by the Reserve laws. There is little disturbance by the local communities. The potential threats mainly come from the impacts of global climate change. Also, there here are nearly 10 species of exotic plants, but they have not spread extensively, so they have small impact on the wetland.

4.2 - What wetland type(s) are in the site?

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		0	40.76	
Fresh water > Lakes and pools >> P: Seasonal/ intermittent freshwater lakes		0	0.35	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools		2	378.65	Representative
Fresh water > Marshes on inorganic soils >> W: Shrub-dominated wetlands		0	9.09	
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands		4	111.65	Representative

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
1: Aquaculture ponds		0	4.94
2: Ponds		3	248.19
6: Water storage areas/Reservoirs		1	2087.15
9: Canals and drainage channels or ditches		0	5.81

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Forest land	677.98
Meadow	72.98
Farmland	264.77
Orchard	29.43

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/LILIOPSIDA	*Miscanthus sacchariflorus*	Widespread species
TRACHEOPHYTA/MAGNOLIOPSIDA	*Nymphoides peltata*	Widespread species
TRACHEOPHYTA/LILIOPSIDA	*Phragmites australis*	Widespread species
TRACHEOPHYTA/LILIOPSIDA	*Potamogeton crispus*	Widespread species
TRACHEOPHYTA/LILIOPSIDA	*Potamogeton distinctus*	Widespread species
TRACHEOPHYTA/LILIOPSIDA	*Typha angustifolia*	Widespread species
TRACHEOPHYTA/LILIOPSIDA	*Zizania latifolia*	Widespread species

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/MAGNOLIOPSIDA	*Amaranthus viridis*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Bidens parviflora*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Galinsoga parviflora*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Ipomoea purpurea*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Nasturtium officinale*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Tagetes erecta*	Potential

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	*Anas formosa*				Widespread species
CHORDATA/AVES	*Anas strepera*				Widespread species
CHORDATA/AVES	*Ardea cinerea*				Widespread species
CHORDATA/AVES	*Ardeola bacchus*				Widespread species
CHORDATA/AVES	*Chroicocephalus ridibundus*				Widespread species
CHORDATA/AVES	*Cygnus cygnus*				Widespread species
CHORDATA/AVES	*Egretta garzetta*				Widespread species
CHORDATA/AVES	*Emberiza pallasi*				Widespread species
CHORDATA/AVES	*Fulica atra*				Widespread species
CHORDATA/AVES	*Himantopus himantopus*				Widespread species
CHORDATA/MAMMALIA	*Meles meles*				Widespread species
CHORDATA/MAMMALIA	*Nyctereutes procyonoides*				Widespread species
CHORDATA/AVES	*Nycticorax nycticorax*				Widespread species
CHORDATA/AVES	*Phasianus colchicus*				Widespread species
CHORDATA/MAMMALIA	*Prionailurus bengalensis*				Widespread species

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dwa: Humid continental (Humid with severe, dry winter, hot summer)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 460

a) Maximum elevation above sea level (in metres): 482

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☐
- Lower part of river basin ☑
- More than one river basin ☐
- Not in river basin ☐
- Coastal ☐

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Yeya Lake Ramsar Site is located in the lower reaches of Guishui River Basin in Yanqing District, and its hydrological process is mainly controlled by the natural hydrological process of Guishui River and the man-made regulation of several water conservancy projects downstream.

4.4.3 - Soil

- Mineral ☑
- Organic ☐
- No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

Please provide further information on the soil (optional)

Only a small part of the soil in Yeya Lake wetland is distributed at the junction of mountains and plains, and the soil types are relatively simple. The hidden soil-fluvo-aquic soil is the dominant category, and the horizontal zone is mainly filled with fluvo-aquic soil, paddy soil and cinnamon soil.

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from precipitation	☑	No change
Water inputs from surface water	☑	No change
Water inputs from groundwater	☐	No change

Water destination

Presence?	
Feeds groundwater	No change
To downstream catchment	No change

Stability of water regime

Presence?	
Water levels largely stable	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

Yeya Lake Wetland is located in the lower reaches of Guishui River Basin, and its hydrological process is mainly controlled by the natural hydrological process of Guishui River and the artificial regulation of several water conservancy projects in its lower reaches. The main water conservancy projects in the reserve include Guanting Reservoir and two rubber dams in the lower reaches of Guishui River. Yeya Lake Wetland is composed of Guanting Reservoir, main tributaries of Guishui River, reservoirs and ponds on the river and their surrounding swamps, and seasonal flooding wetlands, which are connected by Guishui River or through seasonal flooding. Therefore, the wetlands in Yeya Lake are actually an entity connected by Guishui River. Due to the influence of artificial regulation, the interannual water level of Guanting Reservoir remains basically stable in recent years, and the water level fluctuates from 1 to 2 meters. The rainfall in Yanqing area is mostly concentrated from July to August every year. The rainfall is large, strong and concentrated, which easily leads to the steep rise of the river. The Yeya Lake wetland has a water regulation and storage effect.

(ECD) Connectivity of surface waters and of groundwater	Connected
(ECD) Stratification and mixing regime	Water is clear, with no obvious stratification

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☐

Significant accretion or deposition of sediments occurs on the site ☑

Significant transportation of sediments occurs on or through the site ☐

Sediment regime is highly variable, either seasonally or inter-annually ☐

Sediment regime unknown ☐

(ECD) Water turbidity and colour	Turbidity is about 2.0 NTU, which is colorless or yellowish clean water.
(ECD) Light - reaching wetland	Reachable
(ECD) Water temperature	1 °C~30.5 °C

4.4.6 - Water pH

Acid (pH<5.5) ☐

Circumneutral (pH: 5.5-7.4) ☐

Alkaline (pH>7.4) ☑

Unknown ☐

Please provide further information on pH (optional):

The pH of water body in Yeya Lake Wetland is between 7 and 9

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☑

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

Euhaline/Eusaline (30-40 g/l) ☐

Hyperhaline/Hypersaline (>40 g/l) ☐

Unknown ☐

(ECD) Dissolved gases in water

The Dissolved Oxygen is averaged at 11.0mg/L

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐

Mesotrophic ☑

Oligotrophic ☐

Dystrophic ☐

Unknown ☐

(ECD) Water conductivity: The conductivity is 1.77 × 103 μ s/cm

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

Surrounding area has greater urbanisation or development ☑

Surrounding area has higher human population density ☑

Surrounding area has more intensive agricultural use ☑

Surrounding area has significantly different land cover or habitat types ☐

Please describe other ways in which the surrounding area is different:

Yeya Lake Wetland is located at the junction of Yanqing Town, Kangzhuang Town and Zhangshanying Town, Yanqing District, Beijing. There are 21 villages partially or completely within the reserve, with 3,937 residents in the area. The surrounding area of the reserve has convenient transportation, high population density and high degree of land development and utilization, but there are no industrial and mining enterprises around. The income of surrounding residents mainly comes from planting and tourism. In 2020, the total agricultural production value of Yanqing area is 637.73 million yuan, and the total agricultural production value of tertiary industry is 14,411.91 million yuan.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High
Wetland non-food products	Livestock fodder	Low
Wetland non-food products	Reeds and fibre	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	Low
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	High
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	High
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Sediment retention	High
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	High
Pollination	Support for pollinators	High

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ○ Unknown ◉

4.5.2 - Social and cultural values

i) the site provides 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) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☐

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☐

iv) 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 ☐

<no data available>

4.6 - Ecological processes

(ECD) Animal reproductive productivity	There are a large number of birds breeding all the year round in Yeya Lake Wetland. The number of breeding birds can reach about 10,000. There are nearly 20 species of waterfowl breeding in Yeya Lake Wetland.
(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	There are 501 species of plants and 432 species of insects. The insect pollination, plant growth, and their evolvements support the integrity of wetland ecosystem, contributing to its ecological functions.
(ECD) Notable aspects concerning migration	It is the stopover, migrating and wintering ground for migratory birds. Especially there are more than 4,000 common cranes wintering in Yeya Lake Wetland every year, making it one of the most significant wintering sites in the north China.

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	☑	☑

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: Nature Reserve Management Office in Yanqing District, Beijing

Provide the name and/or title of the person or people with responsibility for the wetland: HU QiaoLi

Postal address: West of Liuhaoying village, Kangzhuang town 102101, Yanqing District, Beijing

E-mail address: yqzrbhdglc@163.com

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Tourism and recreation areas	Low impact		☑	☑
Housing and urban areas	Low impact		☑	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Medium impact		☑	☑
Water abstraction	Low impact		☑	☑
Dredging	Low impact		☑	☑
Water releases	High impact		☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching		Low impact	☐	☑

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Low impact		☑	☑
Utility and service lines (e.g., pipelines)		Low impact	☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fishing and harvesting aquatic resources	Low impact		☑	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact		☑	☑

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	Low impact		☑	☑
Vegetation clearance/ land conversion		Low impact	☑	☑

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Low impact		☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Low impact		☑	☑
Household sewage, urban waste water	Low impact		☑	☑
Garbage and solid waste		Medium impact	☑	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Storms and flooding		Low impact	☑	☑

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature Reserve	Beijing Yanqing Yeya Lake Municipal Nature Reserve		partly
Nature wetland Park	Beijing Yeya Lake National Wetland Park		partly

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☑

II National Park: protected area managed mainly for ecosystem protection and recreation ☐

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Re-vegetation	Partially implemented
Catchment management initiatives/controls	Implemented
Improvement of water quality	Partially implemented
Habitat manipulation/enhancement	Partially implemented
Hydrology management/restoration	Proposed
Soil management	Partially implemented
Land conversion controls	Implemented
Faunal corridors/passage	Partially implemented

Species

Measures	Status
Threatened/rare species management programmes	Proposed
Reintroductions	Partially implemented
Control of invasive alien plants	Partially implemented
Control of invasive alien animals	Partially implemented

Human Activities

Measures	Status
Management of water abstraction/takes	Partially implemented
Regulation/management of wastes	Implemented
Livestock management/exclusion (excluding fisheries)	Implemented
Fisheries management/regulation	Partially implemented
Harvest controls/poaching enforcement	Implemented
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Implemented
Research	Partially implemented

Other:

Yeya Lake Nature Reserve: established in 1997 with the area of 6873 ha. Yeya Lake National Wetland Park: established in 2006 with the area of 283.4 ha.

The management of Yeya Lake Wetland is based on the existing Regulations of Beijing Municipality on Wetland Protection, and the administration has also formulated many management systems, such as patrol system, scientific research management system, major decision-making system, propaganda system and etc. According to Article 6 of the Law of the People's Republic of China on Wetland Protection, Yanqing District Party Committee and District Government set up a joint law enforcement teams to strengthen the coordination of wetland protection. Also, relevant departments are responsible for wetland protection, restoration, and management according to the division of responsibilities.

A number of wetland protection projects have also been implemented in Yeya Lake Wetland, with more than 20,000 mu of wetlands restored, more than 15,000 meters of patrol roads and 22,000 meters of protection fences built. There have been many protection and management facilities, such as wetland museum, research and development (R&D) building, protection station, fire prevention watchtower, ecological bird watching house and wooden plank road with educational promotion. Through the implementation of the above protection and restoration projects, the wetland habitat and biodiversity in the reserve have been effectively protected and restored.

In 2016, Beijing Wildlife Rescue Center and Yanqing District Bureau of Landscaping established a wildlife rescue station in Yeya Lake Wetland Nature Reserve, which provided shelter, treatment and rehabilitation care for wild animals with survival threats and injuries, so as to restore their wild survival ability and return to the natural living environment as soon as possible. Up to now, more than 500 terrestrial wild animals have been sheltered and rescued, including 4 national first-class key protected animals such as black stork and white-naped crane, and 180 national second-class key protected animals such as leopard cat and Rurasian Sparrowhawk. In 2021, they won the title of Advanced Collective of "Capital Ecological Civilization Award". The establishment of the rescue center enhance nearby residents' awareness of wildlife protection, and many rescue events start from the help calls of enthusiastic citizens, thus maintaining biodiversity, promoting the construction of wetland ecological civilization and of a beautiful society in which man and nature coexist harmoniously.

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Soil quality	Proposed
Plant community	Implemented
Animal community	Implemented
Animal species (please specify)	Implemented
Birds	Implemented
Water regime monitoring	Implemented
Water quality	Implemented

From 2018 onwards, there have been ecological monitoring stations built in Yeya Lake Nature Reserve, monitoring the meteorological, phenological, water vapor and air quality indicators in wetlands all the year round. Infrared cameras were used for animal monitoring.

The administration has formulated the Water Quality and Water Level Monitoring Plan of Yeya Lake Wetland Nature Reserve in Yanqing, Beijing, and continuously carried out the water quality monitoring work of Yeya Lake Wetland Nature Reserve, ensuring regular water intake and testing once a month, and keeping the water quality in Class III for a long time. In addition, the Yeya Lake Wetland has also carried out a number of initiatives to monitor birds, insects, vegetation and macrofungi for a long time. In recent years, Yeya Lake Wetland has jointly carried out a national synchronous survey of wintering cranes with many universities and research institutes in Beijing every year, and monitored and counted the species, quantity and habitat of cranes in Yeya Lake Wetland and its surrounding areas. Yeya Lake Wetland has also carried out the construction of high-definition video monitoring points for critical species in the area. One video monitoring point is built in the grey heron breeding area and the common crane wintering area in the wetland.

In 2012, the Leading Group for Prevention and Control of Wild Animal Epidemic Diseases of Beijing Municipal Bureau of Landscaping and Greening established a national monitoring station for terrestrial wild animal epidemic diseases in Yeya Lake, Beijing, to fully understand the population number and activity stat us of inland wild animals in the region, grasp the abnormal situation of wild animals in time, and pre-prevent the occurrence of epidemic diseases.

In order to facilitate the development of wetland monitoring activities, improve the technological level of protected area construction, the administration built a comprehensive management platform for nature reserves in Yanqing District and put it into use. The platform includes resource investigation system, patrol monitoring system, infrared camera management system, comprehensive display system, and corresponding mobile phone app for efficient data collection.

Yeya Lake Wetland has successively established long-term and stable cooperative relations with more than 20 research institutes including Institute of Remote Sensing and Digital Earth of Chinese Academy of Sciences (CAS), Institute of Zoology of CAS, Chinese Academy of Forestry, Peking University, Beijing Forestry University, Beijing Normal University and Beijing Wetland Research Center. Scientific research, such as bird monitoring, wetland plant investigation and environmental factor monitoring, has been carried out in cooperation. In recent years, more than 80 research papers at home and abroad have been published relying on the research conducted in Yeya Lake Nature Reserve.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Scientific Investigation Report of Yeya Lake Municipal Nature Reserve in Yanqing, Beijing, 2022. (Internal data)
Gong Zhaoning, et al. Wetland plants in Yeya Lake, Beijing [M]. China Environmental Science Press, 2012.
Fu Ying. Study on the content and distribution characteristics of trace elements in surface soil of Yeya Lake wetland [D]. Capital Normal University, 2014.
Ji Shengnan, Liu Yaxin, Zhao Zhiping, et al. Diversity, distribution and influencing factors of mammals in Yanqing District, Beijing [J]. Journal of Zoology, 2020, 55 (1): 9-11.
Yang Jingchao, Song Nan, Wang Lu. Variation characteristics of atmospheric particulate matter at Beijing Yeya Lake Wetland Observatory [J]. Environmental Science and Technology, 2017, 40 (S2): 222-228.
Wu Huifang, Wang Zhengjun. Temporal and spatial dynamic analysis of reed biomass in Yeya Lake wetland [J]. Journal of Capital Normal University (Natural Science Edition), 2014, 35 (6): 51-55.
Han Wenhui. Study on soil nutrient elements of different vegetation types in Yeya Lake wetland [J]. Environment and Sustainable Development, 2014, 39 (3): 158-160.
Liu Shuang, Li Min, Zhang Jing, et al. Distribution characteristics and influencing factors of soil total phosphorus in Yeya Lake wetland [J]. Environmental Science and Technology, 2012, 35 (4): 4-8.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<no file available>

vi. other published literature
<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

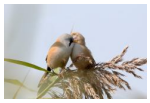

White-naped Crane (*Fang Chun, 02-03-2019*)


Wintering Common Crane (*Fang Chun, 06-03-2019*)


Mallard (*Fang Chun, 04-01-2022*)

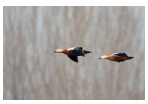

Whooper Swan (*Fang Chun, 18-02-2019*)


Osprey (*Fang Chun, 01-05-2019*)


Bearded Reedling (*Fang Chun, 26-09-2018*)


Leopard Cat (*Fang Chun, 13-10-2018*)


Landscape of Yeya Lake Wetland (*Yan Juan, 18-05-2020*)


Ruddy Shelduck (*Fang Chun, 02-03-2019*)


Landscape of Yeya Lake Wetland (*Fang Chun, 10-09-2021*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	2022-10-28